

Lwarp

L^AT_EX HTML⁵

The lwarp package

L^AT_EX to HTML

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GitHub: <https://github.com/bdte/lwarp>

Abstract

The `lwarp` package converts L^AT_EX to HTML by using L^AT_EX to process the user's document and directly generate HTML tags. External utility programs are only used for the final conversion of text and images. Math may be represented by SVG images or MATHJAX. More than 500 L^AT_EX packages and classes are supported, of which more than 90 also support MATHJAX.

Documents may be produced by DVI or PDF L^AT_EX, LuaL^AT_EX, XeL^AT_EX; by several CJK engines, classes, and packages; or by customized systems such as `pertex` and `pythontex`. A `texlua` script automates compilation, index, glossary, and batch image processing, and also supports `latexmk`. Configuration is semi-automatic at the first manual compile. Support files are self-generated. Print and HTML versions of each document may coexist.

Assistance is provided for HTML import into EPUB conversion software and word processors.

Requirements include the commonly-available POPPLER utilities (included with M^IK^TE^X) and PERL. Detailed installation instructions are included for each of the major operating systems and T_EX distributions.

A quick-start tutorial is provided, as well as extensive documentation for special cases, a general index, and a troubleshooting index. Automatic error testing is provided for configuration files, package load order, and image generation.

SVG math and many other generated images include L^AT_EX expressions in the alt tags. MATHJAX may be used with advanced equation numbering under the direct control of `lwarp`.

Complicated tables are supported, which copy/paste well into LIBREOFFICE WRITER.

Supported classes and packages include `memoir` and `koma-script`, `cleveref`, `caption`, `mdframed`, `siunitx`, and many popular packages for tabulars, floats, graphics, theorems, the title page, bibliography, indexing, footnotes, and editorial work, as well as a number of CJK-related classes and packages.

T_EX is a self-modifying tokenized macro-expansion language. Since `lwarp` is written directly in L^AT_EX, it is able to interpret the document's meaning at a deeper level than external conversions which merely approximate T_EX. HTML5 and CSS3 are leveraged to provide advanced features such as `booktabs trim`, `multicolumns`, side-by-side minipages, and JAVASCRIPT-free navigation.

For a quick-start tutorial, see [section 5, Tutorial](#).

For a list of supported features, see [table 2: Supported packages and features](#).

To update existing projects, see [section 1: Updates](#).

Need help? See the [General Index](#) or the [Troubleshooting Index](#).

Lwarp is still in development. Changes are likely.

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T_EX and related projects:

- are mostly open-sourced and a volunteer effort;
- benefit students, academics, scientists, engineers, and businesses;
- help drive education, public and private research, and commercial activity;
- are used in the fields of mathematics, science, engineering, and humanities;
- are international in reach;
- span decades of development;
- are enduring — many older packages are still actively used and maintained;
- are largely backwards compatible;
- are portable across all the major computing platforms;
- are usable even on older computers and away from internet access;
- are continuing to maintain relevance with modern improvements;
- require no yearly subscription fees;
- and are supported by an active community of knowledgeable volunteers.

Please consider helping by joining and/or contributing to the T_EX Users Group, a United States 501(c)(3) tax-exempt charitable organization. Contributions are accepted by credit card, check, or Pay Pal, via the United Way, or by USA or European bank transfer. Membership in TUG supports the development of T_EXLive, the major T_EX distribution.

Donations may be directed towards individual projects:

TUG Bursary Fund: Assistance for attending annual TUG meetings.

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TeX Development Fund: Support for specific projects.

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LaTeX Project: Modernizing the L^AT_EX core.

Libre Font Fund: Fonts, tools (FontForge), and distribution (the Open Font Library).

LuaTeX: Combining the PDF T_EX engine and the Lua language.

MetaPost: Postscript graphics.

MacTeX: T_EX for Mac.

PDF Accessibility: Modern PDF standards.

Other: Additional projects may be specified.

To make a contribution: <https://www.tug.org/donate.html>

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1 Updates

The following is a summary of updates to `lwarp`, highlighting new features and any special changes which must be made due to improvements or modifications in `lwarp` itself.

For a detailed list of the most recent changes, see the end of the Change History on page [1375](#).

v0.917: Improved alt tags.

⚠ New labels

- Due to changes in cross referencing, **execute `lwarpmk clean` before recompiling.**

⚠ New images

- Due to changes in how automatically-generated svg image file names are computed, after `lwarpmk html` use `lwarpmk cleanimages` a single time, and then `lwarpmk images` to generate the new images.
- Improved alt tag HTML sanitization.
- Updated `backref`, `extramarks`, `fancyhdr`, `fancyvrb`, `fvextra`, `lipsum`, `listings`, `minted`, `musicography`, `orcidlink`, `pdfpages`, `siunitx`, `witharrows`, `xr`.

v0.916: Now allows duplicate section names for file breaks.

- Adjusts file names to allow duplicate section names. See section [8.4.4](#).
- Fixed `LATEX3` key/value option handling.
- Fixed `\<space>` at end of a line.

v0.915: HTML list classes, meta tags.

- `LATEX` lists now given the class `itemize`, `enumerate`, `description`, `hanging`.
- `LATEX` list labels now given the class `listmarker`.
- Added `\HTMLkeywords` for the `keywords` meta tag.
- Added `\HTMLmeta` and `\HTMLaddmeta` for custom meta tags.
- Added `data-nosnippet` to `MATHJAX` customization `<div>s`.
- Updated `pdfpages` to v0.5y.

v0.914: Detects changing packages.

- Now verifies many definitions before patching, warning of possible problems if the original has changed.
- Fix: `fontawesome5` for `XYLATEX`, `LuaLATEX`.

v0.913: HTML sanitization for verbatims.

- Now at GitHub: <https://github.com/bdte/lwarp>
- Added bibliography usage info to docs and tutorial.
- `\verb` now uses a CSS class of `verb` instead of `texttt`.
- Improved HTML sanitization for hyperlinks, `fancybox`, `fancyvrb`, `fvextra`, `minted`.
- Updated `fancyvrb`, `fvextra`, `simplebnf`.
- `siunitx`: Updated, and improved complex `i,j`.
- Added `doipubmed`.

⚠ New labels

v0.912: Updated for new L^AT_EX label system.

- Due to changes in cross referencing, **execute `lwarpmk clean` before recompiling.**
- Fixed for updated kernel label system, name and back references.
- Updated memoir, tcolorbox.
- nameref: Now allowed to load before lwarp, such as by memoir.

v0.911: Updated mismath, tcolorbox.

v0.910: Updated fvextra, minted.

v0.909: \ref fix.

- Fixed \ref*, beamerarticle, lualatex, realscripts.
- Updated mismath, nicematrix, pablance, pdfpages, simplebnf, tagpdf.

v0.908: Bug fix.

- Fixed obscure cross-reference issue, seen in some citations.

v0.907: Bug fix.

- Fixed svg images for WINDOWS.

v0.906: Screen readers

- For each tabular, add a hidden HTML header cell to convince screen readers that the tables are data not layout. Also hide from the screen reader any final row used only to produce bottom borders.
- Adjusted svg math for a margin change in *pdfcrop*.
- Added \Ref.
- Added docs regarding math in custom environments. See section 8.7.

v0.905: Bug fixes, internal improvements.

- Fixed conflict between cleveref and splitidx.
- Improved coexistence with \AtEndDocument.
- acronym: Updated to v1.47, added hyper links.

v0.904a: Fixed missing lwarp-common-mathjax-siunitx package.

v0.904: Added siunitx v3.

- Fixed HTML tags inside non-Latin text.
- MATHJAX now defaults to svg rendering.
- Added siunitx v3. Updated siunitx-v2. See section 8.7.15 for limitations.
- Updated caption, chemmacros, fbox, hyperref, multicol, wrapfig2.

v0.903: Various updates and improvements.

lwarpmk

- Error if *pdftotext* not available. Ensures that POPPLER programs are installed.

core

- *ps2pdf*: Allow transparency due to recent changes in *ps2pdf*.

⚠ New images

- Due to changes in how automatically-generated svg image file names are computed, after `lwarpmk html` use `lwarpmk cleanimages` a single time, and then `lwarpmk images` to generate the new images.

- Improved back refs.

- Fixed `verbatim*`.

- Various internal updates for recent L^AT_EX release.

packages

- `cuted`: Updated to v2.0.

- `flushend`: Updated to v4.0.

- `mathalpha`: Updated for v1.14+.

- `minted`: Updated to v2.6.

- `cases`: Updated to v3.2.

- `siunitx` with MATHJAX: Improved `\per`, `\numlist`, `\SIlist`, comma decimal points.

- Added `showlabels`, `wrapfig2`.

v0.902: beamerarticle, footnotes, paragraph tags.

core

- Fixed footnotes inside descriptions, `minipages`, `amsthm`, `\nameref`.

- Improved various paragraph tags.

packages

- Improved `parnotes`, `sympytex`.

- Added `beamerarticle`.

- Updated `luatexko`, `xetexko`, `tagpdf`.

MATHJAX

- Added missing standard international text symbols for MATHJAX.

v0.901: Tabular columns, float caption CSS, MATHJAX packages.

core

- Added `warpsvg` to isolate SVG math, as opposed to `warpMathJax`.

- Improved float caption CSS for newer browsers.

- Improved emulation of `\newcolumnntype`.

- Added `\HTMLnewcolumnntype`. See section 7.6,

- `>\centering\arraybackslash`, etc. now sets HTML CSS `text-align`. Also detects `\itshape`, `\bfseries`, and `\bfseries\itshape`. See section 8.10.1.

MATHJAX

- Now uses MATHJAX 3.2 packages for `centernot`, `colortbl`, `gensymb`, `mathtools`, `textcomp`, `upgreek`.

packages

- `dcolumn`: Now works inside a `lateximage`.

- Added `mwe`.

- Added `lATEX-tascmac`, which fixed `ascmac`.

v0.900: Package updates.

core
packages

- Fix for detecting `\usepackage{lwarp}`.
- `amsmath`: Fixed `alignat` with `MATHJAX`.
- `changes`: Updated to v4.2.1.
- `froufrou`: Updated to v1.4.0.
- `lipsum`: Updated to v2.3.

v0.899: Minor updates.

core
packages

- `lwarpmk`: Warns if `\usepackage{lwarp}` is not detected.
- `graphics`: Added support for `keepaspectratio`.
- `keyfloat`: Fix: `lw` with `h`.
- `multicol`: Improved `css`.

v0.898: Minor updates.

- Fewer `underfull \hbox` warnings.
- `wrapfig`: Improved integration with `keyfloat`.

v0.897: `siunitx` rollback.

docs

- Added a table of file extensions to use with `\includegraphics`. See table 9.

core
packages

- Added tests for additional incompatible packages.
- `siunitx`: Supports rollback to v2. Does not yet support v3.
- `fixme`: Improved to work if the user modifies layouts.
- `float`: Improved integration with `newfloat`, `keyfloat`.
- Added `centerlastline`, `decorule`, `fancypar`, `froufrou`, `pbalance`.
- Verified works as-is with `fnpct`.

v0.896: Back references, accessibility.

⚠ New labels

- Due to changes in cross referencing, **execute `lwarpmk clean before recompiling`**.
- Increased sectioning nesting stack depth. Error if overflow stack.
- Fixed footnotes at the end of the document, or inside a description label.
- Added an error if using braces inside `\usepackage` options.

MATHJAX
theorems

- Fixed footnotes in bracket display math with `MATHJAX`.
- `LATEX` `theorems`, `amsthm`, `ntheorem`, `theorem`: Print theorem footnotes following theorems.

accessibility

- Added HTML `<main>` element to each page.
- Added `ARIA` math role to `SVG` math images, and `note` role to margin notes, footnotes, etc.

packages

- Improved citation backreferences for various packages.
- `chemfig`: Updated to v1.6a.
- `bigdelim`: Updated to v2.8.
- `xetexko`: Updated to v3.1.

- hyperxmp: Fix: Accept and discard additional keys.
- hyperref: Fix: Added `*autorefname` macros.
- biblatex: Fix: Back references.
- tocloft: Fix: `\cftpagenumbersoff`, `\cftpagenumberson`.
- threeparttable: Fix: `\TPTL@tnotex`.
- amsthm: Fix: Footnotes inside environment optional argument.
- listings: Fixed labels. Accepts but ignores escapes w/o error.
- pdfscape: Fix: Added landscape environment.
- Added ccicons, classicthesis, orcidlink.
- Added enotez.
- Verified support for doi, doipubmed.

v0.895: Vector packages, greatly improved MATHJAX for siunitx.

- core
- Fixed quotes in HTML tags while using old font packages with X_YL^AT_EX and LuaL^AT_EX.
- MATHJAX packages
- Added `\ifblank` and `\ifstrequal` to MATHJAX emulation.
 - multirow: Allow `\par` per v2.7.
 - acro: Updated to v3.5.
 - fancyhdr: Updated to v4.0.
 - changes: Updated to v4.0.1.
 - epsfig, rotating: Now work inside lateximage.
 - amscdx: Verified to work with svg math. Warning added about use with MATHJAX.
 - Added MATHJAX emulation for isomath, mattens, maybemath, skmath, tensor.
 - Improved MATHJAX emulation for siunitx `\ang`, `\num`, `\SI`.
 - Added epsf, impnatty, isotope, lpic, luavlina, mdwmath, pinlabel, rlepsz, tikz-image, xevlina.
 - Verified to work as-is: tensind.

v0.894: MATHJAX additions and improvements.

- MATHJAX packages
- Improved warning message for enabling svg graphics for select math expressions while using MATHJAX.
 - Accept and ignore a star for `\hspace`.
 - Ignores `\arabic`, `\number`, `\noalign`.
 - Added MATHJAX emulation for backnaur, colortbl, nicematrix.
 - booktabs: MATHJAX emulation now absorbs and discards trim.
 - menukeys: Updated to v1.6.1.

v0.893: Minor fixes, more packages.

- MATHJAX packages
- Added MATHJAX emulation for `\mathnormal`.
 - Fixed pstricks `pspicture*`.
 - Fixed tikz font macros.
 - braket: Now uses the MATHJAX extension.

- Added `esvect`, `fixmath`, `keystroke`, `mathastext`, `menukeys`, `picinpar`, `plimsoll`, `repltext`, `selectp`, `seqsplit`, `simplebnf`, `statistics`, `swfigure`.
 - Added MATHJAX emulation for `mathspec`.
 - Verified to work as-is for `apxproof`, `syntaxdi`, `venndiagram`.
- v0.892:** `minted`, `fvextra`, MATHJAX `\left/\right`.
- MATHJAX packages
- `fourier`, `libertinustlmath`, `newpxmath`, `newtxmath`, `newtxsf`, `unicode-math`: Added MATHJAX `\left/\right` support for additional delimiters.
 - `textpos`: Updated to v1.10.
 - `xcolor`: Fixed optional args for `\fcolorbox` and related.
 - Added `fvextra`, `minted`.
- v0.891:** MATHJAX additions and improvements.
- core
- Now displays inline `\verb` text as `\texttt`.
 - Fixed `alltt` and `verbatim`s with L^AT_EX lists.
 - Now generates an error if nested each of `warpHTML`, `warpprint`, `warpMathJax` inside itself.
- MATHJAX packages
- Added MATHJAX *textmacros* extension, allowing formatting inside `\text`.
 - `biblatex`, `hyperref`: Added back page references.
 - `fancyvrb`: Fixed `BVerbatim` with a label.
 - `listings`: Fixed MATHJAX with captions, improved HTML sanitation.
 - `babel-french`: Fixed `\texorpdfstring` conflict.
 - Now honors Greek package options for `mathdesign`, `mathpazo`, `mathptmx`, `newpxmath`, `newtxmath`.
 - Improved MATHJAX for `colonequals`, `mathdesign`, `mathdots`, `mathfixs`, `mathtools`, `multiobjective`, `nicefrac`, `shuffle`, `units`.
 - `unicode-math`: Added Greek macros, as well as macros for the first several categories listed in `texdoc unimath-symbols`. Improved symbol shape macros with Greek. Improved documentation.
 - Added `bussproofs`, `cmbright`, `fourier`, `kpfonts`, `kpfonts-otf`, `libertinustlmath`, `scalerel`, `txgreek`s.
- v0.89:** Additional MATHJAX support.
- core
- Adapted to upcoming L^AT_EX kernel changes.
 - Allows load of `amsmath` before `lwarp`.
- lwarpmk
- Also removes `*.bb1` when cleaning aux files.
- MATHJAX packages
- MATHJAX: Neutralized `\protect`, `\mathcode` and related, ligatures. Fixed nested environments.
 - `caption`: Updated for v3.5, fix for label sep.
 - `thmtools`: Updated for v0.72. Fixed `swapnumber`, `margin`.
 - Improved MATHJAX for `centernot`, `mathtools`, `mismath`, `Slunits`, `siunitx`, `statmath`.
 - Added MATHJAX emulation for accents, `hepunits`, `hhtensor`, `mathalpha`, `mathdesign`, `mathpazo`, `mathptmx`, `mleftright`, `newpxmath`, `newtxmath`, `newtxsf`, `pxfonts`, `shuffle`, `txfonts`, `upgreek`, `ushort`.
 - Verified to work as-is: `authoraftertitle`.

v0.88: Indexing, boxing, theorems.

- Now has programmed support for more than 500 packages and classes, of which more than 60 also support MATHJAX.
- core
 - Fixed: `\ref*`, and also added MATHJAX emulation.
 - If starting a new paragraph, `\hrulefill` creates a `<div>` with a thin horizontal line across the page. Use instead of `\hrule`.
 - Fixed: Use `\chaptername` where appropriate.
 - Fixed: Inline links causing extraneous paragraphs.
- lwarpmk
 - Added `lwarpmk -v` to print the version number.
- indexing
 - Added the `IndexRef` option to control the display of index entries. See section 7.5.
 - Added `\IndexPageSeparator` and `\IndexRangeSeparator` for custom index styles.
 - Added support for `gindex`, `xindex`.
 - Verified to work as-is with `varindex`.
- packages
 - `cleveref`, `varioref`: Fix for starred macros.
 - `varioref`: Removed page-related text from HTML output.
 - `xfakebold`: Updated to v0.08, using `pdfrender`.
 - `caption`, `scrextend`: Fixed `\caption*`.
 - Added `fbox`, `shadethm`, `tcolorbox`, `termcal`, `thmbox`, `thmtools`.

v0.87: MATHJAX, bibliography packages.

- core
 - Added boolean `FixSmallCaps` for fonts which render small caps as all caps.
 - Fixed `\bibliography` to use the HTML version's `.bbl` file. Previously the HTML bibliography relied on the print version's `.bbl`, thus would fail if the print document had not yet been created.
- MATHJAX
 - Added `\ifstar` and `\ifnextchar` to MATHJAX, and removed `\DeclareIfstar`. See section 8.7.7.
- Removed `\DeclareIfstar` packages
 - `physics`: Now supports the MATHJAX v3 extension.
 - `mathtools`: Improved `\underbracket`, `\overbracket` for MATHJAX.
 - `nccmath`: Improved `\underrel` for MATHJAX.
 - `mhchem`: Now supports the MATHJAX v3 extension for `\ce` inside math.
 - `cancel`: Now supports the MATHJAX v3 extension.
 - `embrac`: Neutralized kerning for improved HTML conversion.
 - Added `citeref`, `drftcite`, `jurabib`, `multibib`, `splitbib`.
 - Verified to work as-is with `bibtopic`, `collref`, `mciteplus`.

v0.86: MATHJAX major updates.

- core
 - Fixed: Filename if named files with `*`, parens, period in section name.
 - Fixed: Labels in `eqnarray`, `lateximage`.
- MATHJAX
 - Updated to MATHJAX v3. New repository.
 - Fixed forward references for MATHJAX.

packages

- Improved MATHJAX equation number formatting, now compatible with `amsmath \numberwithin` for chapters, sections, subsections, as well as `amsmath` subequations. See section 8.7.7.
- Added `\DeclareIfstar` to define starred T_EX macros in MATHJAX. See section 8.7.7.
- Generates an error if `\MathJaxFilename` file does not exist.
- `mathtools`, `nccmath`, `physics`: Added starred macros for MATHJAX.
- `nccmath`: Fixed `\nr`, `\displaybreak` for MATHJAX.
- `xcolor`: Fixed `\textcolor` with `babel-french`.

v0.85: fontspec

packages

⚠ acro formats

- `fontspec`: Fixed core font change macros for world languages.
- `acro`: Due to v3 changes, when defining acronym formats, use `\textbf` instead of `\bfseries`, etc.
- Fixed `idxlayout`, `mathtools`, `titlesec`, `url`.

v0.84: Previous/next page links, numerous fixes.

docs

⚠ home page footer changed

- Added documentation of `BlockClass` and `\InlineClass` for CSS `<div>s` and `s`. See section 7.8.
- Added `\LinkPrevious`, `\LinkNext` page links. See section 7.6.
- Added `\FirstPageBottom`. Home page no longer shares `\PageBottom`. See section 7.6.
- Improved coexistence with `comment`, support for nested environments.

core

⚠

- No longer requires but still supports the `caption` package.
- Improved filenames and HTML titles when using special characters.
- Change: Append `-0` to section named `Index` previously `_index` to distinguish from `index.html`
- Fixed style tags for `\multicolumn`, `\multirow`.
- Fixed spacing in tabbing.
- Fixed `lateximage` for: `quote`, `quotation`, `verse`, `center`, `flushleft`, `flushright`, `<par>` tags, packages `verbatim`, `alltt`, `epigraph`.
- Fixed `textcomp` due to integration into L^AT_EX kernel.
- Fixed `\itshape`, etc. Adapted to L^AT_EX fontaxes integration.
- Fixed `\@fnsymbol`.
- Warns about section names with dollar-delimited math.
- Warns about a `` containing a float, caption, section, `mdframed`, or other `<div>` object.
- Only warn about X_YT_EX logo and `graphics` if actually used `\Xe`.
- `lwarpmk clean` also removes `comment_*.cut`.
- `scrextend`, `scrartcl`, `scrbook`: Added `\titlehead`, `\subject`, `\subtitle`, `\publishers`.
- `titling`: Fixed `\printthanks`.
- `memoir`, `abstract`: Fixed for updated memoir.
- `memoir`: Fixed `\newcomment`, `pagenotes`, `crossreferences`. Fixed setting a recursive name.

lwarpmk

packages

- Fixed or improved: amsthm, backref, biblatex, fixme, nfssect-cfr, ntheorem, parcolumns, realscripts, rotfloat, titling.
 - Added boxedminipage, renamed from boxedminipage2e per author.
 - Verified to work as-is with mcite.
- v0.83:** memoir fixes.
- packages
- memoir: Various fixes and updates.
 - physunits: Updated to v1.0.4.
- v0.82:** MATHJAX notes, xpinyin improvements, various updates.
- MATHJAX
- Improved footnotes with MATHJAX.
 - Added MATHJAX emulation for endnotes, marginnote, nccfoots, pagenote, parnotes, sidenotes.
- packages
- xpinyin: Added pinyin with modern HTML.
 - luatexko: Added `\dotemph`, `\ruby`, `\uline`, etc.
 - soul: Fixed `\<`.
 - chemfig: Updated to v1.5.
 - draftwatermark: Updated to v2.0.
 - ulem: Fixed: `\dashuline`.
 - amsmath: Fixed: `\intertext` with MATHJAX.
 - endnotes: Fixed: Marks in print mode.
 - tocvsec2, tableof: Verified to work as-is.
 - Added etoc (nullified).
- v0.81:** MATHJAX speedup and additional emulations.
- core
- Improved warning regarding SVG math sizing/baselines and graphics/graphicx. See section 8.7.
- MATHJAX
- Improved MATHJAX emulation processing speed.
 - Added MATHJAX emulation for accsupp, axessibiltiy, colonequals, decimal, dotlessi, econometrics, engtlc, multiobjective, physunits, Slunits, stackrel, statmath.
- packages
- axessibility: Updated to 2020/01/08 version.
 - gridset: Updated to v0.3.
 - Slunits: Fixed for math mode.
 - Added DotArrow, nolbreaks, luamplib, returntograd, statex2, tagpdf.
 - Verified to work as-is with icomma, mathpunctspace, textualicomma.
- v0.80:** MATHJAX, biblatex.
- MATHJAX
- Added docs and warning/info messages re: avoiding slow MATHJAX compilation. See section 8.7.7, [Customizing MATHJAX](#).
 - Added MATHJAX emulation for accessibility, autobreak, centernot, extarrows, fouridx, gensymb, leftidx, mathcomp, mathdots, mathfixs, mismath, nccmath, noitcrl, pdfcomment, relsize, rmathbr, subsubscripts, xfrac.
 - Improved MATHJAX emulation for unicode-math.
- packages
- biblatex, url: Now create hyperlinks.

- `amsmath`: Fix to center starred environments.
- `xcolor`, `graphics`: Made more macros robust.
- `colortbl`: Fix: Rule color in a `lateximage`.
- `chemmacros`: Updated to v5.10.
- Added `fewerfloatpages`, `ghsystem`, `hline`, `mismath`, `nccmath`.

v0.79: `MATHJAX`, nested `tabular`.

`MATHJAX`

- Added or improved `MATHJAX` emulation for `amsmath`, `ar`, `arydshln`, `bm`, `bigdelim`, `bigstrut`, `booktabs`, `braket`, `mathtools`, `multirow`, `physics`, `siunitx`, `slashed`, `unicode-math`, `xfakebold`.
- Warn if using certain packages not supported by `MATHJAX`.

core

- `tabular`: Now may be nested.
- `minipage`, `\parbox`, `fminipage`, `\makebox`, `\framebox`: Fix: Adjust for virtual page size.

packages

- Uses new `iftex`.
- `graphicx`: Fix: Negative angles.
- `caption`: Fix: `\captionlistentry` with `longtable`.
- `multirow`: Fix: Centered vertical alignment.
- `siunitx`: Fix: `\square`, `\cubed`.
- `booktabs`: Fix: `memoir` with `lateximage`.
- `babel` and `polyglossia`: Added troubleshooting warnings.
- `fontawesome`, `fontawesome5`: Supports text color and size.
- `transparent`: Fix: `lateximages`.
- `epigraph`: Updated to v1.5e.
- `xurl`: Updated to v0.08.
- `subcaption`: Fixed with `memoir`.
- `floatrow`: Fix: `\linewidth`. No longer require `float`, `graphics`.
- `floatflt`, `wrapfig`, `niceframe`: Fix: Adjust for virtual page size.
- Added `widetable`, `witharrows`, `steinmetz`.
- Added `awesomebox`, `catoptions`.
- Added `svg`, supports `svg-extract`.
- Added `parcolumns`, `pdfcolparcolumns`,
- Added `parallel`, `pdfcolparallel`.
- Added `pdfcol`, `pdfcolfoot`, `pdfcolmk`.

v0.78: Fixes for support files, `alt` tags, hyperlinks, and the 2019/10 `LATEX` release.

docs

- Docs: Improved documentation regarding package options. See section 8.1.
- Fix to overwrite existing support files using new `filecontents` environment.

packages

- `breqn`: Previously broken by the 2019/10 `LATEX` update, but now working again.
- `graphics`: Fix for `\includegraphics alt` tags.
- `babel-french`: Fix for hyperlinks.
- `media9`, `movie15`, `multimedia`: Fix for the 2019/10 `LATEX` update.
- `accessibility`: Added.

v0.77: Updates to fix recently-broken packages.

- **booktabs:** Updated to v1.6180339.
- **chemformula:** Updated to v4.15.

v0.76: MATHJAX, updates for L^AT_EX 2019/10 release.

docs
MATHJAX
packages

- Docs: Expanded documentation regarding the use of multiple projects in the same directory. See section 5.18.
- MATHJAX: Updated to v2.7.6.
- xr: Updated to v5.05.
- xr-hyper: Updated to v6.1.
- Verified works as-is with xcite.
- acro: Updated to v2.10.
- Currently broken in print mode by the 2019/10 L^AT_EX update, and waiting for fixes: breqn, grffile, multimedia, movie15.

⚠ broken

v0.75: keyfloat, wrapfig

packages

- **\minipage:** Fix for \linewidth.
- **keyfloat:** Improved color control.
- **wrapfig:** Fix for \linewidth.

v0.74: Docs, SVG math, *lwarpmk*, HTML alt and title text, lyuatex

docs

- Added to the tutorial the section **What next?**. See section 5.20.
- Added documentation about localization options. See section 7.1.
- Added documentation about accessibility options. See section 7.2.
- Renamed and updated HTML alt text macros:

⚠ HTML alt text
changed names

Old	New
(hard coded as “image”)	<code>\ImageAltText</code>
<code>\mathimagename</code>	<code>\MathImageAltText</code>
<code>\packagediagramname</code>	<code>\PackageDiagramAltText</code>

- Added `\ImageAltText` for the default HTML alt text for an image. See section 7.6.
- Added `\ThisAltText`, which may be used to assign a one-time HTML alt tag to the very next image generated by *lwarp*, such as a `lateximage`, `picture`, `tikzpicture`, an image generated by various chemistry or engineering packages, or an SVG math image. This macro also adds a title tag to a reference or hyperlink. See section 7.6.

SVG math

- Adjusted `\LateximageFontSize` default from .75 to 1.
- Fix: Font control for SVG math.

misc

- Fix: Ignores negative `\hspace`.
- Warning if `SideTOCDepth < FileDepth`.

lwarpmk

- *lwarpmk*: **lwarpmk clean** removes additional files.
- *lwarpmk*: **lwarpmk epstopdf** and **lwarpmk pdftosvg** now honor directories.

packages

- **lyuatex:** Split images by system or per fullpage, improved margins and scaling.
- Tested to work as-is with `mathspec`, `unicode-math`.

v0.73: `\include`, `memoir`, `koma-script`, `caption`, `xy`, `datatool`, music scores.

packages

- Fix for `\include`.
- Warning for a `tabular` inside a ``.
- `\color`: Added HTML support for rules and frames, but not inline text. Use `\textcolor` if possible.
- Improved many HTML tags, reducing *tidy* warnings. See Change History.
- `memoir`: Fixes for `\frontmatter*` and `\mainmatter*`. Added `\book`.
- `koma-script`: Fix for starred captions in the toc.
- `caption`: Fix for starred captions.
- `datatool`: Added pie, bar, and plot charts.
- `threeparttable`: Added `measuredfigure`.
- `intopdf`: Updated to v0.2.1.
- `tocdata`: Updated to v2.03.
- `quotchap`: Updated to v1.2.
- `versonotes`: Updated to v0.4.
- `backnaur`: Now uses SVG images. Updated to v3.1.
- `xy`: Fix for `\xybox`, improved `xy`, also now compatible with `qccircuit`.
- `fancyvrb`: Fix for label HTML tags.
- Added `stackengine`.
- Added `lyluatex`. (Music scores.)
- `musicography`: Updated to 2019/05/28. Added support for `lateximages`.

music

v0.72: Font control, `\multicolumn`, `xr` and `xr-hyper`.

⚠ images

- Due to internal changes, images for inline SVG math and `lateximages` will have new hash values, and will have to be regenerated using


```
Enter ⇒ lwarpmk cleanimages
```

 and


```
Enter ⇒ lwarpmk limages
```

packages

- Docs: Color-codes package names in the table of supported packages and features, table 2, according to each package's level of support by `lwarp`.
- `\multicolumn`: Fix for paragraph columns.
- `xr`, `xr-hyper`: Fixes for references, `\externaldocument`.
- `soulutf8`: Fix: Loads `soul` for emulation.
- `boxedminipage2e`: Added support for `lateximages`.
- `zhlineskip`: Updated to v1.0e.
- Added `fontaxes`, `slantsc`, `tabfigures`.
- Added `nfssect-cfr`, thus supporting `cfr-lm` and several other font packages.
- Added `backnaur`, `hypbmsec`, `minibox`, `pdfcrypt`, `shapepar`.

v0.71: Error handling, multimedia, tabular.

- tabular: Added support for ‘*’ columns. Fix for paragraph tags.
- quotation: Fix for HTML tag.
- Docs: Added a section about error conditions tested by lwarp. See section 13.1.
- *lwarpmk*: If file `lwarpmk.conf` is an older version, or the incorrect operating system, displays the print command to use to recompile.
- packages
 - chemfig: Updated for v1.4.
 - endfloat: Updated for v2.7.
 - textpos: Updated for v1.9.1.
- multimedia
 - Added media9, movie15, multimedia.

v0.70: Error handling, MATHJAX, mathtools.

- Error handling for “Label(s) changed.” Refuses to `lwarpmk limages` until recompile first.
- Fix: If Computer Modern font is used, ensures `cm-super` or `lmodern` is used.
- Fixes for `\makebox`.
- Fixes for `\parbox` inside a ``.
- MATHJAX: Updated to v2.7.5. Loads the `autoload-all.js` extension. Added `\MathJaxFilename` to select custom scripts.
- packages
 - textcomp, xunicode: Fix for `\textinterrobang`.
 - mhchem: Works with MATHJAX. See section 417.
 - changes: Updated to v3.1.2.
 - Added `autonum`, `changelayout`, `inputtrc`, `mathtools`, `metalogox`.

v0.69: Error handling, many fixes, improved keyfloat / tocdata.

- Fix for HTML corruption of `lateximage` displays.
- `\makebox`, `\framebox`: Fix for $(\langle width, height \rangle)$ arguments.
- `fminipage`: Honors `\minipagefullwidth`.
- packages
 - `array`, `longtable`: Fix for `\tabularnewline`.
 - `tabularx`, `tabulary`: Fix to require the `array` package.
 - `supertabular`, `xtab`: Fix to clear caption after use.
 - `graphics`: Added a warning if used the `\includegraphics scale` option.
 - `multirow`: Added an error if didn’t use `\mrowcell` or `\mcolrowcell` when using `\multirow` or `\multicolumnrow`.
 - `keyfloat`: Updated for v2.00, additional improvements.
 - Added `ctable`, `eqlist`, `eqparbox`, `ftcap`, `listliketab`, `minitoc`, `tocdata`, `topcapt`.

v0.68: Error handling, tabulars, footnotes.

- lwarpmk*
 - *lwarpmk*: Improved error handling for image generation if compile was incomplete.
- packages
 - `tabular`: Fix for `\warpprintonly`.
 - `longtable`: Improved flexibility for `\endhead`, etc. Improved error reporting if `\endhead`, etc. incorrect for `lwarp`.

- `threeparttable`: Fix for caption type.
- `hyperref`: Fix for options with braces.
- `morefloats`: Fix to be loaded early for print output.
- `listings`: Updated for v1.7.
- Added `bigfoot`, `fnpara`, `footnotebackref`, `manyfoot`, `tablefootnote`, `threeparttablex`.
- Added `layouts`, `niceframe`, `perpage`, `showtags`.
- Prevented `alg`, `algorithmic`, `pdfcpot`, `fncylab`.

v0.67: Filename generation, symbol fonts.

`docs`

- Documentation fix for `<project>-images`, `<project>-images.txt`.
- Added discussion regarding section names. See section 8.4.

`filenames`

- Added `\FilenameNullify` and `\FilenameSimplify` for filename generation. See section 8.4.
- `Core`, `textcomp`, `xunicode`: Nullified additional symbols during filename generation.

`packages`

- `color`: Fix for version number warnings.
- Added `academicons`, `bbding`, `dingbat`, `eurosym`, `fontawesome`, `fontawesome5`, `marvosym`, `pifont`, `typicons`.
- Added `changes`, `easyReview`, `fitbox`, `foreign`, `gloss`, `karnaugh-map`, `multicap`, `nomencl`, `notes`, `struktex`, `umoline`, `xfakebold`.
- Tested to work as-is with `askmaps`, `curves`, `euro`, `karnaughmap`, `tikz-karnaugh`.

v0.66: `xr`, multiple projects, image names/directory, HTML formatting

⚠ Reset the configuration

- Due to changes in `lwarpmk`, **recompile any existing project a single time** using `pdflatex filename.tex` or similar, after which `lwarpmk` may then be used with the new configuration files.

`lateximage`

- Adds options `ImagesDirectory` and `ImagesName` to assign directory and name prefixes for `lateximage` images. The new defaults include the `jobname`, allowing the image directories for multiple projects to coexist.

⚠ existing projects

- To reuse existing `lateximage` directories, add `lwarp` options

```
\usepackage[
  ImagesDirectory={lateximages},
  ImagesName={lateximage-}
]{lwarp}
```

If not reused, the existing `lateximages` directory and `lateximages.txt` file may be removed.

`filenames`

- Added `\FilenameLimit` to control the maximum length of the filenames generated by `lwarp`.

⚠ Possible filename changes

- Improved filename generation when special characters or macros are used in section names.

`WINDOWS`

- Fix for `lwarpmk cleanimages` with `WINDOWS`.

`floats`

- Fixes for floats in the home page.

`lists, table notes`

- Improved css for definition lists, table notes.

`tabular`

- `tabular`: Fixes for `\par` in column specifier, `minipage` inside `tabular`.

`indexing`

- `Indexing`: Fix for a long line of multiple entries.

`minipage`

- `\minipagefullwidth`: Fix for global changes.

- Added `\UseMinipageWidths` and `\IgnoreMinipageWidths`. See section 8.3.3.
- colors
 - Improved `\fbox`, `\fboxBlock`, `\fminipage` to use current text color.
- HTML
 - Improved HTML output formatting.
- docs
 - Added discussion regarding invalid HTML. See section 8.1.1.
 - Added discussion regarding math in section names, `\imagegraphics` scale option. See section 6.
 - Added discussion regarding international languages in section names. See section 8.14.
- packages
 - `caption`: Fix for options clash.
 - `xr`, `xr-hyper`: Now compatible.
 - `subcaption`: Improved horizontal spacing.
 - `multicol`: Fix for minipage inside `multicols`.
 - `multicolrule`: Updated for v1.2.
 - `tocbasic`: Minor update.
 - `acronym`: Fix for acronym in float caption.
 - `kotexutf`: Patch with *pdflatex* and new lwarp labels.
 - `extramarks`, `fancyhdr`: Updated for v3.10.
 - `memoir`: Added docs regarding version numbers. See section 8.13.
 - `zref`: No longer required.
 - Added `ar`, `ed`, `indentfirst`, `nameauth`, `truncate`.
 - Verified to work as-is with `changelog`.
 - Prevented `colortab`, `epsf`, `hyper`, `picinpar`, `picins`, `sistyle`, `ucs`.
- v0.65:** css layout, alt tags, Japanese.
- page layout
 - Moved the `sidetoc` to the left side, allowing improved css for margin notes.
 - Improved page layout css.
- image alt tags
 - `graphicx \includegraphics`: Added the alt key to assign an alt tag to an image. Default is “image”, assigned to pass validation.
- duplicate HTML files
 - Detects and causes an error if duplicate HTML file names are generated, caused by identical or similar sectioning names.
- fixes
 - Fix for `tabular*`.
 - Fix for `tabular` border colors.
 - Fixes `\quad`, `\enskip`, and figure captions to pass validation.
- Japanese
 - Added `ltj*` classes, `bounddvi`, `gentombow`, `ltxtext`, `plarydshln`, `plext`, `plextarydshln`, `plextcolortbl`, `pxatbegshi`, `pxeveryshi`, `pxftnright`, `pxjahyper`, `tascmac`.
 - Verified to work with `plarray`, `plautopatch`, `plextarray`, `plextdelarray`, `pxgentombow`, `plsiunitx`, `pxpdfpages`, `pxpgfrcs`, `pxpgfmark`.
- packages
 - Added support for `fontspec \textsi` and `\sishape`.
 - Added `multicol's \docolaction`.
 - Added `embrac`, `footnoterange`, `multicolrule`, `versionotes`.

v0.64: Koma-Script, Japanese, Chinese.

- Japanese
 - Added `utarticle` and related classes.
 - Improved `ujarticle` and related classes.
- Chinese
 - Fix for `biblatex` with `CTEX` and other classes.
- Koma-Script packages
 - Fixes for `sclayer`, `sclayer-scrpage`.
 - `addlines`: Updated to v0.3.
 - Added `bsheaders`, `gmeometric`, `marginal`, `rmpage`, `scrpage2`.

v0.63: `mdframed`, Chinese, Japanese, Korean

- localization
 - Added `\linkhomename`: A user-definable name for the **Home** link.
 - Documented `\sidetocname`: A user-definable name for the `sideroc`.
- fixes
 - Fix: `\LinkHome` for print output.
- optimizations
 - Moved package load checks to the `lwarp` core to reduce the number of `lwarp-*` files.
- packages
 - `mdframed`: Fix with `amsthm`, improved titles and font control. Improved rule widths.
- Chinese
 - Fixes for `xeCJK`.
 - Added `xpinyin`, `zhlineskip`.
- Japanese
 - Verified to work with `zsjatype`, `luatexja`, `luatexja-fontspec`.
 - Added `bxjsarticle` and related classes.
 - Added `ltsarticle` and related classes.
 - Added `pLATEX`, `upLATEX`, `ujarticle` and related classes.
 - Prevented `utarticle` and related classes.
 - Prevented `bcjkatype`.
- Korean
 - Verified to work with `kotex`, `xetexko`, `luatexko`.

v0.62: `MiKTeX` docs, `HTML` title, `CTEX`, `xeCJK`, `bitpattern`.

- docs
 - Docs: Setting a UTF-8 locale. See section 9.9.
- `MiKTeX`
 - `MiKTeX`: Docs for *MiKTeX Console* and `miktex-poppler-bin`.
- `HTML <title>`
 - `HTML` subpage titles: Added `\HTMLtitleBeforeSection` and `\HTMLtitleAfterSection` to select whether the `HTML <title>` displays the website name before or after the section name. See section 7.6.
- fixes
 - Fix for package options handling.
 - Fixes for horizontal white space between `fminipage`, `fcolorminipage`, `colorboxBlock`, `fcolorboxBlock`.
 - Logos: Fix for `XYTeX` logo, improved css, made robust, improved search-engine optimization.
 - `\[$1]`: Additional `HTML
` if `$1 > 0 pt`.
 - Fixes for `\includgraphics` filename, and with `FormatWP`.
 - Fix: css for `\textup`.
 - Fix: Added `\slshape`.
- Chinese
 - Added `ctex` package and related classes, `xeCJK`.
 - Prevented `CJK`, `CJKutf8` unless `xeCJK`, `ctex` are used.

packages

- chemfig: Docs for new macro `\polymerdelim`.
- asymptote: Docs for compilation.
- chngpage: Fix to load `lwarp-changepage`.
- algorithm2e: Fix with non-book classes.
- register: Updated to v1.8.
- nicefrac: Improved font control and css, honors nice and ugly.
- units: Improved font control and css, honors tight and loose.
- xfrac: Improved css.
- textcomp and xunicode: Fix conflicts with `\textcircled`.
- ulem: Improved compatibility with CJKulem, `lateximage`.
- MATHJAX and siunitx: Removed inoperable extension.
- Added bitpattern, pdfcomment, pdfmarginpar, tram, unitsdef, xexchangebar.
- Added musicography, octave, semantic-markup.
- Added 2in1, flippdf, notespages, rviewport, twoup.

v0.61: Custom compilation, EPS-related packages, documentation, indexes.

docs

- Split index into multiple indexes.
- Improved documentation regarding font selection. See section 7.4.
- Added documentation regarding debugging options. See section 37.
- Added documentation regarding HTML entities inside program listings. See section 8.2.1.

custom compiling

- Added options to specify the shell commands to execute for `lwarpmk print` and `lwarpmk html`, allowing the use of `lwarp` with `perltex`, `pythontex`, etc. If not specified, these are set automatically depending on the L^AT_EX engine, `--shell-escape`, and `lwarp` options. See section 9.

 changed names

- Changed macro names to match `\displaymathother`, `\displaymathnormal`:

Old	New
<code>\StartDynamicMath</code>	<code>\inlinemathother</code>
<code>\StopDynamicMath</code>	<code>\inlinemathnormal</code>

fixes

- Fix: Paragraph tags in a tabular.
- Fix: `supertabular` and `xtab` captions.
- Fix: DVI L^AT_EX `\includegraphics` EPS images.
- Fix: `newfloat` lists.
- Fix: css footnotes text align, minipage tabular and footnote margins.

packages

- Added `epsfig`, `psfrag`, `psfragx`, `pstool`.
- Added `copyrightbox`, `pdfprivacy`, `thinsp`, `threadcol`, `uspace`.
- Added `chkfloat`, `cmdtrack`, `dprogress`, `lua-visual-debug`, `refcheck`, `srcltx`, `srctex`, `vpe`, `xbmks`.

v0.60: Fixes for `longtable`, listings.

fixes

- `longtable`, etc.: Fixes for slowdown and memory management for very long tables.
- listings: Fix for HTML entities, and also when used inside a list.
- `diagbox`: Fix for incorrect HTML par tags.

packages

- Added 2up, booklet.
- Added bophook, drafftfigure, fullminipage, grid-system, layaureo.
- Added leading, widows-and-orphans.
- Added fancytabs, thumb, thumbs.

v0.59: DVI *latex*, MATHJAX, asymptote, pdftricks and pstricks, epstopdf, brqen.

⚠ Reset the configuration

- Due to changes in *lwarpmk*, **recompile any existing project a single time** using `pdflatex filename.tex` or similar, after which *lwarpmk* may then be used with the new configuration files.

lwarpmk

- Added an error if `lwarpmk.conf`'s format has changed and the document must be recompiled.
- Added a warning if the `lwarpmk.conf` configuration file appears to be for the wrong operating system, in case files are transferred between systems.
- Added


```
lwarpmk epstopdf <list-of-EPS-files>
```

 to quickly convert a document's EPS images to PDF or SVG. See section 8.8.

DVI *latex*

- Added support for DVI *latex*. See section 7.5.

latexmk

- Fix for `--shell-escape` with *latexmk*.

math

- Updated MATHJAX script to v2.7.4.
- Fix: MATHJAX chapter number removed from non-numeric tagged equations.
- Added MATHJAX support for nicefrac, units.
- Fix for `\[` and `\]` with `\displaymathnormal`.

images

- Fix for `\includegraphics` filename expansion.
- `\includegraphics` now works with `.pdf` and `.eps` filename extensions.

packages

- Moved `amsmath` out of the *lwarp* core.
- Fix for `chemformula \NMR`.
- Added `asymptote`, `pdftricks`, `pstricks`, `pst-eps`.
- Added `breqn`, `Slunits`.
- Added `bxpapersize`, `canoniclayout`, `draftcopy`, `fnbreak`, `nccfancyhdr`.
- Added `accsupp`, `axessibility`.
- Added `xunicode`.
- Improved and now supports `epstopdf`.
- Tested to work as-is: `eepic`, `sepfootnotes`.

docs

- Added information about setting up a development version of *lwarp*.

v0.58: Extensive improvements in indexing, glossaries. Adds PDF-inclusion packages.

⚠ Reset the configuration

- Due to changes in *lwarpmk*, **recompile any existing project a single time** using `pdflatex filename.tex` or similar, after which *lwarpmk* may then be used with the new configuration files.

lwarpmk

- *lwarpmk*: Added the `-p` option to specify the project name.

glossaries

- *lwarpmk*: Now uses `makeglossaries` for glossary generation, allowing the processing of multiple glossaries at once.

index and glossary

- Added `lwarp` option `GlossaryCmd` to specify the shell command used by `lwarpmk printglossary` and `lwarpmk htmlglossary`. Defaults to `makeglossaries`.
- Docs: Extra indexing options. See section 8.6.15.
- Added support for `makeindex`. (Previously supported only `xindy`.) Also added indexing packages listed below.
- Added `lwarp` options `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkIndexCmd` to specify shell commands used by `lwarpmk printindex`, `lwarpmk htmlindex`, and `latexmk`. May be preset with the `makeindex` or `xindy` `lwarp` options. See section 7.5.
- Added `lwarp` options `makeindex` and `xindy` to set `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkIndexCmd` to sensible values for a typical single index. See section 7.5.
- Added `lwarp` option `makeindexStyle` to tell `lwarpmk` to use a custom style instead of `lwarp.ist`. See section 8.6.21.

misc. fixes

- Fix for index entries with `\see`, `\seealso`, `\emph`, `\textbf`, etc.
- Replaced each `\csuse` with `\@nameuse` for improved error detection.
- Additional internal `print/HTML` macro selection improvements.
- Fix: `\printindex` finishes pending `\index` writes first.
- Fixes for `memoir`: `makeidx`, `ccaption`, multiple indexes, `\specialindex`.

packages

- Fixes for `komascript`: Indexing improvements.
- Added `imakeidx`, `index`, `repeatindex`, `splitidx`.
- Added `attachfile`, `attachfile2`, `intopdf`, `pdfpages`, `pdfx`.
- Added `cases`.
- Tested to work as-is: `notes2bib`, `hvinde`.

v0.57: `algorithm2e`, float styles, tabular packages, internal improvements.

MathJax

math macros

dynamic math

△ new name

lateximage alt tags

- Added support for `MATHJAX` equations with `\footnote`, `\footnotemark`.
- Added `\StartDefiningMath` and `\StopDefiningMath` for use when defining macros in the preamble which contain `$`. See section 8.7.9.
- Added `\inlinemathother` and `\inlinemathnormal` to delimit math expressions which depend on a variable condition such as a counter. Such expressions will not be hashed for reuse, and will be converted to `SVG` math images even when `MATHJAX` is enabled. See section 8.7.10.
- Renamed `\EndDefiningTabulars` to `\StopDefiningTabulars`.
- Improved localization for `lateximage HTML alt tags`. For `SVG` math images, the `alt` tag under some conditions will be set to `\MathImageAltText`, which defaults to `math image`. For packages, the `alt` tag is set using the package name followed by `\PackageDiagramAltText`, which defaults to `diagram`. Ex:

```
(-xy- diagram)
```

See section 7.6.

- Fix: Improved `print/HTML` macro selection.
- Fix: `\href` text catcodes.
- Fix: `\subref` text.

misc. fixes

- packages
 - Fixes: Colored `\rule` and `\boxframe`.
 - float, rotfloat: Adds support for float styles ruled and boxed.
 - float: Fix: Do not create `\l@<type>` until `\listof` is used.
 - marginnote: Fix: Long optional argument.
 - ellipsis: Adds `\midwordellipsis`.
 - breakurl: Fix for text catcodes.
 - Added `algorithm2e`, `register`, `ltablex`, `xltabular`, `xellipsis`, `trimclip`, `errata`, `vowel`, `xpiano`.
 - Prevents `glossary`.
 - Tested to work as-is with `gauss`, `phonrule`, `piano`, `Slunits`, `tikzcodeblocks`.

v0.56: Shell escape, tabular packages.

- lwarpmk
 - Added
 - `lwarpmk pdftosvg <list-of-PDF-files>`
 - to quickly convert a document's PDF images to SVG, for use with HTML. See section 8.8.
 - Added support for `--shell-escape`. See section 7.3.
- tabular
 - Added support for array `w` and `W` columns.
 - Fix: `\multicolumn` parameter handling.
 - Added support for double `\hlines`, `\midrules`, and vertical rules.
 - Added support for `arydshln` dashed lines with HTML `tabular`, but reverts to plain rules for `lateximage` and `svg math array`.
- misc. fixes
 - Fix: `\thinspace`.
 - Fix: `paralist` compact environments.
- packages
 - Added `parnotes`, `quoting`, `lua-check-hyphen`, `tocenter`, `underscore`.
 - Added `bibunits`.
 - Tested to work as-is with `babelbib`, `bodegraph`, `fast-diagram`, `nicematrix`, `structmech`.

v0.55: Various fixes.

- misc fixes
 - Fix: Extraneous space in file links, which also prevented *Calibre* EPUB conversions.
 - Fix: Float optional argument regression.
 - Fix: `\ForceHTMLTOC` with `\phantomsection`.
 - Fix: Overfull boxes in `lateximages`.
 - Fix: QED symbols in `lateximage`.
- packages
 - `koma-script`: Fix: Figure with `\centering`, etc.
 - Added `clrdblpg`.

v0.54: Float `\centering`, improved image checks.



Reset the configuration

- lwarpmk
 - Due to changes in *lwarpmk*, **recompile any existing project a single time** using `pdflatex filename.tex` or similar, after which *lwarpmk* may then be used with the new configuration files.
 - `lwarpmk limages` checks for the presence of the HTML version of the document and valid image references before attempting to create the `lateximages`.

BibTeX
polyglossia

macros in section names
document encoding
⚠ New and revised
encoding options

- *lwarpmk*: Improved error message if configuration file does not exist.
- Added documentation for avoiding error with BibTeX and `\etalchar`. See section 8.6.9.
- Added documentation regarding polyglossia. See section 8.15.4.
- Added documentation regarding the use of macros in section names. See section 8.1.
- Renamed and added package options:

Old Package Option	New Package Option
<code>xdyFilename</code>	<code>xindyStyle</code>
<code>IndexLanguage</code>	<code>xindyLanguage</code>
–	<code>xindyCodepage</code>
–	<code>pdftotextEnc</code>

Use these options along with `inputenc` or `inputenx` to process documents in an encoding other than UTF-8. See section 7.4.

floats with `\centering`, etc.

- Floats now honor `\centering`, `\raggedright`, `\raggedleft`, and their `ragged2e` equivalents, when placed directly after:

```
\begin{floattype}
\centering
```

misc. fixes

- `tikz`: `\pgfpicture`, `fit`, `align`, `font`.
- `ragged2e`: `\centering` etc.
- `hyperref`: `\hypertarget` was creating duplicate of `\label`.
- `hyperref`: Active chars inside `\hyperref`, `\hyperlink`.
- `hyperref`: `\ref` inside `\hyperlink` caused a nested HTML link.
- `glossaries`: Fix when not using `babel` or `polyglossia`.
- `textcomp`: `\textperthousand`.
- L^AT_EX core verse environment: line spacing.
- Removed `\citetitle`, adjusted `\attribution`.
- `memoir`: Minor update for v3.7g.
- Added `inputenx`, `bibunits`, `chnpage`, `forest`, `magaz`, `gridset`.
- Prevents loading `ae`, `aecc`, `tlenc`, and `wasysym`.

v0.53: Improved image checks.

lwarpmk

- *lwarpmk*: Added a warning about corrupted images due to the need to recompile the document one more time.
- *lwarpmk*: Added the `lwarpmk cleanimages` command.
- Added documentation for `lwarpmk cleanimages` and `lwarpmk pdftohtml`.

v0.52: Improved footnotes, SVG math.

documentation

- Improved install instructions regarding `lwarp_baseline_marker.png`.
- Added documentation regarding footnotes in section headings, and footnotes with `\VerbatimFootnotes` from `fancybox`, `fancyvrb`. See section 8.5.4.
- Added documentation regarding font selection when using X_YL^AT_EX or Lua^AT_EX with `fontspec` and traditional font packages. See section 7.4.

SVG math

- Fix: Limit the number of background tasks when generating `Lateximages`.

- Added user-adjustable svg math font scaling. See section 86.3.
 - Added warnings if `lwarp_baseline_marker.png` is not present, or if `graphicx` or `graphics` is not loaded.
 - Improved `\ensuremath` hashing expansion.
 - Fix: `equation*` with `split`.
 - `tabbing` now works inside a `lateximage`. Use for math in `tabbing`.
 - Fix: `MATHJAX` script was not executing in some conditions.
 - Added `\CustomizeMathJax` to add custom functions. See section 8.7.
- MathJax**
- Fix: Footnote numbering when using `HTMLDebugComments`.
- footnotes**
- Fix: Footnote paragraph tags.
 - Fix: `FootnoteDepth` defaults to `\subsubsection`.
- misc. fixes**
- Fix: `\kill` in a `lateximage`.
 - Fix: `\FileDepth`, misc. others, when input encoding is not `utf8`.
 - Fix: `\texorpdfstring` in a section name.
- packages**
- `hyperref` emulation: Fix for `#`, `%`, `&`, `~`, `_` characters in URLs.
 - `fancybox`, `fancyvrb`: Initial support for `\VerbatimFootnotes`.
 - `nicefrac`: Added with fix for `\ensuremath`.
 - `graphicx`: Fix for option defaults. Added `v1.1a/b` options.
 - `endfloat`: Updated for `v2.6`.
 - `url`: Fixes for active characters.

2 Introduction

The `lwarp` project aims to allow a rich \LaTeX document to be converted to a reasonable `HTML5` interpretation, with only minor intervention on the user's part. No attempt has been made to force \LaTeX to provide for every `HTML`-related possibility, and `HTML` cannot exactly render every possible \LaTeX concept. Where compromise is necessary, it is desirable to allow the print output to remain typographically rich, and compromise only in the `HTML` conversion.

Several “modern” features of `HTML5`, `CSS3`, and `SVG` are employed to allow a fairly feature-rich document without relying on the use of `JAVASCRIPT`. Limited testing on older browsers shows that these new features degrade gracefully.

`lwarp` is a native \LaTeX package, and operates by either patching or emulating various functions. Source-level compatibility is a major goal, but occasional user intervention is required in certain cases.

As a package running directly in \LaTeX , `lwarp` has some advantages over other methods of `HTML` conversion. \TeX itself is still used, allowing a wider range of \TeX trickery to be understood. Lua expressions are still available with `LuaTeX`. Entire categories of \LaTeX packages work as-is when used with `lwarp`: definitions, file handling, utilities, internal data structures and calculations, specialized math-mode typesetting for various fields of science and engineering, and anything generating plain-text output. Blocks of `PDF` output may be automatically converted to `SVG` images while using the same font and spacing as the original print document, directly supporting `TikZ` and `picture`. Numerous packages are easily adapted for `HTML` versions, either by loading and patching the originals, or by creating nullified or emulated replacements, and all without resorting to external programming. As a result, several hundred packages have already been adapted (table 2), and an uncounted number more work as-is.

Packages have been selected according to several criteria: perceived importance, popularity lists, recent `CTAN` updates, `CTAN` topics, mention in other packages, support by other `HTML` conversion methods, and from sample documents taken from public archives. These include some “obsolete” packages as well.¹

Assistance is also provided for modifying the `HTML` output to suit the creation of `EPUB` documents, and for modifying the `HTML` output to ease import into a word processor.

`pdflatex`, `xelatex`, or `lualatex` may be used, allowing `lwarp` to process the usual image formats. While generating `HTML` output, `SVG` files are used in place of `PDF`. Other formats such as `PNG` and `JPG` are used as-is.

¹An amazing number of decades-old packages are still in use today.

svg images may be used for math, and are also used for `picture`, `TikZ`, and similar environments. The svg format has better browser and e-book support than MathML (as of this writing), while still allowing for high-quality display and printing of images (again, subject to potentially bug-ridden² browser support).

Furthermore, svg images allow math to be presented with the same precise formatting as in the print version. Math is accompanied by `<alt>` tags holding the L^AT_EX source for the expression, allowing it to be copy/pasted into other documents.³ Custom L^AT_EX macros may be used as-is in math expressions, since the math is evaluated entirely inside L^AT_EX. An MD5 hash is used to combine multiple instances of the same inline math expression into a single image file, which then needs to be converted to svg only a single time.

The MATHJAX JavaScript display engine may be selected for math display instead of using svg images. Subject to browser support and Internet access, MATHJAX allows an HTML page to display math without relying on a large number of external image files.⁴ `lwarp` maintains L^AT_EX control for cross-referencing and equation numbering, and attempts to force MATHJAX to tag equations accordingly.

A *texlua* program called *lwarpmk* is used to process either the print or HTML version of the document. A few external utility programs are used to finish the conversion from a L^AT_EX-generated PDF file which happens to have HTML5 tags, to a number of HTML5 plain-text files and accompanying images.

`lwarp` automatically generates the extra files necessary for the HTML conversion, such as CSS and `.xdy` files, and configuration files for the utility *lwarpmk*. Also included is a parallel version of the user's source document, `<sourcename>-html.tex`, which selects HTML output and then inputs the user's own source. This process allows both the printed and HTML versions to co-exist side-by-side, each with their own auxiliary files.

When requesting packages during HTML conversion, `lwarp` first looks to see if it has its own modified version to use instead of the standard L^AT_EX version. These `lwarp-packagename.sty` files contain code used to emulate or replace functions for HTML output.

²FIREFOX has had an on-again/off-again bug for quite some time regarding printing svgs at high resolution.

³There seems to be some debate as to whether MathML is actually an improvement over L^AT_EX for sharing math. The author has no particular opinion on the matter, except to say that in this case L^AT_EX is much easier to implement!

⁴One svg image file per math expression, except that duplicate inline math expressions are combined into a single file according to the MD5 hash function of its contents. A common scientific paper can easily include several thousand files, and in one case the MD5 hash cut the number of files in half and the rendering time by 30%.

2.1 Typesetting conventions


Font weight, family, and style are used to indicate various objects:

Table 1: Typesetting conventions

<code>package</code>	L ^A T _E X package.
<i>program</i>	Program's executable name.
<code>option</code>	Program or package option.
<code>filename</code>	File name in the operating system.
<code>BRAND NAME</code>	Proper name for a program, operating system, etc.
commands	Commands to be entered by the user.
<code>code</code>	Program code.
<code>\macroname</code>	L ^A T _E X macro.
<code>environment</code>	L ^A T _E X environment.
<code>counter</code>	L ^A T _E X counter.
<code>boolean</code>	L ^A T _E X boolean.
<code><element></code>	HTML element.
<code>attribute</code>	HTML attribute.
User Interface	A user-interface item.
<code>ACRO</code>	Acronym.

subjects Blue-colored tags in the left margin aid in quickly identifying the subject of each paragraph. These are often the targets of index entries.

index entries Black-colored tags in the left margin are used to identify programming objects such as files, packages, environments, booleans, and counters. Items without a tag are command macros. Each of these also appears in the index as individual entries, and are also listed together under “files”, “packages”, “environments”, “booleans”, and “counters”.

 **warnings** Special warnings are marked with a warning icon.

2.2 Supported packages and features

Table 2 lists some of the various L^AT_EX features and packages which may be used.

Package names are colored according to their support level:

name: Supported as-is.

name: Modified to work with HTML output, and perhaps also as print output in SVG math or `lateximage` environments.

name: Emulated for HTML output.

name: Ignored for HTML output, but provides source-level compatibility.

MJ: Supported as-is for MATHJAX, subject to limitations.

MJ: Emulated for MATHJAX using custom macros, subject to limitations.

MJ: Ignored by MATHJAX, but may be used in the document source. May be converted to SVG images.

Table 2: L^AT_EX lwarp package — Supported features

Category	Status and supported features.
Engines:	DVI L ^A T _E X, PDF L ^A T _E X, X _Y L ^A T _E X, LuaL ^A T _E X, upL ^A T _E X
L ^A T _E X compiling:	<i>latexmk</i> , <i>make</i> , etc.
External compiling:	<i>perltex</i> , <i>pythontex</i> , <i>symptex</i>
Classes:	article, book, report, scrartcl, scrbook, screprpt, memoir, CJK-related as listed below.
Koma-script:	scxextend , scrhack , sclayer . Others as listed below.
Memoir:	memhfixc
Beamer:	beamerarticle , but not the beamer class.
Languages:	babel , ckjpunct , imprnatypo , luavlina , polyglossia , xeCJK , xevlina .
Chinese:	CT _E X, ctex , upzhkinsoku , xpinyin , zhlineskip, zhspacing.
Japanese:	upL ^A T _E X, LuaT _E X-ja, gentombow , lltjext , plarray , plarydshln , plautopatch , plext , plextarray , plextarydshln , plextcolortbl , plextdelarray , pxatbegshi , pxeveryshi , pxftnright , pxgentombow , pxjahyper , pxpdfpages , pxpgfrcs , pxpgfmark , tascmac , zxjatype . bxjsarticle and related, ltjsarticle and related, luatexja , luatexja-fontspec , ujarticle and related, utarticle and related.
Korean:	kotex , luatexko , xetexko .

Page layout:	2in1, 2up, a4, a4wide, a5comb, addlines, anysize, atbegshi , balance, blowup, booklet, bophook, bounddvi, bxpapersize, canoniclayout, centerlastline, changelayout , changepage , chngpage, clrdblpg, continue, draftcopy, drafftfigure, draftwatermark, ebook, everyshi, fancyhdr , fancytabs, flippdf, fullminipage, fullpage, fwlw, geometry, gmeometric, grid, grid-system , gridset, layaureo, layout, layouts, leading, lscape, ltxgrid, nccfancyhdr, notespages, nowidow, pagegrid, pagesel, parallel , parcolumns , pbalance, pdfcolparallel, pdfcolparcolumns, pdfcrypt, pdfscape, pdfprivacy, preview, ragged2e , returntograd, rmpage, sclayer-scrpage , scrpage2 , setspace , selectp, textarea, threadcol, thumb, thumbs, titleps, tocenter, turnthepage, twoup, typearea, underlin, vmargin, watermark, widows-and-orphans, zwpagelayout.
Sectioning:	Adds FileDepth for splitting the HTML output. Files may be numbered sequentially or named according to section name. Common short words and punctuation are removed from the filenames. anonchap , bsheaders, decorule , fncychap, froufrou , hypbmsec , indentfirst , quotchap , section, sectionbreak , secdot , sectsty, titlesec, tocvsec2 .
Table of contents, figures, tables:	Supported, with hyperlinks. etoc , minitoc , multitoc , shorttoc , tableof , titletoc , tocbasic , tocbibind , tocdata , tocloft , tocstyle , tocvsec2 .
Title page:	<code>\maketitle</code> , titlepage , authblk , authoraftertitle , titling .
Front & back matter:	abstract , appendix .
Indexing:	makeindex , xindy , and xindex are supported, with hyperlinks. gindex , hindex , idxlayout , imakeidx , index , makeidx , repeatindex , splitidx , varindex , xindex .
Glossary:	gloss , glossaries and xindy , nomencl .
Bibliography:	babelbib , bibtopic , backref , biblatex , bibunits , chapterbib , cite , citeref , collref , drftcite , hypernat , jurabib , mcite , mciteplus , multibib , natbib , notes2bib , splitbib , showtags .
Cross-references:	bookmark , breakurl , cleveref , fancyref , hypdestopt , hyperref , perpage , prettyref , titleref , url , varioref , xcite , xr , xr-hyper , xurl , zref .
Margin notes:	marginal , marginfit , marginfix , sclayer-notecolumn , versonotes .

Footnotes:	Adds FootnoteDepth to print footnotes at section breaks. MATHJAX emulation for \footnote, and also as marked in the following: <code>bigfoot</code> , <code>dblfnote</code> , <code>endheads</code> , <code>endnotes^{MJ}</code> , <code>enotez^{MJ}</code> , <code>fixfoot</code> , <code>fnbreak</code> , <code>fnpara</code> , <code>fnpct</code> , <code>fnpos</code> , <code>footmisc</code> , <code>footnote</code> , <code>footnotebackref</code> , <code>footnoterange</code> , <code>footnpag</code> , <code>manyfoot</code> , <code>marginnote^{MJ}</code> , <code>nccfoots^{MJ}</code> , <code>pagenote^{MJ}</code> , <code>parnotes^{MJ}</code> , <code>pdfcolfoot</code> , <code>pfnote</code> , <code>sepfootnotes</code> , <code>sidenotes^{MJ}</code> , <code>tablefootnote</code> .
Math:	Converted to SVG images with HTML <alt> tags containing the L ^A T _E X source for the math expression. MATHJAX supported as an alternative. <code>amsmath^{MJ}</code> : $\mathcal{A}\mathcal{M}\mathcal{S}$ environments are supported. User-defined macros are available during conversion, due to native L ^A T _E X processing.
Theorems:	Native L ^A T _E X theorems, <code>amsthm</code> , <code>apxproof</code> , <code>ntheorem</code> , <code>shadethm</code> , <code>theorem</code> , <code>thmbox</code> , <code>thmtools</code> .
Additional math:	Math fonts via SVG images, <code>accents^{MJ}</code> , <code>amscd^{MJ}</code> , <code>amscdx</code> , <code>autobreak^{MJ}</code> , <code>autonum</code> , <code>backnaur^{MJ}</code> , <code>bm^{MJ}</code> , <code>braket^{MJ}</code> , <code>breqn^{MJ}</code> , <code>bussproofs^{MJ}</code> , <code>cases^{MJ}</code> , <code>centernot^{MJ}</code> , <code>cmbright^{MJ}</code> , <code>colonequals^{MJ}</code> , <code>decimal^{MJ}</code> , <code>delarray</code> , <code>DotArrow^{MJ}</code> , <code>dotlessi^{MJ}</code> , <code>dotlessj^{MJ}</code> , <code>esvect^{MJ}</code> , <code>extrarrows^{MJ}</code> , <code>fixmath^{MJ}</code> , <code>fouridx^{MJ}</code> , <code>fourier^{MJ}</code> , <code>guass</code> , <code>hhtensor^{MJ}</code> , <code>icomma^{MJ}</code> , <code>isomath^{MJ}</code> , <code>jkmath</code> , <code>kpfonts^{MJ}</code> , <code>kpfonts-otf^{MJ}</code> , <code>leftidx^{MJ}</code> , <code>libertinust1math^{MJ}</code> , <code>mathalpha^{MJ}</code> , <code>mathastext^{MJ}</code> , <code>mathcomp^{MJ}</code> , <code>mathdesign^{MJ}</code> , <code>mathdots^{MJ}</code> , <code>mathfixs^{MJ}</code> , <code>mathpazo^{MJ}</code> , <code>mathptmx^{MJ}</code> , <code>mathpunctspace^{MJ}</code> , <code>mathspec^{MJ}</code> , <code>mathtools^{MJ}</code> , <code>mattens^{MJ}</code> , <code>maybemath^{MJ}</code> , <code>mdwmath^{MJ}</code> , <code>mismath^{MJ}</code> , <code>mleftright^{MJ}</code> , <code>multiobjective^{MJ}</code> , <code>nccmath^{MJ}</code> , <code>nicematrix^{MJ}</code> , <code>noitcrl^{MJ}</code> , <code>newpxmath^{MJ}</code> , <code>newtxmath^{MJ}</code> , <code>newtxsf^{MJ}</code> , <code>pb-diagram</code> , <code>pxfonts^{MJ}</code> , <code>resizegather^{MJ}</code> , <code>rmathbr^{MJ}</code> , <code>scalrel^{MJ}</code> , <code>shuffle^{MJ}</code> , <code>skmath^{MJ}</code> , <code>stackrel^{MJ}</code> , <code>statex2^{MJ}</code> , <code>statistics</code> , <code>statmath^{MJ}</code> , <code>subsupscripts^{MJ}</code> , <code>tensind</code> , <code>tensor^{MJ}</code> , <code>textualicomma^{MJ}</code> , <code>txfonts^{MJ}</code> , <code>txgreeks^{MJ}</code> , <code>unicode-math^{MJ}</code> , <code>upgreek^{MJ}</code> , <code>ushort^{MJ}</code> , <code>witharrows^{MJ}</code> , <code>xfakebold^{MJ}</code> , <code>xy</code> . Many others work as-is.
Display math with \displaymathother:	Complicated math objects in display math, such as <code>tikz-cd</code> , etc.
Units and fractions:	<code>nicefrac^{MJ}</code> , <code>Slunits^{MJ}</code> , <code>siunitx^{MJ}</code> , <code>units^{MJ}</code> , <code>unitsdef</code> , <code>xfrac^{MJ}</code> .

Floats:	Appear where declared. <code>capt-of</code> , <code>caption</code> , <code>cutwin</code> , <code>dblfloatfix</code> , <code>endfloat</code> , <code>fewerfloatpages</code> , <code>fix2col</code> , <code>flafter</code> , <code>float</code> , <code>floatflt</code> , <code>floatrow</code> , <code>fltrace</code> , <code>ftcap</code> , <code>hypcap</code> , <code>keyfloat</code> , <code>morefloats</code> , <code>multicap</code> , <code>newfloat</code> , <code>nonfloat</code> , <code>picinpar</code> , <code>placeins</code> , <code>rotfloat</code> , <code>stfloats</code> , <code>subcaption</code> , <code>subfig</code> , <code>subfigure</code> , <code>subfloat</code> , <code>swfigure</code> , <code>topcapt</code> , <code>trivfloat</code> , <code>wrapfig</code> , <code>wrapfig2</code> .
Tabular:	<code>tabular</code> environment, <code>array</code> ^{MJ} , <code>arydshln</code> ^{MJ} , <code>bigdelim</code> ^{MJ} , <code>bigstrut</code> ^{MJ} , <code>booktabs</code> ^{MJ} , <code>colortbl</code> ^{MJ} , <code>ctable</code> , <code>dcolumn</code> , <code>diagbox</code> , <code>hhline</code> ^{MJ} , <code>longtable</code> , <code>ltablex</code> , <code>ltxtable</code> , <code>multirow</code> ^{MJ} , <code>supertabular</code> , <code>tabularx</code> , <code>tabulary</code> , <code>threeparttable</code> , <code>threeparttablex</code> , <code>widetable</code> , <code>xltabular</code> , <code>xtab</code> .
Graphics:	<code>graphics</code> and <code>graphicx</code> . <code>\includegraphics</code> supports width, height, origin, angle, and scale tags, and adds class. References to PDF files are changed to svg, other image types are accepted as well. <code>\rotatebox</code> and <code>\scalebox</code> are supported as well as HTML can handle. <code>rotating</code> is emulated but all objects are unrotated in HTML. <code>picture</code> , <code>tikz</code> , and <code>xy</code> are converted to an svg image. <code>asymptote</code> , <code>curves</code> , <code>datatool</code> , <code>eepic</code> , <code>epsf</code> , <code>epsfig</code> , <code>epstopdf</code> , <code>figsize</code> , <code>fitbox</code> , <code>grffile</code> , <code>lpic</code> , <code>luamplib</code> , <code>media9</code> , <code>movie15</code> , <code>multimedia</code> , <code>overpic</code> , <code>pict2e</code> , <code>pinlabel</code> , <code>psfrag</code> , <code>psfragx</code> , <code>pst-eps</code> , <code>pstool</code> , <code>pstricks</code> , <code>rlepsz</code> , <code>rviewport</code> , <code>svg</code> , <code>svg-extract</code> , <code>tikz</code> , <code>tikz-3dplot</code> , <code>tikz-image-labels</code> , <code>xy</code>
xcolor:	Full package color names, any color models, and <code>mixing</code> . <code>\textcolor</code> , <code>\colorbox</code> , <code>\fcolorbox</code> . Enhanced for HTML compatibility.
Lists:	Standard L ^A T _E X environments, <code>enumerate</code> , <code>enumitem</code> , <code>eqlist</code> , <code>hang</code> , <code>listliketab</code> , <code>paralist</code> .
Environments:	Standard L ^A T _E X environments.
Paragraphs, minipage, \parbox:	Some HTML5-imposed limitations. Nested minipages are supported. <code>eqparbox</code> , <code>fancypar</code> , <code>minibox</code> , <code>pbox</code> , <code>shapepar</code> .
Quotations:	<code>copyrightbox</code> , <code>csquotes</code> , <code>epigraph</code> , <code>quoting</code> , <code>verse</code> .
Verbatim:	<code>fancyvrb</code> , <code>fvextra</code> , <code>moreverb</code> , <code>shortvrb</code> , <code>verbatim</code> .
Frames:	<code>boxedminipage</code> , <code>boxedminipage2e</code> , <code>fancybox</code> , <code>fbox</code> ^{MJ} , <code>framed</code> , <code>mdframed</code> , <code>niceframe</code> , <code>shadow</code> , <code>tcolorbox</code> ^{MJ} , <code>vertbars</code> .
Multi-columns:	<code>adjmulticol</code> , <code>multicol</code> , <code>multicolrule</code> , <code>vwcol</code> .
Margins:	<code>fullwidth</code> , <code>hanging</code> , <code>midpage</code> .
Line numbering:	<code>fnlineno</code> , <code>lineno</code> .

Direct formatting:	<code>\emph</code> , <code>\textsuperscript</code> , <code>\textbf</code> , etc are supported. <code>\bfseries</code> , etc. are only supported in some cases. <code>cancel</code> ^{MJ} , <code>ellipsis</code> , <code>embrac</code> , <code>enparen</code> , <code>hyphenat</code> , <code>lettrine</code> , <code>lips</code> , <code>lua-check-hyphen</code> , <code>luacolor</code> , <code>magaz</code> , <code>moresize</code> , <code>nolbreaks</code> , <code>normalcolor</code> , <code>pdfcol</code> , <code>pdfcolmk</code> , <code>pdfrender</code> , <code>realscripts</code> , <code>resize</code> ^{MJ} , <code>scalegnt</code> , <code>seqsplit</code> ^{MJ} , <code>soul</code> , <code>soulpos</code> , <code>soulutf8</code> , <code>stackengine</code> , <code>textfit</code> , <code>thinsp</code> , <code>trimclip</code> , <code>truncate</code> , <code>ulem</code> , <code>umoline</code> , <code>underscore</code> , <code>uspace</code> , <code>xellipsis</code> .
Acronyms:	<code>acro</code> , <code>acronym</code> .
Ordinals:	<code>engord</code> , <code>fmtcount</code> , <code>nth</code> .
Text ligatures:	Ligatures for symbols are supported. Ligatures for f, q, t are intentionally turned off because many simpler browsers do not display them correctly. Modern full-featured browsers re-create these ligatures on-the-fly.
Horizontal space:	HTML output for <code>thin-unbreakable</code> , <code>unbreakable</code> , <code>\enskip</code> , <code>\quad</code> , <code>\qquad</code> , <code>\hspace</code> .
Rules:	<code>\rule</code> with <code>width</code> , <code>height</code> , <code>raise</code> , <code>text color</code> .
HTML reserved characters:	<code>\&</code> , <code>\textless</code> , and <code>\textgreater</code> are converted to HTML entities.
<hr/>	
Fonts:	Used as-is. Appear in <code>svg</code> math expressions or embedded image environments. <code>fontaxes</code> , <code>nfssext-cfr</code> , <code>slantsc</code> , <code>tabfigures</code> . Tested to work as-is: Special font macros in <code>cfr-lm</code> and others which use <code>nfssext-cfr</code> . Also see the math section for math and MATHJAX support for math font packages.
Symbols:	Native \LaTeX diacriticals, <code>academicons</code> , <code>amssymb</code> ^{MJ} , <code>bbding</code> , <code>ccicons</code> , <code>chemgreek</code> , <code>dingbat</code> , <code>euro</code> , <code>eurosym</code> , <code>fontawesome</code> , <code>fontawesome5</code> , <code>gensymb</code> ^{MJ} , <code>latexsym</code> ^{MJ} , <code>marvosym</code> , <code>metalogo</code> , <code>metalogoX</code> , <code>pifont</code> , <code>textalpha</code> , <code>textcomp</code> ^{MJ} , <code>textgreek</code> , <code>typicons</code> , <code>xunicode</code> .
<hr/>	
Files:	<code>attachfile</code> , <code>attachfile2</code> , <code>hyperxmp</code> , <code>inputtrc</code> , <code>intopdf</code> , <code>pdfpages</code> , <code>pdfx</code> , <code>xmpincl</code> .
<hr/>	

Science and engineering:	algorithm2e, algorithmicx, ar ^{MJ} , askmaps, axodraw2, bitpattern, blochsphere, bodegraph, bohr, bytefield, chemfig, chemformula, chemgreek, chemmacros, chemnum, circuitikz, doipubmed, econometrics ^{MJ} , elements, engtlc ^{MJ} , fast-diagram, ghsystem, hepnice names, heppennames, hepunits ^{MJ} , isotope ^{MJ} , karnaughmap, karnaugh-map, keystroke, listings, listingsutf8, linop, menukeys, mhchem ^{MJ} , minted, pgfgantt, phfqit, physics ^{MJ} , physunits ^{MJ} , plimsoll ^{MJ} , qcircuit, register, simplebnf, simpler-wick, slashed ^{MJ} , steinmetz ^{MJ} , structmech, struktex, syntaxdi, tikz-karnaugh, tikzcodeblocks, venndiagram
Arts and humanities:	foreign, forest, lyluatex, musicography, nameauth, octave, phonrule, piano, schemata, semantic-markup, tikz-dependency, vowel, xpiano
Academic:	academicons, classicthesis, doi, doipubmed, orcidlink ^{MJ} , termcal
Admonitions:	awesomebox, notes.
Editorial:	changebar, changelog, changes, easy-todo, easyReview, ed, errata, fixme, fixmetodonotes, pdfcomment ^{MJ} , pdfmarginpar, todo, todonotes, tram, xchangebar.
Accessibility:	accessibility ^{MJ} , accsupp ^{MJ} , aessibility ^{MJ} , pdfcomment ^{MJ} , repltext ^{MJ} , tagpdf.
Package handling:	catoptions.
Debug:	chkfloat, cmdtrack, dprogress, lipsum, lua-visual-debug, mwe, refcheck, showlabels, showkeys, srcltx, srctex, vpe, xbmks.
Working as-is:	Various utility, calculation, file, and text-only packages, such as calc, fileerr, somedefs, trace, xspace. Also, most math-only packages, including specialized typesetting for various fields of science and engineering.

3 Alternatives

Summarized below are several other ways to convert a \LaTeX or other document to HTML . Where an existing \LaTeX document is to be converted to HTML , `lwarp` may be a good choice. For new projects with a large number of documents, it may be worth investigating the alternatives before decided which path to take.

3.1 internet class

`internet` (*Cls*) The closest to `lwarp` in design principle is the `internet` class by Andrew Stacey—an interesting project which directly produces several versions of `markdown`, and also `HTML` and `EPUB`. <https://github.com/loopspace/latex-to-internet>

3.2 TeX4HT

`TeX4ht` (*Prog*) <http://tug.org/tex4ht/>

`htlatex` (*Prog*)

This system uses native \LaTeX processing to produce a `DVI` file containing special commands, and then uses additional post-processing for the `HTML` conversion by way of numerous configuration files. In some cases `lwarp` provides a better `HTML` conversion, and it supports a different set of packages. `TeX4ht` produces several other forms of output beyond `HTML`, including `ODT` and a direct path to `EPUB`, and is still being developed.

3.3 Translators

These systems use external programs to translate a subset of \LaTeX syntax into `HTML`. Search for each on `CTAN` (<http://ctan.org>).

`Hevea` (*Prog*) **H^Ev^Ea**: <http://hevea.inria.fr/> (not on `CTAN`)

`TtH` (*Prog*) **T_TH**: <http://hutchinson.belmont.ma.us/tth/>

`GELLMU` (*Prog*) **GELLMU**: <http://www.albany.edu/~hammond/gellmu/>

`LaTeXML` (*Prog*) **\LaTeX XML**: <http://dlmf.nist.gov/LaTeXML/>

`Plastex` (*Prog*) **PlasTeX**: <https://github.com/tiarno/plastex>

`LaTeX2HTML` (*Prog*) **\LaTeX 2HTML**: <http://www.latex2html.org/>
and <http://ctan.org/pkg/latex2html>.

`TeX2page` (*Prog*) **TeX2page**: <http://ds26gte.github.io/tex2page/index.html>

Finally, `GladTeX` may be used to directly insert \LaTeX math into `HTML`:

`GladTeX` (*Prog*) **GladTeX**: <http://humenda.github.io/GladTeX/>

3.4 ASCIIDOC and ASCIIDOCTOR

AsciiDoc is one of the most capable markup languages, providing enough features to produce the typical technical-writing document with cross-references, and it writes L^AT_EX and HTML.

AsciiDoc (*Prog*) **Asciidoctor:** <http://asciidoctor.org/> (More active.)

AsciiDoctor (*Prog*) **AsciiDoc:** <http://asciidoc.org/> (The original project.)

3.4.1 ASCIIDOCTOR-L^AT_EX

The AsciiDoctor-LaTeX project is developing additional L^AT_EX-related features.

Asciidoctor-LateX:

<http://www.noteshare.io/book/asciidoctor-latex-manual>

Asciidoctor-LaTeX (*Prog*) <https://github.com/asciidoctor/asciidoctor-latex>

3.5 PANDOC

Pandoc (*Prog*) A markup system which also reads and writes L^AT_EX and HTML.

Pandoc: <http://pandoc.org/>

(Watch for improvements in cross-references to figures and tables.)

3.6 Word processors

Word (*Prog*) It should be noted that the popular word processors have advanced through the years in their abilities to represent math with a L^AT_EX-ish input syntax, unicode math fonts, and high-quality output, and also generate HTML with varying success. LibreOffice (*Prog*) OpenOffice (*Prog*) See recent developments in MICROSOFT[®] *Word*[®] and LIBREOFFICE[™] *Writer*.

3.7 Commercial systems

Adobe (*Prog*) Likewise, several professional systems exist whose abilities have been advancing in the areas of typesetting, cross-referencing, and HTML generation. See ADOBE[®] FrameMaker[®], ADOBE *InDesign*[®], and MADCAP *Flare*[™].
FrameMaker (*Prog*)
InDesign (*Prog*)

Flare (*Prog*)

Madcap (*Prog*)

3.8 Comparisons

AsciiDoc, Pandoc, and various other markup languages typically have a syntax which tries to be natural and human-readable, but the use of advanced features tends to require many combinations of special characters, resulting in a complicated mess of syntax. By contrast, L^AT_EX spells things out in readable words but takes longer to type, although integrated editors exist which can provide faster

entry and a graphic user interface. For those functions which are covered by the typical markup language it is arguable that L^AT_EX is comparably easy to learn, while L^AT_EX provides many more advanced features where needed, along with a large number of pre-existing packages which provide solutions to numerous common tasks.

Text-based document-markup systems share some of the advantages of L^AT_EX vs. a typical word processor. Documents formats are stable. The documents themselves are portable, work well with revision control, do not crash or become corrupted, and are easily generated under program control. Formatting commands are visible, cross-referencing is automatic, and editing is responsive. Search/replace with regular expressions provides a powerful tool for the manipulation of both document contents and structure. Markup systems and some commercial systems allow printed output through a L^AT_EX back end, yielding high-quality results especially when the L^AT_EX template is adjusted, but they lose the ability to use L^AT_EX macros and other L^AT_EX source-document features.

The effort required to customize the output of each markup system varies. For print output, L^AT_EX configuration files are usually used. For HTML output, a CSS file will be available, but additional configuration may require editing some form of control file with a different syntax, such as XML. In the case of lwarp, CSS is used, and much HTML output is adjusted through the usual L^AT_EX optional macro parameters, but further customization may require patching L^AT_EX code.

The popular word processors and professional document systems each has a large base of after-market support including pre-designed styles and templates, and often include content-management systems for topic reuse.

4 Installation

Table 3 shows the tools which are used for the L^AT_EX to HTML conversion. In most cases, these will be available via the standard package-installation tools.

Detailed installation instructions follow.

Table 3: Required software programs

Provided by your L^AT_EX distribution:

From T_EXLive: <http://tug.org/texlive/>.

L^AT_EX: *pdflatex*, *xelatex*, or *lualatex*.

The lwarp package: This package.

The *lwarpmk* utility: Provided along with this package. This should be an operating-system executable in the same way that *pdflatex* or *latexmk* is. It is possible to have the *lwarp* package generate a local copy of *lwarpmk* called `lwarpmk.lua`. See table 4.

***luatex*:** Used by the *lwarpmk* program to simplify and automate document generation.

***xindy*:** The *xindy* program is used by *lwarp* to create indexes. On a M_IK_TE_X system this may have to be acquired separately, but it is part of the regular installer as of mid 2015.

***latexmk*:** Optionally used by *lwarpmk* to compile L^AT_EX code. On a M_IK_TE_X system, *Perl* may need to be installed first.

***pdfcrop*:** Used to pull images out of the L^AT_EX PDF.

POPPLER PDF utilities:

***pdftotext*:** Used to convert PDF to text.

***pdfseparate*:** Used to pull images out of the L^AT_EX PDF.

***pdftocairo*:** Used to convert images to SVG.

These might be provided by your operating-system package manager, and M_IK_TE_X provides `miktex-poppler-bin-*` packages.

From POPPLER: poppler.freedesktop.org.

For MACOS[®], see <https://brew.sh/>, install *Homebrew*, then

```
Enter ⇒ brew install poppler
```

For WINDOWS, see M_IK_TE_X `miktex-poppler-bin-*`, or:

<https://sourceforge.net/projects/poppler-win32/> and:
<http://blog.alivate.com.au/poppler-windows/>

Perl:

This may be provided by your operating-system package manager, and may be required for some of the POPPLER PDF utilities.

strawberryperl.com (recommended), perl.org

Automatically downloaded from the internet as required:

MATHJAX: Optionally used to display math. From: mathjax.org

4.1 Installing the lwarp package

There are several ways to install lwarp. These are listed here with the preferred methods listed first:

Pre-installed: Try entering into a command line:

```
Enter ⇒ kpsewhich lwarp.sty
```

If a path to lwarp.sty is shown, then lwarp is already installed and you may skip to the next section.

TeX Live: If using a TeX Live distribution, try installing via *tlmgr*:

```
Enter ⇒ tlmgr install lwarp
```

MiKTeX:

1. For newer versions of MiKTeX, install or update lwarp using the *MiKTeX Console* program.
2. For older versions of MiKTeX, to install lwarp the first time, use the *MiKTeX Package Manager (Admin)*. To update lwarp, use *MiKTeX Update (Admin)*.
3. Either way, also update the package miktex-misc, which will install and update the *lwarpmk* executable.

Operating-system package: The operating-system package manager may already have lwarp, perhaps as part of a set of TeX-related packages.

CTAN TDS archive: lwarp may be downloaded from the Comprehensive TeX Archive:

1. See <http://ctan.org/pkg/lwarp> for the lwarp package.
2. Download the TDS archive: lwarp.tds.zip
3. Find the TeX local directory:

TeX Live:

```
Enter ⇒ kpsewhich -var-value TEXMFLOCAL
```

MiKTeX:

In the **Settings** window, **Roots** tab, look for a local TDS root.

This should be something like:

```
/usr/local/texlive/texmf-local/
```

4. Unpack the archive in the TDS local directory.
5. Renew the cache:

```
Enter ⇒ mktexlsr
```

— OR —

```
Enter ⇒ texhash
```

Or, for WINDOWS MiKTeX, start the program called *MiKTeX Settings (Admin)* and click on the button called **Refresh FNDB**.

CTAN .dtx and .ins files: Another form of TeX package is .dtx and .ins source files. These files are used to create the documentation and .sty files.

1. See <http://ctan.org/pkg/lwarp> for the lwarp package.
2. Download the zip archive lwarp.zip into your own lwarp directory.
3. Unpack lwarp.zip.

4. Locate the contents `lwarp.dtx` and `lwarp.ins`

5. Create the `.sty` files:

```
Enter ⇒ pdflatex lwarp.ins
```

6. Create the documentation:

```
pdflatex lwarp.dtx (several times)
makeindex -s gglo.ist -o lwarp.gls lwarp.glo
makeindex -s gind.ist lwarp.idx
pdflatex lwarp.dtx (several times)
```

7. Copy the `.sty` files somewhere such as the T_EX Live local tree found in the previous CTAN TDS section, under the subdirectory:

```
<texlocal>/tex/latex/local/lwarp
```

8. Copy `lwarp_baseline_marker.png` and `lwarp_baseline_marker.eps` to the same place as the `.sty` files.

9. Copy the documentation `lwarp.pdf` to a source directory in the local tree, such as:

```
<texlocal>/doc/local/lwarp
```

10. Renew the cache:

```
Enter ⇒ mktexlsr
```

— or —

```
Enter ⇒ texhash
```

Or, for WINDOWS MiK_TE_X, start the program called *MiKTeX Settings (Admin)* and click on the button called **Refresh FNDB**.

11. See section 4.2.1 to generate your local copy of *lwarpmk*.

12. Once the local version of `lwarpmk.lua` is installed, it may be made available system-wide as per section 4.2.

Project-local CTAN `.dtx` and `.ins` files: The `.dtx` and `.ins` files may be downloaded to a project directory, then compiled right there, alongside the document source files. The resultant `*.sty` and `lwarpmk.lua` files may be used as-is, so long as they are in the same directory as the document source. The files `lwarp_baseline_marker.png` and `lwarp_baseline_marker.eps` must also be copied as well. This approach is especially useful if you would like to temporarily test *lwarp* before deciding whether to permanently install it.

Just testing!

4.2 Installing the *lwarpmk* utility

(Note: If *lwarpmk* is not already installed, it is easiest to use a local copy instead of installing it system-wide. See section 4.2.1.)

After the *lwarp* package is installed, you may need to setup the *lwarpmk* utility:

1. At a command line, try executing **lwarpmk**. If the *lwarpmk* help message appears, then *lwarpmk* is already set up. If not, it is easiest to generate and use a local copy. See section 4.2.1.
2. For MiK_TE_X, try updating the `miktex-misc` package. This may install the *lwarpmk* executable for you.

Otherwise, continue with the following:

3. Locate the file `lwarpmk.lua`, which should be in the `scripts` directory of the TDS tree. On a T_EX Live or M_IK_TE_X system you may use

Enter ⇒ `kpsewhich lwarpmk.lua`

(If the file is not found, you may also generate a local copy and use it instead. See section 4.2.1.)

4. Create *lwarpmk*:

Unix: Create a symbolic link and make it executable:

- (a) Locate the T_EX Live binaries:

Enter ⇒ `kpsewhich -var-value TEXMFROOT`

This will be something like:

`/usr/local/texlive/<year>`

The binaries are then located in the `bin/<arch>` directory under the root:

`/usr/local/texlive/<year>/bin/<architecture>/`

In this directory you will find programs such as *pdflatex* and *makeindex*.

- (b) In the binaries directory, create a new symbolic link from the binaries directory to `lwarpmk.lua`:

Enter ⇒ `ln -s <path to lwarpmk.lua> lwarpmk`

- (c) Make the link executable:

Enter ⇒ `chmod 0755 lwarpmk`

WINDOWS T_EX Live: Create a new `lwarpmk.exe` file:

- (a) Locate the T_EX Live binaries as shown above for UNIX.
- (b) In the binaries directory, make a *copy* of `runscript.exe` and call it `lwarpmk.exe`. This will call the copy of `lwarpmk.lua` which is in the `scripts` directory of the distribution.

WINDOWS M_IK_TE_X: Create a new `lwarpmk.bat` file:

- (a) Locate the M_IK_TE_X binaries. These will be in a directory such as:

`C:\Program Files\MiKTeX 2.9\miktex\bin\x64`

In this directory you will find programs such as `pdflatex.exe` and `makeindex.exe`.

- (b) Create a new file named `lwarpmk.bat` containing:

`texlua "C:\Program Files\MiKTeX 2.9\scripts\lwarp\lwarp.texlua" %*`

This will call the copy of `lwarpmk.lua` which is in the `scripts` directory of the distribution.

4.2.1 Using a local copy of *lwarpmk*

It is also possible to use a local version of *lwarpmk*:

1. When compiling the tutorial in section 5, use the `lwarpmk` option for the `lwarp` package:

```
\usepackage[lwarpmk]{lwarp}
```

2. When the tutorial is compiled with *pdflatex*, the file `lwarpmk.lua` will be generated along with the other configuration files.
3. `lwarpmk.lua` may be used for this project:

Unix:

(a) Make `lwarpmk.lua` executable:

Enter ⇒ `chmod 0755 lwarpmk.lua`

(b) Compile documents with

Enter ⇒ `./lwarpmk.lua html`

Enter ⇒ `./lwarpmk.lua print`

etc.

(c) It may be useful to rename or link to a version without the `.lua` suffix.

WINDOWS:

Compile documents with either of the following, depending on which command shell is being used:

Enter ⇒ `texlua lwarpmk.lua html`

Enter ⇒ `texlua lwarpmk.lua print`

etc.

Or:

Enter ⇒ `lwarpmk html`

Enter ⇒ `lwarpmk print`

etc.

4.3 Installing additional utilities

To test for the existence of the additional utilities:

Enter the following in a command line. If each program's version is displayed, then that utility is already installed. See table 3 on page 79.

Enter ⇒ `luatex --version`

Enter ⇒ `xindy --version`

Enter ⇒ `latexmk --version`

Enter ⇒ `perl --version`

Enter ⇒ `pdfcrop --version`

Enter ⇒ `pdftotext -v`

Enter ⇒ `pdfseparate --version`

Enter ⇒ `pdftocairo -v`

To install *xindy*, *latexmk*, and *pdfcrop*:

The T_EX utilities *xindy*, *latexmk*, and *pdfcrop* may be installed in *TeXLive* with *tlmgr*, installed by *MiKTeX*, provided by your operating system's package manager, or downloaded from the CTAN archive:

<http://ctan.org/pkg/xindy>

<http://ctan.org/pkg/latexmk>

<http://ctan.org/pkg/pdfcrop>

To install the POPPLER utilities to a UNIX/LINUX system:

The tools from the POPPLER project should be provided by your operating system's package manager.

To install the POPPLER utilities to a MACOS machine:

1. Install *Homebrew* from <https://brew.sh/>:

```
/usr/bin/ruby -e "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/master/install)"
```

pdftotext (*Prog*) [requirement]

pdfseparate (*Prog*) [requirement]

pdftocairo (*Prog*) [requirement]

2. Install the POPPLER utilities:

Enter ⇒ **brew install poppler**

To install the POPPLER utilities to a WINDOWS machine:

If using MikTEX, install a miktex-poppler-bin-* package. Otherwise:

1. See table 3 on page 79.
2. Download and extract the POPPLER utilities *pdftotext*, *pdfseparate*, and *pdfseparate* to a directory, such as Poppler.
3. In the **Start** window, type "Path" to search for results related to Path. Or, open the control panel and search for "Path".
4. Choose **Edit the system environment variables** in the control panel.
5. Choose the **Environment Variables** button.
6. Choose the **Path** variable, then the **Edit** button.
7. Choose the **New** button to make an additional entry.
8. Enter the bin directory of the POPPLER utilities, such as:
C:\Users\\Desktop\Poppler\poppler-0.5_x86\poppler-0.5\bin
Be sure to include \bin.
9. Click **Ok** when done.

perl (Prog) [requirement] To install PERL to a WINDOWS machine:

1. Download and install a version of PERL, such as STRAWBERRY PERL, to a directory without a space in its name, such as C:\Strawberry.
2. Edit the **Path** as seen above for the POPPLER utilities.
3. Enter the bin directory of the *perl* utility, such as:
C:\Strawberry\perl\bin
Be sure to include \bin.
4. Click **Ok** when done.

Any utilities installed by hand must be added to the PATH.

5 Tutorial

This section shows an example of how to create an lwarp document.

Need help?

See the [General Index](#) for “how-to”, and the [Troubleshooting Index](#) if something doesn’t work. A [Troubleshooting](#) section is also available. The [Index of Objects](#) contains automated entries for each package, macro, environment, counter, boolean, and other objects; individually and also sorted by category.

5.1 Starting a new project

1. Create a new project directory called `tutorial`.

`tutorial.tex` (*file*)

2. Inside the `tutorial` directory, create a new file called `tutorial.tex`. This may be done several ways:

Copy from the documentation PDF:

A listing is in [fig. 1](#), which may be copied/pasted from the figure directly into your own editor, depending on the quality of the PDF viewer and editor, or:

Copy from the lwarp documentation directory:

Another copy may be found by entering into a command line:

Enter ⇒ `texdoc -l lwarp_tutorial.txt`

This should be in the `doc/latex/lwarp/` directory along with this PDF documentation. Copy `lwarp_tutorial.txt` directly into your `tutorial` directory, renamed as `tutorial.tex`.

`lwarp_tutorial.txt` (*file*)

⚠ Note: `.txt` suffix!

⚠ Bad formatting!

When using Windows, use an editor other than Notepad, since Notepad does not accept the end-of-line from a Unix text file.

3. Compile the project:

Enter ⇒ `pdflatex tutorial.tex`

(several times)

(*xelatex* or *lualatex* may be used as well. lwarp also supports DVI *latex* for use with `.eps` images.)

4. View the resulting `tutorial.pdf` with a PDF viewer.

A number of new files are created when `tutorial.tex` is compiled, as shown in [table 4](#). These files are created by the lwarp package.

(Two of the new files are configuration files for the helper program *lwarpmk*. Whenever a print version of the document is created, the configuration files for *lwarpmk* are updated to record the operating system, L^AT_EX engine (*latex*, *pdflatex*, *xelatex*, or *lualatex*), the filenames of the source code and HTML output, and whether the additional helper program *latexmk* will be used to compile the document.)

Figure 1: tutorial.tex listing

Note: There are two pages!

```
% Save this as tutorial.tex for the lwarp package tutorial.

\documentclass{book}

\usepackage{iftex}

% --- LOAD FONT SELECTION AND ENCODING BEFORE LOADING LWARP ---

\ifPDFTeX
\usepackage{lmodern}           % pdflatex or dvi latex
\usepackage[T1]{fontenc}
\usepackage[utf8]{inputenc}
\else
\usepackage{fontspec}         % XeLaTeX or LuaLaTeX
\fi

% --- LWARP IS LOADED NEXT ---
\usepackage[
% HomeHTMLFilename=index,      % Filename of the homepage.
% HTMLFilename={node-},        % Filename prefix of other pages.
% IndexLanguage=english,       % Language for xindy index, glossary.
% latexmk,                     % Use latexmk to compile.
% OSWindows,                   % Force Windows. (Usually automatic.)
% mathjax,                     % Use MathJax to display math.
]{lwarp}
% \boolfalse{FileSectionNames} % If false, numbers the files.

% --- LOAD PDFLATEX MATH FONTS HERE ---

% --- OTHER PACKAGES ARE LOADED AFTER LWARP ---
\usepackage{makeidx} \makeindex
\usepackage{xcolor}   % (Demonstration purposes only.)
\usepackage{hyperref,cleveref} % LOAD THESE LAST!

% --- LATEX AND HTML CUSTOMIZATION ---
\title{The Lwarp Tutorial}
\author{Some Author}
\setcounter{tocdepth}{2} % Include subsections in the \TOC.
\setcounter{secnumdepth}{2} % Number down to subsections.
\setcounter{FileDepth}{1} % Split \HTML\ files at sections
\booltrue{CombineHigherDepths} % Combine parts/chapters/sections
\setcounter{SideTOCDepth}{1} % Include subsections in the side\TOC
\HTMLTitle{Webpage Title} % Overrides \title for the web page.
\HTMLAuthor{Some Author} % Sets the HTML meta author tag.
\HTMLLanguage{en-US} % Sets the HTML meta language.
\HTMLDescription{A description.} % Sets the HTML meta description.
\HTMLFirstPageTop{Name and \fbox{HOMEPAGE LOGO}}
\HTMLPageTop{\fbox{LOGO}}
\HTMLPageBottom{Contact Information and Copyright}
\CSSFilename{lwarp_sagebrush.css}

\begin{document}

\maketitle % Or titlepage/titlingpage environment.
```

```

% An article abstract would go here.

\tableofcontents           % MUST BE BEFORE THE FIRST SECTION BREAK!
\listoffigures

\chapter{First chapter}

\section{A section}

This is some text which is indexed.\index{Some text.}

\subsection{A subsection}

See \cref{fig:withtext}.

\begin{figure}\begin{center}
\fbbox{\textcolor{blue!50!green}{Text in a figure.}}
\caption{A figure with text\label{fig:withtext}}
\end{center}\end{figure}

\section{Some math}

Inline math:  $r = r_0 + vt - \frac{1}{2}at^2$ 
followed by display math:
\begin{equation}
a^2 + b^2 = c^2
\end{equation}

\begin{warpprint} % For print output ...
\cleardoublepage % ... a common method to place index entry into TOC.
\phantomsection
\addcontentsline{toc}{chapter}{\indexname}
\end{warpprint}
\ForceHTMLPage % HTML index will be on its own page.
\ForceHTMLTOC % HTML index will have its own toc entry.
\printindex

\end{document}

```

Table 4: Configuration files created by print version

`tutorial.pdf`: The PDF output from L^AT_EX. The print version of the document.

`tutorial_html.tex`: A small .tex file used to create a parallel HTML version of the document, which co-exists with usual the PDF version, and which will have its own auxiliary files. In this way, both PDF and HTML documents may co-exist side-by-side.

Auxiliary files: The usual L^AT_EX files .aux, .log, .out, .toc, .lof, .idx. When an HTML version of the document is created, _html versions of the auxiliary files will also be generated.

`lwarpmk.conf`: A configuration file for *lwarpmk*, which is used to automate the compilation of PDF or HTML versions of the document.

`tutorial.lwarpmkconf`: Another configuration file used by *lwarpmk*, which is only useful if you wish to have several projects residing in the same directory.

`.css` files: `lwarp.css`, `lwarp_formal.css`, `lwarp_sagebrush.css` These files are standard for *lwarp*, and are not meant to be modified by the user.

`sample_project.css`: An example of a user-customized css file, which may be used for project-specific changes to the *lwarp* defaults.

`lwarp.ist`: Used by *lwarp* while creating an index using *makeindex*. This file should not be modified by the user. A custom file may be used instead, if necessary.

`lwarp.xdy`: Used by *lwarp* while creating an index using *xindy*. This file should not be modified by the user. A custom file may be used instead, if necessary.

`lwarp_one_limage.txt`: For WINDOWS only. Used to process SVG images in the background. Copied to `lwarp_one_limage.cmd` when images are generated.

`lwarp_mathjax.txt`: Inserted into the HTML files when MATHJAX is used to display math. Do not modify, see `\MathJaxFilename` instead.

`comment_*.cut`: Temporary files used by *lwarp* to conditionally process blocks of text. These files may be ignored.

When the `lwarpmk` option is given to the *lwarp* package:

lwarpmk.lua: A local copy of the *lwarpmk* utility.

On UNIX-related operating systems this file must be made executable:

```
chmod u+x lwarpmk.lua
```

This may be useful to have to archive with a project for future use.

5.2 Compiling the print version with *lwarpmk*

The *lwarpmk* utility program is used to compile either the printed or the HTML version of the document.

`lwarpmk print` is used to recompile a printed version of the document.

⚠ Enable *lwarpmk*

1. If you have not yet done so, add `\usepackage{lwarp}` to the document, then compile the project a single time using *pdflatex*, *lualatex*, or *xelatex*. This generates the file `lwarpmk.conf`, which then allows the *lwarpmk* program to be used.

2. Re-compile the print version:

Enter ⇒ **lwarpmk print**

lwarpmk prints an introduction then checks to see if the document must be recompiled. If it seems that the files are up-to-date, then *lwarpmk* informs you of that fact and then exits.

3. Make a small change in the original document, such as adding a space character.

4. Recompile again.

Enter ⇒ **lwarpmk print**

The document is recompiled when a change is seen in the source. Several compilations may be necessary to resolve cross-references.

5. Force a recompile to occur.

Enter ⇒ **lwarpmk again**

Enter ⇒ **lwarpmk print**

`lwarpmk again` updates the date code for the file, triggering a recompile the next time the document is made.⁵

6. Process the index.^{6 7}

Enter ⇒ **lwarpmk printindex**

7. Recompile again to include the index.

Enter ⇒ **lwarpmk print**

8. To force a single recompile when needed, even if no changes were detected:

Enter ⇒ **lwarpmk print1**

Note that the HTML customization commands are ignored while making the print version.

⁵Although, when using the utility *latexmk* (introduced later), the changed date is ignored and an actual change in contents must occur to cause a recompile.

⁶The command `lwarpmk printglossary` is also available to process a glossary produced with the *glossaries* package. See section 8.6.13.

⁷Also see section 8.6.16 for index options.

5.3 Compiling the HTML version with *lwarpmk*

`lwarpmk html` is used to recompile an HTML version of the document.

⚠ Enable *lwarpmk*

1. If you have not yet done so, add `\usepackage{lwarp}` to the document, then compile the project a single time using *pdflatex*, *lualatex*, or *xelatex*. This generates the file `lwarpmk.conf`, which then allows the *lwarpmk* program to be used.

2. Compile the HTML version:

```
Enter ⇒ lwarpmk html
```

- (a) *lwarpmk* uses L^AT_EX to process `tutorial_html.tex` to create `tutorial_html.pdf`.
- (b) *pdftotext* is then used to convert to the file `tutorial_html.html`. This file is a plain-text file containing HTML tags and content for the entire document.
- (c) *lwarpmk* manually splits `tutorial_html.html` into individual HTML files according to the HTML settings. For this tutorial, the result is `tutorial.html` (the home page), along with `First-chapter.html`⁸, `Some-math.html`, and the document's index in `_Index.html`.⁹

3. View the HTML page in a web browser.

Open the file `tutorial.html` in a web browser.

math images

Note that math images have not yet been generated, so math is still displayed as its `alt` tag, which is set to the plain-text L^AT_EX source for that expression. Math may be displayed as SVG images (section 5.4) or by a MATHJAX script (section 5.5).

4. Force a recompile:

```
Enter ⇒ lwarpmk again
```

```
Enter ⇒ lwarpmk html
```

```
Enter ⇒ lwarpmk print
```

5. Process the HTML index and recompile:¹⁰¹¹

```
Enter ⇒ lwarpmk htmlindex
```

```
Enter ⇒ lwarpmk html
```

`_Index.html` is updated for the new L^AT_EX index.

6. Reload the web page to see the added index.

7. To force a single recompile when needed, even if no changes were detected:

```
Enter ⇒ lwarpmk html1
```

⁸`First-chapter.html` also contains the first section, even though the second section is its own HTML page. This behavior is controlled by the boolean `CombineHigherDepths`.

⁹`index.html` is commonly used as a homepage, so the document index is in `_Index.html`.

¹⁰The command `lwarpmk htmlglossary` is also available to process a glossary produced with the `glossaries` package. See section 8.6.13.

¹¹Also see section 8.6.16 for index options.

5.4 Generating the SVG images

math as SVG images By default `lwarp` represents math as SVG images, with the \LaTeX source included in `alt` attributes. In this way, the math is displayed as it was drawn by \LaTeX , and the \LaTeX source may be copied and pasted into other documents.


picture and TikZ `lwarp` uses the same mechanism for `picture` and `TikZ` environments.

1. Create the SVG images:


```
Enter ⇒ lwarpmk limages
```


```
Enter ⇒ lwarpmk html
```

2. Move to the tutorial's HTML math page and reload the document in the browser.
3. The math images are displayed using the same font and formatting as the printed version.
4. Copy/paste a math expression into a text editor to see the \LaTeX source.

 **adding/removing** When a math expression, `picture`, or `TikZ` environment is added or removed, the SVG images must be re-created by entering `lwarpmk limages` to maintain the proper image-file associations. Inline SVG math may be hashed and thus not need to be recreated, but `display math` and objects such as `TikZ` may move to new image numbers when the document is changed.


recompile first Before attempting to create the SVG image files, `lwarpmk` verifies that the HTML version of the document exists and has correct internal image references.¹² If it is necessary to recompile the document's HTML version one more time, `lwarpmk` usually will inform the user with an error message, but there are some conditions which cannot be detected, so the user should watch for the \LaTeX recompile warnings.

 **HTML instead of images** If HTML appears where an SVG image should be, recompile the document one more time to get the page numbers back in sync, then remake the images one more time.

 **page counter** Incorrect SVG images will also occur if the document changes the page counter:

```
\setcounter{page}{<value>}
```

The page counter must *not* be adjusted by the user.

 **Lots of files!** Expressing math as SVG images has the advantage of representing the math exactly as \LaTeX would, but has the disadvantage of requiring an individual file for each math expression. For inline math, and some other objects, `lwarp` uses an MD5 hash on its \LaTeX source to combine multiple instances of identical inline expressions into a single image file, but `display math` and other environments such as `picture` and `TikZ` require one image file each. For a document with a large amount of math, see section 5.5 to use `MATHJAX` instead.

¹²This becomes important when dealing with a document containing thousands of images.

5.5 Using MATHJAX for math

[math with MATHJAX](#) Math may also be represented using the MATHJAX JAVASCRIPT project.


1. In the tutorial's source code, uncomment the mathjax package option for lwarp:

```
mathjax, % Use MathJax to display math.
```

2. Recompile

```
Enter ⇒ lwarpmk html
```

3. Reload the math page.

 **MATHJAX requirements** MATHJAX requires web access unless a local copy of MATHJAX is available, and it also requires that JAVASCRIPT is enabled for the web page. The math is rendered by MATHJAX. Right-click on math to see several options for rendering, and for copying the L^AT_EX source.

While using MATHJAX has many advantages, it may not be able to represent complex expressions or spacing adjustments as well as L^AT_EX, and it may not support some math-related packages.

5.6 Changing the css style

For a formal css style, add to the preamble:

```
\usepackage{lwarp}  
...  
\CSSfilename{lwarp_formal.css}  
...  
\begin{document}
```

For a modern css style, `lwarp_sagebrush.css` is also provided:

```
\CSSfilename{lwarp_sagebrush.css}
```

See section 7.7 for more information about modifying the css styling of the document.

5.7 Customizing the HTML output

A number of settings may be made to control the HTML output, including filename generation, automatic compilation, math output, document splitting, meta data, and page headers and footers.

See section 7.6 for more information.

5.8 Using *latexmk*

latexmk is a L^AT_EX utility used to monitor changes in source files and recompile as needed.

1. In the tutorial's source code uncomment the *latexmk* option for the *lwarp* package:

```
latexmk, % Use latexmk to compile.
```

2. Recompile the printed version of the document.

```
Enter ⇒ lwarpmk print
```

lwarp updates its own configuration files (*lwarpmk.conf* and *tutorial.lwarpmkconf*) whenever the printed version of the document is compiled. These configuration files remember that *lwarpmk* should use *latexmk* to compile the document.

3. Recompile the document.

```
Enter ⇒ lwarpmk print
```

and/or

```
Enter ⇒ lwarpmk html
```

Changes are detected by comparing checksums rather than modification times, so *lwarpmk* again will not trigger a recompile, but *latexmk* has a much better awareness of changes than the *lwarpmk* utility does and it is likely to correctly know when to recompile. A recompile may be forced by making a small change to the source, and a single recompile may be forced with:

```
Enter ⇒ lwarpmk print1
```

and/or

```
Enter ⇒ lwarpmk html1
```

[forced single-pass recompile](#)

5.9 Using Xe_{La}TeX or Lua_{La}TeX

Xe_{La}TeX or Lua_{La}TeX may be used instead of L^AT_EX.

1. Remove the auxiliary files for the project:

```
Enter ⇒ lwarpmk cleanall
```

2. Use *xelatex* or *lualatex* to compile the printed version a single time.

```
Enter ⇒ xelatex tutorial.tex
```

— *or* —

```
Enter ⇒ lualatex tutorial.tex
```

When the compile occurs, the configuration files for *lwarpmk* are modified to remember which T_EX engine was used. Xe_{La}TeX or Lua_{La}TeX will be used for future runs of *lwarpmk*.

3. To recompile the document:

```
Enter ⇒ lwarpmk print
```

-and-

```
Enter ⇒ lwarpmk html
```

4. Also remember to update the indexes and recompile again:

```
Enter ⇒ lwarpmk htmlindex
```

```
Enter ⇒ lwarpmk html
```

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk print
```

5.10 Using DVI L^AT_EX


Traditional DVI L^AT_EX may also be used along with .eps image files. An svg version of each image must also be provided. *lwarpmk* may be used to convert image formats.

To convert EPS files to PDF:

```
Enter ⇒ lwarpmk epstopdf *.eps (or a list of files)
```

To convert PDF files to SVG:

```
Enter ⇒ lwarpmk pdftosvg *.pdf (or a list of files)
```

 **bitmapped fonts** See section 7.4 regarding font selection to avoid the use of bitmapped fonts.

5.11 Using a bibliography

To process the bibliography for the HTML version:

```
Enter ⇒ bibtex <filename>_html
```

or

```
Enter ⇒ biber <filename>_html
```

To see the bibliography in the HTML version:

```
Enter ⇒ lwarpmk html1
```

as many times as necessary.

5.12 Using a glossary

lwarp supports the `gloss` and `glossaries` packages, although this tutorial does not supply an example.

5.12.1 `gloss` package

See section [8.6.12](#).

5.12.2 `glossaries` package

To process the glossary for the print version:

```
Enter ⇒ lwarpmk printglossary
```



(If `makeglossaries` is not found, see section [8.6.13](#).)

To process the glossary for the HTML version:

```
Enter ⇒ lwarpmk htmlglossary
```

In each case, the document will have to be recompiled afterwards:

```
Enter ⇒ lwarpmk html1
```

```
Enter ⇒ lwarpmk html
```

```
Enter ⇒ lwarpmk print1
```

```
Enter ⇒ lwarpmk print
```

See section [8.6.13](#) to set options for processing glossaries.

5.13 Cleaning auxiliary files

To remove the auxiliary files `.aux`, `.toc`, `.lof`, `.lot`, `.idx`, `.ind`, `.log`, and `.gl*`, and a few others:

```
Enter ⇒ lwarpmk clean
```

5.14 Cleaning auxiliary and output files

To remove the auxiliary files, and also remove the `.pdf` and `.html` files:

```
Enter ⇒ lwarpmk cleanall
```

5.15 Cleaning the images from the `<project>-images` directory

The `<project>-images` directory contains SVG images automatically generated for inline and display math, `tikz`, etc. To remove all the images from the `<project>-images` directory:

```
Enter ⇒ lwarpmk cleanimages
```

5.16 Converting PDF or EPS images to SVG

HTML cannot display PDF or EPS images, so any external PDF graphics images must be converted to SVG format. `pdftocairo` and `epstopdf` may be used one image at a time, but `lwarpmk` also provides a way to convert PDF or EPS images in bulk:

```
Enter ⇒ lwarpmk epstopdf *.eps (or a list of files)
```

```
Enter ⇒ lwarpmk pdftosvg *.pdf (or a list of files)
```

Be sure to always provide SVG files for HTML output.

5.17 Creating HTML from an incomplete compile

During testing it may be useful to finish the HTML conversion even when the document had errors and did not compile successfully. To attempt an HTML conversion of an incomplete document:

```
Enter ⇒ lwarpmk pdftohtml [-p project]
```

5.18 Processing multiple projects in the same directory

 `xr`, `xr-hyper`, `xcite`

It is possible to have several projects in the same directory. `lwarpmk` has an optional parameter which is the document to compile.

To create each project:

```
Enter ⇒ pdflatex project_a
```

```
Enter ⇒ pdflatex project_b
```

Each project is given its own configuration file:

```
project_a.lwarpmkconf, project_b.lwarpmkconf
```

To compile each project with `lwarpmk`:

```
Enter ⇒ lwarpmk print -p project_a
```

```
Enter ⇒ lwarpmk print -p project_b
```

```
Enter ⇒ lwarpmk html -p project_a
```

```
Enter ⇒ lwarpmk html -p project_b
```

To generate each project's images:

```
Enter ⇒ lwarpmk limages -p project_a
```

```
Enter ⇒ lwarpmk limages -p project_b
```

To clean each project's images:

```
Enter ⇒ lwarpmk cleanlimages -p project_a
```

```
Enter ⇒ lwarpmk cleanlimages -p project_b
```

To clean each project's auxiliary files:

```
Enter ⇒ lwarpmk cleanall -p project_a
```

```
Enter ⇒ lwarpmk cleanall -p project_b
```

If using *bibtex*, for example, the HTML version must also be processed:

```
Enter ⇒ bibtex project_a_html
```

5.19 Using the *make* utility

lwarpmk has an action which may be useful for integration with the common *make* utility:

```
lwarpmk pdftohtml [-p project]
```

make may be used to compile the code to PDF with HTML tags (`project_html.pdf`), then *lwarpmk* may be used to convert each target to HTML files.

5.20 What next?

How do I do something? See the [General Index](#).

Something do not work! See the [Troubleshooting Index](#) or section [13: Troubleshooting](#).

Package options: See section [31, Package options](#).

HTML and filename settings: See section [7.6, Customizing the HTML output](#).

Footnote placement: See section [7.6, Customizing the HTML output](#).

Title page, indexing, glossaries: See section [8.6, Front and back matter](#).

Shell escape: See section [7.3, Shell escape](#).

css customization: See section [7.7, Customizing the css](#).

MATHJAX customization: See section [8.7.7, Customizing MATHJAX](#).

Localization: (languages) — See section [7.1, Localization](#).

Accessibility: (alt and title tags) — See section [7.2, Accessibility](#).

Converting an existing document: See section [6, Converting an existing document](#).

EPUB conversion: See section [10, EPUB conversion](#).

Word processor conversion: See section [11, Word-processor conversion](#).

6 Converting an existing document

To convert an existing document for use with `lwarp`:

1. Arrange the document in the following order:

- (a) Declare the `\documentclass`.
- (b) Load text fonts.
- (c) Load `inputenc` or `inputenx`, `fontenc`, or `fontspec`.
- (d) Load `lwarp`.
- (e) Load remaining packages.

2. Modify the document:

- (a) If using named HTML files, in section names use parentheses `math \langle x+y \rangle` instead of dollar `math $x+y$`. Parentheses `math` is removed from the file name. (Dollar `math` works, but it generates complicated filenames.) Or, use a short name for the toc entry without the `math`, or use `\texorpdfstring` from the `hyperref` package:


```
\section[Simplified name]{Name with \langle 1+2=3 \rangle math}
\section{Some math \texorpdfstring{\$1+2=3\$}{three}}
```

⚠ `scale`

- (b) Avoid using the `\includegraphics scale=⟨xx⟩` option. Change:


```
\includegraphics[scale=⟨xx⟩]{ . . . }
```

to:

```
\includegraphics[width=⟨yy⟩\linewidth]{ . . . }
```

⚠ `tabular`

- (c) Possible changes to `tabular` environments include: `* columns`, `multirow`, `longtable`, `supertabular`, `xtab`, `bigdelim`. See section 8.10.1.

⚠ `package options`

- (d) If using braces in package options, such as with `caption`, see section 8.1.

- (e) Possible option clashes with `memoir`. See section 8.13.

⚠ `indexes`

- (f) If using `indexes`, see section 8.6.16.

- (g) If using many `indexes`, `glossaries`, `.aux` files, etc., see section 8.6.16 regarding `morewrites`. If `morewrites` is already used, be sure to add the setup with `allocate=10`.

- (h) Other changes as per [Special cases and limitations](#), section 8.

3. Convert any PDF images to SVG. See section 8.8.

4. Manually compile the print version with `latex`, `pdflatex`, `lualatex`, or `xelatex`.

5. `lwarpmk print` to finish the print version.

6. `lwarpmk html` to create the HTML version.

7. `lwarpmk limages` to create the SVG images of any SVG `math`, `lateximage`, `TikZ`, etc.

Need help?

See the [General Index](#) for “how-to”, and the [Troubleshooting Index](#) if something doesn’t work. A [Troubleshooting](#) section is also available. The [Index of Objects](#) contains automated entries for each package, macro, environment, counter, boolean, and other objects; individually and also sorted by category.

Table 5: Localization settings

Object names: L^AT_EX provides redefinable names for various objects, and lwarp adds a few more. Use `\renewcommand` to change these.

\abstractname: This macro is honored by lwarp.

\linkhomename: Displayed by the link to the homepage.

\linkpreviousname: Displayed by the link to the previous page

\linknextname: Displayed by the link to the next page.

\sitetocname: Displayed at the head of the sidenav.

HTML settings: See table 8 and section 7.6 for details.

\HTMLLanguage: The language to declare for each web page.

\ImageAltText, \MathImageAltText, \PackageDiagramAltText, \AltTextOpen, \AltTextClose: The defaults used for HTML alt text for images. See section 7.2.

\CSSFilename: The name of the css file to use.

\MathJaxFilename: The name of the MATHJAX script to use.

Package options:

ImagesName and ImagesDirectory: These options control the filenames used by lwarp when it automatically generates images. See table 7 and section 7.5.

xindyStyle, xindyLanguage, xindyCodepage: When using *xindy*, these options may be set according to local use. See section 8.6.22.

pdftotextEnc: To adjust the encoding of *pdftotext*.

7 Additional details

7.1 Localization

Regional localization is supported by lwarp via the package options and macros shown in table 5.

7.2 Accessibility

lwarp provides several methods for improving access to the document using tools such as text-only browsers, copy/paste, text-to-speech readers, or Braille readers. lwarp can use the HTML alt text attribute for images, as describe below. lwarp can also use the HTML title attribute, which usually generates a pop-up text. lwarp can add this to a reference or hyperlink. lwarp also uses standard HTML5 elements which are pre-assigned ARIA roles for increased accessibility, and lwarp assigns the math role for SVG math images, and the note role for footnotes, end notes, margin paragraphs and notes, etc. MATHJAX also has provisions for improved accessibility as well. See table 6.

Table 6: Accessibility settings

\ImageAltText: The default HTML alt text for `\includegraphics` and `lateximages`. Set with `\renewcommand`.

\includegraphics alt key: For `\includegraphics`, `lwarp` adds the alt key/value. For example:

```
\includegraphics[alt={Some text.}]{filename}
```

svg math: For simple svg math, `lwarp` places the L^AT_EX math expression in the alt text, so that the L^AT_EX expression may be copied and pasted to another document as plain text.

\MathImageAltText: For complicated svg math, such as enclosed in `\InlineMathOther`/`\InlineMathNormal`, or `\DisplayMathOther`/`\DisplayMathNormal`, the HTML alt text will be set to `\MathImageAltText`. Set with `\renewcommand`.

MATHJAX: For MATHJAX, the accessibility tools provided by MATHJAX are enabled by default by `lwarp`'s MATHJAX scripts.

\PackageDiagramAltText: Various packages create diagrams which `lwarp` converts into svg images. These are given alt text set to `\PackageDiagramAltText`. Set with `\renewcommand`.

\ThisAltText: The HTML alt text of the next image may be set with:

```
\ThisAltText{Custom text about the image.}
<SVG math, Tikz, picture, etc.>
```

The next single image will be generated with the given text, and the following images will revert to back to their defaults.

`\ThisAltText` may also be used to assign an HTML title to the next reference or hyperlink.

```
\ThisAltText{Custom text about the link.}
Text ... \ref{label_name} ... text.
```


See section 7.6.

\AltTextOpen and \AltTextClose: By default, HTML alt text is enclosed by parentheses. This may be changed by redefining `\AltTextOpen` and `\AltTextClose`. Set with `\renewcommand`.

7.3 Shell escape

`-\\-shell-escape` (*Opt*) Some documents require the use of an external program, which is allowed when using the `--shell-escape` command-line option. When the document is first compiled manually, and also whenever the print version is recompiled, `lwarp` detects and remembers whether shell escape is enabled. If so, it will also be enabled when the document is recompiled with `lwarpmk`.

7.4 Font and UTF-8 support

 **type 3 bitmapped fonts** `lwarp` uses `pdftotext` to convert PDF output into UTF-8-encoded text. This process requires that UTF-8 information be embedded in the PDF file, which may prevent the use of older “type 3” bit-mapped fonts, and of older packages such as `ae`. The `lwarp` option `pdftotextEnc` may be useful in some situations. See section 7.5.

vector fonts While using older versions of DVI `latex` or PDF `pdflatex`, if no font-related package is specified then the default COMPUTER MODERN font is used, which may be a “type 3” bit-mapped font which may not convert well to plain text. A “type 1” vector font is required.

Computer Modern

 `pdflatex`

 `DVI latex`

`cm-super` (*Pkg*) To use the updated `cm-super`’s type 1 fonts instead of Computer Modern, install the `cm-super` font package.

`lmodern` (*Pkg*) To use Latin Modern instead, add


```
\usepackage{lmodern}
```

to the preamble.


`dejavu` (*Pkg*) Another useful option is the Deja Vu series of fonts, which have an increased coverage of language and glyphs:

```
\usepackage{dejavu}
```


font size in math To adjust the size of the font used in SVG math, see section 8.7.4.

 **Missing characters** To avoid “Missing character” warnings and empty or missing characters in HTML and math output, if using a font with an enhanced set of characters also specify a monospace font with similar coverage. `lwarp` uses the `mono` font for HTML and math output. Many font packages provide a monospace font automatically.

latex, pdflatex, T1, UTF8 While using DVI `latex` or PDF `pdflatex`, `lwarp` automatically loads `fontenc` with T1 encoding. `fontenc` may be loaded with an additional encoding after `lwarp`. `inputenc` is automatically loaded with UTF8 encoding if it has not yet been loaded, but may also be specified with another encoding such as `latin1`. See the next section regarding index encoding.

 **xelatex, lualatex, fontspec** Xe_LAT_EX and Lua_LAT_EX users must use the `fontspec` package. Do NOT use `fontenc`!

Place `fontspec` or `fontenc`, `xunicode`, and other font and UTF-8 related commands after the `\documentclass` command and before `\usepackage{lwarp}`.

 **package conflicts** In some cases, a package conflict may require that a font package be loaded after `lwarp`, which should work as well:

1. `documentclass{article/book/report}` comes first, followed by any of:

2. Font and UTF-8 related commands:

- For X_YL^AT_EX or Lua^AT_EX:

fontspec (*Pkg*)

ligatures

- fontspec and font choices

lwarp sets the following to turn off T_EX ligatures during the generation of HTML tags, and turn off common ligatures in regular text, since older browsers may not display them correctly and newer browsers can automatically re-create them.

```
\defaultfontfeatures[\rmfamily]{Ligatures={NoCommon,TeX}}
\defaultfontfeatures[\sffamily]{Ligatures={NoCommon,TeX}}
\defaultfontfeatures[\ttfamily]{Ligatures=NoCommon}
```

- For *pdf_latex*:

lmodern (*Pkg*)fontenc (*Pkg*)inputenc (*Pkg*)inputenx (*Pkg*)newunicodechar (*Pkg*)glyphtounicode.tex (*file*)

- (a) `\usepackage{lmodern}`, or other font-related packages
- (b) `\usepackage[T1]{fontenc}`
- (c) `\usepackage[utf8]{inputenc}`, or `latin1`, etc. Or use `inputenx`.
- (d) `\usepackage{newunicodechar}` along with related definitions.
- (e) To assist with the PDF-HTML conversion:
 - i. `\input glyphtounicode.tex`
 - ii. `\input glyphtounicode-cmr.tex`% from the pdfx package
 - iii. `\pdfgentounicode=1`

⚠ dotless j

cmap (*Pkg*)mmap (*Pkg*)textcomp (*Pkg*)

- (f) Another option to assist with the PDF-HTML conversion, such as the dotless j (`\j`):
 - `\usepackage{cmap}` — *or* —
 - `\usepackage{mmap}` — *or* —
 - `\usepackage[noTeX]{mmap}`
- (g) `\usepackage{textcomp}`

3. `\usepackage{newtxmath}` or other math-related font packages. Many of these load `amsmath`, which may now be loaded before `lwarp`.

4. `\usepackage{lwarp}` (section 7.5) is placed after any of the above, followed by:

⚠ fontspec with monospaced fonts

5. `\setmonofont{TeX Gyre Cursor}` or similar may be required if using X_YL^AT_EX or Lua^AT_EX and `fontspec` along with traditional font packages such as `txfonts`, `newtxtext`, etc. This is required to turn off the monospaced font's ligatures with `fontspec` after loading the traditional font packages. Monospaced output ligatures must be turned off to produce the correct HTML characters.

Any monospace font with built-in ligatures may require these ligatures to be disabled for HTML. In one example, JETBRAIN MONO, it is required to use

```
\setmonofont{JetBrains Mono}[%
. . .
Contextuals=AlternateOff,
]
```

After `lwarp` is loaded, the ligature may be re-enabled for print mode by using `\setmonofont` again inside a `warpprint` environment.

6. ... the rest of the preamble and the main document.

⚠ JETBRAIN MONO

⚠ HTML corrupted

⚠ UTF-8 locale In some cases, an external program may require a UTF-8 “locale”. See section 9.9.

7.4.1 Indexes, glossaries, and encoding

lwarp supports *makeindex*, *xindy*, *xindex*, and *glossaries*, *gloss*, and *nomencl*.

See section [8.6.15](#) for indexing, and section [8.6.13](#) for the *glossaries* package.

7.5 lwarp package loading and options

lwarp supports book, report, and article classes, as well as the equivalent KOMA-script classes and memoir, and various CJK-related classes and packages.

Load the lwarp package immediately after the font and UTF-8 setup commands.

Package options may be set while loading lwarp, or later with

```
\lwarpsetup{<key=value, . . . >}
```

lwarp (*Pkg*) lwarp package options are as follows:

`mathsvg` (*Opt*) **mathsvg** and **mathjax**: Selects SVG images or MATHJAX for math display. See section 8.7.

`mathjax` (*Opt*)

Default: `mathsvg`

`latexmk` (*Opt*) **latexmk**: Tells *lwarpmk* to use *latexmk* to recompile the document several times if necessary. Otherwise, *lwarpmk* attempts to determine for itself whether to recompile. See section 7.6.

Default: `false`

`dvips` (*Opt*) **dvips**: Tells *lwarpmk* to use *dvips* and *ps2pdf* to convert DVI output to PDF.

Default: `false`

`dvipdfm` (*Opt*) **dvipdfm**: Tells *lwarpmk* to use *dvipdfm* to convert DVI output to PDF.

Default: `false`

`dvipdfmx` (*Opt*) **dvipdfmx**: Tells *lwarpmk* to use *dvipdfmx* to convert DVI output to PDF.

Default: `false`

`HomeHTMLFilename` (*Opt*) **HomeHTMLFilename**:

Default: `\BaseJobname`

Filename of the homepage, without the “.html” suffix. Defaults to the `\BaseJobname`. A common setting is:

```
HomeHTMLFilename=index
```

causing the homepage to be the file `index.html`. Underscores are allowed in `HomeHTMLFilename` and `HTMLFilename` options, but may need to be escaped elsewhere, such as when appearing in a list:

```
\item [\href{file\_name.pdf}{text}] \
```

See section 7.6.1 for examples of naming and numbering HTML files.

`HTMLFilename` (*Opt*) **HTMLFilename**: A filename prefix for the rest of the HTML web pages. Useful for numbered web pages with a common prefix. May be empty. See section 7.6.1 for examples of naming and numbering HTML files.

Default: `<empty>`

`ImagesName` (*Opt*) **ImagesName**: The prefix for the images automatically generated by lwarp for objects such as `svg math` and `lateximages`.

Default: `image-`

`ImagesDirectory` (*Opt*) **ImagesDirectory**: The directory for the images automatically generated by lwarp for objects such as `svg math` and `lateximages`. By default, these images will appear in a directory named `<jobname>-images`, and the images will be named and numbered `image-<nn>`.

Default: `\jobname-images`

filename underscores

Table 7: Lwarp package options

Option	Description
<code>mathsvg</code>	Show math using SVG images.
<code>mathjax</code>	Show math using MATHJAX.
<code>latexmk</code>	Use <i>latexmk</i> for compiling documents.
<code>dvips</code>	Use <i>dvips</i> and <i>ps2pdf</i> to convert DVI documents.
<code>dvipdfm</code>	Use <i>dvipdfm</i> to convert DVI documents.
<code>dvipdfmx</code>	Use <i>dvipdfmx</i> to convert DVI documents.
<code>HomeHTMLFilename</code>	The filename of the home page.
<code>HTMLFilename</code>	A prefix for the filenames of the remaining web pages.
<code>ImagesName</code>	A prefix for the filenames of generated images.
<code>ImagesDirectory</code>	The directory used to hold generated images.
<code>PrintLatexCmd</code>	The shell commands for lwarpmk print .
<code>HTMLLatexCmd</code>	The shell commands for lwarpmk html .
For indexing (section 8.6.16) and glossaries (section 8.6.13):	
<code>makeindex</code>	Use <i>makeindex</i> to generate indices.
<code>makeindexStyle</code>	Set a custom style for <i>makeindex</i> .
<code>xindy</code>	Use <i>xindy</i> to generate indices.
<code>xindyStyle</code>	Set a custom style for <i>xindy</i> .
<code>xindyLanguage</code>	The <i>xindy</i> language option used for index generation.
<code>xindyCodepage</code>	The <i>xindy</i> codepage option used for index generation.
<code>xindex</code>	Use <i>xindex</i> to generate indices.
<code>xindexConfig</code>	Set a custom configuration file for <i>xindex</i> .
<code>PrintIndexCmd</code>	Shell commands executed by lwarpmk printindex .
<code>HTMLIndexCmd</code>	Shell commands executed by lwarpmk htmlindex .
<code>LatexmkIndexCmd</code>	Shell commands executed by <i>latexmk</i> .
<code>IndexRef</code>	How to format index links.
<code>GlossaryCmd</code>	Shell command executed by lwarpmk printglossary and lwarpmk htmlglossary .
Seldom necessary:	
<code>OSWindows</code>	Force compatibility with MS-WINDOWS.
<code>pdftotextEnc</code>	Set the encoding for <i>pdftotext</i> .
<code>lwarpmk</code>	Generate a local copy of <code>lwarpmk.lua</code> .
Used internally by lwarp:	
<code>warpprint</code>	Generate print output, and also generate configuration files.
<code>warphTML</code>	Generate HTML output.
<code>BaseJobname</code>	The <code>\jobname</code> to use. Set to the <code>\jobname</code> of the printed version even while generating HTML.
<code>warpdisable</code>	Disables most of <code>lwarp</code> for testing purposes.

- `PrintLatexCmd (Opt)` **PrintLatexCmd:** Sets the shell commands executed by `lwarpmk print`. If not specified, will automatically be set according to the detected L^AT_EX engine and the use of `--shell-escape`.
Default: `<automatic>`
- `HTMLLatexCmd (Opt)` **HTMLLatexCmd:** Sets the shell commands executed by `lwarpmk html`. If not specified, will automatically be set according to the detected L^AT_EX engine and the use of `--shell-escape`.
Default: `<automatic>`
- `makeindex (Opt)` **makeindex:** Sets `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkImageCmd` to use `makeindex` when generating indexes with `lwarpmk printindex`, `lwarpmk htmlindex`, or `latexmk`. If neither `makeindex` nor `xindy` is used, `makeindex` is assumed.
Default: `makeindex`
- `makeindexStyle (Opt)` **makeindexStyle:** If you wish to use a custom `.ist` file for index generation, see section 8.6.21.
Default: `lwarp.ist`
- `xindy (Opt)` **xindy:** Sets `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkImageCmd` to use `xindy` when generating indexes with `lwarpmk printindex`, `lwarpmk htmlindex`, or `latexmk`.
Default: `makeindex`
- `xindyStyle (Opt)` **xindyStyle:** If you wish to use a custom `.xdy` file for index generation, see section 8.6.22.
Default: `lwarp.xdy`
- `xindyLanguage (Opt)` **xindyLanguage:** If using an index or glossary, see section 31.
Default: `english`
- `xindyCodepage (Opt)` **xindyCodepage:** If using an index, see section 31.
Default: `utf8`
- `xindex (Opt)` **xindex:** Sets `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkImageCmd` to use `xindex` when generating indexes with `lwarpmk printindex`, `lwarpmk htmlindex`, or `latexmk`.
Default: `makeindex`
- `xindexConfig (Opt)` **xindexConfig:** If you wish to use a custom `xindex-*.lua` file for index generation, see section 8.6.23.
Default: `<empty>`
- `PrintIndexCmd (Opt)` **PrintIndexCmd:** Sets the shell commands executed by `lwarpmk printindex`. If not specified, will be set by the selection of `makeindex` or `xindy`. May be used to specify the creation of multiple indexes. See section 8.6.16.
Default: `<automatic>`

Examples:

```
makeindex -s lwarp.ist projectname.idx (makeindex)
xindy -M lwarp.xdy -L english -C utf8 projectname.idx (xindy)
```

automatic setting

The use of the `makeindex` or `xindy` options sets `PrintIndexCmd` to sensible values for each of those programs while compiling a single index. `lwarp`'s `makeindexStyle`, `xindyStyle`, `xindyLanguage`, and `xindyCodepage` options will be used if specified.

⚠ xindy

If specifying `PrintIndexCmd` manually, be sure to assign an *xindy* language and codepage with the `-L` and `-C` *xindy* options, as the `lwarp` `xindyLanguage` and `xindyCodepage` options are not used for the `PrintIndexCmd` option when it is set manually.

This option is stored in the configuration files `lwarpmk.conf` and `*.lwarpmkconf`, and is then passed by the `lwarpmk printindex` command to the operating system to compile the print indexes. Since the command string is parsed by `TeX`, written to a file, read from the file by `LuaTeX`, and finally passed to the operating system, any attempt at quoting will be problematic. For complicated commands, it would be best to create a shell script, and simply refer to the script with the `lwarp PrintIndexCmd` option.

HTMLIndexCmd (*Opt*) **HTMLIndexCmd:** Sets the shell commands executed by `lwarpmk htmlindex`. If not specified, will be set by the selection of `makeindex` or `xindy`. May be used to specify the creation of multiple indexes. See section 8.6.16.

Default: `<automatic>`

⚠ filenames

Example settings are similar to `PrintIndexCmd`, but append `_html` to the filenames:

```
makeindex -s lwarp.ist projectname_html.idx      (makeindex)
xindy -M lwarp.xdy -L english -C utf8 projectname_html.idx
(xindy)
```

automatic setting

The use of the `makeindex` or `xindy` options sets `HTMLIndexCmd` to sensible values for each of those programs while compiling a single index. `lwarp`'s `makeindexStyle`, `xindyStyle`, `xindyLanguage`, and `xindyCodepage` options will be used if specified.

⚠ xindy

If specifying `HTMLIndexCmd` manually, be sure to assign an *xindy* language and codepage with the `-L` and `-C xindy` options, as the `lwarp xindyLanguage` and `xindyCodepage` options are not used for the `HTMLIndexCmd` option when it is set manually.

As with `PrintIndexCmd`, to generate complicated indexes it may be worthwhile to use a shell script, then refer to that script with `HTMLIndexCmd`.

LatexmkIndexCmd (*Opt*) **LatexmkIndexCmd:** Sets the shell commands executed by `latexmk`. Unlike `PrintIndexCmd` and `HTMLIndexCmd`, `LatexmkIndexCmd` does not include any filenames, which will be provided instead by `latexmk`. See section 8.6.16.

Default: `<automatic>`

Example settings are similar to `PrintIndexCmd`, but without a filename:

```
makeindex -s lwarp.ist                                (makeindex)
xindy -M lwarp.xdy -L english -C utf8                 (xindy)
```

automatic setting

The use of the `makeindex` or `xindy` options sets `LatexmkIndexCmd` to either of the two settings show above. `lwarp`'s `makeindexStyle`, `xindyStyle`, `xindyLanguage`, and `xindyCodepage` options will be used if specified. Unlike `PrintIndexCmd` and `HTMLIndexCmd`, `latexmk` uses either of the single-line settings of `LatexmkIndexCmd` shown above to compile each of multiple indexes if necessary.

⚠ xindy

If specifying `LatexmkIndexCmd` manually, be sure to assign an *xindy* language and codepage with the `-L` and `-C xindy` options, as the `lwarp xindyLanguage` and `xindyCodepage` options are not used for the `LatexmkIndexCmd` option when it is set manually.

IndexRef (*Opt*) **IndexRef:** Describes how to display the index entries for HTML output. Possible values are `ref`, `nameref`, `refnameref`, `cref`, `crefnameref`, `autoref`, or a text string such as `(link)` or `(*)` for each index entry reference. (Adding parentheses around a single character makes the link larger and easier to click on.) The default is `cref`, which is available even if the print document does

Default: `cref`

not use `cleveref`, as the `lwarp` package relies on `cleveref` during HTML output. Option `autoref` gives the same results as `cref`.

`\ref` and `\cref` to starred or otherwise unknown links will display as `(*)` instead of `??`.



If using `cref` (the default), and if a reference appears as `??` with a non-functional link, use `cleveref`'s `\crefname` to give a name to that type of label.

In general, `crefnameref` gives the most information, but the index can become quite verbose. Using `(*)` or similar yields a very compact index.

`GlossaryCmd` (*Opt*) **GlossaryCmd:** Sets the shell command executed by `lwarpmk printglossary` and `lwarpmk htmlglossary`. The print or HTML glossary filename is appended to this command. See section 8.6.13.
Default: `makeglossaries`

`OSWindows` (*Opt*) **OSWindows:** `lwarp` attempts to automatically sense WINDOWS, but it may be forced with this option. See section 7.9.

`pdftotextEnc` (*Opt*) **pdftotextEnc:** Used to specify the encoding used by `pdftotext` during the PDF-HTML conversion. In most situations, the default is the correct choice.
Default: `UTF-8`

`lwarpmk` (*Opt*) **lwarpmk:** If you wish to have `lwarp` generate a local copy of `lwarpmk.lua` for archival or local-installation purposes, compile the print version with the `lwarpmk` option set. See section 31.


The following options are used internally by `lwarp`, and usually are not used in the user's document:


`warpprint` (*Opt*) **warpprint** and **warpHTML:** Usually controlled by `lwarpmk`, and not set in the document. Select the `warpprint` option to generate print output (default), or the `warpHTML` option to generate HTML5 output. The default is print output, so the print version may be compiled with the usual `pdflatex`, etc. When `lwarp` is loaded in print mode, it creates `<project>_html.tex`, which sets the `warpHTML` option before calling the user's source code `<project>.tex`. In this way, `<project>.tex` can `\usepackage{lwarp}` without any options to create a printed version, while `<project>_html.tex` will create an HTML version.

`BaseJobname` (*Opt*) **BaseJobname:** Not intended for the user. Used internally by `lwarp` when creating the `*_html.tex` file used to compile the HTML version. See section 31.
Default: `\jobname`

`warppdisable` (*Opt*) **warppdisable:** Internally disables both `warpprint` and `warpHTML`. This disables most of `lwarp`, which may be useful for testing purposes to see whether `lwarp` is causing a problem.

7.6 Customizing the HTML output

 **Placement!** Table 8 shows several settings may be used to customize the HTML output. Watch for the correct placement of each!

 **Changes!** Note that if changes are made, it is best to first:

1. Clear all the HTML, PDF, and auxiliary files:

Enter ⇒ `lwarpmk cleanall`

2. Recompile the print version in order to recreate the configuration files for *lwarpmk*:

Enter ⇒ `lwarpmk print`

3. Finally, recompile the HTML version with the new settings:

Enter ⇒ `lwarpmk html`

Placed in the preamble before `\begin{document}`:

<code>\HTMLFirstPageTop</code> Default: <empty>	<code>\HTMLFirstPageTop</code> : $\{\langle contents \rangle\}$ A user-definable custom action applied to the top of the home page. Useful for logos, etc. <code>\LinkNext</code> may be used to link to the next web page. Defaults empty. Ignored in print output.
<code>\HTMLFirstPageBottom</code> Default: <empty>	<code>\HTMLFirstPageBottom</code> : $\{\langle contents \rangle\}$ A user-definable custom action applied to the bottom of the home page. Useful for logos, etc. <code>\LinkNext</code> may be used to link to the next web page. Defaults empty. Ignored in print output.
<code>\linkhomename</code> Default: Home	<code>\linkhomename</code> : Name of the link to the home page. Paragraphs are allowed. Redefine with <code>\renewcommand</code> .
<code>\linkpreviousname</code> Default: Previous	<code>\linkpreviousname</code> : Name of the link to the previous page. Paragraphs are allowed. Redefine with <code>\renewcommand</code> .
<code>\linknextname</code> Default: Next	<code>\linknextname</code> : Name of the link to the next page. Paragraphs are allowed. Redefine with <code>\renewcommand</code> .
<code>tocdepth (Ctr)</code>	<code>tocdepth</code> : Sectioning depth of the table of contents. See section 16 for a list of L ^A T _E X stack depths.
<code>SideTOCDepth (Ctr)</code> Default: 1 <code>sideroc</code>	<code>SideTOCDepth</code> : Sectioning depth of the sideroc. Defaults to 1, causing the sideroc to show sections but not subsections. Each subpage of the website has its own small table of contents on the side (the “sideroc”). Its depth is set by <code>SideTOCDepth</code> . This sideroc is only shown if the browser display is wide enough. When using a narrow web browser window, “responsive web design” is used to show the sideroc at the top of the page, as well as a link back to Home at the top and bottom. It is recommended to set: $\text{SideTOCDepth} = \text{FileDepth}$ or

Table 8: HTML settings

Macro/Cntr/Bool	Loc [*]	Description
<code>\linkhomename</code>	P	Name of the link to the homepage.
<code>\linkpreviousname</code>	P	Name of the link to the previous page.
<code>\linknextname</code>	P	Name of the link to the next page.
<code>SideTOCDepth</code>	P	Sectioning depth of the sideroc.
<code>\sidetocname</code>	P	Name of the sideroc.
<code>FileDepth</code>	P	Sectioning depth of the file splits.
<code>CombineHigherDepths</code>	P	Combine higher section levels.
<code>FileSectionNames</code>	P	Use section names for file names, else use numbers.
<code>\FilenameLimit</code>	P	Maximum length of the generated filenames.
<code>FootnoteDepth</code>	P	Sectioning depth of footnotes.
<code>\abstractname</code>	P	The name of the abstract.
<code>\ImageAltText</code>	PD	<code>\includegraphics</code> and other images' alt tag.
<code>\ThisAltText {<text>}</code>	PD	Assigns an alt / title tag for the next image or link.
<code>\MathImageAltText</code>	PD	The svg math image <code>lateximage</code> alt tag.
<code>\PackageDiagramAltText</code>	PD	The suffix for a package's <code>lateximage</code> alt tags.
<code>\AltTextOpen</code>	PD	Start an HTML alt tag.
<code>\AltTextClose</code>	PD	End an HTML alt tag.
<code>\CSSFilename</code>	PS	The css for the following files.
<code>\MathJaxFilename</code>	PS	The MATHJAX script for the following files.
<code>\HTMLLanguage</code>	PS	The HTML lang tag.
<code>\HTMLTitle</code>	PS	The homepage's <title>, overriding <code>\title</code> .
<code>\HTMLTitleBeforeSection</code>	PS	Set subpage <title>s to <code>\HTMLTitle - sectionname</code>
<code>\HTMLTitleAfterSection</code>	PS	Set subpage <title>s to <code>sectionname - \HTMLTitle</code>
<code>\HTMLAuthor</code>	PS	The HTML author meta tag, overriding <code>\author</code> .
<code>\HTMLDescription</code>	PS	The HTML meta description tag.
<code>\HTMLKeywords</code>	PS	The HTML meta keywords tag.
<code>\HTMLMeta</code>	PS	Clear and set the custom meta tag.
<code>\HTMLAddMeta</code>	PS	Add another meta tag.
<code>\HTMLFirstPageTop</code>	P	Heading for the home page.
<code>\HTMLFirstPageBottom</code>	P	Footer for the home page.
<code>\HTMLPageTop</code>	PS	Heading for the other pages.
<code>\HTMLPageBottom</code>	PS	Footer for the other pages.
<code>\HTMLnewcolumn</code>	D	<code>\newcolumn</code> type for HTML.
<code>\IndexPageSeparator</code>	P	Index page list separator.
<code>\IndexRangeSeparator</code>	P	Index page range separator.
<code>FixSmallCaps</code>	P	Set true if small caps rendered as all caps.
<code>HTMLDebugComments</code>	P	Boolean to generate HTML comments.

* **P**: Preamble, **D**: Anywhere in the document. **S**: Before a section.

SideTOCDepth = FileDepth + 1

 **inaccessible pages**

If SideTOCDepth < FileDepth, web pages will be inaccessible via the sidetoc.

`\sitetocname`
Default: Contents

\sitetocname: Name of the sidetoc. Paragraphs are allowed. Redefine with `\renewcommand`.

`FileDepth (Ctr)`
Default: -5

FileDepth: Sectioning depth of file splits. Defaults to -5, causing the entire HTML website to be one single file.

- To place the entire file into one HTML page, use:
`\setcounter{FileDepth}{-5}`
- To split the HTML file at `\section` depth, use:
`\setcounter{FileDepth}{1}`
- To ensure that the HTML pages/files are accessible:
Place a `\tableofcontents` somewhere before the first section break (therefore in the “home page”), and set
`tocdepth >= FileDepth`



`CombineHigherDepths (bool)`
Default: true

CombineHigherDepths: Combine a higher section with its first lower subsections, down to the FileDepth. Defaults to true. Set to false to simulate the concept of a chapter opening on its own page, for example.

The file splits are controlled by the counter FileDepth and the boolean CombineHigherDepths. Setting FileDepth to 0 splits the file at chapters, 1 at sections, etc. CombineHigherDepths controls whether to combine pages at levels higher than the chosen FileDepth, such as in this tutorial where the page which opens the chapter also contains the first section. Be careful to set tocdepth and SideTOCDepth to allow access to each page of the website. Set tocdepth and SideTOCDepth to be greater than or equal to FileDepth.

 **Inaccessible pages!**

 **Lost in an old page!**

When making changes to the file structure, it is possible to end up with the web browser pointing to an old file which is no longer in use. When this occurs, changes to the web site will not appear in the browser, even if reloading the page, because that page is no longer in use. It is best to return to the home page, clean the files (`lwarpmk cleanall`), change FileDepth and/or CombineHigherDepths, then finally recompile and navigate to the desired page using the new file structure.

`FileSectionNames (bool)`
Default: true

FileSectionNames: If true, web page filenames are derived from a sanitized version of the section names. If false, web pages are numbered. Either way, the HTMLFilename option is used as a prefix. See section 7.6.1 for examples of naming and numbering HTML files. The user must ensure that filenames are unique after being sanitized. For example, math in the section name is removed before creating the filename, so the rest of the filename must be sufficiently unique to avoid name collisions.

 **Unique filename!**

`\FilenameLimit`
Default: 80

\FilenameLimit: The maximum length of the filenames generated by lwarp. “.html” is added to this length. Redefine with `\renewcommand`.

`FootnoteDepth (Ctr)`
Default: 3

FootnoteDepth: Determines where to place pending footnotes. 3 places footnotes before each break down to the `\subsubsection` level. 1 places footnotes before each `\section` break. Any pending footnotes are also placed at the bottom of each page before each file break.

`FixSmallCaps (bool)`
Default: false

FixSmallCaps: Set true if SMALL CAPS are rendering in all caps (“SMALL

CAPS”). May be required for some fonts (erewhon, utopia, fbb, et al.), and packages such as embrac.

HTMLDebugComments (<i>bool</i>) Default: false	HTMLDebugComments: Set true to generate HTML comments, such as which section or <div> is being opened or closed.
\abstractname Default: Abstract	\abstractname: The name of the abstract. This may also be over-written by the babel package. Defaults to “Abstract”. Redefine with \renewcommand.
\IndexPageSeparator Default: “, ”	\IndexPageSeparator: Index page list separator. Adjust to match index style file. If using gindex, this is set automatically to gindex’s \indexpagesep.
\IndexRangeSeparator Default: “--”	\IndexRangeSeparator: Index page range separator. Adjust to match index style file. If using gindex, this is set automatically to gindex’s \indexrangesep.

Placed before \begin{document}, or before any sectioning command which causes a file break:

\CSSFilename *{filename.css}* Sets the css file to use for the following files. May be changed before each sectioning command which would cause a file split.
Default: lwarp.css

The css styles of the web pages are set by the \CSSFilename command. If \CSSFilename is not used, a default plain style is used to mimic printed L^AT_EX output. lwarp_sagebrush.css is a semi-fancy colored style as shown in this tutorial. Change it to lwarp_formal.css for a more formal look, or comment out the \CSSFilename command to see the default. \CSSFilename may be used before each file break to set the css for individual pages of the website.

\MathJaxFilename *{filename}* Sets the MATHJAX script file to use for the following files. May be changed before each sectioning command which would cause a file split.
Default: lwarp_mathjax.txt

The MATHJAX script file is copied into the head of each HTML file. This may be used to point to a local repository, add extensions, or change the script somewhere in the middle of the document. \MathJaxFilename may be used before each file break to set the script file for individual pages of the website.

\HTMLLanguage *{language}* The HTML file’s HTML lang meta tag. Defaults to en-US.
Default: en-US

\HTMLTitle *{title}* Overrides \title for the HTML header’s meta title. Defaults to \thetitle, which is set by \title, or empty otherwise. Unlike the author, \thetitle is set by \title even if not using the titling package.
Default: \thetitle

\HTMLTitleBeforeSection Sets subpage <title> tags to show the website title followed by the section name.
Default: \HTMLTitleBeforeSection

\HTMLTitleAfterSection Sets subpage <title> tags to show the section name followed by the website title.

custom <title> To customize subpage <title>s, redefine \theHTMLTitleSection, which defaults to:

```
\def\theHTMLTitleSection{%
  \theHTMLTitle\theHTMLTitleSeparator\theHTMLSection%
}
```

<code>\HTMLAuthor</code> Default: <code>\theauthor</code>	\HTMLAuthor: $\{\langle author \rangle\}$ The HTML header's meta author. Defaults to <code>\theauthor</code> , which is set by <code>\author</code> if using the <code>titling</code> package, but is empty otherwise. There are several ways to represent the author and affiliations, especially if using the <code>authblk</code> package, most of which do not result in a sensible <code>\theauthor</code> , so <code>\HTMLAuthor</code> is useful to create a list of authors without their affiliations.
<code>\HTMLDescription</code> Default: <code><empty></code>	\HTMLDescription: $\{\langle description \rangle\}$ Sets the HTML description tag for the following files. May be changed before each sectioning command which would cause a file split.
<code>\HTMLKeywords</code> Default: <code><empty></code>	\HTMLKeywords: $\{\langle keywords \rangle\}$ Sets the HTML keywords tag for the following files. May be changed before each sectioning command which would cause a file split.
<code>\HTMLMeta</code> Default: <code><empty></code>	\HTMLMeta: $\{\langle name \rangle\} \{\langle contents \rangle\}$ Clears then sets a new user-definable custom meta tag used for the following pages. Replaces any prior custom meta tags previously set by <code>\HTMLMeta</code> and <code>\HTMLAddMeta</code> .
<code>\HTMLAddMeta</code> Default: <code><empty></code>	\HTMLAddMeta: $\{\langle name \rangle\} \{\langle contents \rangle\}$ Add to the user-definable custom meta tags for the following pages. May be used more than once to add multiple tags. Use <code>\HTMLMeta</code> to empty and start over with a new tag.
<code>\HTMLPageTop</code> Default: <code><empty></code>	\HTMLPageTop: $\{\langle contents \rangle\}$ A user-definable custom action applied to the top of pages other than the home page. Useful for logos, etc. Defaults empty. <code>\LinkHome</code> may be used to place a link back to the homepage, as well as <code>\LinkPrevious</code> and <code>\LinkNext</code> . Ignored in print output.
<code>\HTMLPageBottom</code> Default: <code><empty></code>	\HTMLPageBottom: $\{\langle contents \rangle\}$ A user-definable custom action applied to the bottom of pages other than the home page. Useful for authors, copyright notices, contact information, etc. Defaults empty. <code>\LinkHome</code> may be used to place a link back to the homepage, as well as <code>\LinkPrevious</code> and <code>\LinkNext</code> . Ignored in print output.
<code>\LinkHome</code>	\LinkHome: Creates a link to the home page. Usually used in <code>\HTMLPageTop</code> and related.
<code>\LinkPrevious</code>	\LinkPrevious: Creates a link to the previous HTML page, unless already at the home page. Usually used in <code>\HTMLPageTop</code> and related.
<code>\LinkNext</code>	\LinkNext: Creates a link to the next HTML page, unless already at the end. Usually used in <code>\HTMLPageTop</code> and related.

Placed in the home page before the first sectioning command which causes a file break:

<code>\tableofcontents</code> △ TOC on the homepage!	\tableofcontents: Used to place a table of contents on the home page. This command must be used before the first file split, so that a way is available to navigate to other files from the homepage. Links to each chapter/section are provided, as selected by <code>tocdepth</code> .
---	--

Placed in the document wherever necessary:

<code>\ImageAltText</code> Default: <code>image</code>	\ImageAltText: Redefine with <code>\renewcommand</code> . <code>\includegraphics</code> and other images are assigned an HTML <code>alt</code> tag according to <code>\ImageAltText</code> along with <code>\AltTextOpen</code> and <code>\AltTextClose</code> . This text is visible in the
---	---

browser if images are not loaded, and appears when the text is copied and pasted. The default is “image”, and it may be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following `\includegraphics` and other images.

`\ThisAltText`

\ThisAltText: $\{\{text\}\}$ `\ThisAltText` can be used to assign an HTML alt text attribute to the next image generated by a `lateximage`, `picture`, `tikzpicture`, or any other similar environment which generates an image, or the next SVG math expression. This tag is cleared after use. The tag is also cleared after each MATHJAX expression, in case the user changes between SVG math and MATHJAX.

`\ThisAltText` also may be used to add an HTML title to a reference or hyperlink, such as a `\ref`, `\cref`, `\href`, `\url`, `\hyperref`, or `\hyperlink`. In each case, the alternative text is cleared after use.

`\MathImageAltText`

Default: `math image`

\MathImageAltText: Redefine with `\renewcommand`. When creating an SVG math image, its HTML alt tag may be set to the math expression, which may be hashed for image reuse. In the case of `\ensuremath` or after `\inlinemathother`, where the contents require a unique image for each instance of the same expression, the alt tag is set to `\MathImageAltText`, along with `\AltTextOpen` and `\AltTextClose`, and the image is not reused.

This alt expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “math image”, and it may be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following SVG math images.

`\PackageDiagramAltText`

Default: `diagram`

\PackageDiagramAltText: Redefine with `\renewcommand`. For many packages, the output is placed inside a `lateximage` with an HTML alt tag set to the package name followed by `\PackageDiagramAltText`. For example:

```
(-xy- diagram)
```

This expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “diagram”, and may it be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following package diagrams.

`\AltTextOpen`

Default: `(`

`\AltTextClose`

Default: `)`

\AltTextOpen: Redefine with `\renewcommand`.

\AltTextClose: Redefine with `\renewcommand`. HTML alt text is enclosed by the macros `\AltTextOpen` and `\AltTextClose`, which default to an opening and closing parenthesis.

`\HTMLnewcolumnntype`

\HTMLnewcolumnntype: `\newcolumnntype` may not always work with `lwarp` for HTML output, since it often involves `TEX` boxes and fills. To provide a simplified column type for HTML, add `\HTMLnewcolumnntype` in addition.

`warpprint (enu)`

warpprint: An environment which is only used while generating print output. Place inside anything which does not apply to HTML and which may cause problems with `lwarp`. If `lwarp` knows about and emulates or supports a package then its related macros, lengths, counters, etc. probably won’t have to be placed inside a `warpprint` environment, but

unknown packages may cause problems which may be isolated from `lwarp` using this environment.



Do not place anything else on the same line as `\end{warpprint}`. Also do not nest `warpprint` inside itself.

`warpHTML` (*env.*)

warpHTML: An environment which is only included while generating HTML output. This is useful for website logos and other items which have no purpose in printed output.



Do not place anything else on the same line as `\end{warpHTML}`. Also do not nest `warpHTML` inside itself.

`\warpprintonly`

\warpprintonly: `{\langle contents \rangle}` A macro version of the `warpprint` environment.

`\warpHTMLonly`

\warpHTMLonly: `{\langle contents \rangle}` A macro version of the `warpHTML` environment.

7.6.1 Example HTML file naming

Examples of ways to name or number HTML files:

Numbered HTML nodes:

Example: Homepage `index.html`, and node-1, node-2. ¹³

```
\usepackage[
  HomeHTMLFilename=index,
  HTMLFilename={node-}
]{lwarp}
\boolfalse{FileSectionNames}
```

Named HTML sections, no prefix:

Example: `index.html`, and `About.html`, `Products.html`

```
\usepackage[
  HomeHTMLFilename=index,
  HTMLFilename={}
]{lwarp}
\booltrue{FileSectionNames}
```

Named HTML sections, with prefix:

Example: Homepage `mywebsite.html`, and additional pages such as `mywebsite-About.html`, `mywebsite-Products`, etc.

```
\usepackage[
  HomeHTMLFilename=mywebsite,
  HTMLFilename={mywebsite-}
]{lwarp}
\booltrue{FileSectionNames}
```

¹³See `\SetHTMLFileNumber` to number in groups by chapter, for example.

7.7 Customizing the css

`\CSSFilename` {*<filename>*}

Default: `lwarp.css`

`\CSSFilename` may be used to choose which `.css` file is used to display each page of the web site. Use `\CSSFilename` before `\begin{document}` to assign the style of the home page. If different parts of the website should have different styles, call `\CSSFilename` again before each section heading which creates a new file. This may be changed numerous times throughout the file, resulting in different HTML pages having different css files assigned:

```
...
\CSSFilename{myCSS.css}
\chapter{Another Chapter}
...
```

The styles provided by `lwarp` include:


`lwarp.css`: A default style if `\CSSFilename` is not used. This style is comparable to a plain L^AT_EX document. To set this style, you may use `\CSSFilename{lwarp.css}`, or no `\CSSFilename` call at all.

`lwarp_formal.css`: A formal style with a serif fonts and a traditional look.

`lwarp_sagebrush.css`: A style with muted colors, gradient backgrounds, additional borders, and rounded corners.

To see each style in use, change the `\CSSFilename` entry in the tutorial, `lwarpmk.html` again, and then reload the tutorial webpage.

Custom css A customized style may also be created. For each new project a file called `sample_project.css` is generated. This may be renamed to `<project>.css` then used by assigning `\CSSFilename{<project>.css}`.

 **Rename it!** Note that `sample_project.css` is overwritten whenever `lwarp` is loaded in print mode. It is therefore important to rename the file to something like `<project>.css` before using it, so that your own changes are not overwritten.

`<project>.css` has an entry which loads `lwarp.css`, and this entry may be changed to load `lwarp_formal.css` or `lwarp_sagebrush.css` if desired. Additional changes to the css may be made by making entries later in the `<project>.css` file.

`lwarp.css` (*file*) It is best to make a local project-specific css file such as `project.css`, containing only things which are different from `lwarp.css`. The file `project.css` should refer to `lwarp.css` as follows:

`project.css` (*file*)

`sample_project.css` (*file*)

```
/* ( --- Start of project.css --- ) */
/* ( --- A sample project-specific CSS file for lwarp --- ) */

/* Uncomment one of the following: */
@import url("lwarp.css") ;
/* @import url("lwarp_formal.css") ; */
/* @import url("lwarp_sagebrush.css") ; */
```

```

/* Project-specific CSS setting follow here. */
/* . . . */

/* ( --- End of project.css --- ) */

```

Finally use `\CSSfilename{<project>.css}` in the document to activate the custom CSS.

7.8 Assigning CSS classes and styles

HTML CSS classes and styles may be assigned to fragments of the document.

`BlockClass (env)` [`<style>`] [`<class>`]

An entire block of text, including paragraphs, may be assigned a CSS class and optional CSS style using the `BlockClass` environment. The result is placed inside a `<div>`. A `BlockClass` may nest other `BlockClasses` or `\InlineClasses`.

`\InlineClass` (`<wp css style>`) [`<web css style>`] [`<css class>`] [`<text>`]

A section of text without paragraphs may be assigned a CSS class and optional CSS style using the `\InlineClass` macro. The result is placed inside a ``. `\InlineClass` may be nested, but per the HTML standard it must not contain `BlockClass`, nor may it contain a paragraph, nor several other objects such as HTML figures. `\InlineClass` also accepts a second optional parameter, enclosed inside parentheses, which assigns the style while generating output for a word processor, while ignoring the web style.

Nullified versions of `BlockClass` and `\InlineClass` are provided for the print version, so they may be used in the document without placing them inside `warpHTML` or `\warpHTMLonly`.

7.9 Selecting the operating system

- `Unix (Prog)` `lwarp` tries to detect which operating system is being used. UNIX / MAC OS / LINUX is the default (collectively referred to as “UNIX” in the configuration files), and MS-WINDOWS is supported as well.
- `Mac OS (Prog)`
- `Linux (Prog)`
- `MS-Windows (Prog)` If MS-WINDOWS is not correctly detected, use the `lwarp` option `OSWindows`.
- `Windows (Prog)` When detected or specified, the operating-system path separator used by `lwarp`
- `OSWindows (Opt)` is modified, and the boolean `usingOSWindows` is set true. This boolean may be tested by the user for later use.

7.10 Selecting actions for print, HTML, or MATHJAX output

The following environments and macros are used to select actions which only apply to either traditional L^AT_EX print-formatted PDF generation, or to HTML generation, or to HTML with MATHJAX.

For most of built-in L^AT_EX and many additional packages there is user-level source code support or emulation, so no special handling will be required. For those cases

which `lwarp` does not handle by itself, the following environments and macros may be used to isolate sections of code for print-only or HTML-only.

These environments are also useful for creating a special version of the titlepage for print and another for HTML.

`warpHTML` (*env.*) Anything which is to be done only for HTML5 output is surrounded by a `warpHTML` environment:

```
\begin{warpHTML}
... something to be done only during \HTML\ generation
\end{warpHTML}
```

⚠ `\end{warpHTML}` Do *not* place anything else on the same line as `\end{warpHTML}`. The exact phrase is used to mark the end of the environment. Do not nest `warpHTML` inside itself.

⚠ **nesting** `warpMathJax` may be used inside `warpHTML`.

`warpprint` (*env.*) Anything which is to be done only for print output is surrounded by a `warpprint` environment:

```
\begin{warpprint}
... something to be done only during traditional \PDF\ generation
\end{warpprint}
```

⚠ `\end{warpprint}` As above, do not place anything else on the line with `\end{warpprint}`. Do not nest `warpprint` inside itself.

⚠ **nesting**

`warpall` (*env.*) Anything which is to be done for any output may be surrounded by a `warpall` environment. Doing so is optional.

```
\begin{warpall}
... something to be done during print \PDF\ or \HTML\ output
\end{warpall}
```

⚠ `\end{warpall}` As above, do not place anything else on the line with `\end{warpall}`. Do not nest `warpall` inside itself.

⚠ **nesting**

Macros are also provided for print-only or HTML-only code:

`\warpprintonly` $\{\langle actions \rangle\}$

Performs the given actions only when print output is being generated.



`\warpHTMLonly` $\{\langle actions \rangle\}$

Performs the given actions only when HTML output is being generated.

`warpMathJax` (*env.*) Anything which is to be done only while using HTML output with `MATHJAX` is surrounded by a `warpMathJax` environment. Usually, this is `\CustomizeMathJax`, used to add emulation macros. `\end{warpMathJax}` must appear on its own line.

⚠ `\end{warpMathJax}` Do not nest `warpMathJax` inside itself. `warpMathJax` may be used inside `warpHTML`.

⚠ **nesting**

<code>warpsvg</code> (<i>env.</i>)	Anything which is to be done only while using print output or HTML output with SVG math is surrounded by a <code>warpsvg</code> environment. <code>\end{warpsvg}</code> must appear on its own line. Do not nest <code>warpsvg</code> inside itself. <code>warpsvg</code> may be used inside <code>warpHTML</code> .
 <code>\end{warpsvg}</code>	
 <code>nesting</code>	
<code>\LWR@formatted</code>	To define macros or environments which behave differently depending on print or HTML output, see section 38.

7.11 Commands to be placed into the warpprint environment

Certain print-related commands should always be placed inside a `warpprint` environment, or may need other special handling. These are unrelated to HTML output, but are hard to isolate automatically. For example:

- Paragraph formatting: `\parindent \parskip`
- Manual page positions such as the `textpos` package, which is emulated but only in a limited way.
- Anything changing the page counter. `lwarp` requires that the page counter not be adjusted during HTML output.

Some packages require additional setup commands. Where these packages are emulated for HTML, setup commands may work for the emulated HTML output as well as for print output. See the details for each package in this document for more information.

Also see section 13: [Troubleshooting](#).

7.12 Title page

In the preamble, place an additional block of code to set the following:

```
\title{Document Title} % One line only
\author{Author One\affiliation{Affiliation One} \and
  Author Two\affiliation{Affiliation Two} }
\date{Optional date}
```

The title is used in the meta tags in the HTML files, unless overridden by `\HTMLTitle`, and the rest are used in `\maketitle`. To use a `\subtitle` or `\published` field, see section 71.8.

<code>\maketitle</code>	Use <code>\maketitle</code> just after the <code>\begin{document}</code> , as this will establish the title of the homepage. Optionally, use a <code>titlepage</code> environment instead.
<code>titlepage</code> (<i>env.</i>)	The <code>titlepage</code> environment may be used to hold a custom title page. The <code>titlepage</code> will be set in a <code><div></code> class <code>titlepage</code> , and <code>\printtitle</code> , etc. may be used inside this environment.
<code>titlingpage</code> (<i>env.</i>)	Another form of custom title page, where <code>\maketitle</code> is allowed, and additional information may be included as well.
<code>\title</code>	<code>{<title>}</code>

△ **HTML corrupted newlines** Avoid newlines in the `\title`; these will interfere with the file break and CSS detection. Use a `\subtitle` command instead (section 7.1.8). The title will appear in the document `\maketitle` as a heading `<h1>`. The HTML meta title tag will also have this title, unless `\HTMLTitle` is used to set the meta title to something else instead.

`\author` $\{\langle author \rangle\}$

In `\author`, `\protect` may be needed before some formatting commands. In HTML, the author will appear in a `<div>` of class `author` in the `\maketitle`. If the `titling` package is used, the author will also appear in a HTML meta tag, but `\HTMLAuthor` may be necessary to create a plain list of names if `\author` had affiliations added. `\affiliation` is a new addition to `lwarp`.

`\date` $\{\langle date \rangle\}$

`\date` works as expected. In HTML, this will appear in a `<div>` class `titledate`.

`\thanks` $\{\langle text \rangle\}$

`\thanks` are allowed in the titlepage fields, and will be rendered as HTML notes at the bottom of the title page.

7.13 HTML page meta descriptions

`\HTMLDescription` $\{\langle A \text{ description of the web page.} \rangle\}$

Default: (none)

limitations

Each page of HTML output should have its own HTML meta description, which usually shows up in web search results. Usually limited to around 150 characters in length, and should not include the ASCII double quote character (`"`).

placement

Use `\HTMLDescription` just before `\begin{document}` to set the description of the home page, and also just before each sectioning command such as `\chapter` or `\section` where a new file will be generated, depending on `FileDepth`. For example, if `FileDepth` is 1, use `\HTMLDescription` just before each `\section` command, and that description will be placed inside the HTML page for that `\section`. The same description will be used for all following HTML files as well, until reset by a new `\HTMLDescription`. It is best to use a unique description for each HTML file.

disabling To disable the generation of HTML description meta tags, use:

```
\HTMLDescription{}
```

7.14 HTML page meta keywords

`\HTMLKeywords` $\{\langle Keywords for the web page. \rangle\}$

Default: (none)

`\HTMLKeywords` behaves like `\HTMLDescription`, but adds HTML meta keywords for the following web pages.

disabling To disable the generation of HTML keyword meta tags, use:

```
\HTMLKeywords{}
```

7.15 HTML homepage meta title

`\HTMLTitle` {*<title>*}

Default: `\HTMLtitle{\thetitle}`

Sets the contents of the web page `<meta name="title">` element. May be set empty to cancel the meta title tag.

See section 7.6 for `\HTMLTitleBeforeSection` and `\HTMLTitleAfterSection`, used to set the title for HTML subpages.

7.16 HTML page meta author

`\HTMLAuthor` {*<author>*}

Default: `\HTMLAuthor{\theauthor}`

Sets the contents of the web page `<meta name="author">` element. May be set empty to cancel the meta author tag.

`\author` may be used to create a list of authors and their affiliations, in several formats if using `authblk`, and these may not successfully parse properly into a sensible list for `\theauthor`. `\HTMLAuthor` may be used to set the meta tag to a simple list of names.

8 Special cases and limitations


Some commonly-used L^AT_EX expressions should be modified as follows to allow for a smooth conversion to both HTML and print-formatted outputs.

Need help?

See the [General Index](#) for “how-to”, and the [Troubleshooting Index](#) if something doesn’t work. A [Troubleshooting](#) section is also available. The [Index of Objects](#) contains automated entries for each package, macro, environment, counter, boolean, and other objects; individually and also sorted by category.

8.1 Things to avoid

In the document, avoid the following:

 **options with braces** **Package options:** Package options may cause problems with lwarp, especially if they include curly braces.

If selecting options with braces in `\usepackage` does not work:

```
\usepackage[font={it,small}]{caption}% does not work
```

... try instead selecting the package options before loading lwarp:

```
\PassOptionsToPackage{font={it,small}}{caption}
```

```
...
```

```
\usepackage{lwarp}
```

```
...
```

```
\usepackage{caption}
```

... or try setting package options after the package has been loaded:

```
\usepackage{caption}
```

```
\captionsetup{font={it,small}}
```

page counter: Do not adjust the page counter. If doing so is required for the print version, place the adjustment inside a `warpprint` environment.

Custom math environment macros: Do not use expressions such as `\beq` as a replacement for `\begin{equation}`.

Custom macros in section, figure, table names: Custom macros which appear in sectioning commands or float captions then appear in the `.toc`, `.lof`, and `.lot` lists, and should be made robust using `\newrobustcmd` or `\robustify` from `etoolbox`, `xparse`, etc.

When setting `FileSectionNames` to true to name the HTML files from the section names, the file names are created from sanitized versions of the chapter or section names, but the section names must be plain text or something which expands into plain text. Robust macros will not work at the sectioning level which is used for file names, but a robust macro or other complicated name may be used for the mandatory argument of `\chapter`, `\section`, etc., if a plain-text version is also included in the optional argument:

```
\chapter[Plain Name]{\ARobustMacro{Fancy Name}}
```

8.1.1 Invalid HTML

Additionally, some objects are valid L^AT_EX, but invalid HTML. An example is a tabular inside `\textbf`, since HTML does not allow a table inside a span. lwarp

will create the table, and the browser may support it, but the result is technically invalid.

8.2 Formatting

8.2.1 Text formatting

⚠ **\bfseries, etc.** `\textbf`, etc. are supported, but `\bfseries`, etc. work only in some situations.

⚠ **HTML special chars** `&`, `<`, and `>` have special meanings in HTML. If `\&`, `\textless`, and `\textgreater` are used, proper HTML entities will be used, but there may be HTML parsing problems if these special characters occur unescaped in program listings or other verbatim text.

program listings For program listings, the `listings` package is supported, and its `literate` option is used to automatically convert `&`, `<`, and `>` to proper HTML entities.

`minted` sanitizes HTML automatically by its `colorizing`, which splits the special characters from the rest of the tag.

⚠ **verbatim** The `fancyvrb` and `fvextra` packages automatically sanitize HTML entities, but the core L^AT_EX `verbatim`-related environments do not, nor does the `verbatim` package, so care must be taken to avoid accidentally including valid HTML code inside these environments. It may be sufficient to add a space on either side of `&`, `<`, and `>`.

⚠ **gobble** `fancyvrb` does not sanitize HTML when using the `gobble` option.

8.2.2 Small caps

`FixSmallCaps` (*bool*) Some fonts, such as `erewhon`, `utopia`, or `fbf`, and some packages such as `embrac`, copy/paste “SMALL CAPS” as all caps (“SMALL CAPS”), which `lwarp` then reads as all caps, so the text is printed in all caps. If small caps are being rendered as all caps, set:

```
\booltrue{FixSmallCaps}
```

⚠ **CJK fonts** Some CJK fonts may not work if `FixSmallCaps` is set `true`.

8.2.3 Horizontal and vertical space and rules

`\hspace` `\hspace` is converted to an inline HTML span of the given width, except that `0` width is ignored, a width of `.16667em` is converted to an HTML thin breakable space (U+2009), and a `\fill` is converted to a `\quad`.

`\vspace` `\vspace` is ignored for HTML.
`~`
`\,` `~` and `\,` are converted to HTML entities.

`\kern` `\kern` and `\hskip` are entered into the HTML PDF output as-is, then interpreted by `pdfotext`, and thus usually appear as a single space.

`\rule` `\rule` is converted to an HTML rule of the same dimensions, of the currently

selected text color.

- `\hrule` Both `\hrule` and `\vrule` are ignored for HTML. To create a horizontal dividing rule across the page, use `\hrulefill` in its own paragraph.
- `\vrule`
- `\hrulefill` `\hrulefill` usually creates a one-inch rule, similar to a “fill in the blank”. If it is used at the start of a new paragraph, it creates a `<div>` with a thin horizontal border across the page, as would often be done with `\hrule`.

8.2.4 Text alignment

Use the environments `center`, `flushright`, `flushleft` instead of the macros `\centering`, `\raggedright`, `\raggedleft`.

- ⚠ **figure & table alignment** `\centering`, etc. are honored in a figure or table if they are the first command inside the float:

```
\begin{table*}
\centering
\caption{A Table}
...
```

8.2.5 Accents

Native L^AT_EX accents such as `\`` will work, but many more kinds of accents are available when using Unicode-aware X_YL^AT_EX and LuaL^AT_EX. If using accents in section names which will become file names, it is recommended to use the L^AT_EX accents such as `\`` and `\v` instead of Unicode accents. The L^AT_EX accents will have the accents stripped when creating the filenames, whereas the Unicode accents will appear in the file names, which may cause issues with some operating systems.

8.2.6 textcomp package

- `textcomp (Pkg)` Some `textcomp` symbols do not have Unicode equivalents, and thus are not supported.

- ⚠ **missing symbols** Many `textcomp` symbols are not supported by many system/browser fonts. In the CSS try referencing fonts which are more complete, but expect to see gaps in coverage.

8.2.7 Superscripts and other non-math uses of math mode

Use `x` instead of `^{x}`

8.2.8 Empty `\item` followed by a new line of text or a nested list:

- lists** Use a trailing backslash: `\item[label] \`

8.2.9 relsize package

`relsize (Pkg)` For HTML, only the inline macros are supported: `\textlarger`, `\textsmaller`, and `\textscale`. Each becomes an inline span of a modified font-size.

`\relsize`, `\larger`, `\smaller`, and `\relscale` are ignored.

While creating SVG math for HTML, the original definitions are temporarily restored, and so should work as expected.

⚠ **not small** The HTML browser's setting for minimum font size may limit how small the output will be displayed.

8.3 Boxes and minipages

8.3.1 Marginpars

`\marginpar` [*left*] {*right*} `\marginpar` may contain paragraphs, but in order to remain inline with the surrounding text `lwarp` nullifies block-related macros inside the `\marginpar`. Paragraph breaks are converted to `
` tags.

`\marginparBlock` [*left*] {*right*} To include block-related macros, use `\marginparBlock`, which takes the same arguments but creates a `<div>` instead of a ``. A line break will occur in the text where the `\marginBlock` occurs.

8.3.2 Save Boxes

⚠ **HTML corrupted**

⚠ **boxes** TEX boxes are placed inline and do not allow line breaks, so boxes with long contents may overflow the line during HTML conversion. `lwarp` uses methods which help avoid this problem.

⚠ **minipage, \parbox** `\savebox` and related do not (yet) support `minipage` or `\parbox`.

8.3.3 Minipages

⚠ **inline** A line of text with an inline `minipage` or `\parbox` will have the `minipage` or `\parbox` placed onto its own line, because a paragraph is a block element and cannot be made `inline-block`.

placement `minipages` and `\parboxes` will be placed side-by-side in HTML unless you place a `\newline` between them.

side-by-side Side-by-side `minipages` may be separated by `\quad`, `\qquad`, `\enskip`, `\hspace`, `\hfill`, or a `\rule`. When inside a center environment, the result is similar in print and HTML. Paragraph tags are suppressed between side-by-side `minipages` and these spacing commands, but not at the start or end of the paragraph.

⚠ **minipage in a span** There is limited support for `minipages` inside an HTML ``. An HTML `<div>` cannot appear inside a ``. While in a ``, `minipages`, and `\parboxes`, and any enclosed lists have limited HTML tags, resulting in an "inline" format, without markup except for HTML breaks. Use `\newline` or `\par` for an HTML break.

- ⚠ **minipage size** When using `minipage`, `\parbox`, and `fminipage`, a virtual 6×9 inch text area is used for `\linewidth`, `\textwidth`, and `\textheight`, both for sizing the minipage, and also for its contents.
- if width is `\linewidth` If a minipage or `\parbox` is assigned a width of exactly `\linewidth`, in HTML it is automatically given no HTML width, thus allowed to fill the line as needed, similar to how it appears in print output.
- full-width if HTML A new macro `\minipagefullwidth` requests that, during HTML output, the next single minipage or `\parbox` be generated without an HTML width attribute, allowing it to be the full width of the display rather than the declared print-output width. This may be useful where the printed version's width makes no sense in HTML.
- ⚠ **tabular, multicols** Inside a `tabular` or `multicols` environment, where the width depends on the browser window, `\minipagefullwidth` is effectively used by default for every minipage or `\parbox` inside the environment. `\UseMinipageWidths` may be used to tell `lwarp` to honor the specified widths of all following minipages and `\parboxes` until the end of the local scope, and `\IgnoreMinipageWidths` may be used to tell `lwarp` to ignore the specified widths.
- ⚠ **multicol** Inside a `multicols`, `\linewidth` is divided by the specified number of columns.
- ⚠ **text alignment** Nested minipages adopt their parent's text alignment in HTML, whereas in regular L^AT_EX PDF output they do not. Use a `flushleft` or similar environment in the child minipage to force a text alignment.

8.3.4 Side-by-side minipages

Place side-by-side minipages inside a `center` environment, with horizontal space between them, such as `\quad`, `\qqquad`, `\hspace`, or `\hfill`. The result is similar in print and HTML. Do not use space commands at the start or end of the line.

8.3.5 Framed minipages and other environments

`\fbox` can only be used around inline `` items during HTML output, but HTML cannot place a block element such as a `<div>` for a minipage or a list inside of a ``. Several options are provided for framing an object, depending on which kind of object and which packages are loaded:

- `\fbox` For a framed object, options include:
- `\fboxBlock`
- `fminipage (env)`
- To remove the frame in HTML output:** Place the `\fbox` command and its closing brace inside `warpprint` environments. This will nullify the frame for HTML output.
- To frame the contents inline with some formatting losses in HTML:** This is the default action of `\fbox` when enclosing a minipage. During HTML output, `\fbox` nullifies the HTML tags for `minipage`, `\parbox`, and lists. The contents are included as inline text inside the `\fbox`'s `` of class `framebox`. For lists, line breaks are converted to HTML breaks. The result is a plain-text inline version of the contents, framed inline with the surrounding text, but lacking any extra HTML markup.
- To frame the contents on their own line with improved formatting in HTML:** A new command `\fboxBlock` is included, intended to be a direct replacement

For inline text:

For inline minipage and lists:

for `\fbox` for cases where the `\fbox` surrounds a minipage, table, or list. For print output, this behaves as `\fbox`. For HTML output, the contents are placed inside an HTML `<div>` with the class `framed`, resulting in the contents being placed on their own line with a frame surrounding them. The contents preserve their HTML formatting, so lists and minipages look nicer, and valid HTML is created for a `tabular`. While an `\fbox` containing a `tabular` is valid L^AT_EX code, the result in HTML is problematic since a table is a `<div>` not a ``, so use `\fboxBlock` around a `tabular`, or else place the `tabular` inside a minipage, or use `fminipage`, described next. Also see below regarding the “Misplaced alignment tab character &.” error.

For display `tabular`,
minipages, and lists:

To create a framed minipage in both print and HTML: A new environment `fminipage` is included. For print output, this is identical to `minipage`, except that it is also framed. For HTML output, this forms a `<div>` of class `framed`, the contents preserve their HTML formatting, and valid HTML is created for a `tabular`. Also see section 91 for a new environment `fcolorminipage`. Also see below regarding the “Misplaced alignment tab character &.” error.

colored boxes and frames:

To create colored frames and boxes: See section 681 for `xcolor`’s `\colorbox` and `\fcolorbox`, and `lwarp`’s additional `\colorboxBlock` and `\fcolorboxBlock`.

⚠ Misplaced alignment
tab character &

To frame tables or verbatim environments: Place the contents inside a `fminipage`, or perhaps a `\fboxBlock` for a `tabular`. Also, if using `\fboxblock` with `tabular`, you will have to use `\StartDefiningTabulars` before the start of the macro which uses `\fboxBlock` and the `tabular`, and `\StopDefiningTabulars` afterwards. Also see the `lwarp` documentation for the `fancybox` package.

To frame equations: See section 264 for the `fancybox` package.

For fancy framed minipages: See packages `boxedminipage`, `shadow`, `fancybox`, `framed`, `mdframed`.

Custom environments: Use a custom environment to create a sidebar, containing a `BlockClass` environment with custom CSS formatting, and `\warpprintonly{\hrule}` command:

```
\begin{BlockClass}{frameminipage}% ignored in print output
  % use \CSS\ to format div class framedminipage
\warpprintonly{\hrule} % only appears in print output
Contents
\warpprintonly{\hrule} % only appears in print output
\end{BlockClass}
```

8.3.6 fancybox package

`fancybox` (*Pkg*)
framed equation example

`fancybox`’s documentation has an example `FramedEqn` environment which combines `math`, `\Sbox`, a `minipage`, and an `\fbox`. This combination requires that the entire environment be enclosed inside a `lateximage`, which is done by adding `\lateximage` at the very start of `FramedEqn`’s beginning code, and `\endlateximage` at the very end of the ending code. Unfortunately, the HTML `alt` attribute is not used here.

```

\newenvironmentFramedEqn
{
\lateximage% NEW
\setlength{\fboxsep}{15pt}
... }{...
\[\fbox{\TheSbox}\]
\endlateximage% NEW
}

```

framing alternatives `\fbox` works with `fancybox`. Also see `lwarp`'s `\fboxBlock` macro and `fminipage` environment for alternatives to `\fbox` for framing environments.

framed table example The `fancybox` documentation's example of a framed table using an `\fbox` containing a `tabular` does not work with `lwarp`, but the `FramedTable` environment does work if `\fbox` is replaced by `\fboxBlock`. This method does lose some HTML formatting. A better method is to enclose the table's contents inside a `fminipage` environment. The caption may be placed either inside or outside the `fminipage`:

```

\begin{table}
\begin{fminipage}{\linewidth}
\begin{tabular}{lr}
...
\end{tabular}
\end{fminipage}
\end{table}

```

⚠ framed verbatim `lwarp` does not support the `verbatim` environment inside a `span`, `box`, or `fancybox`'s `\Sbox`, but a `verbatim` may be placed inside a `fminipage`. The `fancybox` documentation's example `FramedVerb` may be defined as:

```

\newenvironment{FramedVerb}[1] % width
{
\VerbatimEnvironment
\fminipage{#1}
\beginVerbatim
}{
\endVerbatim
\endfminipage
}

```

framed \VerbBox `fancybox`'s `\VerbBox` may be used inside `\fbox`.

indented alignment `LVerbatim`, `\LVerbatimInput`, and `\LUseVerbatim` indent with horizontal space which may not line up exactly with what *pdftotext* detects. Some lines may be off slightly in their left edge.

`lwarp` sanitizes HTML for `fancybox` verbatims, except for the contents of `\VerbBox` and any `\verb` inside.

8.3.7 mdframed package

mdframed (Pkg) support Most basic functionality is supported, including frame background colors and single-border colors and thickness, title and subtitle background colors and borders and thickness, border radius, and shadow. CSS classes are created for `mdframed` environments and frame titles.

 **loading** When used, `lwarp` loads `mdframed` in HTML with `framemethod=none`.

font For title font, use

```
frametitlefont=\textbf,
```

instead of

```
frametitlefont=\bfseries,
```

where `\textbf` must appear just before the comma and will receive the following text as its argument (since the text happens to be between braces in the `mdframed` source). Since `lwarp` does not support `\bfseries` and friends, only one font selection may be made at a time.

theoremtitlefont `theoremtitlefont` is not supported, since the following text is not in braces in the `mdframed` source.

ignored options `userdefinedwidth` and `align` are currently ignored.

css classes Environments created or encapsulated by `mdframed` are enclosed in a `<div>` of class `mdframed`, and also class `md<environmentname>` for new environments.

Frame titles are placed in a `<div>` of class `[mdframedtitle]`. Subtitles are in a `<div>` of class `[mdframedsubtitle]`, and likewise for subsubtitles.

8.3.8 tcolorbox package


`tcolorbox` (*Pkg*) `tcolorbox` is emulated for HTML and MATHJAX, and supported as-is inside a `lateximage` or `svg math`.

What has been tested to work (at least partly) includes:

- `tcolorbox`, `\tcbox`.
- Title, subtitle.
- Upper, lower parts.
- Colors and title fonts.
- Floating objects.
- Some layered box features.
- Counters, labels, references.
- `listings`, `listingsutf8`.
- theorems: Theorems are supported. `math`, `ams equation`, etc. are not supported. Use a `tcolorbox` with regular `math` inside it. `\tcboxmath` and `\tcboxhighmath` are supported in `svg math`, and emulated in MATHJAX.
- Fitting features: `\tcboxfit` becomes `\tcbox` in HTML.
- Footnote numbering does not match the printed output.
- MATHJAX emulation is provided for common macros.

 **math**

 **footnotes**


 **undefined references** If using `cleveref`, it may be necessary to name theorems such as:

```
\crefname{tcb@cnt@mytheo}{my theorem}{my theorems}
```

8.4 Section names

If using named HTML files, by selecting `\booltrue{FileSectionNames}`, several steps should be taken to avoid problematic file names.


8.4.1 Formatting in section names

 **macros in section names** When using special formatting in the section name, use the optional short form:

```
\section[Simplified name]{Fancy name with formatting}
```

Remember to `\protect` L^AT_EX commands which appear in section names and toc captions.

8.4.2 Math in section names

 **math in section names** If using named HTML files, in section names use parentheses `\(x+y\)` instead of dollar `$x+y$`. Parentheses math is removed from the file name. (Dollar math works, but it generates complicated filenames.) Or, use a short name for the toc entry without the math, or use `\texorpdfstring` from the `hyperref` package:

```
\section[Simplified name]{Name with \((1+2=3\) math}
\section{Some math \texorpdfstring{\$1+2=3\$}{three}}
```

8.4.3 Simplifying file names

The generated filenames may be simplified by using `\FilenameSimplify` and `\FilenameNullify`:

```
\FilenameSimplify {<text>}
```

To remove common short words from the automatically-generated filenames, replacing each with a single hyphen “-”, use `\FilenameSimplify`:

```
\FilenameSimplify*{-in-}
\FilenameSimplify*{A-}
```

The first example removes the word “in” in the middle of a filename, and the second example removes “A” at the start of the filename. The star forces the arguments to be detokenized, which is required for a plain-text comparison. (The unstarred form is used for a token-sensitive comparison, which is seldom required by the user.) After simplification, repeated hyphen characters will be further simplified to a single hyphen “-”. Finally, single hyphens at the start or end of the filename are removed.

```
\FilenameNullify {<macros>}
```

Macro names may appear in the automatically-generated file names. To remove these, create *non-robust* nullified versions of the macros, ensuring that each line ends with a percent character % as shown below. These are placed inside `\FilenameNullify`, which adds them to the list of macros which are nullified during filename generation. Low-level macros such as `\begingroup` will cause problems when nullified. Many macros such as `\textbf` are already nullified. `lwarp` also already nullifies built-in symbol and `textcomp` macros, including if defined by `xunicode`, but not all `xunicode` macros. See the definition of `\LWR@nullfonts` for a complete list.

```

\FilenameNullify{%
  \renewcommand*{\macroname}[1]{#1}%
  \renewcommand*{\anothermacro}{}%
}

```

8.4.4 Preventing duplicate file names

- ⚠ **duplicate filename** Section names at levels which result in HTML file splits may be duplicates, but the resulting file names must be unique. **lwarp** will generate a warning if a duplicate section name occurs, then **lwarp** will append a unique file number to the resulting file name, thus avoiding file name clashes. These unique file numbers may change as sections are added or removed. As a result, old and orphaned HTML files may be left behind. To remove these leftover files, use **lwarpmk cleanall** and recompile. Also, as file names are adjusted, external links from outside to these files may be broken. To use fixed file names, use the optional short-form name, or use `\texorpdfstring` from **hyperref**:

```

\section[Unique Name]{Duplicate name}
\section{\texorpdfstring{Duplcate Name}{Unique Name}}

```

8.5 Cross-references

- ⚠ **label characters** **labels** Labels with special characters may be a problem. It is best to stick with alphanumeric, hyphen, underscore, and perhaps the colon (if not French).
- ⚠ **empty link** **\nameref** `\nameref` refers to the most recently-used section where the `\label` was defined. If no section has been defined before the `\label`, the link will be empty. Index entries also use `\nameref` and have the same limitation.

8.5.1 Page references

- ⚠ **L^AT_EX page numbers** The printed page does not translate to the HTML page, so `\pageref` references are converted to parentheses containing `\pagerefPageFor`, which defaults to “see”, followed by a hyperlink to the appropriate object.

Ex:

```

\ref{sec:name} on page \pageref{sec:name}
in HTML becomes:
“Sec. 1.23 on page (see sec. 1.23)”.

```

`\pagerefPageFor` may be redefined to “page for”, empty, etc. See page 513.

8.5.2 cleveref and varioref packages

- ⚠ **cleveref page numbers** `cleveref` (*Pkg*) `varioref` (*Pkg*) `cleveref` and `varioref` are supported, but printed page numbers do not map to HTML, so a section name or a text phrase are used for `\pageref` and `\pagerefrange`. This phrase includes `\cpagerefFor`, which defaults to “for”.

Ex:

```
\cpageref{tab:first,tab:second}
in html becomes:
“pages for table 4.1 and for table 4.2”
```

See `\cpagerefFor` at page 753 to redefine the message which is printed for page number references.

- ⚠ **varioref types** `cleveref` changes the behavior of `varioref` in that the reference type is automatically printed if `cleveref` is loaded. `lwarp` requires `cleveref`, so the HTML version will always automatically print the reference types even if the print mode does not. The simplest way to make them match is to require the `cleveref` package for the document.

8.5.3 Hyperlinks, hyperref, and url

`hyperref (Pkg)` `lwarp` emulates `hyperref`, including the creation of active hyperlinks, but does not require that `hyperref` be loaded by the document.

- ⚠ **comments between arguments** Do not place a comment with a % character between arguments for `\hyperref`, etc., as it is neutralized for inclusion in HTML URLs.

`lwarp` can also load `url`, but `url` should not be used at the same time as `hyperref`, since they both define the `\url` command. `lwarp` does not (yet) attempt to convert `url` links into hyperlinks during HTML output, nor does the print version of `url` create hyperlinks.

- ⚠ **backref** When generating HTML, `lwarp`'s emulation of `hyperref` does not automatically load `backref`, so `backref` must be loaded explicitly.

8.5.4 Footnotes, endnotes, and page notes

`lwarp` uses native L^AT_EX footnote code, although with its own `\box` to avoid the L^AT_EX output routine. The usual functions mostly work as-is.

footnote numbering To have footnote numbers reset each time footnotes are printed:

```
\setcounter{footnoteReset}{1}
```

For `bigfoot`, `manyfoot`, or `perpage`:

```
\MakePerPage{footnoteX}
— or —
\MakeSortedPerPage{footnoteX}
```

The footnotes are reset when they are printed, according to section level as set by `FootnoteDepth`, which is not necessarily by HTML page. This is recommended for `\alph`, `\Alph`, or `\fnsymbol` footnotes, due to the limited number of symbols which are available.

MATHJAX Also for `MATHJAX`, `\footnotename` is used for a `\footnotemark` if the actual footnote number is not known. To redefine it, provide it before loading `lwarp`:

```
\providecommand{\footnotename}{something}
\usepackage{lwarp}
```

Similar for sidenotes. For endnotes:

```
\def\endnotename{something}% \def allows name to start with
"end"
```

For the `pagenote` package, there is no `\pagenotename` to define, since there is no `\pagenotemark` command.

footmisc The `footmisc` `stable` option is emulated by `lwarp`.

⚠ **sectioning commands** When using footnotes in sectioning commands, to generate consistent results between print and HTML, use the `footmisc` package with the `stable` option, provide a short toc entry, and `\protect` the `\footnote`:

```
\usepackage[stable]{footmisc}
...
\subsection[Subsection Name]
{Subsection Name\protect\footnote{A footnote.}}
```

memoir with footmisc If using `memoir` class, with which `lwarp` preloads `footmisc`, the `stable` option must be declared before `lwarp` is loaded:

⚠ **memoir**

```
\PassOptionsToPackage{stable}{footmisc}
\usepackage{lwarp}
...
```

Do not use a starred sectioning command. As an alternative, it may be possible to adjust `\secnumdepth` instead.

fancybox, fancyvrb

⚠ **\VerbatimFootnotes**
⚠ **sectioning or displaymath**

If using `fancybox` or `fancyvrb` with `\VerbatimFootnotes`, and using footnotes in a sectioning command or display math, use `\footnotemark` and `\footnotetext`:

```
\subsection[Subsection Name]
{Subsection Name\protect\footnotemark}
\footnotetext{A footnote with \verb+verbtim+.}
```

and likewise for equations or display math.

pfnote

⚠ **pfnote numbers**

While emulating `pfnote`, `lwarp` is not able to reset HTML footnote numbers per page number to match the printed version, as HTML has no concept of page numbers. `lwarp` therefore uses continuous footnote numbering even for `pfnote`.

bigfoot, manyfoot

⚠ **verbatim**

Verbatim footnotes are not yet supported.

If using the `bigfoot` package, and possibly also `manyfoot`, problems may occur with counter allocation because `lwarp` uses many counters, and there is a difference in how counters numbered 256 and up are handled in PDF L^AT_EX. With `bigfoot` this has been known to show up as an error related to one footnote insert being forbidden inside another. Another problem showed up as a input stack error, and which of these problems occurred depended on how many counters were allocated.

As a possible solution, try creating several new counters before defining `bigfoot` or `manyfoot` footnotes, hoping to shift the problematic counter above the 256 threshold. It may instead be necessary to use X_YL^AT_EX or LuaL^AT_EX instead of PDF L^AT_EX.

8.5.5 xr, xr-hyper, and xcite packages

See section 5.18.

8.6 Front and back matter

8.6.1 Custom classes with multiple authors and affiliations

Some classes allow multiple authors and affiliations. Often it is possible to emulate these using a standard class along with authblk:

```
%\documentclass{customclass} % for print document
\documentclass{article} % for html document

\usepackage{lwarp}
\begin{warpHTML}
\usepackage{authblk}
\let\affiliation\affil % maybe required
\end{warpHTML}
```

8.6.2 Starred chapters and sections

[HTML page and TOC](#) The following describes `\ForceHTMLPage` and `\ForceHTMLTOC`, which may be used for endnotes, glossaries, tocbind, bibliographies, and the index. See the following sections where applicable. Continue here if interested in the reason for adding these commands to `lwarp`.

Some packages use `\chapter*` or `\section*` to introduce reference material such as notes or lists, often to be placed in the back matter of a book. These starred sections are placed inline instead of on their own HTML pages, and they are not given TOC entries.

`lwarp` provides a method to cause a starred section to be on its own HTML page, subject to `FileDepth`, and also a method to cause the starred section to have its own TOC entry during HTML output.

`\ForceHTMLPage` To place a starred section on its own HTML page, use `\ForceHTMLPage` just before the `\chapter*` or `\section*`. `lwarp` will create a new page for the starred sectional unit.

A starred sectional unit does not have a TOC entry unless one is placed manually. The typical method using `\phantomsection` and `\addcontentsline` works for inline text but fails when the new starred section is given its own webpage after the TOC entry is created, or when creating an EPUB where the TOC entry will point to the page before the starred section. If the starred section has its own HTML page but no correct TOC entry pointing to that page, the page will be inaccessible unless some other link is created.




inaccessible HTML page

`\ForceHTMLTOC` To automatically force the HTML version of the document to have a TOC entry for a starred section, use `\ForceHTMLTOC` just before the `\chapter*` or `\section*`, and place `\phantomsection` and `\addcontentsline` inside a `warpprint` environment.

For print output, `\ForceHTMLTOC` and `\ForceHTMLPage` have no effect.

8.6.3 abstract package


abstract (*Pkg*) If using the number option with file splits, be sure to place the table of contents before the abstract. The number option causes a section break which may cause a file split, which would put a table of contents out of the home page if it is after the abstract.

 **missing TOC**

8.6.4 titling and authblk

titling (*Pkg*) lwarp supports the native L^AT_EX titling commands, and also supports the packages **authblk** and **titling**. If both are used, **authblk** should be loaded before **titling**.

package support

 **load order**
`\published` and `\subtitle`

If using the **titling** package, additional titlepage fields for `\published` and `\subtitle` may be added by using `\AddSubtitlePublished` in the preamble. See section 71.8.

8.6.5 tocloft package

titles (*Opt*) [`tocloft`] If using **tocloft** with **tocbibind**, **anonchp**, **fnchyp**, or other packages which change chapter title formatting, load **tocloft** with its `titles` option, which tells **tocloft** to use standard L^AT_EX commands to create the titles, allowing other packages to work with it.


tocloft (*Pkg*)

tocloft (*Pkg*)

 **tocloft & other packages**


8.6.6 appendix package

appendix (*Pkg*) During HTML conversion, the option `toc` without the option `page` results in a TOC link to whichever section was before the `appendices` environment. It is recommended to use both `toc` and `also page` at the same time.

 **incorrect TOC link**

8.6.7 pagenote package

pagenote (*Pkg*) **pagenote** works as-is, but the `page` option is disabled.

 **labels** Note that labels in page notes do not appear as expected, even in the print version.

8.6.8 endnotes package

endnotes (*Pkg*) If using **cleveref**, **endnotes** displays as a link to an endnote, rather than a section. A comma-separated list of end notes does not work with `\cref` and `related`. (In print mode, such as `list simply` displays a link to the section.)

table of contents To place the endnotes in the TOC, use:

```
\usepackage{endnotes}
\appto\noteheading{\addcontentsline{toc}{section}{\notesname}}
\renewcommand*{\notesname}{Endnotes} % optional
```

HTML page To additionally have the endnotes on their own HTML page, if `FileDepth` allows:

```
\ForceHTMLPage
\theendnotes
```

- ⚠ `\endnotemark numbering` If using MATHJAX, see section 8.5.4 regarding the use of `\endnotemark` and `\endnotetext`.

8.6.9 BibTeX

To update the HTML version of the bibliography:

```
Enter ⇒ bibtex <filename>_html
```

`\etalchar` Displays a superscript “+” to indicate “and others”.

- ⚠ **Modify *.bib** When enough authors are cited for a source, BibTeX may use the `\etalchar` command to display a math superscript with a + character to indicate “and others”. Without modification, this will result in an “Improper \prevdepth” error. At present, `lwarp` requires that `\etalchar` be replaced by a text superscript. To do so, add to the start of the `.bib` file the following:

```
@PREAMBLE{"\let\etalchar\relax \newcommand{\etalchar}[1]{\textsuperscript{#1}}"}}
```

8.6.10 biber

To update the HTML version of the bibliography:

```
Enter ⇒ biber <filename>_html
```

8.6.11 xcite package

See section 5.18.

8.6.12 gloss package

`gloss (Pkg)` To process the HTML glossary:

- ⚠ **compiling** `bibtex <projectname>_html.gls`

8.6.13 glossaries package

`glossaries (Pkg)` `lwarpmk` has the commands `lwarpmk printglossary` and `lwarpmk htmlglossary`, which process the glossaries created by the `glossaries` package using that package’s `makeglossaries` program.

`GlossaryCmd (Opt)` **Default: `makeglossaries`**
`printglossary (Opt) [lwarpmk]` The shell command to execute is set by the `lwarp` option `GlossaryCmd`, which defaults to `makeglossaries`. The print or HTML glossary filename is appended to this command.
`htmlglossary (Opt) [lwarpmk]`

- ⚠ **makeglossaries not found** In some situations it may be required to modify the default command, such as to add the `perl` command in front:

```
\usepackage[
  GlossaryCmd={perl makeglossaries},
] {lwarp}
```

xindy language To set the language to use for processing glossaries with *xindy*:

```
\usepackage[
  GlossaryCmd={makeglossaries -L english},
] {lwarp}
```

Other options for *makeglossaries* may be set as well.

placement and toc options The glossaries may be placed in a numbered or unnumbered section, given a TOC entry, and placed inline or on their own HTML page:

Numbered section, on its own HTML page:

```
\usepackage[xindy,toc,numberedsection=nolabel]{glossaries}
...
\printglossaries
```

Unnumbered section, inline with the current HTML page:

```
\usepackage[xindy,toc]{glossaries}
...
\printglossaries
```

Unnumbered section, on its own HTML page:

```
\usepackage[xindy,toc]{glossaries}
...
\ForceHTMLPage
\printglossaries
```

⚠ **glossary style** The default `style=item` option for glossaries conflicts with `lwarp`, so the style is forced to `index` instead.

⚠ **number list** The page number list in the printed form would become `\namerRefs` in HTML, which could become a very long string if many items are referenced. For now, the number list is simply turned off.

print/HTML versions The print and HTML versions of the glossary differ in their internal page numbers. Separate commands for generating print and HTML glossaries are used, even though the page number is currently ignored.

8.6.14 nomencl package

`nomencl` (*Pkg*) To process the HTML nomenclature:

```
makeindex <project>_html.nlo -s nomencl.list -o
<project>_html.nls
```

8.6.15 Indexing overview

There are many ways to process indexes for a L^AT_EX document, including native L^AT_EX capabilities, a number of packages and classes, the possible availability of shell escape and *latexmk*, and the need to process print and HTML versions. `lwarp` attempts to provide easy recompilation of indexes along with the rest of the document, but the various indexing options must be set correctly. Numerous examples are given below. Some differ in minor details, so the important parts are highlighted in red, and options are in green.

Once set up properly, the entire document may be recompiled with `lwarpmk print` and `lwarpmk html`. In some cases, it will also be necessary to compile the indexes with `lwarpmk printindex` and `lwarpmk htmlindex`. A recompile may then be forced with `lwarpmk print1` and `lwarpmk html1`.

- manual processing** The user may continue to process indexes manually or by shell script without the use of `lwarpmk`, but adjustments will be required to process HTML indexes as well. In general, `*.idx` and `*.ind` files will be accompanied by `*_html.idx` and `*_html.ind` files.
- custom index style** If using a custom indexing style file, see sections 8.6.21 to 8.6.23.
- link appearance** To control how the index links appear in the HTML output, see the `IndexRef` option in section 7.5, page 109.
- source code** See section 81 for `lwarp`'s core index and glossary code, section 347 for `index`, section 578 for `splitidx`, section 345 for `imakeidx`, section 635 for `tocbibind`, and section 702.17 for `memoir`'s indexing patches.

8.6.16 Indexing with `makeidx`, `makeindex`, `xindy`, `xindex`, `gindex`

- lwarpmk processing** The following allow the user to process indexes automatically, or using `lwarpmk`'s commands:

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk htmlindex
```

- makeindex (Prog)** **For a single index using `makeindex`:**

```
\usepackage[makeindex,latexmk] {lwarp}
```

The usual `.idx` and `.ind` files will be used, along with the new `lwarp.idx` style file. When creating the HTML index, “`_html`” is automatically appended to each of the names.

`lwarpmk` will use `latexmk` if specified, in which case `latexmk` will create the index automatically. Otherwise, use

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

To use a custom configuration file, see section 8.6.21.

- xindy (Prog)** **For a single index using `xindy`:**

```
\usepackage[
  xindy,
  xindyLanguage=english,           <optional>
  xindyCodepage=utf8,             <optional>
  latexmk                          <optional>
]{lwarp}
```

The usual `.idx` and `.ind` files will be used, along with the new `lwarp.xdy` style file.

`lwarpmk` will use `latexmk` if specified, in which case `latexmk` will create the index automatically. Otherwise, use

```
Enter ⇒ lwarpmk printindex
```

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

To use a custom configuration file, see section 8.6.22.

xindex (Prog) **For a single index using *xindex*:**

```
\usepackage[
  xindex,
  latexmk
]{lwarp} <optional>
```

The usual `.idx` and `.ind` files will be used.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

To use a custom configuration file, see section 8.6.23.

gindex (Pkg) **For a single index using *gindex*:**

```
\usepackage[
  makeindex,
  makeindexStyle=gindex.ist,
  . . . or . . .
  makeindexStyle=gindexh.ist,
  latexmk
]{lwarp} <optional>
```

The usual `.idx` and `.ind` files will be used.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

To use a custom configuration file, copy `gindex.ist` to a new file, modify, then specify it with `MakeindexStyle` as above. *lwarp* will automatically adapt to *gindex*'s `\indexpagesep` and `\indexrangesep` settings.

8.6.17 Indexing with *index*

index (Prog)

lwarp is told how to use *makeindex* using the `PrintIndexCmd` and `HTMLIndexCmd` options. The file `lwarp.ist` is specified, which generates index letter heads for print output and also allows special HTML formatting for HTML output.

For multiple indexes using *makeindex* and *index*:(Assuming that the second index has file extensions *.sist* and *.sind*)

```

\usepackage[
  makeindex, latexmk,
  PrintIndexCmd={
    makeindex -s lwarp.ist <projectname>.idx ;
    makeindex -s lwarp.ist
      -o <projectname>.sind <projectname>.sidx
  },
  HTMLIndexCmd={
    makeindex -s lwarp.ist <projectname>_html.idx ;
    makeindex -s lwarp.ist
      -o <projectname>_html.sind <projectname>_html.sidx
  }
]{lwarp}
\usepackage{index}
. . .
\makeindex
\newindex{secondname}{sidx}{sind}{Second Index}

```

⚠ WINDOWS*For Windows, replace the two “;” characters with “&”.*

When creating the HTML index, “_html” is automatically appended to the index filenames.

Use

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

If the *latexmk* option is selected for *lwarp*, *latexmk* will compile the document but will *not* compile the indexes. **lwarpmk printindex** and **lwarpmk htmlindex** will still be required.

8.6.18 Indexing with *splitidx**splitidx (Prog)*

lwarp is told how to use *splitindex* using the *PrintIndexCmd* and *HTMLIndexCmd* options. The file *lwarp.ist* is specified, which generates index letter heads for print output and also allows special HTML formatting for HTML output.

If the *latexmk* option is selected for *lwarp*, *latexmk* will compile the document but will *not* compile the indexes. **lwarpmk printindex** and **lwarpmk htmlindex** will still be required.

⚠ \thepage When using *\AtWriteToIndex* or *\AtNextWriteToIndex*, the user must not refer to *\thepage* during HTML output, as the concept of a page number is meaningless. Instead, do

```

\addtocounter{LWR@autoindex}{1}
\LWR@new@label{LWRindex-\arabic{LWR@autoindex}}

```

where the *\index*-like action occurs, and then refer to *\arabic{LWR@autoindex}* instead of *\thepage* where the reference should occur.

See section 702.17 in the lwarp-patch-memoir package for the `\@wrsplindexhyp` macro as an example.

For multiple indexes using *makeindex* and *splitidx*:

```
\usepackage[
  makeindex, latexmk,
  PrintIndexCmd={
    splitindex <projectname> -- -s lwarp.ist
  },
  HTMLIndexCmd={
    splitindex <projectname>_html -- -s lwarp.ist
  }
]{lwarp}
\usepackage{splitidx}
. . .
\makeindex
\newindex[Second Index]{secondname}
```

When creating the HTML index, “_html” is automatically appended to each of the names.

Use

Enter ⇒ `lwarpmk printindex`

Enter ⇒ `lwarpmk htmlindex`

to compile the indexes.

For multiple indexes using *xindy* and *splitidx*:

```
\usepackage[
  xindy, latexmk,
  PrintIndexCmd={
    splitindex -m xindy <projectname> -- -M lwarp.xdy
      -L english -C utf8 <optional>
  },
  HTMLIndexCmd={
    splitindex -m xindy <projectname>_html -- -M
    lwarp.xdy
      -L english -C utf8 <optional>
  }
]{lwarp}
\usepackage{splitidx}
. . .
\makeindex
\newindex[Second Index]{secondname}
```

When creating the HTML index, “_html” is automatically appended to each of the names.

Use

Enter ⇒ `lwarpmk printindex`

Enter ⇒ `lwarpmk htmlindex`

to compile the indexes.

8.6.19 Indexing with imakeidx

`imakeidx` (*Prog*)

Due to the number of methods which may be used to process multiple indexes, the options for style file and *xindy* language and codepage must be specified in one of several different ways. These are described in detail later in this section, but are summarized here.

If shell escape is used, `imakeidx` will automatically compile the indexes by itself. Options specifying a custom style file and *xindy* language and codepage must be specified for each `\makeindex` command using its `options=` option, which must include `lwarp`'s special `lwarp.ist` or `lwarp.xdy` file, or a file based on them. If using a custom indexing style file, see sections 8.6.21 to 8.6.23.

The `splitindex` option is also available if shell escape is used, in which case the `splitidx` package and *splitindex* program will also be used.

If shell escape is not possible, *latexmk* may be used to automatically compile the indexes. The style, language, and codepage options are specified with `lwarp`'s `makeindexStyle`, `xindyStyle`, `xindyLanguage`, and `xindyCodepage` options. These are passed to *latexmk* by *lwarpmk*'s `lwarpmk printindex` and `lwarpmk htmlindex` commands.

Where shell escape and *latexmk* are not possible, *lwarpmk* may be used to manually compile the indexes. `lwarp`'s `PrintIndexCmd` and `HTMLIndexCmd` options are used.

For a single or multiple indexes using *makeindex* and *imakeidx*:

The index style `lwarp.ist` is automatically used for HTML output. This file turns on letter headings, so it may be desirable to specify it as an option, in which case it will also be used for print output, which will help match the print and HTML output.

```
\usepackage[makeindex,latexmk] {lwarp}
\usepackage[makeindex]{imakeidx}
...
\makeindex[options={-s lwarp.ist}]
\makeindex[name=secondname,options={-s lwarp.ist}]
```

`imakeidx` will automatically compile the indexes. Shell escape is not required while using *makeindex*. *latexmk* may be specified, and if so it will be used for `lwarpmk print` and `lwarpmk html`, but *imakeidx* will actually create the indexes.

For a single or multiple indexes using *makeindex* and *splitindex* with *imakeidx*:

The index style `lwarp.ist` is automatically used for HTML output. This file turns on letter headings, so it may be desirable to specify it as an option, in which case it will also be used for print output, which will help match the print and HTML output.

```
\usepackage[makeindex,latexmk] {lwarp}
\usepackage[makeindex,splitindex]{imakeidx}
...
\makeindex[options={-s lwarp.ist}]
\makeindex[name=secondname,options={-s lwarp.ist}]
```


⚠ enable shell escape

Shell escape is required while using *splitindex*. For the first compile, use

Enter ⇒ `pdflatex --shell-escape projectname.tex`

Enter ⇒ `pdflatex --enable-write18 projectname.tex` (MiKTeX)

or similar with *xelatex* or *lualatex*. *lwarp* will remember that shell escape was used.

imakeidx will automatically execute *splitindex*, and will also use *makeindex* to compile the indexes.

latexmk may be specified, and if so it will be used for `lwarpmk print` and `lwarpmk html`, but *imakeidx* will actually create the indexes.

For multiple indexes using *xindy* and *imakeidx*, using shell escape:

Options may be given to *imakeidx*'s `\makeindex` command. The style file `lwarp.xdy` is automatically used for HTML output, and is not necessary for print output since the output will be similar. If language or codepage must be set, they should be specified as options for `\makeindex`, since *imakeidx* will process the indexes.

```
\usepackage[xindy,latexmk] {lwarp}
\usepackage[xindy,splitindex]{imakeidx}
. . .
\makeindex[
  options={ -M lwarp.xdy -L english -c utf8 }
]
\makeindex[
  name=secondname,
  options={ -M lwarp.xdy -L english -c utf8 }
]
```

⚠ enable shell escape

For the first compile, use

Enter ⇒ `pdflatex --shell-escape projectname.tex`

Enter ⇒ `pdflatex --enable-write18 projectname.tex` (MiKTeX)

or similar with *xelatex* or *lualatex*. *lwarp* will remember that shell escape was used.

imakeidx will automatically execute *splitindex* if selected, and will also use *xindy* to compile the indexes.

If selected, *latexmk* will automatically recompile the entire document as necessary.

For indexes using *xindy* and *imakeidx*, without shell escape, but *with latexmk*:

lwarp's options are used, and are passed to *latexmk*.

```

\usepackage[
  xindy,
  xindyLanguage=english,           <optional>
  xindyCodepage=utf8,             <optional>
  latexmk,
]{lwarp}
\usepackage[xindy]{imakeidx}
. . .
\makeindex
\makeindex[name=secondname]

```

latexmk will create the indexes automatically when `lwarpmk print` and `lwarpmk html` are executed.

For indexes using *xindy* and *imakeidx*, without shell escape, and *without latexmk*:

lwarpmk must be told how to create the indexes:

```

\usepackage[
  xindy,
  PrintIndexCmd={
    xindy -M lwarp.xdy -L english -C utf8
    <projectname>.idx ;
    xindy -M lwarp.xdy -L english -C utf8
    secondname.idx
  },
  HTMLIndexCmd={
    xindy -M lwarp.xdy -L english -C utf8
    <projectname>_html.idx ;
    xindy -M lwarp.xdy -L english -C utf8
    secondname_html.idx
  }
]{lwarp}
\usepackage[xindy]{imakeidx}
. . .
\makeindex
\makeindex[name=secondname]

```

⚠ WINDOWS

For Windows, replace the two “;” characters with “&”.

<projectname> is the \jobname: if compiling “name.tex”, use the filenames name.idx and name_html.idx.

Use

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

For multiple indexes using *xindex* and *imakeidx*, using shell escape:

xindex, *makeindex*, *imakeidx*, and *splitindex* can all work together:

```

\usepackage[%
  xindex,
  xindexConfig=-imakeidx,
  latexmk
] {lwarp}
\usepackage[makeindex,splitindex]{imakeidx}
. . .
\makeindex[%
  options={ -s lwarp.ist} }
]
\makeindex[
  name=secondname,
  options={ -s lwarp.ist} }
]

```

⚠ enable shell escape

For the first compile, use:

```
Enter ⇒ pdflatex --shell-escape projectname.tex
```

```
Enter ⇒ pdflatex --enable-write18 projectname.tex (MiKTeX)
```

or similar with *xelatex* or *lualatex*. *lwarp* will remember if shell escape was used.

xindex will use *imakeidx*, and *imakeidx* will automatically execute *splitindex* if selected.

If selected, *latexmk* will automatically recompile the entire document as necessary.

8.6.20 Indexes with memoir

For a single index with memoir and *makeindex*:

```

\documentclass{memoir}
\usepackage[makeindex,latexmk]{lwarp}
. . .
\makeindex

```

The usual *.idx* and *.ind* files will be used, along with the *lwarp.ist* style file.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

For multiple indexes with memoir and *makeindex*, using *latexmk*:

lwarp's options are used, and are passed to *latexmk*.

```

\documentclass{memoir}
\usepackage[makeindex,latexmk]{lwarp}
. . .
\makeindex
\makeindex[secondname]

```

lwarpmk will use *latexmk* to create the indexes automatically when the user executes *lwarpmk print* and *lwarpmk html*.

For multiple indexes with memoir and *makeindex*, without latexmk:

lwarpmk must be told how to create the indexes:

```
\documentclass{memoir}
\usepackage[
  makeindex,
  PrintIndexCmd={
    makeindex -s lwarp.ist <projectname>.idx ;
    makeindex -s lwarp.ist secondname.idx
  },
  HTMLIndexCmd={
    makeindex -s lwarp.ist <projectname>_html.idx ;
    makeindex -s lwarp.ist secondname_html.idx
  }
]{lwarp}
...
\makeindex
\makeindex[secondname]
```

⚠ WINDOWS

For Windows, replace the two “;” characters with “&”.

<projectname> is the \jobname: if compiling “name.tex”, use the filenames name.idx and name_html.idx.

Use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

For a single index with memoir and *xindy*:

```
\documentclass{memoir}
\usepackage[
  xindy,
  xindyLanguage=english,           <optional>
  xindyCodepage=utf8,             <optional>
  latexmk                           <optional>
]{lwarp}
...
\xindyindex
\makeindex
```

The usual .idx and .ind files will be used, along with the lwarp.xdy style file.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

For multiple indexes with memoir and *xindy*, using latexmk:

lwarp's options are used, and are passed to *latexmk*.

```

\documentclass{memoir}
\usepackage[
  xindy,
  xindyLanguage=english,           <optional>
  xindyCodepage=utf8,             <optional>
  latexmk
]{lwarp}
...
\xindyindex
\makeindex
\makeindex[secondname]

```

lwarpmk will use *latexmk* to create the indexes automatically.

For multiple indexes with memoir and *xindy*, without latexmk:

lwarpmk must be told how to create the indexes:

```

\documentclass{memoir}
\usepackage[
  xindy,
  PrintIndexCmd={
    xindy -M lwarp.xdy -L english -C utf8
    <projectname>.idx ;
    xindy -M lwarp.xdy -L english -C utf8
    secondname.idx
  },
  HTMLIndexCmd={
    xindy -M lwarp.xdy -L english -C utf8
    <projectname>_html.idx ;
    xindy -M lwarp.xdy -L english -C utf8
    secondname_html.idx
  }
]{lwarp}
...
\xindyindex
\makeindex
\makeindex[secondname]

```

⚠ WINDOWS

For Windows, replace the four “;” characters with “&”.

<projectname> is the \jobname: if compiling “name.tex”, use the filenames name.idx and name_html.idx.

Use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

8.6.21 Using a custom *makeindex* style file

`makeindex` (*Prog*) When using *makeindex*, *lwarpmk* uses the file `lwarp.ist` to process the index. This file is over-written by *lwarp* whenever a print version of the document is processed.

`lwarp.ist` (*file*)

To use a custom *makeindex* style file:

1. Copy `lwarp.ist` to a new filename such as `projectname.ist`
2. Make changes to `projectname.ist`. Keep the lines which refer to `\hyperindexref`. These lines creates the hyperlinks for the HTML index. During print output `\hyperindexref` becomes a null function.

3. If changing

```
delim_n -and- delim_r
```

in `projectname.ist`, then in the document preamble redefine

```
\IndexPageSeparator -and- \IndexRangeSeparator
```

to match.

`makeindexStyle (Opt)`

4. In the document source use the `makeindexStyle` option for `lwarp`:

```
\usepackage[
... other options ...
makeindex,
makeindexStyle=projectname.ist,
]{lwarp}
```

Likewise, refer to the custom style file if using `\PrintIndexCmd`, `\HTMLIndexCmd`, or `\LatexmkIndexCmd`.

5. Recompile the print version, which causes `lwarp` to rewrite the `lwarpmk.conf` configuration file. This tells `lwarpmk` to use the custom `projectname.ist` file instead of `lwarp.ist`.

8.6.22 Using a custom *xindy* style file

`xindy (Prog)` When using *xindy*, `lwarpmk` uses the file `lwarp.xdy` to process the index. This file is over-written by `lwarp` whenever a print version of the document is processed.

`lwarp.xdy (file)`

To use a custom *xindy* style file:

1. Copy `lwarp.xdy` to a new filename such as `projectname.xdy`
2. Make changes to `projectname.xdy`.

Keep the lines which refer to `\hyperindexref`:

```
(define-attributes (("hyperindexref"))
(markup-locref :open "\hyperindexref{" :close "}")
...
(markup-locref :open "\textit{\hyperindexref{" :close "}}" :attr "textit")
```

These lines create the hyperlinks for the HTML index. During print output `\hyperindexref` becomes a null function.

To create custom styles, refer to the lines for `\textbf` and `\textit`.

3. If changing any of

```
markup-locref-list :sep
markup-locclass-list :open
markup-locclass-list :sep
markup-crossref-layer-list :sep
markup-range :sep
```

in `projectname.xdy`, then in the document preamble redefine

```
\IndexPageSeparator -and- \IndexRangeSeparator
```

to match.

`xindyStyle` (*Opt*)

4. In the document source use the `xindyStyle` option for `lwarp`:

```
\usepackage[
... other options ...
xindy,
xindyStyle=projectname.xdy,
]{lwarp}
```

Likewise, refer to the custom style file if using `\PrintIndexCmd`, `\HTMLIndexCmd`, or `\LatexmkIndexCmd`.

5. Recompile the print version, which causes `lwarp` to rewrite the `lwarpmk.conf` configuration file. This tells `lwarpmk` to use the custom `projectname.xdy` file instead of `lwarp.xdy`.

8.6.23 Using a custom *xindex* style file

`xindex` (*Prog*) To use a custom *xindex* style file:

 **filename**

1. Copy `xindex-cfg.lua` to a new filename such as `xindex-projectname.lua`. The filename must start with `xindex-` and end with `.lua`.
2. Make changes to `xindex-projectname.lua`.
3. If changing

```
itemPageDelimiter -and- rangeSymbol
```

in `xindex-projectname.lua`, then in the document preamble redefine

```
\IndexPageSeparator -and- \IndexRangeSeparator
```

to match.

`xindexConfig` (*Opt*)

4. In the document source use the `xindexConfig` option for `lwarp`:

```
\usepackage[
... other options ...
xindex,
xindexConfig=projectname, % (without xindex- or .lua)
]{lwarp}
```

Likewise, refer to the custom style file if using `\PrintIndexCmd`, `\HTMLIndexCmd`, or `\LatexmkIndexCmd`.

5. Recompile the print version, which causes `lwarp` to rewrite the `lwarpmk.conf` configuration file. This tells `lwarpmk` to use the custom `xindex-projectname.lua` file instead of the default `xindex-cfg.lua`.

8.6.24 Additional indexing limitations

- ⚠ *xindy* with *hyperref* *xindy* and *hyperref* may not work well together for print output with “see”, “see also”, reference ranges, or stylized index references. It may be necessary to turn off hyper-referencing for indexes:

```
\usepackage[hyperindex=false]{hyperref}
```

- ⚠ *empty index* If an HTML index is empty, it may be necessary to add the following before *lwarp* is loaded:

```
\usepackage{morewrites}
\morewritessetup{allocate=10}
. . .
\usepackage{lwarp}
```

- makeindex* custom display styles When using *makeindex*, custom display styles are possible:

```
\begin{warpprint}
\newcommand{\notesstyle}[1]{#1nn}
\end{warpprint}

\begin{warpHTML}
\makeatletter
\newcommand{\notesstyle}[1]{\LWR@doindexentry{#1} notes }
\makeatother
\end{warpHTML}
. . .
A sentence.\index{key|notesstyle}
```

- xindy* custom display styles For custom styles with *xindy*, see *lwarp.xdy* for `\textbf` and `\textit` as examples.

8.6.25 Index positions, toc, tocbibind

- placement and toc options An index may be placed inline with other HTML text, or on its own HTML page:

- makeidx* (*Pkg*) **Inline, with a manual toc entry:**

A commonly-used method to introduce an index in a L^AT_EX document:

```
\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname}% or chapter
\printindex
```

- makeidx* (*Pkg*) **On its own HTML page, with a manual toc entry:**

```
\begin{warpprint}
\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname}% or chapter
\end{warpprint}
\ForceHTMLPage
\ForceHTMLTOC
\printindex
```

- tocbibind* (*Pkg*) **Inline, with an automatic toc entry:**

The *tocbibind* package may be used to automatically place an entry in the TOC.


```

\usepackage[nottoc]{tocbibind}
...
\cleardoublepage
\phantomsection % to fix print-version index link
\printindex

```

tocbibind (*Pkg*) **On its own HTML page, with an automatic TOC entry:**

```

\usepackage[nottoc]{tocbibind}
...
\cleardoublepage
\phantomsection % to fix print-version index link
\ForceHTMLPage
\printindex

```

numindex (*Opt*) [tocbibind] Use the tocbibind numindex option to generate a numbered index. Without this option, the index heading has no number.

[numbered index section](#)


Other packages, such as imakeidx, may also have options for including the index in the Table of Contents.

tocloft (*Pkg*) If using tocloft with tocbibind, anonchap, fncychap, or other packages which change chapter title formatting, load tocloft with its titles option, which tells tocloft to use standard L^AT_EX commands to create the titles, allowing other packages to work with it.

 [tocloft & other packages](#)

8.7 Math

8.7.1 Math in section names

 [math in section names](#) If using named HTML files, in section names use parentheses math $\(x+y\)$ instead of dollar math $\$x+y\$$. Parentheses math is removed from the file name. (Dollar math works, but it generates complicated filenames.) Or, use a short name for the TOC entry without the math, or use `\texorpdfstring` from the `hyperref` package:

```

\section[Simplified name]{Name with  $\(1+2=3\)$  math}
\section{Some math  $\texorpdfstring{\$1+2=3\$}{three}}$ 

```

8.7.2 Math in custom environments

To create an environment which places its contents inside math, instead of:

```

\newenvironment{mymathenv}{ \langle starting math }{ending math \rangle }

```

use:

```

\NewDocumentEnvironment{mymathenv}{b}
{
  \inlinemathother
  \langle starting math #1 ending math \rangle
  \inlinemathnormal
}
{}

```

or:

 [math in environments](#)

```

\usepackage{environ}
\NewEnviron{mymathenv}{
  \inlinemathother
  \(\ starting math \BODY ending math \)
  \inlinemathnormal
}

```

For display math, use `\[`, `\]`, `\displaymathother`, and `\displaymathnormal`.

8.7.3 Rendering tradeoffs

Math rendering Math may be rendered as SVG graphics or using the MATHJAX JavaScript display engine.

SVG files Rendering math as images creates a new SVG file for each expression, except that an MD5 hash is used to combine identical duplicates of the same inline math expression into a single file, which must be converted to SVG only once. Display math is still handled as individual files, since it may contain labels or references which are likely to change.

SVG inline The SVG images are currently stored separately, but they could be encoded inline directly into the HTML document. This may reduce the number of files and potentially speed loading the images, but slows the display of the rest of the document before the images are loaded.

PNG files Others L^AT_EX-to-HTML converters have used PNG files, sometimes pre-scaled for print resolution but displayed on-screen at a scaled down size. This allows high-quality print output at the expense of larger files, but SVG files are the preferred approach for scalable graphics.

MathML Conversion to MathML might be a better approach, among other things allowing a more compact representation of math than SVG drawings. Problems with MathML include limited browser support and some issues with the fine control of the appearance of the result. Also see section 10 regarding EPUB output with MATHJAX.

8.7.4 SVG option

SVG math option For SVG math, math is rendered as usual by L^AT_EX into the initial PDF file using the current font¹⁴, then is captured from the PDF and converted to SVG graphics via a number of utility programs. The SVG format is a scalable-vector web format, so math may be typeset by L^AT_EX with its fine control and precision, then displayed or printed at any size, depending on (sometimes broken) browser support. An HTML `alt` attribute carries the L^AT_EX code which generated the math, allowing copy/paste of the L^AT_EX math expression into other documents.

SVG image font size For SVG display math and the `lateximage` environment, the size of the math and text used in the SVG image may be adjusted by setting `\LateximageFontSizeName` to a font size name — *without the backslash*, which defaults to:

```
\renewcommand{\LateximageFontSizeName}{normalsize}
```

For inline SVG math, font size is instead controlled by `\LateximageFontScale`, which defaults to:

¹⁴See section 687 regarding fonts and fractions.

```
\newcommand*{\LateximageFontScale}{.75}
```

svg math copy/paste For SVG math, text copy/paste from the HTML `<alt>` tags lists the equation number or tag for single equations, along with the L^AT_EX code for the math expression. For $\mathcal{A}\mathcal{M}\mathcal{S}$ environments with multiple numbers in the same environment, only the first and last is copy/pasted, as a range. No tags are listed inside a starred $\mathcal{A}\mathcal{M}\mathcal{S}$ environment, although the `\tag` macro will still appear inside the L^AT_EX math expression.

⚠ **svg math size, baseline** SVG math sizing and baselines are improved if the `graphics` or `graphicx` package is loaded. An almost-invisible marker is placed at either end of the image to assist in cropping and computing the baseline. A warning is issued at the end of the compile if `graphics` or `graphicx` are not used.

⚠ **svg math in T_EX boxes** SVG math does not work inside T_EX boxes, since a `\newpage` is required before and after each image.

8.7.5 MATHJAX option

MATHJAX math option The MATHJAX (mathjax.org) L^AT_EX-math to HTML converter may be used to display math.
MathJax (*Prog*)

When MATHJAX is enabled, math is rendered twice:

1. As regular L^AT_EX PDF output placed inside an HTML comment, allowing equation numbering and cross referencing to be almost entirely under the control of L^AT_EX, and
2. As detokenized printed L^AT_EX commands placed directly into the HTML output for interpretation by the MATHJAX display scripts. An additional script is used to pre-set the equation number format and value according to the current L^AT_EX values, and the MATHJAX equation numbering system is ignored in favor of the L^AT_EX internal system, seamlessly integrating with the rest of the HTML output, including any math appearing in non-MATHJAX SVG output.

⚠ fonts 8.7.6 MATHJAX rendering options

MATHJAX v3 may render using CHTML or SVG. SVG display renders italic characters correctly. To select SVG rendering, right-click on some math, and select

Math Settings → **Math Renderer** → **SVG**

Wait a moment for the math to rerender.

8.7.7 Customizing MATHJAX

equation numbering lwarp detects and adjusts MATHJAX equation numbering format for article and book style equations as well as `amsmath \numberwithin` for chapters, sections, and subsections. Custom equation number formats may be set as follows, for example:

```

\renewcommand*\theequation{\Alph{section}.\arabic{equation}}
\AtBeginDocument{
  \renewcommand*\theMathJaxsection{\Alph{section}.}
}

```

⚠ **subequation** The `amsmath` subequations environment is supported, but only with `\alpha` subequation numbering.

global customizations MATHJAX does not have preexisting support every possible math function. Additional MATHJAX function definitions may be defined in the preamble. These will be declared at the start of each HTML page, and thus will have a global effect across all HTML pages.

Examples:

```

\begin{warpMathJax}
\CustomizeMathJax{
  \newcommand{\expval}[1]{\langle#1\rangle}
  \newcommand{\abs}[1]{\lvert#1\rvert}
}
\CustomizeMathJax{\newcommand{\arcsinh}{\text{arcsinh}}}
\CustomizeMathJax{\newcommand{\arccosh}{\text{arccosh}}}
\CustomizeMathJax{\newcommand{\NN}{\mathbb{N}}}
\end{warpMathJax}

```

⚠ **slow compilation** To avoid a slowdown in compile speed, use the `warpMathJax` environment to prevent its contents from being processed in print or SVG math output. Also, place each new definition inside its own `\CustomizeMathJax`. A warning to this effect is issued if an overly-long definition is attempted.

`lwarp` already provides MATHJAX customizations for some packages.

siunitx When using `siunitx`, a similar process may be used to add custom units:

```

\begin{warpMathJax}
\CustomizeMathJax{\newcommand{\myunit}{\mathrm{WXYZ}}}
\CustomizeMathJax{\newcommand{\umyunit}{\mathrm{\micro\myunit}}}
\end{warpMathJax}

```

advanced control For more advanced control over dynamically creating custom definitions, see as an example the `lwarp` definition for `\DeclarePairedDelimiterX`, in section 406, [mathtools](#).

local customizations For customizations local to the current HTML page only, macros may be defined as follows:

```

\begin{warpMathJax}
\(\newcommand{\macroname}{. . .} \)
\(\newcommand{\anothername}{. . .} \)
\end{warpMathJax}

```

To maintain compile speed, use the `warpMathJax` environment, and use a separate math environment for each definition.

`\ifstar` For MATHJAX, use `\ifstar` instead of `\@ifstar`:

```

\CustomizeMathJax{
  \def\myname{
    \ifstar\starredaction\unstarredaction
    % (Do not place anything after!)
  } }

```

`\ifnextchar` For MATHJAX, use `\ifnextchar` instead of `\@ifnextchar`:

```
\CustomizeMathJax{\def\myname{\ifnextchar X \found\notfound}}
```

“X” may be a single ASCII character, or a hex number inside braces, ex:

```
\CustomizeMathJax{\def\myname{\ifnextchar{0x7B}\found\notfound}}
```

Use “(” or “{0x28}” for a left parenthesis, “{0x7B}” for a left brace, “{0x7D}” for a right brace, or “{0x5C}” for a backslash.

8.7.8 MATHJAX limitations

MATHJAX limitations Limitations when using MATHJAX include:

MathJax (*Prog*)



`\multicolumn`, `\multirow`

- MATHJAX does not support `\multicolumn` or `\multirow`. These may be used in text tabulars or SVG math, but in MATHJAX math arrays they are emulated. `\multicolumn` only fills a single cell, resulting in a short row. `\multirow` simply prints its text on the first line.



footnotes

- Footnotes are emulated when used inside a MATHJAX expression. For an equation with a single footnote, the correct footnote number is used. For non-equations, `\footnotename` is used instead, since the actual number cannot be tracked. See section 8.5.4 regarding the use of footnotes with MATHJAX.



references

- Inside a MATHJAX expression, references to equations work within the same HTML web page, but do not work when referring to an equation in a different HTML web page. Outside of a MATHJAX expression, in the text body, references work as expected.

lateximage

- Math appearing inside a `lateximage`, and therefore also inside a `TikZ` or `picture` environment, is rendered as SVG math even if MATHJAX is used in the rest of the document.

siunitx

- For `siunitx`, see [siunitx package](#), section 8.7.15.

physics

- For `physics`, see [physics package](#), section 8.7.17.

tabbing

- A `tabbing` environment is emulated using an HTML `<pre>`. While MATHJAX is enabled inside `tabbing`, the browser may not correctly render the horizontal alignment of the math and text following after on the same line.

`\text`

- MATHJAX includes the `textmacros` extension, which supports various macros which are commonly used inside `\text`, such as `\textbf` and text accents. Lwarp supports this extension.



Unicode

- If using DVI \LaTeX or PDF \LaTeX , unicode input may not appear correctly in MATHJAX. Either use \XeLaTeX or \LuaLaTeX , or replace Unicode special characters such as

```
\text{special character æ}
```

with their special macros, such as

```
\text{special character \ae}
```



other macros and packages

- Many other math-related macros and packages are not directly supported by MATHJAX, including `\ensuremath` and occasionally-used macros such as `\relax`. While using MATHJAX, `lwarp` provides emulation for many of these

macros, as well as for footnotes and emulation for dozens of packages (see table 2). In many cases these emulations simply ignore the package in a source-compatible way. Others produce a result which represents the meaning, even if they don't look exact. Look up each package in this document for a description of the limitations of each.

8.7.9 Catcode changes

preamble macros with math

The math shift character $\$$ is not set for HTML output until after the preamble. Macros defined in the preamble which contain $\$$ must be enclosed between `\StartDefiningMath` and `\StopDefiningMath` to temporarily change to the HTML meaning of $\$$:

```
\StartDefiningMath
\newcommand{. . . }
\StopDefiningMath
```

As an alternative, use `\(` and `\)` instead of $\$$, in which case `\StartDefiningMath` and `\StopDefiningMath` are not necessary.

If a package defines macros using $\$$, it may be necessary to use `\StartDefiningMath` and `\StopDefiningMath` before and after loading the package.

8.7.10 Complicated inline math objects

`\inlinemathnormal`
`\inlinemathother`

changing contents
complicated alt tag

MATHJAX limitations

An inline math expression is usually converted to a reusable hashed SVG math image, or a MATHJAX expression. The hash or expression depends on the contents of the math expression. In most cases this math expression is static, such as $x+1$, so the image can be reused for multiples instances of the same expression. In some cases, the math expression includes a counter or other object which may change between uses. Another problem is complicated contents which do not expand well in an alt tag. Yet another problem is math packages which are only partially emulated in MATHJAX. The macro `\inlinemathother` may be used before a sequence of dynamic or complicated math expressions, and `\inlinemathnormal` after. Doing so tells lwarp to use unhashed SVG math images for those particular expressions, even if MATHJAX is otherwise in use. See section 46.

8.7.11 Complicated display math objects

`\displaymathnormal`

By default, or when selecting `\displaymathnormal`, MATHJAX math display environments print their contents as text into HTML for MATHJAX to interpret, and SVG display math environments render their contents as SVG images and use their contents as the alt tag of HTML output. To do so, the contents are loaded into a macro for reuse. In some cases, such as complicated TikZ pictures, compilation will fail.

`\displaymathother`
MATHJAX unsupported
complicated alt tag

When selecting `\displaymathother`, it is assumed that the contents are more complicated than "pure" math. An example is an elaborate TikZ picture, which will not render in MATHJAX and will not make sense as an HTML alt tag. In this mode, MATHJAX is turned off, math display environments become SVG images, even if MATHJAX is selected, and the HTML alt tags become simple messages. The contents are internally processed as an environment instead of a macro argument, so complicated objects such as TikZ pictures are more likely to compile successfully.

8.7.12 Theorems

- ⚠ **cref reference format undefined** If the print version does not use `cleveref`, place all `\theoremstyle` and `\newtheorem` declarations in the preamble inside `\AtEndPreamble`.¹⁵ For some theorems, it may also be required to add inside `\AtEndPreamble` something such as:

```
\usepackage{etoolbox} % for \ifdef, \AtEndPreamble
\AtEndPreamble{ % if not using cleveref package
  \theoremstyle{definition}
  \newtheorem{dtheorem}{Definition}
  . . .
  \ifdef{\cref}{
    \crefname{Proof}{Proof}{Proofs}
  }{}
}
```

8.7.13 ntheorem package

- `ntheorem` (*Pkg*) This conversion is not total. Font control is via `css`, and the custom \LaTeX font settings are ignored.
- ⚠ **Font control**
- ⚠ **Equation numbering** `ntheorem` has a bug with equation numbering in \mathcal{AMS} environments when the option `thref` is used. `lwarp` does not share this bug, so equations with `\split`, etc, are numbered correctly with `lwarp`'s HTML output, but not with the print output. It is recommended to use `cleveref` instead of `ntheorem`'s `thref` option.

8.7.14 mathtools package

- `mathtools` (*Pkg*) `showonlyrefs` is disabled, as it conflicts with `cleveref`, which is used by `lwarp`. Equation numbers may not match the print version.
- ⚠ **equation numbering**
- ⚠ **italic correction** `mathic` is not emulated for HTML.
- ⚠ **MATHJAX** If using `MATHJAX`:

- Recent changes may not yet be updated in the `MATHJAX` extension, which is used by `lwarp`.
- `mathtools disallowspaces` does not work for `MATHJAX`. Protect brackets which are not optional arguments, such as:


```
\begin{gathered}{}
[p]=1 . . .
\end{gathered}
```
- `showonlyrefs` does not work in `MATHJAX`, and will result in a difference in equation numbering compared to the print version.
- `alignat` in `MATHJAX` requires math mode, but in \LaTeX it doesn't. It may be required to use `warpHTML` and `warpprint` to isolate a version for each mode.
- `\DeclarePairedDelimiter` and related must be in the preamble before `\begin{document}`.

¹⁵`lwarp` uses `cleveref` for the HTML conversion, and loads `cleveref \AtEndPreamble`, just before `\AtBeginDocument`. This is also before the `.aux` file is read.

8.7.15 siunitx package

`siunitx` (*Pkg*) `siunitx` is well supported by `lwarp`.

Limitations Some general limitations:

fractions Due to *pdftotext* limitations, fraction output is replaced by symbol output for `per-mode` and `quotient-mode`.

`\cancel` is not currently supported for `siunitx v3`.

Negative values are not automatically colored.

tabular Tabular `S` and `s` columns are rendered as simple `c` columns, although key settings will be set. If using scientific notation, `table-format`, `table-align-uncertainty`, `drop-exponent`, etc.. use `\tablenum` for each cell. This is especially required for `drop-exponent`, without which the value will be shown incorrectly.

drop-exponent

table-auto-round `table-auto-round` is ignored.

Math rendering Math may be rendered in several ways in the same document:

For math mode with svg display: The original `siunitx` code is used while generating the `svg` image.

For HTML text mode: `lwarp` uses `siunitx` code patched for `HTML`, and simplified units.

For math expressions while using MATHJAX: A limited emulation is used. Most functions work reasonably well, but many options cannot be emulated. The result usually looks fine, and otherwise is enough to get the meaning across.

Custom units `siunitx` allows customized units:

```
\DeclareSIUnit {<name>} {<definition>}
```

`\DeclareSIUnit` declares a version of the unit for the print version. This is also used when the unit is printed in `svg math` or a `lateximage`. It is also used for `HTML` if an `HTML`-specific version is not defined with `\HTMLDeclareSIUnit`.

```
\DeclareSIUnit\myunit{\ensuremath{\text{m}_y}}
```

```
\HTMLDeclareSIUnit {<name>} {<definition>}
```

v3 only! Use this after the print unit has been defined. For `siunitx v3`, `\HTMLDeclareSIUnit` declares a simplified version of the unit for `HTML`, for example if the print-mode unit uses `TeX` boxes or `\ensuremath`:

```
\HTMLDeclareSIUnit\myunit{\text{m}\textsubscript{\textit{y}}}
```

It is also possible to provide a custom unit for `MATHJAX`:

```
\CustomizeMathJax{\newcommand{\myunit}{\text{m}_y}}
```


Predefined units Most units work as-is with HTML. For the following units, `lwarp` has already set `\HTMLDeclareSIUnit`: `\celsius`, `\arcminute`, `\arcsecond`, `\elementarycharge`, `\clight`, `\bohr`, `\electronmass`, `\hartree`, `\planckbar`.

⚠ MathJax

Document modifications required for MATHJAX

⚠ `\sisetup`

- Place `\sisetup` in the preamble before `\begin{document}`. Changes made later may be ignored, especially with MATHJAX. The MATHJAX emulation also ignores most macro options.

⚠ complex numbers

- Complex numbers are displayed as entered, ignoring `output-complex-root`.

custom units

- Custom units may be added with `\CustomizeMathJax`. For example, from `lwarp-common-mathjax-siunitx`:

```
\CustomizeMathJax{\newcommand{\hartree}{\mathit{E}_{\mathrm{h}}}}
\CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\unicode{x212B}}}}
```

⚠ unit spacing

- Units work better using `~` between units instead of using periods.

⚠ `\square`, `\cubic`

- To square or cube compound units, enclose the following compound units in braces:

```
\cubic{\centi\meter}
```

Single units do not require braces.

- For `\numlist`, the argument is printed as text as-is, so use space between semicolons for improved readability.

⚠ Missing \$ inserted

- If using `parse-numbers = false`, also use `\num` or `\qty`. `siunitx=siunitx>Missing $ inserted`.

Also see [MATHJAX option](#), section 8.7.5.

8.7.16 units and nicefrac packages

`units (Pkg)` `units` and `nicefrac` work with `lwarp`, but MATHJAX does not have an extension for `units` or `nicefrac`. These packages do work with `lwarp`'s option `svgmath`.

8.7.17 physics package

`physics (Pkg)` `physics` works as-is for HTML with SVG math.

For MATHJAX, the MATHJAX v3 `physics` extension is used.

8.8 Graphics

`graphics (Pkg)` `graphicx (Pkg)` [file extensions](#) Per table 9, image filenames may be specified either with or without an extension. If an extension is given it will be used as-is, for either print or HTML output. If no extension is given, a list of possible extensions is tried, which depends on whether print or HTML is being generated. This allows a PDF file for print and a SVG file for HTML, for example. If no extension is given, the automatic search will only return lowercase extensions, even if the filename actually has an uppercase

⚠ case sensitive

Table 9: \includegraphics and file names

Print image file	HTML image file	Command to use
image.pdf ^a	image.svg ^a	\includegraphics{image}
image.eps ^a	image.svg ^a	\includegraphics{image}
image.jpg	— ^b	\includegraphics{image}
image.png	— ^b	\includegraphics{image}
image.JPG	— ^b	\includegraphics{image.JPG} ^c
image.PNG	— ^b	\includegraphics{image.PNG} ^c
image.jpg	image.gif	\includegraphics{image}

^a: Must be a lowercase file extension.

^b: The same file is used for print and HTML.

^c: The uppercase extension must be specified.

extension, and `lwarp` cannot get around this problem, so image file extensions must be lowercase to be seen by the HTML browser with `lwarp`. For example, name the image file `image.pdf` instead of `image.PDF`, but refer to it in the source as `image`, without an extension. For images which may be used as-is with either print or HTML, such as `JPG` or `PNG`, you may use a capitalized extension if it is specified in the source, such as `image.JPG`.

\includegraphics file formats

For `\includegraphics` with `.pdf` or `.eps` files, the user must provide a `.pdf` or `.eps` image file for use in print mode, and also a `.svg`, `.png`, or `.jpg` version of the same image for use in HTML.

```
\includegraphics{filename} % print:.pdf/.eps HTML:.svg, etc.
```

For print output, `lwarp` will automatically choose the `.pdf` or `.eps` format if available, or some other format otherwise. For HTML, one of the other formats is used instead.

If a `.pdf` or `.eps` image is referred to with its file extension, the extension will be changed to `.svg` for HTML:

```
\includegraphics{filename.pdf} % uses .svg in html
\includegraphics{filename.eps} % uses .svg in html
```

`pdftocairo` (*Prog*) To convert a PDF image to SVG, use the utility `pdftocairo`:
PDF to SVG

```
Enter ⇒ pdftocairo -svg filename.pdf
```

`lwarpmk pdftosvg` (*Prog*) For a large number of images, use `lwarpmk`:

```
Enter ⇒ lwarpmk pdftosvg *.pdf (or a list of filenames)
```

`lwarpmk epstopdf` (*Prog*) For EPS images converted to PDF using the package `epstopdf`, use
`epstopdf` (*Prog*)
`epstopdf` package

```
Enter ⇒ lwarpmk pdftosvg *.PDF
```

to convert to SVG images.

DVI L^AT_EX When using DVI *latex*, it is necessary to convert EPS to PDF and then to SVG:

Enter ⇒ `lwarpmk epstopdf *.eps` (or a list of filenames)

Enter ⇒ `lwarpmk pdftosvg *.pdf` (or a list of filenames)

PNG and JPG For PNG or JPG while using *pdf_latex*, *lualatex*, or *xelatex*, the same file may be used in both print or HTML versions, and may be used with a file extension, but will also be used without the file extension if it is the only file of its base name.

GIF GIF files may be used for HTML, but another format must also be provided for print output.

file extension priorities If a file extension is not used, for HTML the file extension priorities are: SVG, GIF, PNG, then JPG.

duplicate files A complication occurs if a file of the same name exists elsewhere in the T_EX tree, such as a test image from some L^AT_EX package. T_EX looks in the local document directory before considering the directories specified by `\graphicspath`, but the T_EX tree is found as “local”, so any file in the tree is found before the directories in `\graphicspath`. To use such an image, it must be copied to the document’s directory to be used for HTML, and furthermore must be in the document’s base directory instead of an images subdirectory.

⚠ **image not displayed**

⚠ **graphics vs. graphicx** If using the older `graphics` syntax, use both optional arguments for `\includegraphics`. A single optional parameter is interpreted as the newer `graphicx` syntax. Note that

⚠ **viewport** viewports are not supported by `lwarp`—the entire image will be shown.

units For `\includegraphics`, avoid `px` and `%` units for width and height, or enclose them inside `warpHTML` environments. For font-proportional image sizes, use `ex` or `em`. For fixed-sized images, use `cm`, `mm`, `in`, `pt`, or `pc`. Use the keys `width=.5\linewidth`, or similar for `\textwidth` or `\textheight` to give fixed-sized images proportional to a 6 by 9 inch text area. Do not use the `scale` option, since it is not well supported by HTML browsers.

options `\includegraphics` accepts `width` and `height`, `origin`, `rotate` and `scale`, plus new `class` and `alt` keys. (`alt` has recently been incorporated into `graphicx` itself.)

HTML class With HTML output, `\includegraphics` accepts an optional `class=xyz` keyval combination, and if this is given then the HTML output will include that class for the image. The class is ignored for print output.

HTML alt tags Likewise, the `\includegraphics alt` key adds an HTML `alt` tag to an image, and is ignored for print output. If not assigned, each image is given an `alt` tag according to `\ImageAltText`.

⚠ **scale** Avoid using the `\includegraphics scale` option. Change:

```
\includegraphics[scale=<xx>]{...}
```

to:


```
\includegraphics[width=<yy>\linewidth]{...}
```

\rotatebox `\rotatebox` accepts the optional `origin` key.

⚠ **browser support** `\rotatebox`, `\scalebox`, and `\reflectbox` depend on modern browser support. The CSS3 standard declares that when an object is transformed the whitespace

which they occupied is preserved, unlike L^AT_EX, so expect some ugly results for scaling and rotating.


8.8.1 tikz package

 **displaymath and matrices** `tikz` (*Pkg*) If using display math with `tikzpicture` or `\tikz`, along with matrices with the `&` character, the document must be modified as follows:

```
\usepackage{tikz}
\tikzset{every picture/.style={ampersand replacement=\&}}
```

and each instance of `&` in the `tikz` expression must be replaced with `\&`.

8.8.2 grffile package

 **matching PDF and SVG** `grffile` (*Pkg*) `grffile` is supported as-is. File types known to the browser are displayed, and unknown file types are given a link. Each PDF image for print mode should be accompanied by an SVG, PNG, or JPG version for HTML.

8.8.3 color package

`color` (*Pkg*) `color` is superceded by `xcolor`, and `lwarp` requires several of the features of `xcolor`. When `color` is requested, `xcolor` is loaded as well.

8.8.4 xcolor package

`xcolor` (*Pkg*) `\colorboxBlock` and `\fcolorboxBlock` are provided for increased HTML compatibility, and they are identical to `\colorbox` and `\fcolorbox` in print mode. In HTML mode they place their contents into a `<div>` instead of a ``. These `<div>`s are set to display: `inline-block` so adjacent `\colorboxBlock`s appear side-by-side in HTML, although text is placed before or after each.

Print-mode definitions for `\colorboxBlock` and `\fcolorboxBlock` are created by `lwarp`'s core if `xcolor` is loaded.


background: none `\fcolorbox` and `\fcolorboxBlock` allow a background color of `none`, in which case only the frame is drawn, which can be useful for HTML.

color support Color definitions, models, and mixing are fully supported without any changes required.

colored text and boxes `\textcolor`, `\colorbox`, and `\fcolorbox` are supported.

\color and \pagecolor `\color` and `\pagecolor` are ignored. Use CSS or `\textcolor` where possible.

8.8.5 epstopdf package

 **convert to .svg** `epstopdf` (*Pkg*) Images with an `.eps` extension will be converted to `.pdf`. The HTML output uses the `.svg` version, so use

Enter ⇒ **lwarpmk pdftosvg <listofPDFfiles>**

to generate .svg versions.

8.8.6 pstricks package

pstricks (*Pkg*) All pstricks content should be contained inside a pspicture environment.

⚠ use pspicture

8.8.7 pdftricks package

pdftricks (*Pkg*) The pdftricks image files <jobname>-fig*.pdf must be converted to .svg, or else a missing file error will occur. The image files must also be converted again whenever they change. To convert the images:

⚠ convert image files

Enter ⇒ **lwarpmk pdftosvg <jobname>-fig*.pdf**

8.8.8 psfrag package

psfrag (*Pkg*) The psfrags environment is modified to use lateximage to encapsulate the image. Always use a psfrags environment to contain any local \psfrag macros and the associated \includegraphics or \epsfig calls. Outside of a psfrags environment, psfrags adjustments will not be seen by lwarp.

⚠ use psfrags

⚠ Tip: Use a mono-spaced font for the tags in the EPS file.

8.8.9 pstool package

pstool (*Pkg*) \graphicspath is ignored, and the file directory must be stated.

⚠ path and filename The filename must not have a file extension.

Use

Enter ⇒ **lwarpmk html**

followed by

Enter ⇒ **lwarpmk limages**

.

8.8.10 asymptote package

asymptote (*Pkg*) To compile:


```
pdflatex project.tex
asy project-*.asy
pdflatex project.tex

lwarpmk print
asy project-*.asy
lwarpmk print1
lwarpmk print1

lwarpmk html
asy project_html-*.asy
lwarpmk html1
lwarpmk html1
lwarpmk limages
```

8.8.11 overpic package

overpic (*Pkg*) The macros `\overpicfontsize` and `\overpicfontskip` are used during HTML generation. These are sent to `\fontsize` to adjust the font size for scaling differences between the print and HTML versions of the document. Renew these macros before using the `overpic` and `Overpic` environments.

 **scaling**

8.8.12 Multimedia packages

multimedia (*Pkg*) The packages `multimedia`, `movie15`, and `media9` are supported.

movie15 (*Pkg*) HTML5 `<audio>` and `<video>` objects are created for `.mp3` and `.mp4` files.

media9 (*Pkg*)

HTML5 `<embed>` objects are created for `http` and `ftp` links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For `media9`, a multimedia object is inserted for each `addressource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each HTML multimedia object includes the poster text, except for `<embed>` objects. For `movie15`, the `text` option is supported to specify the poster text.

The `width`, `height`, and `totalheight` options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

`media9 \addmediapath` is supported. It is assumed that the same path structure will exist for the HTML document.

HTML5 media controls are always specified for each `<audio>` and `<video>` object.

`media9` slideshows are not supported.


`\hyperlinkmovie`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a YOUTUBE™ video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

8.9 Tabbing

The tabbing environment works, except that SVG math and `lateximages` do not yet work inside the environment.

 **math in tabbing** If math is used inside tabbing, place tabbing inside a `lateximage` environment, which will render the entire environment as a single SVG image.

8.10 Tabular

8.10.1 tabular environment

Tabular mostly works as expected, but pay special attention to the following, especially if working with environments, macros inside tabulars, `multirows`, `siunitx S` columns, or the packages `multirow`, `longtable`, `supertabular`, or `xtab`.

Defining macros and environments:

- When defining environments or macros which include `tabular` and instances of the `&` character, it may be necessary to make `&` active before the environment or macro is defined, then restore `&` to its default catcode after, using the following commands. These are ignored in print mode.


```
\StartDefiningTabulars
```

```
<define macros or environments using tabular and & here>
```


```
\StopDefiningTabulars
```

This includes before and after defining any macro which used `\ttabbox` from `floatrow`.

- When creating a new environment which contains a `tabular` environment, `lwarp`'s emulation of the `tabular` does not automatically resume when the containing environment ends, resulting in corrupted HTML rows. To fix this, use `\ResumeTabular` as follows. This is ignored in print mode.

 **Misplaced alignment tab character &**

 **floatrow**

 **tabular inside another environment**

```

\StartDefiningTabulars % (& is used in a
definition)
\newenvironment{outerenvironment}
{
  \tabular{cc}
  left & right \\
}
{
  \TabularMacro\ResumeTabular
  left & right \\
  \endtabular
}
\StopDefiningTabulars

```

For developers:

- To automate the use of `\StartDefiningTabulars` and `\EndDefiningTabulars`, these macros may be embedded inside an `HTML` environment definition to automatically change the catcode of `&` before absorbing the arguments. Another environment may be embedded as well.

```

% Does the work after the catcode has been changed:
\newcommand*{\LWR@HTML@subsomename}[2]{%
  . . .
  \otherenvironmentname [<args>] {<args>} % for
example
}
% Change catcode before absorbing arguments:
\newcommand*{\LWR@HTML@somename{%
  \StartDefiningTabulars
  \LWR@HTML@subsomename
}
% Change catcode again at the end:
\newcommand*{\LWR@HTML@endsomename}{%
  . . .
  \endotherenvironmentname % for example
  \StopDefiningTabulars
}
% Combine with the existing print definition:
\LWR@formattedenv{somename}

```

Cell contents:

⚠ macro in a table

- Using a custom macro inside a tabular data cell may result in an extra `HTML` data cell tag, corrupting the `HTML` table. To avoid this, use `\TabularMacro` just before the macro. This is ignored in print mode.

```
\TabularMacro\somemacro & more row contents \\
```

Column specifiers:

⚠ math

- Due to the way math is gathered for processing, column specifiers such as `>{ c }` do not work with `lwarp`. Instead, each cell must specify math mode individually.

@ and !

- Only one each of `@` and `!` is used at each column, and they are used in that order.

\multirow

- In `\multirow` cells, the print version may have extra instances of `<`, `>`, `@`, and `!` cells on the second and later rows in the `\multirow` which do not appear in the `HTML` version.

⚠ \newcolumntype

- If `\newcolumntype` does not work for `HTML`, add a simplified column type using `\HTMLnewcolumntype`.

font and alignment

- **lwarp** detects each of the following, and sets HTML CSS appropriately:
 - >{\centering\arraybackslash}
 - >{\raggedright\arraybackslash}
 - >{\raggedleft\arraybackslash}
 - >{\itshape}
 - >{\bfseries}
 - >{\bfseries\itshape}
 These may be used with `\newcolumntype`, such as:


```
\newcolumntype{P}[1]{>{\centering\arraybackslash}p{#1}}
```

Rules:

vertical rules

- Doubled `\hlines`, `\midrules`, and vertical rules are supported.
- Vertical rules next to either side of an `@` or `!` column are displayed on both sides of the column.

width and trim

- Width options are honored. Trim options are converted to rounded top corners. Trim corners are not rounded with `@` or `!` columns, and full-width rules ignore trim. When given an optional width, each cell is styled to create the custom border. Without an optional width, the entire row is given a class to assign the standard border.

combined rules

- If you wish to use `\cmidrule` followed by `\bottomrule`, it may be necessary to use:


```
\cmidrule{2-3} \[-2ex]
\bottomrule
```

 The optional `-2ex` is ignored in HTML, but improves the visual formatting in the print output.

⚠ `\warpprintonly`⚠ Misplaced `\noalign`

- For `\toprule` and `\bottomrule`, when combined with a `warpprint` or `warppHTML` environment, if a “Misplaced `\noalign`” error occurs, change


```
This & That \endhead
```

 to


```
\warpprintonly{This & That \endhead}
```

 and likewise with the other `\end` headings. Keep the `\endfirsthead` row unchanged, as it is still relevant to HTML output.

Other:

longtable headings

- `tabularx` ignores the width, but `X` columns do produce paragraph columns or multicolumns.
- For `longtable`, place headings and footings which do not apply to HTML inside `\warpprintonly{}`.

⚠ `S` columns

- For `S` columns (from the `siunitx` package), while producing print output, anything non-numeric must be placed inside `{}` braces, including commands such as `\multirow`. While producing HTML output, though, anything placed inside braces is not seen by **lwarp**'s tabular handling algorithm. To resolve this problem, make a copy of the row, with one version for print output, containing the extra braces, and another version for HTML output, without the extra braces, such as:

```
\warpprintonly{1 & 2 & {\multirow{2}{2cm}{Text}} & 3 \\}
\warppHTMLonly{1 & 2 & \multirow{2}{2cm}{Text} & 3 \\}
```

⚠ `tabular` inside a ``

- In \LaTeX , a `tabular` may be placed inside a `minipage`, but in HTML a `<table>` may not be inside a ``. If this situation is detected, a warning is printed instructing the user to isolate the `` using `\warpprintonly` or the `warpprint` environment.

8.10.2 multirow package

`vposn` • Note that recent versions of `multirow` include a new optional `vposn` argument.

`multirow cells` • For `multirow`, insert `\mrowcell` into any empty multi-row cells. This will be a null function for the print output, and is a placeholder for parsing the table for HTML output. An error is generated if this is missed.

```
... & \multirow{2}{.5in}{text} & ...
... & \mrowcell & ...
```

`colored cells` • The `multirow` documentation regarding colored cells recommends using a negative number of rows. This will not work with `lwarp`, so `\warpprintonly` and `\warpHTMLonly` must be used to make versions for print and HTML.

with `\multicolumn` • See section 436.2 for `\multicolumnrow`.

⚠ `\multicolumn & \multirow` `lwarp` does not support directly combining `\multicolumn` and `\multirow`. Use `\multicolumnrow` instead. To create a 2 column, 3 row cell:

```
\multicolumnrow{2}{c}[c]{3}[0]{1in}[0pt]{Text}
```

The two arguments for `\multicolumn` come first, followed by the five arguments for `\multirow`, many of which are optional, followed by the contents.

⚠ `skipped cells` As per `\multirow`, skipped cells to the right of the `\multicolumnrow` statement are not included in the source code on the same line. On the following lines, `\mcolrowcell` must be used for each cell of each column and each row to be skipped. An error is generated if this is missed.

```
... & \multicolumnrow{2}{c}[c]{3}[0]{1in}[0pt]{Text} & ...
... & \mcolrowcell & \mcolrowcell & ...
... & \mcolrowcell & \mcolrowcell & ...
```

⚠ `MathJax` • `MATHJAX` does not support `multirow`, so it is emulated to only print its text on the first row. `\multirow` works as expected in text tabulars or SVG math.

8.10.3 longtable package

`longtable (Pkg)` Use one of either `\endhead` or `\endfirsthead` for both print and HTML, and use a `\warpprintonly` macro to disable the other head phrase, and also the `\endfoot` and `\endfirstfoot` phrases. (See section 8.10.4 if using `threeparttablex`.)

```
\begin{longtable}[column specifiers] }
[ ... ] \endfirsthead % or \endhead, for print and HTML
\warpprintonly{ % not used in HTML
[ ... ] \endhead % or \endfirsthead
[ ... ] \endfoot
[ <lastfoot macros> ] \endlastfoot
}
... table contents ...
\warpHTMLonly{
[ <lastfoot macros> ] % HTML last footer, without \endfoot
% or \endlastfoot.
}
\end{longtable}
```

⚠ **Misplaced `\noalign`** Use the `\warpprintonly` macro instead of the `warpprint` environment. Doing so helps avoid “Misplaced `\noalign`.” when using `\begin{warpprint}`.

⚠ **`\kill`** `\kill` is ignored, place a `\kill` line inside

```
\begin{warpprint} . . . \end{warpprint}
```

or place it inside `\warpprintonly`.

⚠ **lateximage** `longtable` is not supported inside a `lateximage`.

8.10.4 threeparttablex package

`threeparttablex` (*Pkg*) `threeparttablex` is used with `longtable` and `booktabs` as follows:

```
\begin{longtable}[column specifiers] {
[ . . . ] \endfirsthead % or \endhead, for print and HTML
\warpprintonly{ % not used in HTML
[ . . . ] \endhead % or \endfirsthead
[ . . . ] \endfoot
\bottomrule \insertTableNotes \endlastfoot
}
. . . table contents . . .
\warpprintonly{ % HTML last footer
\bottomrule
\UseMinipageWidths % optional
\insertTableNotes
\endlastfoot
}
\end{longtable}
```

table width The table notes are created using a `\multicolumn`. By default the width is not specified to the browser, so long table notes can cause the table to be spread out horizontally. For HTML output, `lwarp` guesses the width of the table depending on the number of columns, then restricts its guess to a min/max range. To use this guess for the width of the table notes, use `\UseMinipageWidths` before `\insertTableNotes`. The width is then specified, and in many cases the result is an improvement in overall table layout.

8.10.5 supertabular and xtab packages

`supertabular` (*Pkg*) For `\tablefirsthead`, etc., enclose them as follows:

`xtab` (*Pkg*)

```
\StartDefiningTabulars
\tablefirsthead
. . .
\StopDefiningTabulars
```

⚠ **Misplaced alignment tab character &**

See section 8.10.1.

⚠ **lateximage** `supertabular` and `xtab` are not supported inside a `lateximage`.

8.10.6 colortbl package

`colortbl` (*Pkg*) Only use `\rowcolor` and `\cellcolor` at the start of a row, in that order.

⚠ **row/cell color** `colortbl` ignores the overhang arguments.

colored tables `\rowcolors` is supported, except that the optional argument is ignored so far.

8.10.7 ctable package

⚠ **Misplaced alignment tab character &** Use `\StartDefiningTabulars` before one or more `\ctables`, and `\StopDefiningTabulars` after. These change the meaning of the ampersand `&` character.

8.10.8 bigdelim package

⚠ **use `\mrowcell`** `bigdelim` (*Pkg*) `\ldelim` and `\rdelim` use `\multirow`, so `\mrowcell` must be used in the proper number of empty cells in the same column below `\ldelim` or `\rdelim`, but not in cells which are above or below the delimiter:

```

\begin{tabular}{lll}
<empty> & a & b \\
\ldelim{\}{3}{.25in}[left ] & c & d \\
\mrowcell & e & f \\
\mrowcell & g & h \\
<empty> & i & j \\
\end{tabular}

```

```

<->   a   b
      {
left  { c   d
      { e   f
      { g   h
<->   i   j

```

For `MATHJAX`, limited emulation is provided which merely prints the delimiter and optional text in the first row.

8.11 Floats

8.11.1 Float contents alignment

⚠ **figure & table alignment** `\centering`, etc. are honored in a figure or table if they are the first command inside the float:

```

\begin{table*}
\centering
\caption{A Table}
...

```

8.11.2 float, trivfloat, and/or algorithmicx together

`float (Pkg)` If using `\newfloat`, `trivfloat`, and/or `algorithmicx` together, see section 646.1.

`trivfloat (Pkg)`

`algorithmicx (Pkg)`

8.11.3 caption and subcaption packages

⚠ package conflicts

`caption (Pkg)` Package options may cause problems with `lwarp`, especially if they include curly braces.

`subcaption (Pkg)`

If selecting options with braces in `\usepackage` does not work:

```
\usepackage[font={it,small}]{caption}% does not work
```

... try instead selecting the package options before loading `lwarp`:

```
\PassOptionsToPackage{font={it,small}}{caption}
...
\usepackage{lwarp}
...
\usepackage{caption}
```

... or try setting package options after the package has been loaded:

```
\usepackage{caption}
\captionsetup{font={it,small}}
```

⚠ numbering To ensure proper float numbering, set caption positions such as:

```
\captionsetup[figure]{position=bottom}
\captionsetup[subfigure]{position=bottom}
\captionsetup[table]{position=top}
\captionsetup[subtable]{position=top}
```

Similarly for `longtable`. These positions depend on where the user places the `\caption` command inside each float.

8.11.4 subfig package

`subfig (Pkg)`

⚠ table numbering To have correct sub table numbers:

```
\usepackage{caption}
\captionsetup[table]{position=top}
```

⚠ lof/lotdepth At present, the package options for `lofdepth` and `lotdepth` are not working. These counters must be set separately after the package has been loaded.

⚠ horizontal spacing In the document source, use `\hfill` and `\hspace*` between subfigures to spread them apart horizontally. The use of other forms of whitespace may cause paragraph tags to be generated, resulting in subfigures appearing on the following lines instead of all on a single line.

8.11.5 floatrow package

- `floatrow` (*Pkg*) Use `\StartDefiningTabulars` and `\StopDefiningTabulars` before and after defining macros using `\ttabbox` with a tabular inside. See section 8.10.1.
- ⚠ **Misplaced alignment tab character & subfig package**
- ⚠ When combined with the `subfig` package, while inside a `subfloatrow` `\ffigbox` and `\ttabbox` must have the caption in the first of the two of the mandatory arguments.
- ⚠ `\FBwidth, \FBheight`
- The emulation of `floatrow` does not support `\FBwidth` or `\FBheight`. These values are pre-set to `.3\linewidth` and `2in`. Possible solutions include:

- Use fixed lengths. `lwarp` will scale the HTML lengths appropriately.
- Use `warpprint` and `warpHTML` environments to select appropriate values for each case.
- Inside a `warpHTML` environment, manually change `\FBwidth` or `\FBheight` before the `\ffigbox` or `\ttabbox`. Use `\FBwidth` or `\FBheight` normally afterwards; it will be used as expected in print output, and will use your custom-selected value in HTML output. This custom value will be used repeatedly, until it is manually changed to a new value.

8.11.6 keyfloat package

- `keyfloat` (*Pkg*) If placing a `\keyfig[H]` inside a `keywrap`, use an absolute width for `\keyfig`, instead of `lw`-proportional widths. (The `[H]` option forces the use of a minipage, which internally adjusts for a virtual 6-inch wide minipage, which then corrupts the `lw` option.)
- ⚠ `keywrap`

For wrapped figures, overhang and number of lines are ignored.

8.12 KOMA-SCRIPT classes

- `komascript` (*Cls*) Many features are ignored during the HTML conversion. The goal is source-level compatibility.

`\captionformat`, `\figureformat`, and `\tableformat` are not yet emulated.

- ⚠ **Not fully tested!** [Please send bug reports!](#)

Some features have not yet been tested. Please contact the author with any bug reports.

8.13 MEMOIR class

- `memoir` (*Cls*) `lwarp` uses `caption`, which causes a warning from `memoir`. This is normal. Adjust captions via `caption`, instead of `memoir`.
- ⚠ `captions`

- ⚠ `options clash`
- While emulating `memoir`, `lwarp` pre-loads a number of packages (section 702.1). This can cause an options clash when the user's document later loads the same packages with options. To fix this problem, specify the options before loading `lwarp`:

```

\documentclass{memoir}
...
\PassOptionsToPackage{options_list}{package_name}
...
\usepackage{lwarp}
...
\usepackage{package_name}

```

- ⚠ **version numbers** memoir emulates a number of packages, and declares a version date for each which often does not match the date of the corresponding freestanding package. This can cause warnings about incorrect version numbers. Since *lwarp* is intended to support the freestanding packages, which are often newer than the date declared by memoir, it is hoped that memoir will update and change its emulated version numbers to match.

`\label(bookmark){tag}` `\label` accepts an optional (bookmark) argument, but this is ignored in HTML.

- ⚠ **comment** The `comment` environment is from the `comment` package, and thus requires that the `\begin` and `\end` each be on its own line:

```

\begin{comment}
This is a comment.
\end{comment}

```

`\newcomment` Comments defined with `\newcomment` use memoir's definitions, and behave as expected, where the `\begin` and `\end` do have to each be on its own line.

- ⚠ **verbatim footnotes** `\verbfootnote` is not supported.

⚠ `\newfootnoteseries` `\newfootnoteseries`, etc. are not supported.

- ⚠ **page notes** *lwarp* loads `pagenote` to perform memoir's `pagenote` functions, but there are minor differences in `\pagenotesubhead` and related macros.

page notes with cleveref To add support for `pagenotes` with `cleveref`, add:

```

\crefname{pagenote}{page note}{page notes}
\Crefname{pagenote}{Page note}{Page notes}

```

page note \nameref Note that for print mode, `\nameref` print the section name where the page notes are declared in the text, but for HTML it prints the name where the page notes are printed.

- ⚠ **poems** Poem numbering is not supported.

- ⚠ **verbatim** The `verbatim` environment does not yet support the memoir enhancements. It is currently recommended to load and use `fancyvrb` instead.

- ⚠ **glossaries** The memoir glossary system is not yet supported by *lwarpmk*. The `glossaries` package may be used instead, but does require the glossary entries be changed from the memoir syntax to the `glossaries` syntax.

- ⚠ **framewithtitle, titledframe** The custom frame commands in the memoir manual may be emulated by placing the original definitions in the preamble inside `warpprint` environments, and then providing an HTML equivalent:

```

\begin{warpHTML}
\newcommand{\FrameTitle}[2]{%
  \textbf{#2}
}

```

```


\newenvironment{framewithtitle}[2][\FrameFirst@Lab\ (cont.)]{%
  \begin{fminipage}{\linewidth}
  \textbf{#2}
  \begin{minipage}{\linewidth}
  }
{\end{minipage}\end{fminipage}}

\newcommand{\TitleFrame}[2]{%
  \par
  \textbf{#1}\par
  \fboxBlock{#2}
}

\newenvironment{titledframe}[2][\FrameFirst@Lab\ (cont.)]{%
  \par
  \textbf{#2}
  \begin{fminipage}{\linewidth}
  }
{\end{fminipage}}
\end{warpHTML}

```

8.14 International languages

 **section and file names** If using *pdflatex* with the setting `\booltrue{FileSectionNames}`, non-ASCII text in section names can result in corrupted HTML file names. *pdflatex* may be used if setting `\boolfalse{FileSectionNames}`, in which case HTML file numbers will be generated.

For correct HTML file names, use *xelatex*, *lualatex*, or dedicated document classes / engines.

(As of this writing, this warning is only relevant to the *kotex* package.)

8.15 Miscellaneous packages

8.15.1 verse and memoir

verse (*Pkg*) When using *verse* or *memoir*, always place a `\\` after each line.

memoir (*Cls*) The documentation for the *verse* and *memoir* packages suggest defining an `\attrib` command, which may already exist in current documents, but it will only work for print output. *lwarp* provides `\attribution`, which works for both print and HTML output. To combine the two so that `\attrib` is used for print and `\attribution` is used for HTML:

```

\begin{warpHTML}
\let\attrib\attribution
\end{warpHTML}

```

`\leftskip` (*Len*) These lengths are used by *verse* and *memoir* to control the left margin, and they

`\leftmargin` (*Len*) may already be set by the user for print output. New lengths `\HTMLleftskip` and

`\HTMLleftmargin` (*Len*) are provided to control the margins in HTML output. These new lengths may be set by the user before any *verse* environment, and persist

`\HTMLleftmargin` (*Len*)

until they are manually changed again. One reason to change `\HTMLleftmargini` is if there is a wide `\flagverse` in use, such as the word “Chorus”, in which case the value of `\HTMLleftmargini` should be set to a wide enough length to contain “Chorus”. The default is wide enough for a stanza number.

- ⚠ **spacing** Horizontal spacing relies on *pdftotext*'s ability to discern the layout (`-layout` option) of the text in the HTML-tagged PDF output. For some settings of `\HTMLleftmargini` or `\HTMLleftskip` the horizontal alignment may not work out exactly, in which case a label may be shifted by one space. During translation to HTML, the stanza numbers are kept out of the left margin, which would have caused *pdftotext* to shift everything over.
- ⚠ **verse margin**

8.15.2 newclude package

`newclude (Pkg)` `newclude` modifies `\label` in a non-adaptive way, so `newclude` must be loaded before `lwarp` is loaded:

⚠ **loading**

```

\documentclass{article}
... <font setup>
\usepackage{newclude}
\usepackage[warpHTML]{lwarp}
...

```

8.15.3 babel package

`babel (Pkg)` When French is used, the caption separator is changed to a dash. To restore it to a colon, the following may be placed before `lwarp` is loaded:

⚠ **\CaptionSeparator**

```

\renewcommand*{\CaptionSeparator}{:~}

```

punctuation spaces Also when French is used, `lwarp` creates fixed-width space around punctuation by patching `\FBcolonspace`, `\FBthinspace`, `\FBguillemet`, `\FBmedkern`, `\FBthickkern`, `\FBtextellipsis`, and the tilde. If the user's document also

⚠ **customized spacing** changes these parameters, the user's changes should be placed inside a `warpprint` environment so that the user's changes do not affect the HTML output.

8.15.4 polyglossia package

`polyglossia (Pkg)` `lwarp` uses `cleveref`, which has some limitations when using `polyglossia`, possibly resulting in the error

```
! Undefined control sequence. . . . \__hook begindocument
```

To test compatibility, add

```
\usepackage{cleveref}
```

near the end of the preamble (as the last package to be loaded), and try to compile the print version. It may be necessary to set

```
\setdefaultlanguage{english}
```

or some other language supported by `cleveref`, then select other languages using `\setotherlanguages`.

Once the print version works with `cleveref` and `polyglossia`, the HTML version should work as well using `lwarp`.

8.15.5 `todonotes` and `luatodonotes` packages

`todonotes` (*Pkg*) The documentation for `todonotes` and `luatodonotes` have an example with a todo inside a caption. If this example does not work it will be necessary to move the todo outside of the caption.

`luatodonotes` (*Pkg*)

8.15.6 `fixme`

`fixme` (*Pkg*) External layouts (`\fxloadlayouts`) are not supported.

⚠ external layouts

Customized layouts are overwritten by `lwarp`'s versions `\AtBeginDocument` in order to provide the HTML conversion. If creating a new layout, see `lwarp`'s changes to provide similar for the new layout, inside a `warpHTML` environment.

User control is provided for setting the HTML styling of the “faces”. The defaults are as follows, and may be changed in the preamble after `fixme` is loaded:

```
\def\FXFaceInlineHTMLStyle{font-weight:bold}
\def\FXFaceEnvHTMLStyle{font-weight:bold}
\def\FXFaceSignatureHTMLStyle{font-style:italic}
\def\FXFaceTargetHTMLStyle{font-style:italic}
```

8.15.7 `acro` package

⚠ **formats** Define acronymn formats using `\textbf` instead of `\bfseries` etc.

8.15.8 `chemfig` package

If using `\polymerdelim` to add delimiters to a `\chemfig`, wrap both inside a single `lateximage`:

```
\begin{lateximage}[-chemfig-~\PackageDiagramAltText]
\chemfig{. . .}
\polymerdelim[. . .]{. . .}
\end{lateximage}
```

8.15.9 `chemformula` package

⚠ **chemformula with MATHJAX** `chemformula` works best without `MATHJAX`. If `MATHJAX` is used, `\displaymathother` must be used before `array`, and then `\displaymathnormal` may be used after. (The `chemformula` package adapts to `array`, but does not know about `MATHJAX`, and `MATHJAX` does not know about `chemformula`.)

While using `MATHJAX`, `\displaymathother` may also be used for other forms of display and inline math which contain `chemformula` expressions.

8.15.10 mhchem package

See section [417](#).

8.15.11 kotex package

`kotex (Pkg)` See section [8.14](#) regarding *pdflatex* and Korean section names.

 [Korean section names](#)

9 Compiling using custom shell commands

`lwarp` and `lwarpmk` try to make it easy to process print and HTML compilation tasks in most situations. Depending on the operating system, command-line options, T_EX engine, and `lwarp` options, the commands `lwarpmk print` and `lwarpmk html` are automatically set up to correctly recompile the project. These actions may be overridden using `lwarp` options, thus allowing the use of packages such as `perltex` and `pythontex`.

9.1 Command options


`PrintLatexCmd` (*Opt*) The `lwarp` options `PrintLatexCmd` and `HTMLLatexCmd` are used to set customized commands to be executed by `lwarpmk print` and `lwarpmk html`.
`HTMLLatexCmd` (*Opt*)

`PrintLatexCmd` should be set to shell commands which take `project.tex` and generate `project.pdf`.

`HTMLLatexCmd` should be set to take `project_html.tex` and generate `project_html.pdf`.
`lwarpmk` will then take `project_html.pdf` and automatically convert it and generate `project.html`.

9.2 Literal character macros

The `lwarp` package options are parsed by T_EX, and so some characters require the use of a special macro to represent them. See table 10. `\LWRopquote` and `\LWRopseq` may be used to increase operating-system portability. `\jobname` must have `_html` appended for processing HTML. `\space` may be necessary between other macros.

 **macro not found** To use these macros, either `kvoptions-patch` must be loaded before `lwarp`:

```
\usepackage{kvoptions-patch}
\usepackage[
  PrintLatexCmd={ ... } ,
  HTMLLatexCmd={ ... }
]{lwarp}
```

Table 10: Literal character macros

Character	Macro	Comment
%	\LWRpercent	
\$	\LWRdollar	
&	\LWRamp	
%	\LWRhash	
\	\LWRbackslash	
' or "	\LWRopquote	Depends on the operating system.
& or &&	\LWRopseq	Depends on the operating system.
(space)	\space	Forces an extra space.
(jobname)	\jobname	Without file extension.

or `\lwarpsetup` must be used to set `PrintLatexCmd` and `HTMLLatexCmd`:

```

\usepackage[...]{lwarp}
\lwarpsetup{
  PrintLatexCmd=
  {
    latex tm \LWRopseq
    dvips -o tm-pics.ps tm.dvi \LWRopseq
    ps2pdf -dALLOWPSTRANSPARANCY tm-pics.ps \LWRopseq
    pdflatex tm.tex
  } ,
  HTMLLatexCmd=
  {
    latex tm_html \LWRopseq
    dvips -o tm_html-pics.ps tm_html.dvi \LWRopseq
    ps2pdf -dALLOWPSTRANSPARANCY tm_html-pics.ps \LWRopseq
    pdflatex tm_html.tex
  }
}

```

9.3 *latexmk*

`latexmk` (*Prog*) If *latexmk* is used for a project, it may be easiest to continue using it.

`latexmk project.tex` would create `project.pdf` as normal.

`latexmk project_html.tex` would create `project_html.pdf`, then

`lwarpmk pdftohtml project_html.pdf` would take `project_html.pdf` and convert it to `project.html`.

`sagetex` (*Pkg*) *latexmk* may simplify the use of packages such as `sagetex`.

9.4 perltex package

`perltex (Pkg)` The `lwarp` package option settings to use `perltex` would be similar to:

```
\usepackage[
  . . .
  PrintLatexCmd={perltex -latex=pdflatex project.tex} ,
  HTMLLatexCmd={perltex -latex=pdflatex project_html.tex} ,
  . . .
]{lwarp}
```

⚠ “impure” math Place `perltex` math expressions between `\displaymathother` and `\displaymathnormal`, or `\inlinemathother` and `\inlinemathnormal`. See section 8.7.11.

9.5 pythontex package

`pythontex (Pkg)` An example using `pythontex`:

```
\usepackage[
  . . .
  PrintLatexCmd={
    pdflatex project.tex \LWRopseq
    pythontex project \LWRopseq
    pdflatex project.tex
  } ,
  HTMLLatexCmd={
    pdflatex project_html.tex \LWRopseq
    pythontex project_html \LWRopseq
    pdflatex project_html.tex
  } ,
  . . .
]{lwarp}
```

Another possibility is to use `latexmk`, placing the `latexmk . . .` commands in the `PrintLatexCmd` and `HTMLLatexCmd` options. While using these options, the `lwarp` option `latexmk` would not be used.

⚠ “impure” math No attempt has yet been made to make `pythontex` robust with HTML output. Some math objects must be surrounded by `\displaymathother . . . \displaymathnormal`, or `\inlinemathother . . . \inlinemathnormal`. Displays of code may have to be

⚠ HTML look-alike enclosed inside a `lateximage` environment to prevent `<`, `>` and similar from being interpreted by the browser as HTML entities.

9.6 sympytex package

`sympytex (Pkg)` For `sympytex`:

```

\usepackage[
  . . .
  PrintLatexCmd={
    pdflatex project.tex \LWRopseq
    python project.sympy \LWRopseq
    pdflatex project.tex
  } ,
  HTMLLatexCmd={
    pdflatex project_html.tex \LWRopseq
    python project_html.sympy \LWRopseq
    pdflatex project_html.tex
  } ,
  . . .
]{lwarp}

```

Also see the warnings for `pythontex`, above.

9.7 Other packages


`rterface` (*Pkg*) Other packages such as `rterface` would be set up similar to `pythontex`, and the same warnings would apply.

9.8 `make` program

`make` (*Prog*) To use `lwarp` with the `make` program, have the makefile take `project.tex` and generate the print version `project.pdf`, as normal. `\usepackage{lwarp}` must be used, and it generates `lwarpmk.conf` when the print version is created.

To generate HTML, first have `project_html.tex` be compiled to generate `project_html.pdf`. This must be in PDF format. Finally, have `project_html.pdf` be converted to HTML using `lwarpmk pdftohtml project_html.pdf`, and convert SVG math with `lwarpmk limages`.

9.9 UTF-8 locale

 **UTF-8 locale** `lwarpmk` uses the `texlua` program, which sets the “locale” to “C”, including for external operating-system calls such as when executing `lwarpmk html`. In some cases, an external program called from the user’s document may require the use of a UTF-8 “locale”. For UNIX-related operating systems, it may be required to use `lwarp`’s custom compilation options to add a locale change:

```

\usepackage{lwarp}[
  PrintLatexCmd={
    env LC_CTYPE=en_US.UTF-8
    xelatex -shell-escape project.tex
  }
  HTMLLatexCmd={
    env LC_CTYPE=en_US.UTF-8
    xelatex -shell-escape project_html.tex
  }
]

```

`ditaa (Pkg)` The only example seen so far where this is required is the `ditaa` package, where the locale change allows the use of UTF-8 with Xe \LaTeX and `ditaa`. To use Lua \LaTeX instead, the locale change would have to be made inside the `ditaa` package where its calls the *ditaa* program.

10 EPUB conversion

lwarp does not produce EPUB documents, but it may be told to modify its HTML output to greatly assist in the conversion. An external program may then be used to finish the conversion to EPUB.

<meta> author To assign the author's name for regular lwarp HTML files, and also for the EPUB, use `\HTMLAuthor {<name>}`. This assigns the name to the `<meta>` author element. It may be set empty, and it defaults to `\theauthor`.

A special boolean is provided to simplify the process of converting lwarp HTML output to EPUB:

	FormatEPUB
FormatEPUB (<i>bool</i>) Default: <code>false</code>	FormatEPUB changes HTML output for easy EPUB conversion via an external program. Removes per-file headers, footers, and nav. Adds footnotes per chapter/section.

To help convert lwarp HTML output to EPUB, add

```
\booltrue{FormatEPUB}
```

to the project's source preamble after `\usepackage{lwarp}`. The EPUB version of the document cannot co-exist with the regular HTML version, so

```
Enter ⇒ lwarpmk cleanall
```

```
Enter ⇒ lwarpmk html
```

```
Enter ⇒ lwarpmk images
```

to recompile with the FormatEPUB boolean turned on. Several changes are then made to the HTML output:

- Headers, footers, and navigation are removed at file splits.
- Any accumulated footnotes are printed at the bottom of each section.

The resulting files will be ready to be loaded into an EPUB conversion program, such as the open-source program *Calibre* (<https://calibre-ebook.com/>).

search order

The EPUB conversion program must know what order the files are included. For lwarp projects, set the EPUB conversion software to do a breadth-first search of the files. For *Calibre*, this option is found in

Preferences → Plugins → File type plugins → HTML to Zip

encoding

Check the box **Add linked files in breadth first order**. Set the document encoding as `utf-8`, which is what lwarp generates for HTML, even if the original printed document uses some other encoding.

section breaks

The EPUB-conversion program must also know where the section breaks are located. For a list of lwarp's section headings, see table 12. For example, an article class document would break at `\section`, which is mapped to HTML heading level

<h4>, whereas a book class document would break at `\chapter`, which is HTML heading level <h3>. For *Calibre*, this option is found in

Preferences → Conversion (Common Options) → Structure Detection → Detect chapters at (XPath expression)

Select the “magic wand” to the right of this entry box, and set the first entry

Match HTML tags with tag name:

to “h4”. (Or “h3” for document classes with `\chapters`.) The Detect chapters at field should then show

//h:h4 — or — **//h:h3**

This option is also available on the main tool bar at the Convert books button.

Once these settings have been made, the *lwarp*-generated HTML files may be loaded by *Calibre*, and then converted to an EPUB.

MathJax support

MATHJAX may be used in EPUB documents. Some e-readers include MATHJAX, but any given reader may or may not have a recent version, and may or may not include extensions such as support for `siunitx`.

lwarp adds some modifications to MathML to support equations numbered by chapter. These modifications may not be compatible with the e-reader’s version of MATHJAX, so *lwarp* requests that a known version be loaded instead. In some cases chapter numbering of equations still doesn’t work.

Until math support in EPUB documents is improved, it is recommended to use SVG images instead of MATHJAX, especially for equations numbered by chapter, or where `siunitx` support is important.

11 Word-processor conversion

lwarp may be told to modify its HTML output to make it easier to import the HTML document into a word processor. At the time of this writing, it seems that LIBREOFFICE works best at preserving table layout, but it still has some limitations, such as an inability to automatically assign figure and table frames and captions according to user-selected HTML classes. lwarp provides some assistance in locating these frame boundaries, as shown below.

11.1 Activating word-processor conversion

A special boolean is provided to simplify the process of converting lwarp HTML output to EPUB:

	FormatWP
FormatWP (<i>bool</i>) Default: false	Changes HTML output for easier conversion by a word processor. Removes headers and nav, prints footnotes per section, and also forces single-file output and turns off HTML debug comments. Additionally, honors the booleans WPMarkFloats, WPMarkMinipages, WPMarkTOC, and WPMarkLOFT.

To help modify lwarp HTML output for easier import to a word processor, add

```
\booltrue{FormatWP}
```

formatting adjustments

to the project's source preamble after lwarp is loaded. The following changes are then made to the HTML output:

- If using a class without chapters, \section and lower are shifted up in level for the HTML heading tags. The CSS has not been changed, so the section heading formats will not match the normal HTML output, but when imported to *LibreOffice Writer* the higher section headings will import as **Heading 1** for the title, **Heading 2** for \section, etc.
- Headers, footers, and navigation are removed at file splits.
- Any accumulated footnotes are printed at the bottom of each section.
- Forces single-file output.
- Turns off HTML debugging comments. These are comments appearing inside the HTML code, marking the opening/closing of sections and <div>s, but they are no longer useful when the document has been imported into a word processor.
- An additional <div> with an id encapsulates each float and minipage, which on import into *LibreOffice Writer* causes a thin frame to appear around the text block for each.
- Float captions are given an explicit italic formatting.
- Tabular rule borders are made explicit for *LibreOffice Writer*. LIBREOFFICE displays a light border around each cell while editing, even those which have

no border when printed, and `lwarp` also uses a light border for thin rules, so it will be best to judge the results using the print preview instead of while editing in `LIBREOFFICE`.

- `\includegraphics` and `svg` math width and height are made explicit for `LIBREOFFICE`.
- `\hspace` is approximated by a number of `\quads`, and rules are approximated by a number of underscores.
- Explicit `HTML` styles are given to:
 - `\textsc`, etc.
 - `\underline`, `soul` and `ulem` markup.
 - `center`, `flushleft`, `flushright`.
 - `\marginpar`, `keyfloat`, `sidenotes`, `floatflt`, and `wrapfig`.
 - `fancybox` `\shadowbox`, etc.
 - The `LATEX` and `TEX` logos.

- Honors several booleans:

WPMarkFloats: Marks the begin and end of floats.

WPMarkMinipages: Marks the begin and end of minipages.

WPMarkTOC: Marks the location of the Table of Contents.

WPMarkLOFT: Marks the locations of the List of Figures/Tables.

WPMarkMath: Prints `LATEX` math instead of using images.

WPTitleHeading: Adjusts title and section headings.

Several of these may be used to add markers to the `HTML` text which help determine where to adjust the word processor document after import.

11.2 Additional modifications

WPMarkFloats

WPMarkFloats (*bool*)

Default: `false`

Adds

```
=== begin table ===
. . .
=== end ===
```

or

```
=== begin figure ===
. . .
=== end ===
```

around floats while formatting for word processors. This helps identify boundaries of floats to be manually converted to word-processor frames and captions.

WPMarkMinipages

WPMarkMinipages (*bool*)

Default: `false`

Adds

```

=== begin minipage ===
. . .
=== end minipage ===

```

around minipages while formatting for word processors. This helps identify boundaries of minipages to be manually converted to word-processor frames.

WPMarkTOC

WPMarkTOC (*bool*)
 Default: true

While formatting for word processors, adds
 === table of contents ===

where the Table of Contents would have been. This helps identify where to insert the actual toc.

If set false, the actual toc is printed instead.

WPMarkLOFT

WPMarkLOFT (*bool*)
 Default: false

While formatting for word processors, adds
 === list of figures === *and/or*
 === list of tables ===

where each of these lists would have been. This helps identify where to insert the actual lists.

If set false, the actual lists are printed instead.

WPMarkMath

[siunitx](#)
 WPMarkMath (*bool*)
 Default: false
 TeXMaths (*Prog*)

While formatting for word processors, prints math as L^AT_EX code instead of creating svg images or MATHJAX. This is useful for cut/paste into the *LibreOffice Writer TeXMaths* extension.

When using the *siunitx* package, enter

```
\usepackage{siunitx}
```

in the *TeXMaths* preamble. Equation numbering is problematic for $\mathcal{A}\mathcal{M}\mathcal{S}$ math environments.

WPTitleHeading

WPTitleHeading (*bool*)
 Default: false
[section headings](#)

While formatting for word processors, true sets the document title to <h1>, which is expected for HTML documents, but also causes the lower-level section headings to start at **Heading 2** when imported into LIBREOFFICE. Set to false to cause the title to be plain text, and the section headings to begin at **Heading 1**.

Table 11: Section HTML headings for word-processor conversion

Section	HTML headings*			
	With \chapter		Without \chapter	
	WPTitleHeading true	WPTitleHeading false	WPTitleHeading true	WPTitleHeading false
Title	<h1>	plain	<h1>	plain
\book	<div>	<div>	<div>	<div>
\part	<h2>	<h1>	<h2>	<h1>
\chapter	<h3>	<h2>	—	—
\section	<h4>	<h3>	<h3>	<h2>
\subsection	<h5>	<h4>	<h4>	<h3>
\paragraph	<h6>	<h5>	<h5>	<h4>
\subparagraph		<h6>	<h6>	<h5>

* For default depths when not FormatWP, see table 12 on page 206.

See table 11 on page 190.

11.3 Recommendations

TOC, LOF, LOT For use with *LibreOffice Writer*, it is recommended to:

1. Set `\booltrue{FormatWP}`
2. Set `\booltrue{WPMarkTOC}` and `\boolfalse{WPMarkLOFT}`
3. Use `lwarp` to generate the HTML document.
4. Copy/paste from the HTML document into an empty *LibreOffice Writer* document.
5. Manually insert a LIBREOFFICE TOC in the LIBREOFFICE document.
6. Manually add frames around each float, adding a caption which is cut/pasted from each float's simulated caption.
7. Manually create cross references.

This process yields a document with an actual LIBREOFFICE Table of Contents, but a simulated List of Figures and List of Tables.

siunitx For `siunitx`, remember to adjust the preamble as mentioned above.

LO view border options LIBREOFFICE has options in the **View** menu to turn on/off the display of thin borders around table cells and text objects.

11.4 Limitations

Floats and captions are not explicitly converted to LIBREOFFICE floats with their own captions. Floats are surrounded by a thin frame in the LIBREOFFICE editor, and may be marked with `WPMarkFloats`, but are not given a proper LIBREOFFICE object frame. Captions are given an explicit italic formatting, but not a proper LIBREOFFICE paragraph style.

Cross references are not actual LIBREOFFICE linked cross references.

The List of Figures and List of Tables are not linked. The pasted pseudo LOF and LOT match the numbering of the L^AT_EX and HTML versions.

Equation numbering is not automatic, but the equation numbers in SVG math will match the L^AT_EX and HTML output. SVG math is recommended when using the $\mathcal{A}\mathcal{M}\mathcal{S}$ environments, which may have multiple numbered equations per object.


As of when last checked, LIBREOFFICE ignores the following:

- Minipage alignment.
- Tabular cell vertical alignment.
- Image rotation and scaling.
- Rounded border corners, which are also used by:
 - `\textcircled`
 - `booktabs trim`
- `\hspace` and `rules`, also used by `algorithmic`.
- Coloring of text decorations, used by `soul` and `ulem`.
- Overline text decoration, used by `romanbar`.

LIBREOFFICE also has limitations with frames and backgrounds:

- Multiple lines in an object are framed individually instead of as a whole.
- Nested frames are not handled correctly.
- Images inside boxes are not framed correctly.
- Spans with background colors and frames are not displayed correctly.

12 Modifying lwarp

- locating something** To quickly find the source for a package in `lwarp.dtx`, search for `*packagename`, such as `*siunitx`.
- Likewise, to quickly find the source for a file in `lwarp.dtx`, search for `*filename`, such as `*lwarp.css`.
- Purely text-based packages probably will work as-is when generating HTML.
- Look to existing code for ideas on how to expand into new code.
- image of TeX output** An environment may be converted to a `lateximage` then displayed with an image of the resulting L^AT_EX output. See section 95 for an example of the `picture` environment.
- css classes** To create a custom HTML block or inline CSS class, see section 54.10.
- print/HTML macros** To create print and HTML versions of the same macro or environment, see section 38.
-  **TeX boxes** Any TeX boxes must be undone, as `svg math` or `lateximages` require `\newpage`, which will not work in a TeX box.

12.1 Creating a development system

The following creates a local development system for `lwarp` on a TeXLive system in a UNIX-like environment. Doing so allows anything requesting `lwarp` to use the development version instead of whichever version is installed in TeXLive.

Create a development directory:

Place into this directory `lwarp.dtx` and `lwarp.ins`.

To create `lwarp.sty`, execute

```
Enter ⇒ pdflatex lwarp.ins
```

which creates `lwarp.sty` and several hundred additional `lwarp-*.sty` files for the various packages which are supported.

To create the initial documentation `lwarp.pdf`, execute

```
Enter ⇒ pdflatex lwarp.dtx
```

To make the development files visible to other projects:

Create the directory

```
/usr/local/texlive/texmf-local/tex/latex/local/lwarp
```

Inside this directory, create the file `update`, containing:

```
rm lwarp-*.sty
ln -s /path_to_dev_directory/lwarp*.sty .
ln -s /path_to_dev_directory/lwarp_baseline_marker.png .
ln -s /path_to_dev_directory/lwarp_baseline_marker.eps .
mktexlsr
```

Run `./update` now, and whenever a new `lwarp-*` package is added.

To make the development version of *lwarpmk* visible to other projects:

```
cd /opt
ln -s /usr/local/texlive/texmf-local/bin/x86_64-linux texbin_local
cd texbin_local
ln -s ../../scripts/lwarp/lwarpmk.lua lwarpmk
cd /usr/local/texlive/texmf-local/scripts/
mkdir lwarp
cd lwarp
ln -s /path_to_dev_directory/lwarpmk.lua lwarpmk
```

Verify that the correct version is found with

Enter \Rightarrow **which lwarpmk**

To make the local versions visible to the shell:

Paths must be set by the shell startup, such as in `.bashrc` and `.cshrc`:

In `.bashrc`:

```
PATH=/opt/texbin_local:/opt/texbin:$PATH
```

In `.cshrc`:

```
setenv PATH ${HOME}/bin:/opt/texbin_local:/opt/texbin:${PATH}
```

To fully compile the *lwarp* documentation and indexes:

```
pdflatex lwarp.ins
pdflatex lwarp.dtx
pdflatex lwarp.dtx <if necessary>
makeindex -s gglo.ist -o lwarp.gls lwarp.glo <indexes>
splitindex lwarp.idx -s gind.ist
pdflatex lwarp.dtx
pdflatex lwarp.dtx <if necessary>
makeindex -s gglo.ist -o lwarp.gls lwarp.glo <indexes>
splitindex lwarp.idx -s gind.ist <again>
pdflatex lwarp.dtx
pdflatex lwarp.dtx <if necessary>
```

(The multiple rounds of index processing are required to fully resolve the final Index of Indexes.)

To make it easier to update the documentation after a minor change, it is useful to create a command script called `make_index`, containing:

```
makeindex -s gglo.ist -o lwarp.gls lwarp.glo
splitindex lwarp.idx -- -s gind.ist
```

 **references**

Note that Index of Indexes and the cross-references to the indexes may not be correct until the above has been accomplished.

12.2 Modifying a package for lwarp

If a class loads additional packages, it will be required to modify the class for lwarp, since lwarp must be loaded before most other packages.

To work with lwarp, a class must first set up anything which replicates the functions of the basic L^AT_EX classes, load any required fonts, then load lwarp, then finally load and adjust any other required packages.

When creating HTML, lwarp redefines the `\usepackage` and `\RequirePackage` macros such that it first looks to see if a `lwarp-<packagename>.sty` version exists. If so, the lwarp version is used instead. This modular system allows users to create their own versions of packages for lwarp to use for HTML, simply by creating a new package with a `lwarp-` prefix. If placed in the local directory along with the source code, it will be seen by that project alone. If placed alongside the other lwarp-packages where T_EX can see it, then the user's new package will be seen by any documents using lwarp. (Remember `mktextlsr` or `texhash`.)

An `lwarp-<packagename>.sty` package is only used during HTML generation. Its purpose is to pretend to be the original package, while modify anything necessary to create a successful HTML conversion. For many packages it is sufficient to simply provide nullified macros, lengths, counters, etc. for anything which the original package does, while passing the raw text on to be typeset. See the pre-existing `lwarp-` packages for examples.

Anything the user might expect of the original package must be replaced or emulated by the new `lwarp-` package, including package options, user-adjustable counters, lengths, and booleans, and conditional behaviors. In many of these packages, most of the new definitions have a “local” prefix according to the package name, and `@` characters inside the name, which hides these names from the user. In most cases these macros will not need to be emulated for HTML output. Only the “user-facing” macros need to be nullified or emulated.

Each `lwarp-*` package should first call either of:

```
\LWR@ProvidesPackageDrop
— or —
\LWR@ProvidesPackagePass
```

If “Drop”ped, the original print-version package is ignored, and only the `lwarp-` version is used. Use this where the original print version is useless for HTML. If “Pass”ed, the original package is loaded first, with the user-supplied options, then the `lwarp-` version continues loading as well. See section 464 ([ntheorem](#)) for an example of selectively disabling user options for a package. Use this when HTML output only requires some modifications of the original package. For a case where the original package is usable without changes, there is no need to create a `lwarp-` version.

12.2.1 Adding a package to the `lwarp.dtx` file

When adding a package to `lwarp.dtx` for permanent inclusion in lwarp, provide the `lwarp-<packagename>` code in `lwarp.dtx`, add its entry into `lwarp.ins`, and also remember to add

```
\LWR@loadafter{<packagename>}
```

to `lwarp.dtx` in section 22.1. This causes `lwarp` to stop with an error if `packagename` is loaded before `lwarp`. Finally, add an entry in table 2, **Supported packages and features**, and also the Updates section.

12.3 Modifying a class for lwarp

If a class loads additional packages, it will be required to modify the class for `lwarp`, since `lwarp` must be loaded before most other packages.

To work with `lwarp`, a class must first set up anything which replicates the functions of the basic L^AT_EX classes, load any required fonts, then load `lwarp`, then finally load and adjust any other required packages.

12.4 Testing lwarp

Compiling `lwarp.ins` generates all the `*.sty` files for `lwarp`. It can be useful to create additional `*.ins` files to be able to recompile only the pieces which have changed.

compiling individual packages

`core.ins` (*file*)

For example, to be able to recompile the `lwarp` core alone, copy `lwarp.ins` to `core.ins`, then modify `core.ins` to only compile:

```
\generate{
\file{lwarp.sty}{\from{lwarp.dtx}{package}}
}
```

For individual packages, create `packagename.ins`, set to compile only:

```
\generate{
\file{lwarp-packagename.sty}{\from{lwarp.dtx}{packagename}}
}
```

When changes have been made, test the print output before testing the HTML. The print output compiles faster, and any errors in the printed version will be easier to figure out than the HTML version.

compiling css and other generated files

Remember that the configuration files are only rewritten when compiling the printed version of the document.

When changing the source to *lwarpmk* or a css file in `lwarp.dtx`:

1. Change the source in `lwarp.dtx`.
2. `pdflatex lwarp.ins -or- pdflatex core.ins`
3. If modifying *lwarpmk* the new version should now be active.
4. If modifying css files or other files generated by `lwarp`:
 - (a) For the document, `lwarpmk print` to update the css files in the project.
 - (b) Reload the HTML document to see the effect of the new css files.
5. If done testing, `pdflatex lwarp.dtx` to update the `lwarp` documentation.

Sometimes it is worth checking the `<project>_html.pdf` file, which is the PDF containing HTML tags. Also, `<project>_html.html` has the text conversion of these tags, before the file is split into individual HTML files.

It is also worth checking the browser's tools for verifying the correctness of HTML and CSS code.

12.5 Modifying *lwarpmk*

`lwarpmk` (*Prog*) In most installations, `lwarpmk.lua` is an executable file located somewhere the operating system knows about, and it is called by typing **lwarpmk** into a terminal.

`lwarpmk.lua` (*file*)

A project-local copy of `lwarpmk.lua` may be generated, modified, and then used to compile documents:

1. Add the `lwarpmk` option to the `lwarp` package.
2. Recompile the printed version of the document. The `lwarpmk` option causes `lwarp` to create a local copy of `lwarpmk.lua`
3. The `lwarpmk` option may now be removed from the `lwarp` package.
4. Copy and rename `lwarpmk.lua` to a new file such as `mymake.lua`.
5. Modify `mymake.lua` as desired.
6. If necessary, make `mymake.lua` executable.
7. Use `mymake.lua` instead of `lwarpmk.lua`.

13 Troubleshooting

13.1 lwarp package error conditions and warnings

lwarp tests for a number of error conditions and prints appropriate warnings. The following is a summary of these conditions.

13.1.1 Configuration file `lwarpmk.conf`

File does not exist: The configuration file must exist for `lwarpmk`.

Incorrect Unix /Windows selection: The operating system which was detected by `lwarp`. So far only Unix and Windows are supported.

Incorrect delimiter characters. Older versions of *lwarpmk* used a different delimiter.

Source name is set to `lwarp`: `lwarp` has recently been recompiled in this directory, which overwrote the project's configuration files. This also occurs if *lwarpmk* is executed in `lwarp`'s source directory.

Incorrect operating system: The configuration file was set for a different operating system, perhaps due to sharing in a collaborative project.

Outdated configuration files: `lwarp` has been updated since this project was last compiled. If there appears to be a valid print command in the file, `lwarpmk` displays this to instruct the user how to recompile the print version, which then updates the configuration files.

The designated source file does not exist: For whatever reason...

Unknown engine: `lwarp` cannot determine which engine is being used. Supported are DVI L^AT_EX, PDF L^AT_EX, X_YL^AT_EX, LuaL^AT_EX, and upL^AT_EX.

13.1.2 Image generation with `lwarpmk limages`

“Wait a moment for the images to complete before reloading page.”:

Images are generated by background tasks. If the document is reloaded before these tasks are complete, some images may not yet be generated. *lwarpmk* tries to wait for background tasks to complete before exiting.

HTML version does not exist: Images are extracted from the HTML version, which must be compiled before images are generated.

***-images.txt does not exist:** This file tells which images to extract from the HTML file. If the file does not exist, it may be that no SVG math or `lateximages` were used. If so, `lwarpmk limages` is not necessary.

Cross references are not correct: The document must have up-to-date cross references to locate the images to extract. A number of conditions may cause incorrect cross references.

“WARNING: Images will be incorrect.”: An image reference was not found. Re-compile.

`lwarpmk epstopdf *` or `lwarpmk pdftosvg *`: Errors if filenames are not found.

13.1.3 Default bitmapped font

lwarp requires the use of a vector font. If lwarp detects that the document uses the default COMPUTER MODERN font, and the cm-super package is not installed, it is assumed that the font is bitmapped. An error is generated, along with the recommendation to install cm-super or use lmodern.

13.1.4 Packages

Loaded before lwarp: Some packages and classes must be loaded before lwarp. These include input and font encoding, morewrites and newclude, and a number of CJK-related packages and classes.

Loaded after lwarp: Most packages which are modified by lwarp must be loaded after lwarp.

Loaded never: Some packages do not work with lwarp. An error is generated, along with a list of alternatives to consider.

Specific packages: Some packages enforce a specific load order vs. certain other packages.

Patching error: lwarp tries to patch some packages using xpatch. If the original package has been updated more recently than lwarp, a patch may not work. It may be necessary to use an older version of the package until lwarp is updated.

longtable: lwarp's longtable package issues detailed error messages regarding the use of the table headers and footers.


polyglossia: If used, an informative message is printed to instruct the user to be sure to set a language, without which an error will occur.

babel or polyglossia: An informative message is printed to note that not all languages are supported by cleveref.

13.1.5 Compiling

SideTOCDepth < FileDepth: A warning is displayed if these counters are set such that the sideroc will not be able to access all pages of the website.

Filenames: lwarp may generate file names from section names. While doing so, the filenames are simplified, and special characters and math are removed. If this process generates a duplicate filename, and warning is generated, describing the filename and which section name generated it, and a unique file number is appended to the file name. A warning is also issued if dollar-delimited math is used. Parenthesis-delimited math is recommended instead.

 **HTML corrupted** **Multirow:** When \multirow or \multicolrow are used, \mrowcell or \mcolrowcell must be placed in the appropriate cells to avoid corrupted HTML output.

(width,height) missing a comma: \makebox and \framebox can accept a parenthesis-delimited width and height, which must be separated by a comma.

“Load graphicx or graphics for improved SVG math baselines.”: SVG math sizing and baselines are improved if either of these packages are used.

“Load graphicx or graphics for improved XeTeX logo.”: If these packages are loaded, the Xe_{La}TeX logo can use the reversed “E”.

“It is recommended to use [width=xx\linewidth] instead of [scale=yy] ”: Browser support of scale does not have the same effect as in L^AT_EX.

13.2 Using the lwarp package

The following address problems which may occur, and possible solutions to each.

Also see:

Section 7.11: [Commands to be placed into the warpprint environment](#)

Section 8: [Special cases and limitations](#)

△ **HTML corrupted** **Text is not converting correctly / corrupted HTML tags:**

- Font-related UTF-8 information must be embedded in the PDF file. See section 7.4 regarding bitmapped vs. vector fonts.
- See section 8.2.1 regarding HTML entities and the characters &, <, and >.

△ **dotlessj** **Dotless j (\j):** See section 7.4 regarding cmap, mmap.

Undefined HTML settings:

- See the warning regarding the placement of the HTML settings at section 7.6.

Tabular problems: See section 8.10.1.

Obscure error messages:

Print first: Be sure that a print version of the document compiles and that your document’s L^AT_EX code is correct, before attempting to generate an HTML version.

`\end{warpHTML}, \end{warpprint}, \end{warpall}, \end{warpMathJax}:`

Each of these must be without any other characters on the same line.

“Runaway argument? File ended while scanning use of \next:

Don’t use warpHTML, warpprint, warpall, or warpMathJax inside itself.

Options clash: If using memoir, see section 8.13.

“Missing \begin{document}. ”: Some packages require that their options be specified before lwarp is loaded, or via the package’s setup macro, especially if these options include the use of braces. See section 8.1.

“No room for a new \write.”: Before `\usepackage{lwarp}`, add:

```
\usepackage{morewrites}
\morewritessetup{allocate=10}
```

“! TeX capacity exceeded, sorry [text input levels=15]. ”: Packages were nested too many levels deep. Locate the file `texmf.cnf` for your distribution, and add the line

```
max_in_open = 30
```

“Missing \$ inserted.”: If using a filename or URL in a footnote or `\item`, escape underscores with `_.`

△ [warpHTML](#), [warpprint](#),
[warpMathJax](#), [warpall](#)

“Label(s) may have changed. Rerun to get cross-references right.”:

This warning may repeat endlessly if a math expression is used in a caption. Simple math expressions such as $X=1$ may be replaced with

```
\textit{X}\,,=\,1
```

“Temporary page! LaTeX was unable to guess the total number of pages ...”:

Harmless. Recompile the document one more time.

“Leaders not followed by proper glue”:

This can be caused by a missing `\l@<floastype>` or `\l@<sectiontype>` definition. See `lwarp`'s definitions for examples.

“Improper \prevdepth”: `lateximages` and `svg` math require `\newpage`, which cannot work inside `TEX` boxes or `\ensuremath`. Anything using `\newsavebox`, `\newbox`, `LRbox`, `\savebox`, `\hbox`, `\vbox`, `\usebox`, `\sbox`, etc., must be modified to work without box commands.

If you find something using `\ensuremath`, have it temporarily set:

```
\LetLtxMacro\@ensuredmath\LWR@origensuredmath
```

inside a group first.

`LWR@texboxdepth`

As a stop-gap measure, you may wish to try incrementing the counter `LWR@texboxdepth` before the problematic macro, and then decrementing it after. Doing so tells `lwarp` to avoid using a `\newpage` inside the macro, which may avoid this error.

Also, custom macros which appear inside a section, figure, or table name should be made robust since they appear inside the `.toc`, `.lof`, or `.lot` files. Use `\newrobustcmd` or `\robustify` from `etoolbox`, `xparse`, etc.

If using BibTeX, see section 8.6.9.

“! Undefined control sequence. . . . __hook begindocument”:

See section 8.15.4 if using `polyglossia`.

“\begin{equation} ended by \end{document}”: Do not use custom macros such as `\beq` and `\eeq` to replace

```
\begin{equation}
. . .
\end{equation}
```

“Misplaced \omit”: If using `\LWR@formatted` to define new macros for print and HTML modes, see section 38 regarding `\LWR@expandableformatted`.**“Token not allowed in a PDF string”:** This `hyperref` warning appears while creating the print-mode document, not HTML. A low-level macro is being used in a section name which appears in the PDF bookmarks. `hyperref` removes this macro from the bookmark, and warns of doing so. To avoid this warning, use `\pdfstringdefDisableCommands` in the preamble to define simplified replacement macros for each, or use `\texorpdfstring` in the `\section` or related macro to declare what to use for the `TEX` text, v.s. the PDF bookmark. See the `hyperref` manual.**“Command \textquoteright invalid in math mode”:** This can occur when the document source has math containing the slanted quote ' character, instead of using the upright quote ' character.**Complicated objects inside math:** Some objects, such as `TikZ`, may not compile in `lwarp`'s normal math emulation. Insert

⚠ macros in section, table, figure names

⚠ BibTeX

⚠ polyglossia

⚠ custom macros for environments

⚠ `\LWR@formatted`

⚠ quote character

⚠ “impure” math objects

`\displaymathother` — *or* — `\inlinemathother`
 before the math, and then
`\displaymathnormal` — *or* — `\inlinemathnormal`
 when displaying “normal” math. See section 8.7.11.

Slow compilation of math objects: Complicated math objects can also cause problems with alt tags, resulting in very slow compilation, large alt tags, and possible crashes. Use `\inlinemathother ... \inlinemathnormal` or `\displaymathother ... \displaymathnormal` around the math expression.

⚠ **MATHJAX** **Incorrect MATHJAX:** Some objects do not convert to MATHJAX. Use `\displaymathother` before these objects, then `\displaymathnormal` to return to “normal” display math. See section 8.7.11.

Missing sections: See section 7.6 regarding the `FileDepth` and `SideTOCDepth` counters, and the use of `\tableofcontents` in the home page.

Misnumbered footnotes from section headings: See section 8.5.4.

Missing HTML files:

- See the warning regarding changes to the HTML settings at section 7.6.
- Ensure that the filenames are unique after math and short words are removed. See `FileSectionNames` at section 7.6.

Missing / incorrect cross-references:

- Use `lwarpmk` again followed by `lwarpmk html` or `lwarpmk print` to compile the document one more time.
- Labels with special characters may be a problem. It is best to stick with alpha-numeric, hyphen, underscore, and perhaps the colon (if not French).
`\nameref` refers to the most recently-used section where the `\label` was defined. If no section has been defined before the `\label`, the link will be empty. Index entries also use `\nameref` and have the same limitation.
- `cleveref` and `varioref` are supported, but printed page numbers do not map to HTML, so a section name or a text phrase are used for `\cpageref` and `\cpagerefrange`. This phrase includes `\cpagerefFor`, which defaults to “for”.

Ex:

```
\cpageref{tab:first,tab:second}
```

in html becomes:

“pages **for** table 4.1 and **for** table 4.2”

See `\cpagerefFor` at page 753 to redefine the message which is printed for page number references.

BibTeX errors with `\etalchar`: See section 8.6.9.

Malformed URLs: Do not use the % character between arguments of `\hyperref`, etc., as this character is among those which is neutralized for inclusion in HTML URLs.

Em-dashes or En-dashes in listing captions and titles:

Use `XYLATEX` or `LuaATEX`.

labels

⚠ label characters

`\nameref`

⚠ empty link

⚠ cleveref page numbers

Floats out of sequence:

Mixed “Here” and floating: Floats [H]ere and regular floats may become out of order. `\clearpage` if necessary.

Caption setup: With `\captionsetup` set the positions for the captions above or below to match their use in the source code.

Images are appearing in strange places:

- When images are added or removed, Enter `lwarpmk limages` to refresh the `lateximage` images.

svg images:

⚠ adding/removing

When a math expression, picture, or TikZ environment is added or removed, the svg images must be re-created by entering `lwarpmk limages` to maintain the proper image-file associations. Inline svg math may be hashed and thus not need to be recreated, but display math and objects such as TikZ may move to new image numbers when the document is changed.

recompile first

Before attempting to create the svg image files, `lwarpmk` verifies that the HTML version of the document exists and has correct internal image references.¹⁶ If it is necessary to recompile the document’s HTML version one more time, `lwarpmk` usually will inform the user with an error message, but there are some conditions which cannot be detected, so the user should watch for the L^AT_EX recompile warnings.

⚠ HTML instead of images

If HTML appears where an svg image should be, recompile the document one more time to get the page numbers back in sync, then remake the images one more time.

⚠ page counter

Incorrect svg images will also occur if the document changes the page counter:

```
\setcounter{page}{<value>}
```

The page counter must *not* be adjusted by the user.

⚠ Lots of files!

Expressing math as svg images has the advantage of representing the math exactly as L^AT_EX would, but has the disadvantage of requiring an individual file for each math expression. For inline math, and some other objects, `lwarp` uses an MD5 hash on its L^AT_EX source to combine multiple instances of identical inline expressions into a single image file, but display math and other environments such as `picture` and `TikZ` require one image file each. For a document with a large amount of math, see section 5.5 to use MATHJAX instead.

Plain-looking document:

- The document’s CSS stylesheet may not be available, or may be linked incorrectly. Verify any `\CSSFilename` statements point to a valid CSS file.

⚠ HTML corrupted

Broken fragments of HTML:

- Check the PDF file used to create HTML to see if the tags overflowed the margin. (This is why such large page size and margins are used.)

Changes do not seem to be taking effect:

¹⁶This becomes important when dealing with a document containing thousands of images.

- Be sure to `lwarpmk clean`, recompile, then start by reloading the home page. You may have been looking at an older version of the document. If you changed a section name, you may have been looking at the file for the old name.
- See the warning regarding changes to the HTML settings at section 7.6.
- Verify that the proper CSS is actually being used.
- The browser may compensate for some subtle changes, such as automatically generating ligatures, reflowing text, etc.

Un-matched conditional compiles:

- Verify the proper begin/end of `warpprint`, `warpHTML`, and `warpall` environments.

13.2.1 Debug tracing output

`\tracinglwarp` When `\tracinglwarp` is used, `lwarp` will add extra tracing messages to the `.log` file. The last several messages may help track down errors.

Place `\tracinglwarp` just after `\usepackage{lwarp}` to activate tracing.

13.3 Compiling the `lwarp.dtx` file

lwarp_tutorial.tex: Copy or link `lwarp_tutorial.txt` from the TDS doc directory to the source directory, or wherever you wish to compile the documentation. This file is included verbatim in the documentation, but is in the doc directory so that it may be found by *texdoc* and copied by the user.

Illogical error messages caused by an out-of-sync `lwarp.sty` file:

1. Delete the `lwarp.sty` file.
2. Enter `pdflatex lwarp.ins` to generate a new `lwarp.sty` file.
3. Enter `pdflatex lwarp.dtx` to recompile the `lwarp.pdf` documentation.

Un-nested environments:

Be sure to properly nest:

- `\begin{macrocode}` and `\end{macrocode}`
- `\begin{macro}` and `\end{macro}`
- `\begin{environment}` and `\end{environment}`

14 Trademarks

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File 1 **lwarp.sty**

15 Implementation

This package is perhaps best described as a large collection of smaller individual technical challenges, in many cases solved through a number of ~~erude~~ ~~haeks~~ clever tricks. Reference sources are given for many of the solutions, and a quick internet search will provide additional possibilities.

Judgement calls were made, and are often commented. Improvements are possible. The author is open to ideas and suggestions.

Packages were patched for re-use where they provided significant functionality. Examples include `xcolor` with its color models and conversion to HTML color output, and `siunitx` which provides many number and unit-formatting options, almost all of which are available in pure-text form, and thus easily used by *pdftotext*.

Packages were emulated where their primary purpose was visual formatting which is not relevant to HTML output. For example, packages related to sectioning are already patched by numerous other packages, creating a difficult number of combinations to try to support, and yet in HTML output all of the formatting is thrown away, so these packages are merely emulated.

Packages with graphical output are allowed as-is, but must be nested inside a `lateximage` environment to preserve the graphics.

Testing has primarily been done with the Iceweasel/Firefox browser.

Table 12: Section depths and HTML headings

Section	L ^A T _E X depth	HTML headings *
Title of the entire website		<h1>
(none)	-5	new for this package
book	-2	<div class = "book">
part	-1	<h2>
chapter	0	<h3>
section	1	<h4>
subsection	2	<h5>
subsubsection	3	<h6>
paragraph	4	
subparagraph	5	
listitem	7	new for this package, used for list items

* If FormatWP is true, section headings may be adjusted, depending on WPTitleHeading. See table 11 on page 190.

16 Section depths and HTML headings

Stacks are created to track depth inside the L^AT_EX document structure. This depth is translated to HTML headings as shown in table 12. “Depth” here is not depth in the traditional computer-science stack-usage sense, but rather a representation of the nesting depth inside the L^AT_EX document structure.

When starting a new section, the program first must close out any existing sections and lists of a deeper level to keep the HTML tags nested correctly.

Support for the memoir package will require the addition of a book level, which may push the HTML headings down a step, and also cause subsubsection to become a <div> due to a limit of six HTML headings.

It is possible to use HTML5 <section> and <h1> for all levels, but this may not be well-recognized by older browsers.

Fixed levels for parts and chapters allow the CSS to remain fixed as well.

17 Source code


This is where the documented source code for `lwarp` begins, continuing through the following sections all the way to the change log and index at the end of this document.

The following sections document the actual implementation of the `lwarp` package.

line numbers The small numbers at the left end of a line refer to line numbers in the `lwarp.sty` file.

subjects Blue-colored tags in the left margin aid in quickly identifying the subject of each paragraph. These are often the targets of index entries.

index entries Black-colored tags in the left margin are used to identify programming objects such as files, packages, environments, booleans, and counters. Items without a tag are command macros. Each of these also appears in the index as individual entries, and are also listed together under “files”, “packages”, “environments”, “booleans”, and “counters”.

 **warnings** Special warnings are marked with a warning icon.

for HTML output:
for PRINT output:
for HTML & PRINT: Green-colored tags in the left margin show which sections of source code apply to the generation of HTML, print, or both forms of output.

18 Required L^AT_EX 2_ε format

This date is to ensure a recent enough version of lthooks, ltcmdhooks, ltpara, ltfilehook, ltshipout.

```
1 \NeedsTeXFormat{LaTeX2e}[2021/06/01]
```

19 Warn if using PDF tagging

```
2 \IfPackageLoadedTF{tagpdf-base}% *88*
3   {%
4     \PackageError{lwarp}
5     {%
6       PDF tagging is not supported yet.\MessageBreak%
7       Comment out \string\DocumentMetadata\space for HTML%
8     }
9     {Still in development!}
10  }
11  {}
```

20 Detecting the T_EX engine — *pdf_latex*, *lua_latex*, *xel_latex*

See: <http://tex.stackexchange.com/a/47579>.

Detects X_YT_EX and Lua^AT_EX:

```
12 \RequirePackage{iftex}[2019/11/07]
13 \RequirePackage{ifpdf}
14 \RequirePackage{ifptex}% in case TL2019 or earlier
15
16 \newif\ifxetexorluatex
17
18 \ifXeTeX
19   \xetexorluatextrue
20 \else
21   \ifLuaTeX
22     \xetexorluatextrue
23   \else
24     \xetexorluatexfalse
25   \fi
26 \fi
```

21 Early package requirements

etoolbox (*Pkg*) Provides `\ifbool` and other functions.

```
27 \RequirePackage{etoolbox}[2020/10/05]%
```


Patch to fix copy of environment with a \par:

<https://github.com/josephwright/etoolbox/issues/35>

```
28 \long\def\etb@carsquare#1#2#3\@nil{#1#2}%
```

`verifycommand` (*Pkg*) Verify macros before patching.

```
29 \RequirePackage{verifycommand}
```

`xpatch` (*Pkg*) Patches macros with optional arguments.

```
30 \RequirePackage{xpach}
```

`ifplatform` (*Pkg*) Provides \ifwindows to try to automatically detect WINDOWS OS.

```
31 \RequirePackage{ifplatform}% sense op-system platform
```

`letltxmacro` (*Pkg*)

```
32 \RequirePackage{letltxmacro}
```

22 Package load order

Several packages must never be used with `lwarp`, others should only be loaded before `lwarp`, and others should only be loaded after. The `lwarp` core checks most of these cases. In some `lwarp-*` packages, `\LWR@loadbefore` is used to trigger an error if they are loaded after `lwarp`, while additional code provides necessary patches for when they are loaded before.

Packages which must be loaded after `lwarp` are enforced by a large number of `\LWR@loadafter` statements, below. Some packages are emulated by `memoir`, and so these are tested by `\LWR@notmemoirloadafter`, which does not cause an error if `memoir` is used.

`\LWR@checkloadfilename` is used to check each filename to see if it must never be loaded, or must always be loaded before `lwarp`.

22.1 Tests of package load order

`\LWR@loadafter` $\langle\textit{packagename}\rangle$ Error if this package was loaded before `lwarp`.

```
33 \newcommand*\LWR@loadafter}[1]{%
34 \IfPackageLoadedTF{#1}
35 {
36   \PackageError{lwarp}
37     {%
38       Package #1,\MessageBreak
39       or one which uses #1,\MessageBreak
40       must be loaded after Lwarp.\MessageBreak
41       Enter 'H' for possible solutions%
```

```

42     }
43     {%
44         Move ``\protect\usepackage{#1}'' after
45         ``\protect\usepackage{lwarp}''.\MessageBreak
46         Package #1 may also be loaded by something else,\MessageBreak
47         which must also be moved after Lwarp.%
48     }
49 }
50 {\relax}
51 }

```

`\LWR@notmemoirloadafter` $\langle\textit{packagename}\rangle$ Error if not memoir class and this package was loaded before `lwarp`.

memoir emulates many packages, and pretends that they have already been loaded.

```

52 \IfClassLoadedTF{memoir}
53 {\newcommand*\LWR@notmemoirloadafter}[1]{} }
54 {\LetLtxMacro\LWR@notmemoirloadafter\LWR@loadafter}

```

`\LWR@notltjloadafter` $\langle\textit{packagename}\rangle$ Error if not a `ltjs*` class and this package was loaded before `lwarp`.

```

55 \LetLtxMacro\LWR@notltjloadafter\LWR@loadafter
56
57 \IfClassLoadedTF{ltjarticle}{\renewcommand*\LWR@notltjloadafter}[1]{} }
58 \IfClassLoadedTF{ltjbook}{\renewcommand*\LWR@notltjloadafter}[1]{} }
59 \IfClassLoadedTF{ltjreport}{\renewcommand*\LWR@notltjloadafter}[1]{} }
60 \IfClassLoadedTF{ltjsarticle}{\renewcommand*\LWR@notltjloadafter}[1]{} }
61 \IfClassLoadedTF{ltjsbook}{\renewcommand*\LWR@notltjloadafter}[1]{} }
62 \IfClassLoadedTF{ltjsreport}{\renewcommand*\LWR@notltjloadafter}[1]{} }
63 \IfClassLoadedTF{ltjspf}{\renewcommand*\LWR@notltjloadafter}[1]{} }
64 \IfClassLoadedTF{ltjskiyou}{\renewcommand*\LWR@notltjloadafter}[1]{} }
65 \IfClassLoadedTF{ltjtarticle}{\renewcommand*\LWR@notltjloadafter}[1]{} }
66 \IfClassLoadedTF{ltjtbook}{\renewcommand*\LWR@notltjloadafter}[1]{} }
67 \IfClassLoadedTF{ltjtreport}{\renewcommand*\LWR@notltjloadafter}[1]{} }

```

`\LWR@loadbefore` $\langle\textit{packagename}\rangle$ Error if this package is loaded after `lwarp`.

```

68 \newcommand*\LWR@loadbefore}[1]{}
69 \IfPackageLoadedTF{#1}
70 {\relax}
71 {
72     \PackageError{lwarp}
73     {%
74         Package #1 must be loaded before lwarp.\MessageBreak
75         Enter 'H' for possible solutions%
76     }
77     {Move ``\protect\usepackage{#1}'' before ``\protect\usepackage{lwarp}''}
78 }
79 }

```

`\LWR@checkloadbefore` $\langle\textit{packagename}\rangle$

Given `\LWR@tempone` is the package name to compare to, if package names match, error if it is loaded after `lwarp`.

```
80 \newcommand*\LWR@checkloadbefore}[1]{%
81   \ifdefstring{\LWR@tempone}{#1}{%
82     \LWR@loadbefore{#1}%
83   }{%
84 }
```

`\LWR@loadnever` $\langle\{badpackagename\}\rangle$ $\langle\{replacementpkgnames\}\rangle$

The first packages is not supported, so tell the user to use the second instead. Factored from `\LWR@checkloadnever` and `\LWR@earlyloadnever`.

```
85 \newcommand*\LWR@loadnever}[2]{%
86 \PackageError{lwarp}
87 {%
88   Package #1 is not yet supported\MessageBreak
89   by lwarp's HTML conversion%
90   \ifblank{#2}{%
91     .\MessageBreak
92     Package(s)\MessageBreak
93     \space\space#2\MessageBreak
94     may be useful instead%
95   }%
96 }
97 {%
98   Package #1 might conflict with lwarp in some way,\MessageBreak
99   or is superceded by another package.%
100  \ifblank{#2}{%
101    \MessageBreak
102    For possible alternatives, see package(s) #2.%
103  }%
104 }
105 }
```

`\LWR@afterloadnever` $\langle\{badpackagename\}\rangle$ $\langle\{replacementpkgnames\}\rangle$

Given: `\LWR@tempone` is set to the package name being tested against, if this package name is the bad packagename, suggest the replacements instead. This is used when loading packages after `lwarp`.

```
106 \newcommand*\LWR@afterloadnever}[2]{%
107   \ifdefstring{\LWR@tempone}{#1}{%
108     \LWR@loadnever{#1}{#2}%
109   }{%
110 }
```

`\LWR@earlyloadnever` $\langle\{badpackagename\}\rangle$ $\langle\{replacementpkgnames\}\rangle$

The first package is not supported, so tell the user to use the second instead. This version checks immediately for packages which may have been loaded before `lwarp`.

```
111 \newcommand*\LWR@earlyloadnever}[2]{%
112   \IfPackageLoadedTF{#1}{%
113     \LWR@loadnever{#1}{#2}%
114 }
```

```
114   }{}%
115 }
```

```
\LWR@earlyclassloadnever {<badclassname>} {<replacementclassname>}
```

The first class is not supported, so tell the user to use the second instead. This version checks immediately for classes which may have been loaded before lwarp.

```
116 \newcommand*{\LWR@earlyclassloadnever}[2]{%
117 \IfClassLoadedTF{#1}{%
118 \PackageError{lwarp}
119 {%
120   Class #1 is not supported\MessageBreak
121   by lwarp's HTML conversion%
122   \ifblank{#2}{}%
123   .\MessageBreak
124   #2 may be useful instead%
125   }%
126 }
127 {%
128   Class #1 might conflict with lwarp in some way,\MessageBreak
129   or is superceded by another class.%
130   \ifblank{#2}{}%
131   \MessageBreak
132   For a possible alternative, see #2.%
133   }%
134 }
135 }{\relax}%
136 }
```

22.2 Error for disallowed packages and classes loaded before lwarp

`\LWR@checkloadnevers` Checks against a list of incompatible packages.

```
137 \newcommand*{\LWR@checkloadnevers}{
138 \LWR@checkloadnever{ae}{cm-super, lmodern}
139 \LWR@checkloadnever{aecompl}{cm-super, lmodern}
140 \LWR@checkloadnever{aecc}{cm-super, lmodern}
141 \LWR@checkloadnever{alg}{algorithm2e, algorithmicx}
142 \LWR@checkloadnever{algorithmic}{algorithm2e, algorithmicx}
143 \LWR@checkloadnever{bitfield}{bytefield}
```

`bxckatype` is based on CJK:

```
144 \LWR@checkloadnever{bxckatype}{upLaTeX, bxjsarticle, uarticle, utarticle}

145 \LWR@checkloadnever{caption2}{caption}
146 % \LWR@checkloadnever{ccaption}{caption}% might be preloaded by memoir
147 \LWR@checkloadnever{colortab}{colortbl}
148 \LWR@checkloadnever{csvtools}{datatool}
149 \LWR@checkloadnever{doublespace}{setspace}
150 \LWR@checkloadnever{fancyheadings}{fancyhdr}
151 \LWR@checkloadnever{fncylab}{cleveref}
152 \LWR@checkloadnever{formula}{siunitx}
153 \LWR@checkloadnever{glossary}{glossaries}
```

hangul is not in TeXLive, and is not tested:

```

154 \LWR@checkloadnever{hangul}{kotex, xetexko, luatexko}

155 \LWR@checkloadnever{hyper}{hyperref}
156 \LWR@checkloadnever{libgreek}{libertinust1math, newtx}
157 \LWR@checkloadnever{newthm}{ntheorem}
158 \LWR@checkloadnever{pdfcprot}{microtype}
159 \LWR@checkloadnever{picins}{floatflt, wrapfig, wrapfig2}
160 \LWR@checkloadnever{rplain}{fancyhdr}
161 \LWR@checkloadnever{si}{siunitx}
162 \LWR@checkloadnever{sistyle}{siunitx}
163 \LWR@checkloadnever{slashbox}{diagbox}
164 \LWR@checkloadnever{statex}{statex2}
165 \LWR@checkloadnever{t1enc}{fontenc, inputenc, inputenx}
166 \LWR@checkloadnever{ucs}{inputenc, inputencx}
167 \LWR@checkloadnever{wasysym}{textcomp, amssymb, amfonts, mnsymbol, fdsymbol}

```

The following may one day be supported by lwarp:

```

168 % \LWR@checkloadnever{adjustbox}{}% req'd for menukeys
169 \LWR@checkloadnever{animate}{}
170 \LWR@checkloadnever{auto-pst-pdf}{}
171 \LWR@checkloadnever{auto-pst-pdf-lua}{}
172 \LWR@checkloadnever{algorithms}{}
173 \LWR@checkloadnever{arraycols}{}
174 \LWR@checkloadnever{bidi}{}
175 \LWR@checkloadnever{cals}{}

176 \LWR@checkloadnever{cellspace}{tbls}

177 \LWR@checkloadnever{cgloss4e}{}
178 \LWR@checkloadnever{collcell}{}
179 \LWR@checkloadnever{colophon}{}
180 \LWR@checkloadnever{cooltooltips}{}
181 \LWR@checkloadnever{covington}{}
182 \LWR@checkloadnever{crbox}{}
183 \LWR@checkloadnever{decision-table}{}
184 \LWR@checkloadnever{dvgloss}{}
185 \LWR@checkloadnever{ednotes}{}
186 \LWR@checkloadnever{edfnotes}{}
187 \LWR@checkloadnever{eledform}{}
188 \LWR@checkloadnever{eledmac}{}
189 \LWR@checkloadnever{embedfile}{}
190 \LWR@checkloadnever{endnotes-hy}{endnotes}
191 \LWR@checkloadnever{expex}{}
192 \LWR@checkloadnever{fancytooltips}{}
193 \LWR@checkloadnever{fixocgx}{}
194 \LWR@checkloadnever{flowfram}{}
195 \LWR@checkloadnever{gb4e}{}
196 \LWR@checkloadnever{gmverse}{}
197 \LWR@checkloadnever{graphbox}{}
198 \LWR@checkloadnever{graphicxbox}{}
199 \LWR@checkloadnever{hvfloat}{}
200 \LWR@checkloadnever{inline-images}{}
201 \LWR@checkloadnever{isorot}{rotating}
202 \LWR@checkloadnever{ledmac}{}
203 \LWR@checkloadnever{linguex}{}

```

```

204 \LWR@checkloadnever{longdiv}{}
205 \LWR@checkloadnever{longfigure}{}
206 \LWR@checkloadnever{longtabu}{}
207 \LWR@checkloadnever{mdwenv}{}
208 \LWR@checkloadnever{mdwlist}{}
209 \LWR@checkloadnever{mdwtab}{}
210 \LWR@checkloadnever{navigator}{}
211 \LWR@checkloadnever{nccpic}{}
212 \LWR@checkloadnever{nccsect}{}
213 \LWR@checkloadnever{newvbtm}{}
214 \LWR@checkloadnever{ocg-p}{}
215 \LWR@checkloadnever{ocgtools}{}
216 \LWR@checkloadnever{ocgx}{}
217 \LWR@checkloadnever{ocgx2}{}
218 \LWR@checkloadnever{parrun}{}
219 \LWR@checkloadnever{poemscol}{}
220 \LWR@checkloadnever{poetry}{}
221 \LWR@checkloadnever{program}{}
222 \LWR@checkloadnever{proofread}{}
223 \LWR@checkloadnever{pst-pdf}{}
224 \LWR@checkloadnever{refstyle}{}
225 \LWR@checkloadnever{robustindex}{}
226 \LWR@checkloadnever{robustglossary}{}
227 \LWR@checkloadnever{semioneside}{}
228 \LWR@checkloadnever{slemp}{}
229 \LWR@checkloadnever{snotez}{sidenotes}
230 \LWR@checkloadnever{spacingtricks}{}
231 \LWR@checkloadnever{sverb}{verbatim, fancyvrb}
232 \LWR@checkloadnever{syntax}{}
233 \LWR@checkloadnever{tablists}{}
234 \LWR@checkloadnever{tabto}{}
235 \LWR@checkloadnever{tabu}{}
236 \LWR@checkloadnever{tabularht}{}
237 \LWR@checkloadnever{tabularkv}{}
238 \LWR@checkloadnever{thumby}{}
239 \LWR@checkloadnever{titles}{}
240 \LWR@checkloadnever{typehtml}{}
241 \LWR@checkloadnever{unicode-bidi}{}
242 \LWR@checkloadnever{vcell}{}
243 \LWR@checkloadnever{xhfill}{}
244 }

```

`\LWR@checkloadnever {<badpackagename>} {<replacementpkgname>}`

The first package is not supported, so tell the user to use the second instead.

When `lwarp` is first loaded, this is set to `\LWR@earlyloadnever` to check for incompatible packages which were loaded before `lwarp`. After `lwarp` is loaded, this is changed to `\LWR@afterloadnever` to check for incompatible packages during `\usepackage`.

```
245 \LetLtxMacro\LWR@checkloadnever\LWR@earlyloadnever
```

Now check for incompatible packages which have been loaded before `lwarp`:

```
246 \LWR@checkloadnevers
```

The older CJK and CJKutf8 only work with xeCJK:

```
247 \IfPackageLoadedTF{xeCJK}{}{
248   \LWR@checkloadnever{CJK}{ctex, xeCJK}
249   \LWR@checkloadnever{CJKutf8}{ctex, xeCJK}
250 }
```

Some classes do not work with lwarp:

```
251 \LWR@earlyclassloadnever{beamer}{beamerarticle}
252 \LWR@earlyclassloadnever{jarticle}{ujarticle}
253 \LWR@earlyclassloadnever{jbook}{ujbook}
254 \LWR@earlyclassloadnever{jreport}{ujreport}
255 \LWR@earlyclassloadnever{tarticle}{utarticle}
256 \LWR@earlyclassloadnever{tbook}{utbook}
257 \LWR@earlyclassloadnever{treport}{utreport}
258 \LWR@earlyclassloadnever{novel}{}
259 \LWR@earlyclassloadnever{powerdot}{}

```

22.3 Enforcing package loading after lwarp

Packages which should only be loaded after lwarp are tested here to trip an error if they have already been loaded.

The following packages must be loaded after lwarp:

```
260 \LWR@loadafter{2in1}
261 \LWR@loadafter{2up}
262 \LWR@loadafter{a4}
263 \LWR@loadafter{a4wide}
264 \LWR@loadafter{a5comb}
265 \LWR@notmemoirloadafter{abstract}
266 \LWR@loadafter{academicons}
267 \LWR@loadafter{accents}
268 \LWR@loadafter{accessibility}
269 \LWR@loadafter{accsupp}
270 \LWR@loadafter{acro}
271 \LWR@loadafter{acronym}
272 \LWR@loadafter{adjmulticol}
273 \LWR@loadafter{addlines}
274 \LWR@loadafter{afterpage}
275 \LWR@loadafter{algorithm2e}
276 \LWR@loadafter{algorithmicx}
277 \LWR@loadafter{alltt}
278 \LWR@loadafter{amscdx}
279 % \LWR@loadafter{amsmath}% may be preloaded
280 % \LWR@loadafter{amsthm}% may be preloaded
281 \LWR@loadafter{anonchap}
282 \LWR@loadafter{anysize}
283 \LWR@notmemoirloadafter{appendix}
284 \LWR@loadafter{apxproof}
285 \LWR@loadafter{ar}
286 \LWR@loadafter{arabicfront}
287 \LWR@notmemoirloadafter{array}
288 \LWR@loadafter{arydshln}
289 \LWR@loadafter{asymptote}
290 % \LWR@loadafter{atbegshi}% now in LaTeX core, also used by morewrites
291 \LWR@loadafter{attachfile}

```

292 \LWR@loadafter{attachfile2}
293 \LWR@loadafter{authblk}
294 \LWR@loadafter{authoraftertitle}% Supported as-is, but must be loaded after.
295 \LWR@loadafter{autobreak}
296 \LWR@loadafter{autonum}
297 \LWR@loadafter{awesomebox}
298 \LWR@loadafter{axessibility}
299 \LWR@loadafter{axodraw2}
300 \LWR@loadafter{backnaur}
301 \LWR@loadafter{backref}
302 \LWR@loadafter{balance}
303 \LWR@loadafter{bbding}
304 \LWR@loadafter{beamerarticle}
305 \LWR@loadafter{bigdelim}
306 \LWR@loadafter{bigfoot}
307 \LWR@loadafter{bigstrut}
308 \LWR@loadafter{bitpattern}
309 \LWR@loadafter{blowup}
310 \LWR@loadafter{bm}
311 \LWR@loadafter{booklet}
312 \LWR@loadafter{bookmark}
313 \LWR@notmemoirloadafter{booktabs}
314 \LWR@loadafter{bophook}
315 \LWR@loadafter{bounddvi}
316 \LWR@loadafter{boxedminipage}
317 \LWR@loadafter{boxedminipage2e}
318 \LWR@loadafter{braket}
319 \LWR@loadafter{breakurl}
320 \LWR@loadafter{breqn}
321 \LWR@loadafter{bsheaders}
322 \LWR@loadafter{bussproofs}
323 \LWR@loadafter{bypapersize}
324 \LWR@loadafter{bytefield}
325 \LWR@loadafter{ccicons}
326 \LWR@loadafter{cancel}
327 \LWR@loadafter{canoniclayout}
328 \LWR@loadafter{caption}
329 \LWR@loadafter{caption2}
330 \LWR@loadafter{caption3}
331 \LWR@loadafter{cases}
332 % catoptions is supported by the lwarp core
333 \LWR@loadafter{ccaption}% may be preloaded by memoir
334 \LWR@loadafter{centerlastline}
335 % \LWR@loadafter{centernot}% may be preloaded by newtx
336 \LWR@loadafter{changebar}
337 \LWR@loadafter{changelayout}
338 \LWR@notmemoirloadafter{changepage}
339 \LWR@loadafter{changes}
340 \LWR@loadafter{chappg}
341 \LWR@loadafter{chapterbib}
342 \LWR@loadafter{chemfig}
343 \LWR@loadafter{chemformula}
344 \LWR@loadafter{chemgreek}
345 \LWR@loadafter{chemmacros}
346 \LWR@loadafter{chemnum}
347 \LWR@loadafter{chkfloat}
348 \LWR@notmemoirloadafter{chnpage}
349 \LWR@loadafter{cite}
350 \LWR@loadafter{citeref}
351 \LWR@loadafter{classicthesis}

```
352 \LWR@loadafter{cleveref}
353 % cmbright may be preloaded
354 \LWR@loadafter{cmdtrack}
355 \LWR@loadafter{colonequals}
356 \LWR@loadafter{color}
357 \LWR@loadafter{colortbl}
358 \LWR@loadafter{continue}
359 \LWR@loadafter{copyrightbox}
360 \LWR@notmemoirloadafter{crop}
361 % ctex must be loaded before lwarp
362 \LWR@loadafter{ctable}
363 \LWR@loadafter{cuted}
364 \LWR@loadafter{cutwin}
365 \LWR@loadafter{dblfloatfix}
366 \LWR@loadafter{dblfnote}
367 \LWR@notmemoirloadafter{dcolumn}
368 \LWR@loadafter{decimal}
369 \LWR@loadafter{decorule}
370 \LWR@loadafter{diagbox}
371 \LWR@loadafter{dingbat}
372 \LWR@loadafter{doipubmed}
373 \LWR@loadafter{DotArrow}
374 \LWR@loadafter{dotlessi}
375 \LWR@loadafter{dprogress}
376 \LWR@loadafter{draftcopy}
377 \LWR@loadafter{draftfigure}
378 \LWR@loadafter{draftwatermark}
379 \LWR@loadafter{drftcite}
380 \LWR@loadafter{easy-todo}
381 \LWR@loadafter{ebook}
382 \LWR@loadafter{econometrics}
383 \LWR@loadafter{ed}
384 \LWR@loadafter{ellipsis}
385 \LWR@loadafter{embrac}
386 \LWR@loadafter{emptypage}
387 \LWR@loadafter{endfloat}
388 \LWR@loadafter{endheads}
389 \LWR@loadafter{endnotes}
390 \LWR@loadafter{engtlc}
391 \LWR@loadafter{enotez}
392 \LWR@notmemoirloadafter{enumerate}
393 \LWR@loadafter{enumitem}
394 \LWR@notmemoirloadafter{epigraph}
395 \LWR@loadafter{epsf}
396 \LWR@loadafter{epsfig}
397 \LWR@loadafter{epstopdf}
398 \LWR@loadafter{epstopdf-base}
399 \LWR@loadafter{eqlist}
400 \LWR@loadafter{eqparbox}
401 \LWR@loadafter{errata}
402 \LWR@loadafter{eso-pic}
403 \LWR@loadafter{esvect}
404 \LWR@loadafter{etoc}
405 \LWR@loadafter{eurosym}
406 \LWR@loadafter{everypage}
407 % \LWR@loadafter{everyshi}% now in LaTeX core
408 \LWR@loadafter{extarrows}
409 \LWR@loadafter{extramarks}
410 \LWR@loadafter{fancybox}
411 \LWR@loadafter{fancyhdr}
```

```
412 \LWR@loadafter{fancy par}
413 \LWR@loadafter{fancy ref}
414 \LWR@loadafter{fancy tabs}
415 \LWR@loadafter{fancy vrb}
416 \LWR@loadafter{f box}
417 \LWR@loadafter{fewer float pages}
418 \LWR@loadafter{fig caps}
419 \LWR@loadafter{fig size}
420 \LWR@loadafter{fit box}
421 \LWR@loadafter{fix 2 col}
422 \LWR@loadafter{fix math}
423 \LWR@loadafter{fix me}
424 \LWR@loadafter{fix meto donotes}
425 \LWR@loadafter{fl after}
426 \LWR@loadafter{flippdf}
427 \LWR@loadafter{float}
428 \LWR@loadafter{floatflt}
429 \LWR@loadafter{floatpag}
430 \LWR@loadafter{floatrow}
431 \LWR@loadafter{fl trace}
432 \LWR@loadafter{flushend}
433 \LWR@loadafter{fn break}
434 \LWR@loadafter{fncychap}
435 \LWR@loadafter{fnlineno}
436 \LWR@loadafter{fnpara}
437 \LWR@loadafter{fnpos}
438 \LWR@loadafter{fontawesome}
439 \LWR@loadafter{fontawesome5}
440 % fontenc must be loaded before lwarp
441 % fontspec must be loaded before lwarp
442 \LWR@loadafter{footmisc}
443 \LWR@loadafter{footnote}
444 \LWR@loadafter{footnotebackref}
445 \LWR@loadafter{footnotehyper}
446 \LWR@loadafter{footnoterange}
447 \LWR@loadafter{footnpag}
448 \LWR@loadafter{foreign}
449 \LWR@loadafter{forest}
450 \LWR@loadafter{fouridx}
451 % fourier may be loaded before lwarp
452 \LWR@loadafter{framed}
453 \LWR@loadafter{froufrou}
454 \LWR@loadafter{ftcap}
455 \LWR@loadafter{ftnright}
456 \LWR@loadafter{fullminipage}
457 \LWR@loadafter{fullpage}
458 \LWR@loadafter{fullwidth}
459 \LWR@loadafter{fvextra}
460 \LWR@loadafter{fwlw}
461 \LWR@loadafter{gensymb}
462 \LWR@loadafter{gentombow}
463 % geometry is always loaded by lwarp, and lwarp-geometry is AtBeginDocument
464 \LWR@loadafter{ghsystem}
465 \LWR@loadafter{gindex}
466 \LWR@loadafter{glossaries}
467 \LWR@loadafter{gmeometric}
468 % \LWR@loadafter{graphics}% pre-loaded by xunicode
469 % \LWR@loadafter{graphicx}% pre-loaded by xunicode
470 \LWR@loadafter{gloss}
471 \LWR@loadafter{glossary}
```

```
472 \LWR@loadafter{grffile}
473 \LWR@loadafter{grid}
474 \LWR@loadafter{grid-system}
475 \LWR@loadafter{gridset}
476 \LWR@loadafter{hang}
477 \LWR@loadafter{hanging}
478 \LWR@loadafter{hepunits}
479 \LWR@loadafter{hhline}
480 \LWR@loadafter{hhtensor}
481 \LWR@loadafter{hypbmsec}
482 \LWR@loadafter{hypcap}
483 \LWR@loadafter{hypdestopt}
484 \LWR@loadafter{hypernat}
485 \LWR@loadafter{hyperref}
486 \LWR@loadafter{hyperxmp}
487 \LWR@loadafter{hyphenat}
488 \LWR@loadafter{idxlayout}
489 \LWR@loadafter{ifoddpge}
490 \LWR@loadafter{imakeidx}
491 \LWR@loadafter{imphnatypo}
492 \LWR@notmemoirloadafter{index}
493 % inputenc must be loaded before lwarp
494 % inputenx must be loaded before lwarp
495 % inputtrc may be loaded before lwarp
496 \LWR@loadafter{intopdf}
497 \LWR@loadafter{isomath}
498 \LWR@loadafter{isotope}
499 \LWR@loadafter{jurabib}
500 \LWR@loadafter{karnaugh-map}
501 \LWR@loadafter{keyfloat}
502 \LWR@loadafter{keystroke}
503 % kpfonts may be loaded before lwarp
504 % kpfonts-otf may be loaded before lwarp
505 \LWR@loadafter{layaureo}
506 \LWR@loadafter{layout}
507 \LWR@loadafter{layouts}
508 \LWR@loadafter{leading}
509 \LWR@loadafter{leftidx}
510 \LWR@loadafter{letterspace}
511 \LWR@loadafter{lettrine}
512 % libertinustlmath may be loaded before lwarp
513 \LWR@loadafter{lineno}
514 \LWR@loadafter{lips}
515 \LWR@loadafter{listings}
516 \LWR@loadafter{listliketab}
517 \LWR@loadafter{lltjp-siunitx}
518 \LWR@loadafter{lltjp-tascmac}
519 \LWR@loadafter{longtable}
520 \LWR@loadafter{lpic}
521 \LWR@loadafter{lscapex}
522 \LWR@loadafter{ltablex}
523 \LWR@loadafter{ltcaption}
524 \LWR@loadafter{ltxgrid}
525 \LWR@loadafter{ltxtable}
526 \LWR@loadafter{lualua-check-hyphen}
527 \LWR@loadafter{lualua-visual-debug}
528 \LWR@loadafter{luacolor}
529 \LWR@loadafter{luamplib}
530 \LWR@loadafter{luatodonotes}
531 \LWR@loadafter{luavlna}
```

```
532 \LWR@loadafter{lyluatex}
533 \LWR@loadafter{magaz}
534 \LWR@notmemoirloadafter{makeidx}
535 \LWR@loadafter{manyfoot}
536 \LWR@loadafter{marginfit}
537 \LWR@loadafter{marginfix}
538 \LWR@loadafter{marginnote}
539 \LWR@loadafter{marvosym}
540 % mathalpha may be loaded before lwarp
541 \LWR@loadafter{mathastext}
542 \LWR@loadafter{mathcomp}
543 \LWR@loadafter{mathdesign}
544 \LWR@loadafter{mathdots}
545 \LWR@loadafter{mathfixs}
546 \LWR@loadafter{mathpazo}
547 \LWR@loadafter{mathptmx}
548 \LWR@loadafter{mathspec}
549 \LWR@loadafter{mathtools}
550 \LWR@loadafter{mattens}
551 \LWR@loadafter{maybemath}
552 \LWR@loadafter{mcaption}
553 \LWR@loadafter{mdframed}
554 \LWR@loadafter{mdwmath}
555 \LWR@loadafter{media9}
556 \LWR@loadafter{memhfixc}
557 \LWR@loadafter{menukeys}
558 \LWR@loadafter{metalogo}
559 \LWR@loadafter{metalogoX}
560 \LWR@loadafter{mhchem}
561 \LWR@loadafter{microtype}
562 \LWR@loadafter{midfloat}
563 \LWR@loadafter{midpage}
564 \LWR@loadafter{minibox}
565 \LWR@loadafter{minitoc}
566 \LWR@loadafter{minted}
567 \LWR@loadafter{mismath}
568 \LWR@loadafter{mletright}
569 % morefloats must be allowed early for print mode
570 \LWR@notmemoirloadafter{moreverb}
571 % morewrites must be loaded before lwarp
572 \LWR@notmemoirloadafter{movie15}
573 \LWR@notmemoirloadafter{mparhack}
574 \LWR@loadafter{multibib}
575 \LWR@loadafter{multicap}
576 %\LWR@loadafter{multicol}% loaded by ltxdoc
577 \LWR@loadafter{multicolrule}
578 \LWR@loadafter{multimedia}
579 \LWR@loadafter{multiobjective}
580 \LWR@loadafter{multirow}
581 \LWR@loadafter{multitoc}
582 \LWR@loadafter{musicography}
583 \LWR@loadafter{mwe}
584 \LWR@loadafter{nameauth}
585 \LWR@loadafter{natbib}
586 \LWR@notmemoirloadafter{nccfancyhdr}
587 \LWR@loadafter{nccfoots}
588 \LWR@loadafter{nccmath}
589 \LWR@notmemoirloadafter{needspace}
590 % newclude must be loaded before lwarp
591 % newpxmath may be preloaded
```

```
592 % newtxmath may be loaded before lwarp
593 % newtxsf may be loaded before lwarp
594 % newunicodechar must be loaded before lwarp
595 \LWR@notmemoirloadafter{nextpage}
596 \LWR@loadafter{nicefrac}
597 \LWR@loadafter{niceframe}
598 \LWR@loadafter{nicematrix}
599 \LWR@loadafter{noitcrl}
600 \LWR@loadafter{nolbreaks}
601 \LWR@loadafter{nomencl}
602 \LWR@loadafter{nonfloat}
603 \LWR@loadafter{nonumonpart}
604 \LWR@loadafter{nopageno}
605 \LWR@loadafter{notes}
606 \LWR@loadafter{notespages}
607 \LWR@loadafter{nowidow}
608 \LWR@loadafter{ntheorem}
609 \LWR@loadafter{octave}
610 \LWR@loadafter{orcidlink}
611 \LWR@loadafter{overpic}
612 \LWR@loadafter{pagegrid}
613 \LWR@notmemoirloadafter{pagenote}
614 \LWR@loadafter{pagesel}
615 \LWR@loadafter{paralist}
616 \LWR@loadafter{parallel}
617 \LWR@loadafter{parcolumns}
618 \LWR@loadafter{parnotes}
619 \LWR@notmemoirloadafter{parskip}
620 \LWR@loadafter{pbalance}
621 \LWR@loadafter{pbox}
622 \LWR@loadafter{pdfcol}
623 \LWR@loadafter{pdfcolfoot}
624 \LWR@loadafter{pdfcolmk}
625 \LWR@loadafter{pdfcolparallel}
626 \LWR@loadafter{pdfcolparcolumns}
627 \LWR@loadafter{pdfcomment}
628 \LWR@loadafter{pdfcrypt}
629 \LWR@loadafter{pdfscape}
630 \LWR@loadafter{pdfmarginpar}
631 \LWR@loadafter{pdfpages}
632 \LWR@loadafter{pdfprivacy}
633 \LWR@loadafter{pdfrender}
634 \LWR@loadafter{pdfsync}
635 \LWR@loadafter{pdftricks}
636 \LWR@loadafter{pdfx}
637 \LWR@loadafter{perpage}
638 \LWR@loadafter{pfnote}
639 \LWR@loadafter{phfqit}
640 \LWR@loadafter{physics}
641 \LWR@loadafter{physunits}
642 \LWR@loadafter{picinpar}
643 \LWR@loadafter{pifont}
644 \LWR@loadafter{pinlabel}
645 \LWR@loadafter{placeins}
646 \LWR@loadafter{plarray}
647 \LWR@loadafter{plarydshln}
648 \LWR@loadafter{plextarray}
649 \LWR@loadafter{plextarydshln}
650 \LWR@loadafter{plcolortbl}
651 \LWR@loadafter{plextdelarray}
```

```
652 \LWR@loadafter{plimsoll}
653 \LWR@loadafter{prelim2e}
654 \LWR@loadafter{prettyref}
655 \LWR@loadafter{preview}
656 \LWR@loadafter{psfrag}
657 \LWR@loadafter{psfragx}
658 \LWR@loadafter{pst-eps}
659 \LWR@loadafter{pstool}
660 \LWR@loadafter{pstricks}
661 % \LWR@loadafter{pxatbegshi}% may be used by morewrites
662 \LWR@loadafter{pxeveryshi}
663 % \LWR@loadafter{pxfonts}% may be loaded before lwarp
664 \LWR@loadafter{pxftnright}
665 \LWR@loadafter{pxjahyper}
666 \LWR@loadafter{quotchap}
667 \LWR@loadafter{quoting}
668 \LWR@loadafter{ragged2e}
669 \LWR@loadafter{refcheck}
670 \LWR@loadafter{register}
671 \LWR@loadafter{relsize}
672 \LWR@loadafter{repeatindex}
673 \LWR@loadafter{resizgather}
674 \LWR@loadafter{returntogrid}
675 \LWR@loadafter{rlepsz}
676 \LWR@loadafter{rmathbr}
677 \LWR@loadafter{rmpage}
678 \LWR@loadafter{romanbar}
679 \LWR@loadafter{romanbarpagenumber}
680 \LWR@loadafter{rotating}
681 \LWR@loadafter{rotfloat}
682 \LWR@loadafter{rviewport}
683 \LWR@loadafter{savetrees}
684 % scalefnt is loaded by babel-french
685 \LWR@loadafter{scalereel}
686 \LWR@loadafter{schemata}
687 \LWR@loadafter{scrextend}
688 \LWR@loadafter{scrhack}
689 \LWR@loadafter{scrLayer}
690 \LWR@loadafter{scrLayer-notecolumn}
691 \LWR@loadafter{scrLayer-scrpage}
692 \LWR@loadafter{scrpage2}
693 \LWR@loadafter{section}
694 \LWR@loadafter{sectionbreak}
695 \LWR@loadafter{sectsty}
696 \LWR@loadafter{selectp}
697 \LWR@loadafter{semantic-markup}
698 \LWR@notmemoirloadafter{setspace}
699 \LWR@loadafter{shadow}
700 \LWR@loadafter{shapepar}
701 \LWR@notmemoirloadafter{showidx}
702 \LWR@loadafter{showLabels}
703 \LWR@loadafter{showkeys}
704 \LWR@loadafter{showtags}
705 \LWR@loadafter{shuffle}
706 \LWR@loadafter{sidecap}
707 \LWR@loadafter{sidenotes}
708 \LWR@loadafter{simplebnf}
709 \LWR@loadafter{SIunits}
710 \LWR@loadafter{siunitx}
711 \LWR@loadafter{siunitx-v2}
```

712 \LWR@loadafter{skmath}
713 \LWR@loadafter{slantsc}
714 \LWR@loadafter{slashed}
715 \LWR@loadafter{soul}
716 \LWR@loadafter{soulpos}
717 \LWR@loadafter{soulutf8}
718 \LWR@loadafter{splitbib}
719 \LWR@loadafter{splitidx}
720 \LWR@loadafter{srcltx}
721 \LWR@loadafter{srctex}
722 \LWR@loadafter{stabular}
723 \LWR@loadafter{stackengine}
724 \LWR@loadafter{stackrel}
725 \LWR@loadafter{statex2}
726 \LWR@loadafter{statistics}
727 \LWR@loadafter{statmath}
728 \LWR@loadafter{steinmetz}
729 \LWR@notltjloadafter{stfloats}
730 \LWR@loadafter{struktex}
731 \LWR@loadafter{subcaption}
732 \LWR@loadafter{subfig}
733 \LWR@loadafter{subfigure}
734 \LWR@loadafter{subsupscripts}
735 \LWR@loadafter{supertabular}
736 \LWR@loadafter{svg}
737 \LWR@loadafter{swfigure}
738 \LWR@loadafter{sympytex}
739 \LWR@loadafter{syntonly}
740 \LWR@loadafter{t1inc}
741 \LWR@loadafter{tabfigures}
742 \LWR@loadafter{tabls}
743 \LWR@loadafter{tablefootnote}
744 \LWR@notmemoirloadafter{tabularx}
745 \LWR@loadafter{tabulary}
746 %\LWR@loadafter{tagpdf}% no longer true
747 %\LWR@loadafter{tagpdf-mc-code-generic}
748 %\LWR@loadafter{tagpdf-mc-code-lua}
749 \LWR@loadafter{tascmac}
750 \LWR@loadafter{tcolorbox}
751 \LWR@loadafter{tensor}
752 \LWR@loadafter{termcal}
753 \LWR@loadafter{textarea}
754 % \LWR@loadafter{textcomp}% maybe before lwarp with font packages
755 \LWR@loadafter{textfit}
756 \LWR@loadafter{textpos}
757 \LWR@loadafter{theorem}
758 \LWR@loadafter{thinsp}
759 \LWR@loadafter{thm-listof}
760 \LWR@loadafter{thm-restate}
761 \LWR@loadafter{thmbox}
762 \LWR@loadafter{thmtools}
763 \LWR@loadafter{threadcol}
764 \LWR@loadafter{threeparttable}
765 \LWR@loadafter{threeparttablex}
766 \LWR@loadafter{thumb}
767 \LWR@loadafter{thumbs}
768 \LWR@loadafter{tikz}
769 \LWR@loadafter{tikz-imageLabels}
770 \LWR@loadafter{titleps}
771 \LWR@loadafter{titlesec}

```
772 \LWR@loadafter{titletoc}
773 \LWR@notmemoirloadafter{titling}
774 % \LWR@loadafter{tocbasic}% preloaded by koma-script classes
775 \LWR@notmemoirloadafter{tocbibind}
776 \LWR@loadafter{tocdata}
777 \LWR@loadafter{toccenter}
778 \LWR@notmemoirloadafter{tocloft}
779 \LWR@loadafter{tocstyle}
780 \LWR@loadafter{todo}
781 \LWR@loadafter{todonotes}
782 \LWR@loadafter{topcapt}
783 \LWR@loadafter{tram}
784 \LWR@loadafter{transparent}
785 \LWR@loadafter{trimclip}
786 \LWR@loadafter{trivfloat}
787 \LWR@loadafter{truncate}
788 \LWR@loadafter{turnthepage}
789 \LWR@loadafter{twoup}
790 % \LWR@loadafter{txfonts}% may be loaded before lwarp
791 % txgreek may be loaded before lwarp

792 % \LWR@loadafter{typearea}% preloaded by koma-script classes
793 \LWR@loadafter{typicons}
794 % \LWR@loadafter{ulem}% preloaded by ctexart and related classes
795 \LWR@loadafter{umoline}
796 \LWR@loadafter{underscore}
797 % unicode-math may be loaded before lwarp
798 \LWR@loadafter{units}
799 \LWR@loadafter{unitsdef}
800 \LWR@loadafter{upgreek}
801 \LWR@loadafter{upref}
802 \LWR@loadafter{url}
803 \LWR@loadafter{ushort}
804 \LWR@loadafter{uspace}
805 \LWR@loadafter{varioref}
806 \LWR@notmemoirloadafter{verse}
807 \LWR@loadafter{versonotes}
808 \LWR@loadafter{vertbars}
809 \LWR@loadafter{vmargin}
810 \LWR@loadafter{vowel}
811 \LWR@loadafter{vpe}
812 \LWR@loadafter{vwcol}
813 \LWR@loadafter{wallpaper}
814 \LWR@loadafter{watermark}
815 \LWR@loadafter{widetable}
816 \LWR@loadafter{widows-and-orphans}
817 \LWR@loadafter{witharrows}
818 \LWR@loadafter{wrapfig}
819 \LWR@loadafter{wrapfig2}
820 \LWR@loadafter{xbmks}
821 \LWR@loadafter{xcolor}
822 \LWR@loadafter{xexchangebar}
823 \LWR@loadafter{xellipsis}
824 % xetexko must be loaded before lwarp
825 \LWR@loadafter{xevlna}
826 \LWR@loadafter{xfakebold}
827 \LWR@loadafter{xfrac}
828 \LWR@loadafter{xltabular}
829 \LWR@loadafter{xltextra}
830 \LWR@loadafter{xmpincl}
```



```

831 \LWR@loadafter{xpiano}
832 \LWR@loadafter{xpinyin}
833 \LWR@loadafter{xr}
834 \LWR@loadafter{xr-hyper}
835 \LWR@loadafter{xtab}
836 % xunicode must be loaded before lwarp
837 \LWR@loadafter{xurl}
838 \LWR@loadafter{xy}
839 \LWR@loadafter{zwpagelayout}

```

23 MD5 hashing

The MD5 hash is used for lateximage filenames for svg math.

```

840 \newcommand{\LWR@mdfive}[1]{%
841   \PackageError{lwarp}
842     {No MD5 macro was found}
843     {%
844       Lwarp must find the macros \protect\pdfmdfivesum\space
845       or \protect\mdfivesum.%
846     }
847 }

```

The default for PDF^LATEX, DVI^LATEX, up^LATEX, etc:

```

848 \ifdef{\pdfmdfivesum}
849   {\let\LWR@mdfive\pdfmdfivesum}
850   {}

```

For Lua^LATEX:

```

851 \ifLuaTeX
852 \RequirePackage{pdftexcmds}
853 \let\LWR@mdfive\pdf@mdfivesum
854 \fi

```

For X^LATEX:

```

855 \ifXeTeX
856 \@ifundefined{pdf@fivesum}{}
857   {\let\LWR@mdfive\pdfmdfivesum}
858 \@ifundefined{mdfivesum}{}
859   {\let\LWR@mdfive\mdfivesum}
860 \fi

```

24 PDF^LATEX T1 and UTF-8 encoding

When using PDF^LATEX, lwarp requires T1 font encoding, and recommends UTF-8 input encoding.

If some other input encoding is already defined, lwarp will try to use it instead, and hope for the best.

X^LATEX and Lua^LATEX are both UTF-8 by nature.

`\LWR@pdfencoding` Sets T1, and also utf8 if not already set.

```

861 \newcommand*{\LWR@pdfencoding}{%
862   \RequirePackage[T1]{fontenc}
863
864   \IfPackageLoadedTF{inputenc}{%
865     \IfPackageLoadedTF{inputenx}{%
866       \RequirePackage[utf8]{inputenc}
867     }
868   }
869 }

870 \ifPDFTeX% pdflatex or dvi latex
871   \LWR@pdfencoding
872 \fi
873
874 \ifpTeX
875   \LWR@pdfencoding
876 \fi

```

25 Unicode input characters

for HTML & PRINT:

If using *pdf_latex*, convert a minimal set of Unicode characters. Additional characters may be defined by the user, as needed.

A commonly-used multiply symbol is declared to be `\texttimes`.

The first arguments of `\newunicodechar` below are text ligatures in the source code, even though they are not printed in the following listing.

```

877 \ifpTeX
878 \else
879 \RequirePackage{newunicodechar}
880
881 \newunicodechar{x}{\texttimes}
882
883 \ifPDFTeX% pdflatex or dvi latex
884 \newunicodechar{ff}{ff}% Here, the first arguments are ligatures.
885 \newunicodechar{fi}{fi}
886 \newunicodechar{fl}{fl}
887 \newunicodechar{ffi}{ffi}
888 \newunicodechar{ffl}{ffl}
889 \newunicodechar{-}{---}
890 \newunicodechar{-}{--}
891 \fi
892
893 \fi

```

26 Avoid a bitmapped font

If DVI or PDF \LaTeX , and if the default Computer Modern is the selected font family, ensure that `cm-super` or `lmodern` is used to provide a vector font.

```

894 \ifxetexorluatex

```

```

895 \else
896   \ifdefstring{\f@family}{cmr}{
897     \IfFileExists{type1ec.sty}% found in cm-super
898     {}
899     {% cm-super not installed
900       \IfFileExists{lmodern.sty}{
901         \PackageInfo{lwarp}{cm-super not installed, loading lmodern}
902         \RequirePackage{lmodern}
903       }{
904         \PackageError{lwarp}
905         {%
906           Lwarp requires a vector font.\MessageBreak
907           Install and load cm-super, lmodern, or another\MessageBreak
908           Type-1 vector font before loading lwarp.\MessageBreak
909           Enter 'H' for possible solutions%
910         }
911         {%
912           Install cm-super or lmodern.\MessageBreak
913           If lmodern, load it before lwarp:\MessageBreak
914           \space\space\protect\usepackage{lmodern}\MessageBreak
915           \space\space\protect\usepackage{lwarp}%
916         }
917       }
918     }% cm-super not installed
919   }{% f@family
920 \fi

```

27 Upright quotes

In PDF \TeX , preserve upright quotes in verbatim text. `upquote` also loads `textcomp`.

```

921 \ifPDFTeX
922 \RequirePackage{upquote}
923 \fi
924
925 \ifpTeX
926 \RequirePackage{upquote}
927 \fi

```

28 Avoid bad font combinations

For XeLaTeX and LuaLaTeX , certain font combinations cause problems with `lwarp`.

`libertinus-otf` has special handling for `\textquotedbl`. Search for `\LWR@orig@textquotedbl`.

```

928 \ifxetexorluatex
929   \AtBeginDocument{
930     \IfPackageLoadedTF{kpfonts}{
931       \PackageError{lwarp}
932       {%
933         When using XeLaTeX or LuaLaTeX,\MessageBreak
934         use kpfonts-otf instead of kpfonts%
935       }
936     }%

```

```

937             Replace: \protect\usepackage{kpfonts}\MessageBreak
938             with: \protect\usepackage{kpfonts-otf}
939         }
940     }{}
941 }
942 \fi

```

29 Miscellaneous tools

29.1 Variables

```

943 \newlength{\LWR@templengthone}
944 \newlength{\LWR@templengthtwo}
945 \newlength{\LWR@templengththree}
946 \newcounter{LWR@tempcountone}

```

29.2 Lengths and units

`\LWR@providelength` $\{\langle\text{lengthname}\rangle\}$ Provides the length if it isn't defined yet.

Used to provide source compatibility for lengths which will be ignored, but might or might not be already provided by other packages.

```

947 \newcommand*\LWR@providelength[1]{%
948     \ifdeflength{#1}{}\newlength{#1}}%
949 }

```

`\LWR@convertto` $\{\langle\text{dest unit}\rangle\} \{\langle\text{length}\rangle\}$

Prints a length in the given units, without printing the unit itself.

```

950 \newcommand*\LWR@convertto}[2]{\strip@pt\dimexpr #2*65536/\number\dimexpr 1#1}

```

`\LWR@printpercentlength` $\{\langle\text{smaller}\rangle\} \{\langle\text{larger}\rangle\}$

Prints a percent ratio of the two lengths.

```

951 \newcommand*\LWR@printpercentlength}[2]{%
952     \setcounter{LWR@tempcountone}{100*\ratio{#1}{#2}}%
953     \arabic{LWR@tempcountone}%
954 }

```

29.3 Counters

`\defaddtcounter` $\{\langle\text{name}\rangle\} \{\langle\text{value}\rangle\}$

Locally add to a counter.

```

955 \providecommand*\defaddtcounter}[2]{%
956     \defcounter{#1}{\value{#1}+#2}%
957 }

```

29.4 Patching macros

`\LWR@patcherror` $\{\langle packagename \rangle\} \{\langle macroname \rangle\}$

Prints an error if could not patch a macro.

```

958 \newcommand*\LWR@patcherror}[2]{%
959   \PackageError{lwarp}%
960     {%
961       Unable to patch package #1,\MessageBreak
962       macro \LWRbackslash #2.\MessageBreak
963       Lwarp or #1 may need to be updated%
964     }%
965   {Please contact the maintainer of the Lwarp package.}%
966 }
```

29.5 Copying macros

`\csNewCommandCopycs` $\{\langle dest csname \rangle\} \{\langle source csname \rangle\}$

Given a cs-name for each, copies a macro to a new definition.

```

967 \providecommand*\csNewCommandCopycs}[2]{%
968   \expandafter\NewCommandCopy\csname#1\expandafter\endcsname%
969   \csname#2\endcsname%
970 }
```

`\NewEnvironmentCopy` $\{\langle dest \rangle\} \{\langle source \rangle\}$

Copies an environment to a new definition.

```

971 \providecommand*\NewEnvironmentCopy}[2]{%
972   \csNewCommandCopycs{#1}{#2}%
973   \csNewCommandCopycs{end#1}{end#2}%
974 }
```

29.6 Chinese text isolation

`\LWR@isolate` $\{\langle text \rangle\}$ Isolates Chinese characters from the surrounding text. This is required to avoid extra spaces on either side of the Chinese characters, especially when written to a file.

```

975 \newcommand{\LWR@isolate}[1]{#1}%
976
977 \IfPackageLoadedTF{ctexpatch}{
978   \renewcommand{\LWR@isolate}[1]{\null#1\null}%
979 }{}
980
981 \IfPackageLoadedTF{xeCJK}{
982   \renewcommand{\LWR@isolate}[1]{\null#1\null}%
983 }{}
```

`\LWR@disablepinyin` Disable xpinyin during file, sideroc, and footnote generation. Set by xpinyin.

```

984 \newcommand*\LWR@disablepinyin{}
```

29.7 Inserting vertical space

`\LWR@forceemptyline` Extra vertical space in the HTML output. Use after `\LWR@stoppars`.

```
985 \newcommand*\LWR@forceemptyline{%
986   \LWR@origrule{0pt}{1\baselineskip}%
987   \LWR@orignewline%
988 }
```

29.8 Argument selection

`\LWR@thirdofthree` $\langle first \rangle$ $\langle second \rangle$ $\langle third \rangle$

`\LWR@fourthoffour` $\langle first \rangle$ $\langle second \rangle$ $\langle third \rangle$ $\langle fourth \rangle$

`\LWR@firstoffive` $\langle first \rangle$ $\langle second \rangle$ $\langle third \rangle$ $\langle fourth \rangle$ $\langle fifth \rangle$

`\LWR@secondoffive` $\langle first \rangle$ $\langle second \rangle$ $\langle third \rangle$ $\langle fourth \rangle$ $\langle fifth \rangle$

`\LWR@thirdoffive` $\langle first \rangle$ $\langle second \rangle$ $\langle third \rangle$ $\langle fourth \rangle$ $\langle fifth \rangle$

`\LWR@fourthoffive` $\langle first \rangle$ $\langle second \rangle$ $\langle third \rangle$ $\langle fourth \rangle$ $\langle fifth \rangle$

`\LWR@fifthoffive` $\langle first \rangle$ $\langle second \rangle$ $\langle third \rangle$ $\langle fourth \rangle$ $\langle fifth \rangle$

Expands to the *n*th of the five arguments. Used for extra cross referencing.

```
989 \long\def\LWR@thirdofthree#1#2#3{#3}%
990 \long\def\LWR@fourthoffour#1#2#3#4{#4}%
991
992 \long\def\LWR@firstoffive#1#2#3#4#5{#1}
993 \long\def\LWR@secondoffive#1#2#3#4#5{#2}
994 \long\def\LWR@thirdoffive#1#2#3#4#5{#3}
995 \long\def\LWR@fourthoffive#1#2#3#4#5{#4}
996 \long\def\LWR@fifthoffive#1#2#3#4#5{#5}
```

`\LWR@edeffirstoffive` $\langle first \rangle$ $\langle second \rangle$ $\langle third \rangle$ $\langle fourth \rangle$ $\langle fifth \rangle$ \edefs to the first of five arguments. Used for back referencing.

```
997 \long\def\LWR@edeffirstoffive#1#2#3#4#5{%
998   \edef\@tempa{#1}%
999 }%
```

29.9 Inside boxes

Greater than zero if currently inside a T_EX box, thus should not use `\LWR@orignewpage`. See section 13.2.

```
1000 \newcounter{LWR@texboxdepth}
1001 \setcounter{LWR@texboxdepth}{0}
```

`\LWR@maybe@orignewpage` Only do `\LWR@orignewpage` if not inside a T_EX box. Avoids nested paragraph tags.

```

1002 \newcommand*{\LWR@maybe@orignewpage}{%
1003   \LWR@traceinfo{\LWR@maybe@orignewpage}%
1004   \ifnumgreater{\value{\LWR@textboxdepth}}{0}%
1005     {}%
1006     {\LWR@orignewpage}%
1007   \LWR@traceinfo{\LWR@maybe@orignewpage done}%
1008 }
```

29.10 Global boxes

`\LWR@gsavebox` $\langle\textit{macroname}\rangle$ $\langle\textit{contents}\rangle$

From <https://tex.stackexchange.com/questions/288702/savebox-forgets-its-content-across-columns-inside-align>

```

1009 \DeclareRobustCommand\LWR@gsavebox[1]{%
1010   \ifnextchar(%
1011     {\LWR@gsavepicbox#1}{\ifnextchar{\LWR@gsavebox#1}{\LWR@gsbox#1}}}%
1012 \long\def\LWR@gsbox#1#2{\global\setbox#1\hbox{%
1013   \color@setgroup#2\color@endgroup}}
1014 \def\LWR@gsavebox#1[#2]{%
1015   \ifnextchar [ {\LWR@igsavebox#1[#2]}{\LWR@igsavebox#1[#2][c]}}
1016 \long\def\LWR@igsavebox#1[#2][#3]#4{%
1017   \LWR@gsbox#1{\@makebox[#2][#3]{#4}}
1018 \def\LWR@gsavepicbox#1(#2,#3){%
1019   \ifnextchar[%
1020     {\LWR@igsavepicbox#1(#2,#3)}{\LWR@igsavepicbox#1(#2,#3)[]}}
1021 \long\def\LWR@igsavepicbox#1(#2,#3)[#4]#5{%
1022   \LWR@gsbox#1{\@makepicbox(#2,#3)[#4]{#5}}}
```

`LWR@glrbox` (*enu*) $\langle\textit{macroname}\rangle$

```

1023 \def\LWR@glrbox#1{%
1024   \edef\reserved@a{%
1025     \endgroup
1026     \global\setbox#1\hbox{%
1027       \begingroup\aftergroup}%
1028       \def\noexpand\@currenvir{\@currenvir}%
1029       \def\noexpand\@currvline{\on@line}}%
1030   \reserved@a
1031   \@endpefalse
1032   \color@setgroup
1033   \ignorespaces}
1034 \let\LWR@endglrbox\LWR@endlrbox
```

29.11 Converting a macro name to a cs name

`\macrotoaname` $\langle\textit{macro name with backslash}\rangle$

Results in the macro name without the leading backslash.

Ref: <https://tex.stackexchange.com/questions/42318/removing-a-backslash-from-a-character-sequence>

```

1035 \newcommand*{\macrotoocsname}[1]{%
1036   \ifcat\relax\noexpand#1%
1037     \expandafter\expandafter\expandafter\@gobble\expandafter\string
1038   \fi
1039   #1%
1040 }

```

29.12 Title case

`\LWRtexttitlecase`

```

1041 \ExplSyntaxOn
1042 \newcommand*{\LWRtexttitlecase}[1]{%
1043   \text_titlecase:n{#1}%
1044 }
1045 \ExplSyntaxOff

```

29.13 LetLtxMacros

`\LWR@LetLtxMacros {<newcsname>} {<oldcsname>}`

`\LetLtxMacro` with cs names.

```

1046 \newcommand*{\LWR@LetLtxMacros}[2]{%
1047   \expandafter\LetLtxMacro\csname #1\expandafter\endcsname%
1048   \csname#2\endcsname%
1049 }

```

29.14 Absorbing a star

`\LWR@absorbstar {<csname>}`

Modifies a macro to absorb a star. Used for `cleveref`, since `hyperref` is emulated, so the starred macros are not created by `cleveref`.

```

1050 \newcommand*{\LWR@absorbstar}[1]{%
1051   \LWR@LetLtxMacros{\LWR@origins@#1}{#1}%
1052   \csdef{#1}{\ifstar{\csuse{\LWR@origins@#1}}{\csuse{\LWR@origins@#1}}}
1053   \expandafter\robustify\csname #1\endcsname
1054 }

```

30 Operating-System portability

- Unix (*Prog*) `lwarp` tries to detect which operating system is being used. UNIX / MAC OS / LINUX
- Mac OS (*Prog*) is the default (collectively referred to as “UNIX” in the configuration files), and
- Linux (*Prog*) MS-WINDOWS is supported as well.
- MS-Windows (*Prog*) If MS-WINDOWS is not correctly detected, use the `lwarp` option `OSWindows`.
- Windows (*Prog*) When detected or specified, the operating-system path separator used by `lwarp`
- `OSWindows` (*Opt*) is modified, and the boolean `usingOSWindows` is set true. This boolean may be tested by the user for later use.

30.1 Literal characters

Literal characters to be used in `PrintLatexCmd` and `HTMLLatexCmd`. These are defined without `@` to easily allow their inclusion in the user's document.

The literal `%` character:

```
1055 \let\LWRpercent\@percentchar
```

The literal `$` character:

```
1056 \catcode`\$=12
1057 \def\LWRdollar{$}
1058 \def\LWRdollar{$}% syntax highlighting
1059 \catcode`\$=3
```

The literal `&` character:

```
1060 \catcode`\&=12
1061 \def\LWRamp{&}
1062 \catcode`\&=4
```

The literal `\` character. The ampersand is temporarily set to the escape character during the definition of the backslash macro.

```
1063 \catcode`\&=0
1064 &catcode`\=12
1065 \def&LWRbackslash{\}
1066 &catcode`\=0
1067 \catcode`\&=4
```

The literal `{` character. The ampersand is temporarily set to the begin group character during the definition of the leftbrace macro.

```
1068 \catcode`\&=1
1069 \catcode`\{=12
1070 \def&LWRleftbrace&{ }
1071 \catcode`\{=1
1072 \catcode`\&=4
```

The literal `}` character. The ampersand is temporarily set to the end group character during the definition of the leftbrace macro.

```
1073 \catcode`\&=2
1074 \catcode`\}=12
1075 \def&LWRrightbrace{ }&
1076 \catcode`\}=2
1077 \catcode`\&=4
```

The literal `#` character:

```
1078 \catcode`\#=12
1079 \def&LWRhash{#}
1080 \catcode`\#=6
```

`\LWRopquote` The operating system's quote mark, UNIX default. For WINDOWS, see `\LWR@setOSWindows`, below.

```
1081 \def\LWRopquote{' }
```

`\LWRopseq` The operating system's sequential execution command, UNIX default. For WINDOWS, see `\LWR@setOSWindows`, below.

```
1082 \def\LWRopseq{\space\LWRamp\LWRamp\space\space}
```

30.2 Common portability code

`usingOSWindows` (*bool*) Set if the `OSWindows` option is used, or if `WINDOWS` is automatically detected.

```
1083 \newbool{usingOSWindows}
1084 \boolfalse{usingOSWindows}
```

30.3 UNIX, LINUX, and MAC OS

`\OSPathSymbol` Symbol used to separate directories in a path.

```
1085 \newcommand*{\OSPathSymbol}{/}
```

30.4 MS-WINDOWS

For MS-WINDOWS:

`\LWR@setOSWindows` Set defaults for the MS-WINDOWS operating system. `lwarp` attempts to auto-detect the operating system, and the `OSWindows` option may also be used to force MS-WINDOWS compatibility.

```
1086 \newcommand*{\LWR@setOSWindows}
1087 {
1088 \booltrue{usingOSWindows}
1089 \renewcommand*{\OSPathSymbol}{\@backslashchar}
1090 \def\LWRopquote{"}
1091 \def\LWRopseq{\space\LWRamp\space\space}
1092 }
```

Test for windows during compile. The user may also specify `OSWindows` package option in case this test fails.

```
1093 \ifwindows
1094 \LWR@setOSWindows
1095 \fi
```

31 Package options

`kvoptions` (*Pkg*) Allows key/value package options.

```
1096 \RequirePackage{kvoptions}
1097 \SetupKeyvalOptions{family=LWR,prefix=LWR@}
```

`\lwarpssetup` A user interface to set the keys:

```
1098 \newcommand{\lwarpssetup}[1]{\setkeys{LWR}{#1}}
```

`warpingprint` (*bool*)

`warpingHTML` (*bool*)

`mathjax` (*bool*)

`LWR@origmathjax` (*bool*)

Set to true/false depending on the package option selections for print/HTML/EPUB output and mathsvg/mathjax.

`LWR@origmathjax` remembers the original setting to be restored by `\displaymathnormal`.

```
1099 \newbool{warpingprint}
```

```
1100 \newbool{warpingHTML}
```

```
1101 \newbool{mathjax}
```

```
1102 \newbool{LWR@origmathjax}
```

defaults The default is print output, and svg math if the user chose HTML output.

```
1103 \booltrue{warpingprint}%
```

```
1104 \boolfalse{warpingHTML}%
```

```
1105 \boolfalse{mathjax}%
```

`warpdisable` (*Opt*) If the `warpdisable` option is given, both boolean `warpingprint` and boolean `warpingHTML` are false, and may be used for `\ifbool` tests. This option may be used to disable almost all of `lwarp`, for testing purposes.

```
1106 \DeclareVoidOption{warpdisable}{%
```

```
1107   \PackageInfo{lwarp}{Using option 'warpdisable'}
```

```
1108   \boolfalse{warpingprint}%
```

```
1109   \boolfalse{warpingHTML}%
```

```
1110 }
```

`warpprint` (*Opt*) If the `warpprint` option is given, boolean `warpingprint` is true and boolean `warpingHTML` is false, and may be used for `\ifbool` tests.

```
1111 \DeclareVoidOption{warpprint}{%
```

```
1112   \PackageInfo{lwarp}{Using option 'warpprint'}
```

```
1113   \booltrue{warpingprint}%
```

```
1114   \boolfalse{warpingHTML}%
```

```
1115 }
```

`warpHTML` (*Opt*) Anything in the `warpHTML` environment will be generated for HTML output only.

`warpHTML` (*Opt*) If the `warpHTML` option is given, boolean `warpingHTML` is true and boolean `warpingprint` is false, and may be used for `\ifbool` tests.

```
1116 \DeclareVoidOption{warpHTML}{%
```

```
1117   \PackageInfo{lwarp}{Using option 'warpHTML'}
```

```
1118   \booltrue{warpingHTML}%
```

```
1119   \boolfalse{warpingprint}%
```

```
1120 }
```

`mathsvg` (*Opt*) Option `mathsvg` selects svg math display: If the `mathsvg` option is given, boolean `mathjax` is false, and may be used for `\ifbool` tests.

```
1121 \DeclareVoidOption{mathsvg}{%
```

```
1122   \PackageInfo{lwarp}{Using option 'mathsvg'}
```

```

1123 \boolfalse{mathjax}%
1124 \boolfalse{LWR@origmathjax}%

1125 }

```

`mathjax` (*Opt*) Option `mathjax` selects MATHJAX math display: If the `mathjax` option is given, boolean `mathjax` is true, may be used for `\ifbool` tests.

```

1126 \DeclareVoidOption{mathjax}{%
1127 \PackageInfo{lwarp}{Using option 'mathjax'}
1128 \booltrue{mathjax}%
1129 \booltrue{LWR@origmathjax}%

1130 }

```

`BaseJobname` (*Opt*) Option `BaseJobname` sets the `\BaseJobname` for this document.

Default: `\jobname`

This is the `\jobname` of the printed version, even if currently compiling the HTML version. I.e. this is the `\jobname` without `_html` appended. This is used to set `\HomeHTMLFilename` if the user did not provide one.

```
1131 \DeclareStringOption[\jobname]{BaseJobname}
```

`ImagesDirectory` (*Opt*) Option `ImagesDirectory` sets the name of the directory to use for the `lateximage` images.

Default: `\jobname-images`

```
1132 \DeclareStringOption[\BaseJobname-images]{ImagesDirectory}
```

`ImagesName` (*Opt*) Option `ImagesName` sets the prefix to use for the `lateximage` images.

Default: `image-`

```
1133 \DeclareStringOption[image-]{ImagesName}
```

`makeindexStyle` (*Opt*) Selects a custom `.ist` file. A customized file should be based on `lwarp.ist`. See section 8.6.21.

Default: `lwarp.ist`

```
1134 \DeclareStringOption[lwarp.ist]{makeindexStyle}
```

`xindyStyle` (*Opt*) Selects a custom `.xdy` file. A customized file should be based on `lwarp.xdy`. See section 8.6.22.

Default: `lwarp.xdy`

```
1135 \DeclareStringOption[lwarp.xdy]{xindyStyle}
```

`xindyLanguage` (*Opt*) Sets the *xindy* language to be assigned in *lwarpmk*'s configuration files. This is then used by *lwarpmk* while processing the index and glossary.

Default: `english`

```
1136 \DeclareStringOption[english]{xindyLanguage}
```

`xindyCodepage` (*Opt*) Sets the *xindy* codepage to be assigned in *lwarpmk*'s configuration files. This is then used by *lwarpmk* while processing the index.

Default: `utf8`

```
1137 \DeclareStringOption[utf8]{xindyCodepage}
```

`xindexConfig` (*Opt*) Selects a custom `xindex-*.lua` file. A customized file should be based on `xindex-cfg.lua`. See section 8.6.23.

Default: `<empty>`

```
1138 \DeclareStringOption[]{}{xindexConfig}
```

`pdftotextEnc` (*Opt*) The option `pdftotextEnc` sets the encoding used by *pdftotext*. This is passed to *pdftotext* using its `-enc` option, and is used when converting L^AT_EX PDF output with HTML tags into a plain-text file with HTML tags.

Default: UTF-8

```
1139 \DeclareStringOption[UTF-8]{pdftotextEnc}
```

`lwarpmk` (*Opt*) Tells *lwarp* to generate a local copy of *lwarpmk* called `lwarpmk.lua`. Useful for archiving for future use. This file may be made executable and acts just like *lwarpmk*.

If `lwarpmk` option, creates a local copy of `lwarpmk.lua`:

```
1140 \newbool{LWR@creatinglwarpmk}
1141 \boolfalse{LWR@creatinglwarpmk}
1142
1143 \DeclareVoidOption{lwarpmk}{
1144   \PackageInfo{lwarp}{Using option 'lwarpmk'}
1145   \booltrue{LWR@creatinglwarpmk}
1146 }
```

`OSWindows` (*Opt*) Tells *lwarp* to use MS-WINDOWS compatibility. Auto-detection of the operating system is attempted, and this option is only necessary if the auto-detection fails. See the automatically-generated `lwarpmk.conf` file to find out whether the operating system was detected correctly.

```
1147 \DeclareVoidOption{OSWindows}{
1148   \PackageInfo{lwarp}{Using option 'OSWindows'}
1149   \LWR@setOSWindows
1150 }
```

`HomeHTMLFilename` (*Opt*) The filename of the homepage. The default is the jobname. This option is stored into `\LWR@HomeHTMLFilename`, and later transferred into `\HomeHTMLFilename` for internal use.

Default: `\BaseJobname`

```
1151 \DeclareStringOption[]{HomeHTMLFilename}
```

`HTMLFilename` (*Opt*) The filename prefix of web pages after the homepage. The default is empty, no prefix. This option is stored into `\LWR@HTMLFilename`, and later transferred into `\HTMLFilename` for internal use.

Default: `<empty>`

```
1152 \DeclareStringOption[]{HTMLFilename}
```

`PrintLatexCmd` (*Opt*) The shell commands to use to compile the print document.

Default: `<automatic>`

```
1153 \DeclareStringOption[]{PrintLatexCmd}
```

`HTMLLatexCmd` (*Opt*) The shell commands to use to compile the HTML document.

Default: `<automatic>`

```
1154 \DeclareStringOption[]{HTMLLatexCmd}
```

`PrintIndexCmd` (*Opt*) The shell commands to use to compile the print indexes.

Default: `<empty>`

```
1155 \DeclareStringOption[]{PrintIndexCmd}
```

HTMLIndexCmd (*Opt*) The shell commands to use to compile the HTML indexes.

Default: <empty>

```
1156 \DeclareStringOption[]{\HTMLIndexCmd}
```

LatexmkIndexCmd (*Opt*) The shell commands to be used by *latexmk* to compile the print indexes. Unlike PrintIndexCmd and HTMLIndexCmd, LatexmkIndexCmd does not include the filename, which will be provided by *latexmk*.

Default: <empty>

```
1157 \DeclareStringOption[]{\LatexmkIndexCmd}
```

makeindex (*Opt*) Tells *lwarp* to use *makeindex* for index generation. When *lwarpmk.conf* and **.lwarpmkconf* are generated, PrintIndexCmd and HTMLIndexCmd will be set for *makeindex* with a single index file.

```
1158 \DeclareBoolOption[false]{makeindex}
```

xindy (*Opt*) Tells *lwarp* to use *xindy* for index generation. When *lwarpmk.conf* and **.lwarpmkconf* are generated, PrintIndexCmd and HTMLIndexCmd will be set for *xindy* with a single index file.

```
1159 \DeclareBoolOption[false]{xindy}
```

xindex (*Opt*) Tells *lwarp* to use *xindex* for index generation. When *lwarpmk.conf* and **.lwarpmkconf* are generated, PrintIndexCmd and HTMLIndexCmd will be set for *xindex* with a single index file.

```
1160 \DeclareBoolOption[false]{xindex}
```

IndexRef (*Opt*) Tells *lwarp* how to display the index entries in HTML output. See section 7.5.

Default: *cref*

```
1161 \DeclareStringOption[cref]{IndexRef}
```

GlossaryCmd (*Opt*) The shell command to use to compile the glossary. The print or HTML version of the glossary filename will be appended to this command.

Default: *makeglossaries*

```
1162 \DeclareStringOption[makeglossaries]{GlossaryCmd}
```

latexmk (*Opt*) Option *latexmk* tells *lwarpmk* to use *latexmk* when compiling documents.

```
1163 \DeclareBoolOption[false]{latexmk}
```

dvips (*Opt*) Option *dvips* tells *lwarpmk* to use *dvips* when compiling DVI *latex* documents.

```
1164 \DeclareBoolOption[false]{dvips}
```

dvipdfm (*Opt*) Option *dvipdfm* tells *lwarpmk* to use *dvipdfm* when compiling DVI *latex* documents.

```
1165 \DeclareBoolOption[false]{dvipdfm}
```

dvipdfmx (*Opt*) Option *dvipdfmx* tells *lwarpmk* to use *dvipdfmx* when compiling DVI *latex* documents.

```
1166 \DeclareBoolOption[false]{dvipdfmx}
```

Execute options Execute the package options, with the defaults which have been set just above:

```
1167 \ProcessKeyvalOptions*\relax
```

31.1 Additional options support

Assign the `\BaseJobname` if the user hasn't provided one:

```
1168 \providecommand*\BaseJobname{\LWR@BaseJobname}
```

Defaults unless already over-ridden by the user:

```
1169 \ifcseempty{LWR@HomeHTMLFilename}{
1170   \newcommand*\HomeHTMLFilename{\BaseJobname}
1171 }{
1172   \csedef{HomeHTMLFilename}{\LWR@HomeHTMLFilename}
1173 }
1174
1175 \csedef{HTMLFilename}{\LWR@HTMLFilename}
```

Special handling for underscores in labels and filenames.

`\LWR@sanitized` The sanitized version of what was given to `\LWR@sanitize`. Characters are set to their detokenized versions. Required for underscores in labels and filenames.

```
1176 \newcommand*\LWR@sanitized{}
```

`\LWR@sanitize` $\langle text \rangle$

Sanitizes the text and returns the result in `\LWR@sanitized`.

```
1177 \newcommand*\LWR@sanitize[[1]]{%
1178   \edef\LWR@sanitized{#1}%
1179   \edef\LWR@sanitized{\detokenize\expandafter{\LWR@sanitized}}%
1180 }
```

Sanitize some string options to neutralize underscores.

```
1181 \LWR@sanitize{\LWR@BaseJobname}
1182 \edef\LWR@BaseJobname{\LWR@sanitized}
1183
1184 \LWR@sanitize{\LWR@ImagesDirectory}
1185 \edef\LWR@ImagesDirectory{\LWR@sanitized}
1186
1187 \LWR@sanitize{\LWR@ImagesName}
1188 \edef\LWR@ImagesName{\LWR@sanitized}
```

`\LWR@PrintIndexCmd` and `\LWR@HTMLIndexCmd` are tested to see if they are empty. If so, they are set to a reasonable defaults for a single index using *makeindex*, then possibly set to defaults for *xindy* if the `lwarp xindy` option was selected, then likewise for *xindex* if the `xindex` option was selected.

```
1189 \ifdefempty{\LWR@PrintIndexCmd}{
1190   \renewcommand{\LWR@PrintIndexCmd}{%
```

```

1191     makeindex -s \LWR@makeindexStyle \space \jobname.idx%
1192   }
1193   \ifbool{LWR@xindy}{
1194     \renewcommand{\LWR@PrintIndexCmd}{%
1195       xindy
1196       -M \LWR@xindyStyle \space
1197       -L \LWR@xindyLanguage \space
1198       -C \LWR@xindyCodepage \space
1199       \jobname.idx%
1200     }
1201   }{}
1202   \ifbool{LWR@xindex}{
1203     \ifdefvoid{\LWR@xindexConfig}{
1204       \renewcommand{\LWR@PrintIndexCmd}{%
1205         xindex
1206         \jobname.idx%
1207       }
1208     }{
1209       \renewcommand{\LWR@PrintIndexCmd}{%
1210         xindex
1211         -c \LWR@xindexConfig \space
1212         \jobname.idx%
1213       }
1214     }
1215   }{}
1216 }{}
1217
1218 \ifdefempty{\LWR@HTMLIndexCmd}{
1219   \renewcommand{\LWR@HTMLIndexCmd}{%
1220     makeindex -s \LWR@makeindexStyle \space \jobname_html.idx%
1221   }
1222   \ifbool{LWR@xindy}{
1223     \renewcommand{\LWR@HTMLIndexCmd}{%
1224       xindy
1225       -M \LWR@xindyStyle \space
1226       -L \LWR@xindyLanguage \space
1227       -C \LWR@xindyCodepage \space
1228       \jobname_html.idx%
1229     }
1230   }{}
1231   \ifbool{LWR@xindex}{
1232     \ifdefvoid{\LWR@xindexConfig}{
1233       \renewcommand{\LWR@HTMLIndexCmd}{%
1234         xindex
1235         \jobname_html.idx%
1236       }
1237     }{
1238       \renewcommand{\LWR@HTMLIndexCmd}{%
1239         xindex
1240         -c \LWR@xindexConfig \space
1241         \jobname_html.idx%
1242       }
1243     }
1244   }{}
1245 }{}
1246
1247 \ifdefempty{\LWR@LatexmkIndexCmd}{
1248   \renewcommand{\LWR@LatexmkIndexCmd}{%
1249     makeindex -s \LWR@makeindexStyle%
1250   }

```



```

1251 \ifbool{LWR@xindy}{
1252     \renewcommand{\LWR@LatexmkIndexCmd}{%
1253         xindy
1254         -M \LWR@xindyStyle \space
1255         -L \LWR@xindyLanguage \space
1256         -C \LWR@xindyCodepage%
1257     }
1258 }{}
1259 \ifbool{LWR@xindex}{
1260     \ifdefvoid{\LWR@xindexConfig}{
1261         \renewcommand{\LWR@LatexmkIndexCmd}{%
1262             xindex
1263         }
1264     }{
1265         \renewcommand{\LWR@LatexmkIndexCmd}{%
1266             xindex
1267             -c \LWR@xindexConfig
1268         }
1269     }
1270 }{}
1271 }{}

```

31.2 Conditional compilation

`\warpprintonly {<contents>}`

Only process the contents if producing printed output.

```
1272 \newcommand{\warpprintonly}[1]{\ifbool{warpingprint}{#1}{}}
```

`\warpHTMLonly {<contents>}`

Only process the contents if producing HTML output.

```
1273 \newcommand{\warpHTMLonly}[1]{\ifbool{warpingHTML}{#1}{}}
```

`comment (Pkg)` Provides conditional code blocks.

Attempts to use `versions` or `verbatim` fail in some cases, and do not provide much of a speed benefit even when they do work.

```
1274 \RequirePackage{comment}
```

`\LWR@includecomment {<env name>} {<partial filename>}`

`\LWR@excludecomment {<env name>} {<partial filename>}`

Use many `comment` cut files to avoid collision in case the user uses the `comment` package. Each filename is “comment_#2.cut”. Based on the `comment` package.

```

1275 \def\LWR@includecomment
1276 #1#2{\message{Lwarp: Including comment '#1'}%
1277     \csarg\def{After#1Comment}{%
1278         \CloseAndInputCutFile%
1279         \csundef\LWR@#1commentused}%

```

```

1280   }
1281   \csarg\def{#1}{%
1282     \endgroup
1283     \ifcsdef{LWR@#1commentused}{
1284       \PackageError{lwarp}%
1285         {Nested #1 environment}%
1286         {%
1287           Environment #1 cannot be nested.\MessageBreak
1288           This can happen when a package is loaded
1289           from inside a\MessageBreak
1290           #1 environment.%
1291         }%
1292     }{\relax}
1293     \csdef{LWR@#1commentused}{}
1294     \message{Including '#1' comment.}%
1295     \def\CommentCutFile{comment_#2.cut}
1296     \SetUpCutFile
1297     \ProcessComment{#1}
1298   }%
1299   \CommentEndDef{#1}
1300 }
1301
1302 \def\LWR@excludecomment
1303 #1#2{\message{Lwarp: Excluding comment '#1'}%
1304   \csarg\def{#1}{
1305     \endgroup
1306     \message{Excluding '#1' comment.}%
1307     \begingroup
1308       \def\CommentCutFile{comment_#2.cut}
1309       \def\ProcessCutFile{}%
1310       \def\ThisComment###1{}%
1311       \ProcessComment{#1}
1312   }%
1313   \csarg\def{After#1Comment}{\CloseAndInputCutFile \endgroup}
1314   \CommentEndDef{#1}}

```

`warpall` (*enu*) Anything in the `warpall` environment will be generated for print or HTML outputs.

```
1315 \LWR@includecomment{warpall}{all}
```

`warpHTML` (*enu*) For HTML output:

```

1316 \ifbool{warpingHTML}
1317   {\LWR@includecomment{warpHTML}{html}}
1318   {\LWR@excludecomment{warpHTML}{html}}

```

`warpprint` (*enu*) Anything in the `warpprint` environment will be generated for print output only.

```

1319 \ifbool{warpingprint}
1320   {\LWR@includecomment{warpprint}{print}}
1321   {\LWR@excludecomment{warpprint}{print}}

```

If `warpdisable`, turn off both print and HTML output:

```

1322 \ifboolexpr{bool {warpingprint} or bool {warpingHTML}}
1323   {}
1324   {

```

```

1325     \LWR@exludecomment{warpHTML}{html}
1326     \LWR@exludecomment{warpprint}{print}
1327     \LWR@exludecomment{warpMathJax}{mathjax}
1328   }

```

`warpMathJax` (*env.*) Only if `MATHJAX` is being used along with `HTML`.

```

1329 \begin{warpprint}
1330 \LWR@exludecomment{warpMathJax}{mathjax}
1331 \end{warpprint}
1332
1333 \begin{warpHTML}
1334 \ifbool{mathjax}
1335   {\LWR@includefcomment{warpMathJax}{mathjax}}
1336   {\LWR@exludecomment{warpMathJax}{mathjax}}
1337 \end{warpHTML}

```

`warpsvg` (*env.*) Only if `SVG` math is being used along with `HTML`, or in print mode.

```

1338 \begin{warpprint}
1339 \LWR@includefcomment{warpsvg}{mathsvg}
1340 \end{warpprint}
1341
1342 \begin{warpHTML}
1343 \ifbool{mathjax}
1344   {\LWR@exludecomment{warpsvg}{mathsvg}}
1345   {\LWR@includefcomment{warpsvg}{mathsvg}}
1346 \end{warpHTML}

```

`LWRcreatelwarpmk` (*env.*) Optionally generate a local copy of `lwarpmk`. Default to `no`.

```

1347 \ifbool{LWR@creatinglwarpmk}
1348   {\LWR@includefcomment{LWRcreatelwarpmk}{lwarpmk}}
1349   {\LWR@exludecomment{LWRcreatelwarpmk}{lwarpmk}}

```

32 Required packages

These packages are automatically loaded by `lwarp` when generating `HTML` output. Some of them are also automatically loaded when generating print output, but some are not.

for HTML output: 1350 `\begin{warpHTML}`

`fontspec` (*Pkg*) Load `fontspec` if necessary:

```

1351 \ifxetexorluatex
1352 \IfPackageLoadedTF{fontspec}{}{
1353   \usepackage[no-math]{fontspec}
1354 }

```

The monospaced font is used for `HTML` tags, so turn off its TeX ligatures and common ligatures:

```

1355 \defaultfontfeatures[\rmfamily]{Ligatures={NoCommon,TeX}}

```

```

1356 \defaultfontfeatures[\sffamily]{Ligatures={NoCommon,TeX}}
1357 \defaultfontfeatures[\ttfamily]{Ligatures=NoCommon}
1358 \else

```

pdf_latex only: Only pre-loaded if pdf_latex is being used.

microtype (*Pkg*)

ligatures Older browsers don't display ligatures. Turn off letter ligatures, keeping L^AT_EX dash and quote ligatures, which may fail on older browsers but at least won't corrupt written words.

```

1359 \RequirePackage{microtype}
1360
1361 \microtypesetup{
1362   protrusion=false,
1363   expansion=false,
1364   tracking=false,
1365   kerning=false,
1366   spacing=false}
1367 % \begin{macrocode}
1368 %
1369 % Disable ligatures for typewriter fonts.
1370 % The comma was causing issues with \MathJax\ and \cs{,} followed by a comma.
1371 % Ligatures for f, q, t, etc used to be disabled for non-typewriter fonts, but
1372 % are now allowed.
1373 % \changes{v0.89}{2020/08/01}{Disable typewriter ligatures.}
1374 % ^^A \DisableLigatures[,{,},f,q,t,T,Q]{encoding = *,family = *}% previous
1375 % \begin{macrocode}
1376 \DisableLigatures{encoding = *,family = tt*}

1377 \fi

1378 \end{warpHTML}

```

geometry (*Pkg*) Tactics to avoid unwanted page breaks and margin overflow:

- Uses a very long and wide page to minimize page breaks and margin overflow.
- Uses a scriptsize font.
- Uses extra space at the margin to avoid HTML tag overflow off the page.
- Forces a new PDF page before some environments.
- Forces line break between major pieces of long tags.

for HTML output: 1379 \begin{warpHTML}

If **geometry** has not yet been loaded, use the preexisting page and text sizes to be preserved for later reuse. These will be replaced by **lwarp** \AtBeginDocument with a very large page size to reduce HTML tag overflow off the page.

```

1380 \IfPackageLoadedTF{geometry}
1381 {}{
1382   \RequirePackage[
1383     reset,

```

```

1384     paperwidth=\paperwidth,
1385     paperheight=\paperheight,
1386     textwidth=\textwidth,
1387     textheight=\textheight,
1388     left=\oddsidemargin,
1389     top=\topmargin,
1390     marginparsep=\marginparsep,
1391     marginparwidth=\marginparwidth,
1392   ]{geometry}
1393 }

```

Remember the original definitions for later reuse. If the `geometry` package is loaded by the user, `lwarp-geometry` will nullify the user-level originals.

```

1394 \LetLtxMacro\LWR@origgeometry\geometry
1395 \LetLtxMacro\LWR@orignewgeometry\newgeometry
1396 \LetLtxMacro\LWR@origrestoregeometry\restoregeometry
1397 \LetLtxMacro\LWR@origsavegeometry\savegeometry
1398 \LetLtxMacro\LWR@origloadgeometry\loadgeometry

```

`LWR@allowanothergeometry` `geometry` may be loaded by the user before `lwarp`, after `lwarp`, or not at all. If `(bool)` before `lwarp`, it will have already been loaded by now and its page layout has already been saved. If `geometry` is loaded after `lwarp`, its layout will be set at that time and the user macros nullified. `\AtEndPreamble` this layout will be saved. If the user never loads `geometry`, `lwarp-geometry` will be loaded `\AtBeginDocument`, but it should not change the page layout set here. This is controlled by the boolean `LWR@allowanothergeometry`. Geometry may be adjusted throughout the preamble until `\AtEndPreamble`, when this boolean is set false.

```

1399 \newbool{LWR@allowanothergeometry}
1400 \booltrue{LWR@allowanothergeometry}

```

Use `\AtEndPreamble` to avoid class and option conflict by changing settings after other packages load, instead of using `geometry` package options:

```
1401 \AtEndPreamble{
```

Whatever `geometry` choices the user has made in the preamble, either before or after `lwarp` was loaded, are now saved for possible temporary reuse, such as by `lyluatex`.

See the `lwarp-geometry` section for what happens if `geometry` is loaded after `lwarp`.

```
1402 \LWR@origsavegeometry{LWR@usergeometry}
```

The user's paper size is saved for later reuse, such as by the `pdfpages` or `parallel` packages.

```

1403 \newlength{LWR@userspaperwidth}
1404 \setlength{LWR@userspaperwidth}{\paperwidth}
1405
1406 \newlength{LWR@userspaperheight}
1407 \setlength{LWR@userspaperheight}{\paperheight}
1408
1409 \newlength{LWR@usersmarginparwidth}
1410 \setlength{LWR@usersmarginparwidth}{\marginparwidth}
1411
1412 \newlength{LWR@userstextwidth}

```

```

1413 \setlength{\LWR@userstextwidth}{\textwidth}
1414
1415 \newlength{\LWR@userstextheight}
1416 \setlength{\LWR@userstextwidth}{\textheight}

```

For `lwarp`, use a very large page and margins to help avoid letting HTML tags run off the edge:

```

1417 \LWR@origgeometry{
1418     reset,
1419     paperheight=190in,
1420     paperwidth=20in,
1421     left=2in,
1422     right=6in,
1423     top=1in,
1424     bottom=1in,
1425     heightrounded,%
1426 }

```

The `lwarp` page geometry is saved for future restore:

```

1427 \LWR@origsavegeometry{\LWR@lwarpgeometry}

```

No longer adjust the page layout when `lwarp-geometry` is loaded `\AtBeginDocument`:

```

1428 \boolfalse{\LWR@allowanothergeometry}%

```

`ltsjbook` and other classes can print vertically, and require these to be reset by `lwarp`:

```

1429 \setlength{\textheight}{0.8\paperheight}
1430 \setlength{\textwidth}{0.7\paperwidth}
1431
1432 \@twosidefalse
1433 \@mparswitchfalse
1434 }% \AtEndPreamble
1435
1436 \end{warpHTML}

```

for HTML & PRINT: 1437 \begin{warpall}

`xparse` (*Pkg*)

L^AT_EX3 command argument parsing

```

1438 \IfFormatAtLeastTF{2020-10-01}{\RequirePackage{xparse}}

```

`calc` (*Pkg*)

```

1439 \RequirePackage{calc}

```

```

1440 \end{warpall}

```

for HTML output: 1441 \begin{warpHTML}

`expl3` (*Pkg*)

L^AT_EX3 programming

```
1442 \RequirePackage{expl3}
```

getttitlestring (*Pkg*)

Used to emulate `\nameref`.

```
1443 \RequirePackage{getttitlestring}
1444
1445
1446 \end{warpHTML}
```

for HTML & PRINT: 1447 `\begin{warpall}`

filecontents (*Pkg*)

Used to write helper files while creating the print version.

Recent versions of L^AT_EX (as of Fall 2019) now include the functionality of the `filecontents` package, but with a new optional argument used to specify whether to force the overwriting of an existing file. If an older L^AT_EX kernel is used, the original `filecontents` package is used, but it is patched to throw away the new optional argument.

```
1448 \@ifundefined{filec@ntents@opt}{% older kernel, discard optional args
1449
1450   \RequirePackage{filecontents}
1451
1452   \LetLtxMacro\LWR@orig@filec@ntents\filec@ntents
1453
1454   \IfPackageAtLeastTF{filecontents}{2011/10/08}
1455   {
```

For a newer version of the `filecontents` package, simply discard the optional argument.

```
1456     \renewcommand*{\filec@ntents}[1][\LWR@orig@filec@ntents]
1457   }
1458   {% patch older package for morewrites
```

For an older version of `filecontents`, discard the optional argument, and also patch to work with `morewrites`, per <https://tex.stackexchange.com/questions/312830/does-morewrites-not-support-filecontents-and-can-i-write-body-of-environment-us/312910>

```
1459     \newwrite\fcwrite
1460     \renewcommand*{\filec@ntents}[1][\LWR@orig@filec@ntents]{%
1461       \def\chardef##1\write{\let\reserved@cfwrite}%
1462       \LWR@orig@filec@ntents%
1463     }
1464   }
1465
1466 }% older kernel
1467 {% newer kernel
```

For a newer kernel with a filecontents environment which accepts the optional overwrite argument, use the environment as-is.

```
1468 }% newer kernel, filecontents env accepts optional args, do not load package
```

```
1469 \end{warpall}
```

for HTML output: 1470 \begin{warpHTML}

xifthen (*Pkg*)

```
1471 \RequirePackage{xifthen}
```

verbatim (*Pkg*)

```
1472 \RequirePackage{verbatim}
```

refcount (*Pkg*)

Provides \setcounterref, \setcounterpageref, etc.

```
1473 \RequirePackage{refcount}
```

newfloat (*Pkg*)

```
1474 \RequirePackage{newfloat}
```

```
1475 \end{warpHTML}
```

for HTML & PRINT: 1476 \begin{warpall}

xstring (*Pkg*) There was a short-term bug in xstring regarding \IfInteger which affected lwarp's index generation. The updated version is requested here.

 [index](#)

```
1477 \RequirePackage{xstring}[2019/02/01]
```

environ (*Pkg*) Used to encapsulate math environments for re-use in HTML <alt> text.

```
1478 \RequirePackage{environ}
```

```
1479 \end{warpall}
```

for HTML output: 1480 \begin{warpHTML}

printlen (*Pkg*) Used to convert lengths for image width/height options.

```
1481 \RequirePackage{printlen}
```

\LWR@printlength {<*length*>}

Prints a length using a locally-controlled unit and space. Rounding is used unless the length is small.

```
1482 \newrobustcmd*{\LWR@printlength}[1]{%
```

```
1483   \begingroup%
```



```

1484 \uselengthunit{PT}%
1485 \renewcommand*\unitspace{}%
1486 \ifdimless{#1}{10pt}{%
1487     \printlength{#1}%
1488 }{%
1489     \rndprintlength{#1}%
1490 }%
1491 \endgroup%
1492 }

1493 \end{warpHTML}

```

33 Loading packages

`\RequirePackage` and `\usepackage` are modified to error-check for certain packages, and for HTML they load the `lwarp-` version if it exists.

for HTML & PRINT: 1494 `\begin{warpall}`

Remember the original `\RequirePackage`:

```

1495 \LetLtxMacro\LWR@origRequirePackage\RequirePackage
1496 \LetLtxMacro\LWR@origRequirePackageWithOptions\RequirePackageWithOptions

```

`\LWR@requirepackagenames` Stores the list of required package names.

```
1497 \newcommand*\LWR@requirepackagenames{}
```

`\LWR@parsedrequirepackagenames` Stores the parsed list of required package names after spaces are removed and `lwarp-` is prepended.

```
1498 \newcommand*\LWR@parsedrequirepackagenames{}
```

`\LWR@nullifycomment` Remove the preexisting comment environment. Certain packages define it for their own use.

```

1499 \newcommand*\LWR@nullifycomment{%
1500     \PackageInfo{lwarp}%
1501     {Nullifying the comment environment before loading \LWR@strresulttwo,}%
1502     \let\comment\relax%
1503     \let\endcomment\relax%
1504 }

```

`\LWR@findword` [*1: separator*] [*2: list*] [*3: index*] [*4: destination*]

Note that argument 4 is passed directly to `\StrBetween`.

```

1505 \newcommand*\LWR@findword[3][,]{%
1506     \StrBetween[#3,\numexpr#3+1]{#1#2#1}{#1}{#1}%
1507 }

```

`\LWR@checkloadnever` {*bad package name*} {*replacement package names*}

From now on, check for incompatible packages loaded via `\usepackage`, instead of packages loaded before `lwarp`:

```
1508 \LetLtxMacro\LWR@checkloadnever\LWR@afterloadnever
```

`\LWR@checkloadfilename` $\langle filename \rangle$ Checks if this filename should be loaded after `lwarp`, or never at all.

```
1509 \newcommand*\LWR@checkloadfilename}[1]{%
```

Remember the package name to compare with, to be used by `\LWR@checkloadnever` and `\LWR@checkloadbefore`.

```
1510 \edef\LWR@tempone{#1}%
```

Check against the list of packages which should never be loaded:

```
1511 \LWR@checkloadnevers
```

The following should only be loaded before `lwarp`:

```
1512 \LWR@checkloadbefore{ctex}
1513 \LWR@checkloadbefore{fontspec}
1514 \LWR@checkloadbefore{inputenc}
1515 \LWR@checkloadbefore{inputenx}
1516 \LWR@checkloadbefore{nfssexst-cfr}
1517 \LWR@checkloadbefore{fontaxes}
1518 \LWR@checkloadbefore{kotex}
1519 \LWR@checkloadbefore{kpfonts}% textcomp option clash
1520 \LWR@checkloadbefore{luatexja}
1521 \LWR@checkloadbefore{luatexja-fontspec}
1522 \LWR@checkloadbefore{luatexko}
1523 \LWR@checkloadbefore{morewrites}
1524 \LWR@checkloadbefore{newclude}
1525 \LWR@checkloadbefore{newunicodechar}
1526 \LWR@checkloadbefore{pnext}
1527 \LWR@checkloadbefore{xeCJK}
1528 \LWR@checkloadbefore{xetexko}
1529 \LWR@checkloadbefore{zxjatype}
1530 }
```

`\LWR@lookforpackagename` $\langle index \rangle$

If HTML, and if this is an `lwarp`-supported package name, re-direct it to the `lwarp` version by renaming it `lwarp-` followed by the original name.

Looks `index` deep into the list of package names, `\LWR@requirepackagename`s, and builds `\LWR@parsedrequirepackagename`s which is the modified list of names.

```
1531 \newcommand*\LWR@lookforpackagename}[1]{%
```

Find the `index`'th package name from the list:

```
1532 \LWR@findword{\LWR@requirepackagename}{#1}[\LWR@strresult]%
```

Remove blanks. The original name with blanks is in `LWR@strresult` and the final name with no blanks goes into `LWR@strresulttwo`.

```
1533 \StrSubstitute[100]{\LWR@strresult}{ }{ }\LWR@strresulttwo}%
```

See if the package name was found:

```
1534 \IfStrEq{\LWR@strresulttwo}{}%
1535 }{% no filename
1536 }{% yes filename was found
```

Possible adjustments before loading the package. Maybe nullify the comment environment if the new package will be redefining it for a new purpose.

```
1537 \ifdefstring{\LWR@strresulttwo}{easyReview}{\LWR@nullifycomment}{}%
1538 \ifdefstring{\LWR@strresulttwo}{changes}{\LWR@nullifycomment}{}%
```

If HTML, check if the package should be loaded before `lwarp`, or never at all:

```
1539 \ifbool{warpingHTML}{\LWR@checkloadfilename{\LWR@strresulttwo}}{%}
```

If HTML, and if found, and if an `lwarp`-equivalent name exists, use `lwarp-*` instead.

```
1540 \ifboolexpr{
1541   bool{warpingHTML} and
1542   test{\IfFileExists{lwarp-\LWR@strresulttwo.sty}}
1543 }{%
1544   {% lwarp-* file found
1545     \ifdefvoid{\LWR@parsedrequirepackagenames}{%
1546       \edef\LWR@parsedrequirepackagenames{lwarp-\LWR@strresulttwo}%
1547     }{%
1548       \edef\LWR@parsedrequirepackagenames{%
1549         \LWR@parsedrequirepackagenames, lwarp-\LWR@strresulttwo%
1550       }%
1551     }%
1552   }%
1553   {% lwarp-* file not found
```

Otherwise, use the current package name.

```
1554 \ifdefvoid{\LWR@parsedrequirepackagenames}{%
1555   \edef\LWR@parsedrequirepackagenames{\LWR@strresulttwo}%
1556 }{%
1557   \edef\LWR@parsedrequirepackagenames{%
1558     \LWR@parsedrequirepackagenames, \LWR@strresulttwo%
1559   }%
1560 }%
1561 }% no lwarp-* file
1562 }% yes filename
1563 }
```

```
\RequirePackage [1: options] [2: package names] [3: version]
```

For each of many package names in a comma-separated list, if an `lwarp` version of a package exists, select it instead of the L^AT_EX version.

```
1564 \RenewDocumentCommand{\RequirePackage}{o m o}{%
```

Redirect up to twenty names:¹⁷

¹⁷This was originally nine names, but then I came across a package which used twelve...

```

1565 \renewcommand*\LWR@requirepackagenames}{#2}%
1566 \renewcommand*\LWR@parsedrequirepackagenames}{}%
1567 \LWR@lookforpackagename{1}%
1568 \LWR@lookforpackagename{2}%
1569 \LWR@lookforpackagename{3}%
1570 \LWR@lookforpackagename{4}%
1571 \LWR@lookforpackagename{5}%
1572 \LWR@lookforpackagename{6}%
1573 \LWR@lookforpackagename{7}%
1574 \LWR@lookforpackagename{8}%
1575 \LWR@lookforpackagename{9}%
1576 \LWR@lookforpackagename{10}%
1577 \LWR@lookforpackagename{11}%
1578 \LWR@lookforpackagename{12}%
1579 \LWR@lookforpackagename{13}%
1580 \LWR@lookforpackagename{14}%
1581 \LWR@lookforpackagename{15}%
1582 \LWR@lookforpackagename{16}%
1583 \LWR@lookforpackagename{17}%
1584 \LWR@lookforpackagename{18}%
1585 \LWR@lookforpackagename{19}%
1586 \LWR@lookforpackagename{20}%

```

Error if braces are used in optional argument. This can cause an error, so tell how to avoid.

```

1587 \IfSubStr{\detokenize\expandafter{#1}}{\LWRleftbrace}%
1588   {%
1589     \PackageError{lwarp}{%
1590       You used:\MessageBreak
1591       \protect\usepackage[#1]{#2}\MessageBreak
1592       Braces in the package options will fail with Lwarp.\MessageBreak
1593       Instead, use:\MessageBreak
1594       \protect\PassOptionsToPackage{#1}{#2}\MessageBreak
1595       \protect\usepackage{#2}\MessageBreak
1596       near the line number given below.\MessageBreak
1597       Enter 'h' for more info%
1598     }%
1599   {%
1600     See the Lwarp manual troubleshooting index entry for\MessageBreak
1601     ``package, options with braces''%
1602   }%
1603 }%
1604 {}% no brace

```

\RequirePackage depending on the options and version:

```

1605 \IfValueTF{#1}%
1606 {% options given

```

The L^AT_EX3 key/value handler does not appear to expand the option argument, so it is pre-expanded here. This was a problem for mathspec, which passed options to fontspec.

```

1607 \edef\LWR@packageoptions{#1}%
1608 \IfValueTF{#3}% version given?
1609   {%
1610     \expandafter\LWR@origRequirePackage%
1611     \expandafter[\LWR@packageoptions]%

```

```

1612             {\LWR@parsedrequirepackagenames}[#3]%
1613         }%
1614     {%
1615         \expandafter\LWR@origRequirePackage%
1616         \expandafter[\LWR@packageoptions]%
1617         {\LWR@parsedrequirepackagenames}%
1618     }%
1619 }%
1620 {% no options given
1621     \IfValueTF{#3}% version given?
1622         {\LWR@origRequirePackage{\LWR@parsedrequirepackagenames}[#3]}%
1623         {\LWR@origRequirePackage{\LWR@parsedrequirepackagenames}}%
1624 }%
1625 }
1626 \LetLtxMacro\usepackage\RequirePackage
1627 \@onlypreamble\RequirePackage
1628 \@onlypreamble\usepackage

1629 \end{warpall}

```

for HTML output: 1630 \begin{warpHTML}

\LWR@ProvidesPackagePass {<pkgname>} [<version>]

Uses the original package, including options.

```

1631 \NewDocumentCommand{\LWR@ProvidesPackagePass}{m o}{
1632     \PackageInfo{lwarp}{%
1633         Using package `#1',\MessageBreak
1634         and adding lwarp modifications, including options,\MessageBreak%
1635     }%
1636     \IfValueTF{#2}%
1637         {\ProvidesPackage{lwarp-#1}[#2]}%
1638         {\ProvidesPackage{lwarp-#1}}%
1639     \DeclareOption*{%
1640         \PassOptionsToPackage{CurrentOption}{#1}%
1641     }%
1642     \ProcessOptions\relax%

```

If using `catoptions`, an error occurs if a package is loaded with an option then loaded again with no options. `lwarp` does this if a package is preloaded then later patched. To avoid an error while using `catoptions`, if a package has already been loaded, it is loaded again with its original options.

```

1643     \IfPackageLoadedTF{#1}{%
1644         \edef\LWR@tempone{\csuse{opt#1.sty}}%
1645         \IfValueTF{#2}%
1646             {%
1647                 \expandafter\LWR@origRequirePackage%
1648                 \expandafter[\LWR@tempone]{#1}[#2]%
1649             }%
1650             {%
1651                 \expandafter\LWR@origRequirePackage%
1652                 \expandafter[\LWR@tempone]{#1}%
1653             }%
1654     }{%
1655         \IfValueTF{#2}%
1656             {\LWR@origRequirePackage{#1}[#2]}%
1657             {\LWR@origRequirePackage{#1}}%

```

```
1658 }%
```

In some cases, the following seems to be required to avoid an “unknown option” error, such as when loading xcolor with options.

```
1659 \DeclareOption*{%
1660 \ProcessOptions\relax%
1661 }
```

```
\LWR@ProvidesPackageDropA {<name>} {<date or -NoValue->}
```

Declares the package. Factored for reuse.

```
1662 \newcommand*\LWR@ProvidesPackageDropA}[2]{%
1663 \PackageInfo{lwarp}{%
1664 Replacing package `#1' with the lwarp version,\MessageBreak
1665 and discarding options,%
1666 }%
1667 \IfValueTF{#2}
1668 {\ProvidesPackage{lwarp-#1}[#2]}
1669 {\ProvidesPackage{lwarp-#1}}
1670 }
```

```
\LWR@ProvidesPackageDropB Nullifies then processes the options.
```

Seems to be required when options contain curly braces, which were causing “Missing \begin{document}”.

```
1671 \newcommand*\LWR@ProvidesPackageDropB){%
1672 % \ProcessOptions\relax% original LaTeX code
1673 \let\ds@\empty% from the original \ProcessOptions
1674 \edef\@curroptions{)% lwarp modification to \ProcessOptions
1675 \@process@ptions\relax% from the original \ProcessOptions
1676 }
```

```
\LWR@ProvidesPackageDrop {<pkgname>} [<version>]
```

Ignores the original package and uses lwarp’s version instead. Drops/discards all options.

```
1677 \NewDocumentCommand{\LWR@ProvidesPackageDrop}{m o}{
```

Declare the package:

```
1678 \LWR@ProvidesPackageDropA{#1}{#2}
```

Ignore all options:

```
1679 \DeclareOption*{}
```

Process the options:

```
1680 \LWR@ProvidesPackageDropB
1681 }
```

```
1682 \end{warpHTML}
```

34 File handles

Defines file handles for writes.

for HTML & PRINT: 1683 `\begin{warpall}`

`\LWR@quickfile` For quick temporary use only. This is reused in several places.

1684 `\newwrite\LWR@quickfile%`

1685 `\end{warpall}`

for HTML output: 1686 `\begin{warpHTML}`

`\LWR@lateximagesfile` For `<project>-images.txt`:

1687 `\newwrite\LWR@lateximagesfile`

1688 `\end{warpHTML}`

35 Include a file

During HTML output, `\include{<filename>}` causes the following to occur:

1. lwarp creates `<filename>_html_inc.tex` whose contents are:


```
\input <filename>.tex
```
2. `<filename>_html_inc.tex` is then `\included` instead of `<filename>.tex`.
3. `<filename>_html_inc.aux` is automatically generated and used by L^AT_EX.

for HTML output: 1689 `\begin{warpHTML}`

`\@include {<filename>}` Modified to load `_html_inc` files.

(Below, `\clearpage` caused missing text, and was changed to `\newpage`.)

```
1690 \def\@include#1 {%
1691 \immediate\openout\LWR@quickfile #1_html_inc.tex% lwarp
1692 \immediate\write\LWR@quickfile{\string\input{#1.tex}}% lwarp
1693 \immediate\closeout\LWR@quickfile% lwarp
1694 \LWR@maybe@orignewpage% changed from clearpage
1695 \if@filesw
1696   \immediate\write\@mainaux{\string\@input{#1_html_inc.aux}}% changed
1697 \fi
1698 \@tempswatru
1699 \if@partsw
1700   \@tempswafalse
1701   \edef\reserved@b{#1}%
1702   \@for\reserved@a=\@partlist\do
1703     {\ifx\reserved@a\reserved@b\@tempswatru\fi}%
```

```

1704 \fi
1705 \if@tempswa
1706   \let\@auxout\@partaux
1707   \if@filesw
1708     \immediate\openout\@partaux #1_html_inc.aux % changed
1709     \immediate\write\@partaux{\relax}%
1710   \fi
1711   \@input@{#1_html_inc.tex}% changed
1712   \LWR@maybe@orignewpage% changed from clearpage
1713   \@writeckpt{#1}%
1714   \if@filesw
1715     \immediate\closeout\@partaux
1716   \fi
1717 \else
1718   \deadcycles\z@
1719   \@nameuse{cp@#1}%
1720 \fi
1721 \let\@auxout\@mainaux%
1722 }

1723 \end{warpHTML}

```

36 Copying a file

for HTML output: 1724 \begin{warpHTML}

\LWR@copyfile {<source filename>} {<destination filename>}

Used to copy the .toc file to .sidetoc to re-print the TOC in the sideroc navigation pane.

```

1725 \newwrite\LWR@copyoutfile % open the file to write to
1726 \newread\LWR@copyinfile % open the file to read from
1727
1728 \newcommand*{\LWR@copyfile}[2]{%
1729   \LWR@traceinfo{LWR@copyfile: copying #1 to #2}
1730
1731   \immediate\openout\LWR@copyoutfile=#2
1732   \openin\LWR@copyinfile=#1
1733   \begingroup\endlinechar=-1
1734   \makeatletter
1735
1736   \LWR@traceinfo{LWR@copyfile: about to loop}
1737
1738   \loop\unless\ifeof\LWR@copyinfile
1739     \LWR@traceinfo{LWR@copyfile: one line}
1740     \read\LWR@copyinfile to\LWR@fileline % Read one line and store it into \LWR@fileline
1741   % \LWR@fileline\par % print the content into the pdf
1742   % print the content:
1743     \immediate\write\LWR@copyoutfile{\unexpanded\expandafter{\LWR@fileline}}%
1744   \repeat
1745   \immediate\closeout\LWR@copyoutfile
1746   \LWR@traceinfo{LWR@copyfile: done}
1747   \endgroup
1748 }

1749 \end{warpHTML}

```


37 Debugging messages

HTML comments To have the HTML output include additional HTML comments, such as which `<div>` is closing, use

```
\booltrue{HTMLDebugComments}
```

debugging information To have debug information written to the log, use

```
\tracinglwarp
```

for HTML & PRINT: 1750 \begin{warpall}

LWR@tracinglwarp (*bool*) True if tracing is turned on.

```
1751 \newbool{LWR@tracinglwarp}
```

`\tracinglwarp` Turns on the debug tracing messages.

```
1752 \newcommand{\tracinglwarp}{\booltrue{LWR@tracinglwarp}}
```

`\LWR@traceinfo {<text>}` If tracing is turned on, writes the text to the `.log` file.

```
1753 \newcommand{\LWR@traceinfo}[1]{%
1754   \ifbool{LWR@tracinglwarp}%
1755   {%
1756     \typeout{*** lwarp: #1}%
1757   }%
1758   {}%
1759 }
```

`HTMLDebugComments (bool)` Add comments in HTML about closing `<div>`s, sections, etc.

Default: `false`

```
1760 \newbool{HTMLDebugComments}
1761 \boolfalse{HTMLDebugComments}
```

If `\tracinglwarp`, show where preamble hooks occur:

```
1762 \AfterEndPreamble{
1763   \LWR@traceinfo{AfterEndPreamble}
1764 }
1765
1766 \AtBeginDocument{
1767   \LWR@traceinfo{AtBeginDocument}
1768 }
1769 \end{warpall}
```

38 Defining print and HTML versions of macros and environments

The following refers to defining objects inside `lwarp`, and may also be of some use for package authors to adapt their packages for `lwarp`. The following is not for the user's document.

Many macros and environments must be provided as both print and HTML versions.

While generating the print version of a document, the original macros as defined by L^AT_EX and its packages are used as-is.

While generating the HTML version of a document, the original macro or environment is redefined to call a new HTML version or a copy of the original print version. The new HTML versions of macros and environments are used most of the time. Copies of the print versions are used inside a `lateximage` environment, which draws and remembers an image of the printed output, and also several other places.

The general structure for providing print and HTML versions of a macro or environment is as follows:

For a preexisting macro: An HTML version is provided with a special name, inside a `warpHTML` environment, then `\LWR@formatted` is used to redefine and patch various macros:

```
\begin{warpHTML}
\newcommand{\LWR@HTML@name}{...}

\LWR@formatted{name}
\end{warpHTML}
```

`\LWR@formatted{name}` copies the original print version to a new name `\LWR@print@<name>`, then redefines `\name` to use either the print or HTML version depending on which mode `lwarp` is using.

For a preexisting environment: The process is similar. Note the use of `\LWR@formattedenv` instead of `\LWR@formatted`.

```
\begin{warpHTML}
\newenvironment{\LWR@HTML@name}{...}{...}

\LWR@formattedenv{name}
\end{warpHTML}
```

For a new macro or environment: The print version is defined inside `warpall`, so that it can also be seen and modified by during HTML output.

```
\begin{warpall}
\newcommand{\name}{...}% The print version.
\end{warpall}

\begin{warpHTML}
\newcommand{\LWR@HTML@name}{...}

\LWR@formatted{name}
\end{warpHTML}
```

Similar for an environment, using `\formattedenv`.

In general, `\LWR@formatted` or `\LWR@formattedenv` are placed inside a `warpHTML` environment, and while producing an HTML document they do the following:

- Macros are modified:
 1. The pre-existing print version `\name` is saved as `\LWR@print@<name>`, unless `\LWR@print@<name>` is already defined.
 2. The original `\name` is redefined to call either the print or HTML version depending on which format is in use at the moment, as set by `\LWR@formatting`, which is defined as either “print” or “HTML”.
- When `lwarp` is producing a print document, the original definitions are used, as well as any new definitions defined in `warpall` above.
- When `lwarp` is generating HTML output, `\LWR@formatting` is set to “HTML”, and `\name` is directed to `\LWR@HTML@<name>`. For an environment, `\endname` is directed to `\endLWR@HTML@<name>`.
- When `lwarp` is generating HTML output but enters a `lateximage` environment, or for some other reason needs to draw images using the original print definitions, `\LWR@formatting` is changed to “print” and `\name` is then redirected to `\LWR@print@<name>`, which was the original `\name`.
- Since the new `\name` does not process any arguments, they are processed by `\LWR@print@name` or `\LWR@HTML@name`.

Expandable versions are also provided as well. These usually are necessary for anything which could appear inside a `tabular`, without which a “Misplaced `\omit`” error may occur.

⚠ Misplaced `\omit` error

```
\LWR@expandableformatted
\LWR@expandableformattedenv
```

(Older versions of `lwarp` used `\LetLtxMacro` for everything, but this could fail when using macros defined by `xparse`. This older system is still in use for many definitions.)

Print or disabled versions:

```
for HTML & PRINT: 1770 \begin{warpall}

1771 \newcommand*{\LWR@formatted}[1]{}
1772 \newcommand*{\LWR@expandableformatted}[1]{}
1773 \newcommand*{\LWR@Formattedenv}[1]{}
1774 \newcommand*{\LWR@expandableformattedenv}[1]{}

1775 \end{warpall}
```

for HTML output: HTML versions:

```
1776 \begin{warpHTML}
```

`\LWR@formatting` Remembers if selected print/HTML formatting.

Used while `\LWR@restoreorigformatting`, such as in an `lateximage`. May be set to either “print” or “HTML”.

```
1777 \newcommand*{\LWR@formatting}{HTML}
```

`\LWR@formatted@checkname` {<*name*>}

Verify that a print and HTML version exist.

```

1778 \newcommand*{\LWR@formatted@checkname}[1]{%
1779   \ifcsundef{#1}{%
1780     \ifcsundef{LWR@print@#1}{%
1781       \PackageError{lwarp}
1782         {%
1783           \LWRbackslash#1 or \protect\LWR@print@#1\MessageBreak
1784             must be defined before using \protect\LWR@formatted, etc%
1785         }
1786       {Perhaps #1 is misspelled.}
1787     }{\relax}%
1788   }{\relax}%
1789   \ifcsundef{LWR@HTML@#1}{%
1790     \PackageError{lwarp}
1791       {%
1792         \protect\LWR@HTML@#1 must be defined
1793           before using \protect\LWR@formatted, etc%
1794       }
1795     {Perhaps #1 is misspelled.}
1796   }{\relax}%
1797 }
```

`\LWR@formatted@checkendname` {<*name*>}

```

1798 \newcommand*{\LWR@formatted@checkendname}[1]{%
1799   \ifcsundef{end#1}{%
1800     \ifcsundef{endLWR@print@#1}{%
1801       \PackageError{lwarp}
1802         {%
1803           \protect\end#1 or \protect\endLWR@print@#1\MessageBreak
1804             must be defined before using \protect\LWR@formatted, etc%
1805         }
1806       {Perhaps #1 is misspelled.}
1807     }{\relax}%
1808   }{\relax}%
1809   \ifcsundef{endLWR@HTML@#1}{%
1810     \PackageError{lwarp}
1811       {%
1812         \protect\endLWR@HTML@#1 must be defined
1813           before using \protect\LWR@formatted, etc%
1814       }
1815     {Perhaps #1 is misspelled.}
1816   }{\relax}%
1817 }
```

`\LWR@formatted` {<*macroname*>} No backslash in the macro name.

If not yet defined, defines `\LWR@print@<name>` as the original print-mode `\<name>`. Also redefines `\<name>` to use `\LWR@<format>@<name>`, where `<format>` is set by `\LWR@formatting`, and is `print` or `HTML`.

```

1818 \renewcommand*{\LWR@formatted}[1]{%
1819   \LWR@formatted@checkname{#1}%
1820   \ifcsundef{LWR@print@#1}{%
1821     \csNewCommandCopycs{LWR@print@#1}{#1}%

```

```

1822   }{ }%
1823   \ifcsundef{#1}{%
1824     \expandafter\newrobustcmd\csname #1\endcsname{%
1825       \@nameuse{LWR@LWR@formatting @#1}%
1826     }%
1827   }{ }%
1828     \expandafter\renewrobustcmd\csname #1\endcsname{%
1829       \@nameuse{LWR@LWR@formatting @#1}%
1830     }%
1831   }%
1832 }

```

`\LWR@expandableformatted {<macroname>}` No backslash in the macro name.

An expandable version of `\LWR@formatted`.

```

1833 \renewcommand*{\LWR@expandableformatted}[1]{%
1834   \LWR@formatted@checkname{#1}%
1835   \ifcsundef{LWR@print@#1}{%
1836     \csNewCommandCopy{LWR@print@#1}{#1}%
1837   }{ }%
1838   \ifcsundef{#1}{%
1839     \expandafter\newcommand\csname #1\endcsname{%
1840       \@nameuse{LWR@LWR@formatting @#1}%
1841     }%
1842   }{ }%
1843     \expandafter\renewcommand\csname #1\endcsname{%
1844       \@nameuse{LWR@LWR@formatting @#1}%
1845     }%
1846   }%
1847 }

```

`\LWR@formattedenv {<environmentname>}`

If not yet defined, defines the environment `LWR@print@<name>` as the original print-mode `<name>`. Also redefines the environment `<name>` to use environment `LWR@<format>@<name>`, where `<format>` is set by `\LWR@formatting`, and is `print` or `HTML`.

```

1848 \renewcommand*{\LWR@formattedenv}[1]{%
1849   \LWR@formatted@checkname{#1}%
1850   \LWR@formatted@checkendname{#1}%
1851   \ifcsundef{LWR@print@#1}{%
1852     \NewEnvironmentCopy{LWR@print@#1}{#1}%
1853   }{ }%
1854   \DeclareDocumentEnvironment{#1}{}%
1855   {%
1856     \@nameuse{LWR@LWR@formatting @#1}%
1857   }%
1858   {%
1859     \@nameuse{endLWR@LWR@formatting @#1}%
1860   }%
1861 }

```

`\LWR@expandableformattedenv {<environmentname>}`

An expandable version of `LWR@formattedenv`.

```

1862 \renewcommand*\LWR@expandableformattedenv}[1]{%
1863   \LWR@formatted@checkname{#1}%
1864   \LWR@formatted@checkendname{#1}%
1865   \ifcsundef{LWR@print@#1}{%
1866     \NewEnvironmentCopy{LWR@print@#1}{#1}%
1867   }{}%
1868   \DeclareExpandableDocumentEnvironment{#1}{}%
1869   {%
1870     \@nameuse{LWR@\LWR@formatting @#1}%
1871   }%
1872   {%
1873     \@nameuse{endLWR@\LWR@formatting @#1}%
1874   }%
1875 }

1876 \end{warpHTML}

```

39 HTML-conversion output modifications

These booleans modify the HTML output in various ways to improve conversion to EPUB or word processor imports.

for HTML & PRINT: 1877 \begin{warpall}

39.1 User-level controls

FormatEPUB (*bool*) Changes HTML output for easy EPUB conversion via an external program. Removes per-file headers, footers, and nav. Adds footnotes per chapter/section.

Default: false

```

1878 \newbool{FormatEPUB}
1879 \boolfalse{FormatEPUB}

```

FormatWP (*bool*) Changes HTML output for easier conversion by a word processor. Removes headers and nav, prints footnotes per section, and also forces single-file output and turns off HTML debug comments.

Default: false

```

1880 \newbool{FormatWP}
1881 \boolfalse{FormatWP}

```

WPMarkFloats (*bool*) Adds

Default: false

```

=== begin table ===
. . .
=== end ===

```

or

```

=== begin figure ===
. . .
=== end ===

```

around floats while formatting for word processors. This helps identify boundaries of floats to be manually converted to word-processor frames and captions. ¹⁸

¹⁸Perhaps some day word processors will have HTML import options for identifying <figure> and caption tags for figures and tables.

```
1882 \newbool{WPMarkFloats}
1883 \boolfalse{WPMarkFloats}
```

WPMarkMinipages (*bool*) Adds
 Default: *false*

```
=== begin minipage ===
. . .
=== end minipage ===
```

around minipages while formatting for word processors. This helps identify boundaries of minipages to be manually converted to word-processor frames.

```
1884 \newbool{WPMarkMinipages}
1885 \boolfalse{WPMarkMinipages}
```

WPMarkTOC (*bool*) While formatting for word processors, adds
 Default: *true*

```
=== table of contents ===
```

where the Table of Contents would have been. This helps identify where to insert the actual toc.

If set false, the actual toc is printed instead.

```
1886 \newbool{WPMarkTOC}
1887 \booltrue{WPMarkTOC}
```

WPMarkLOFT (*bool*) While formatting for word processors, adds
 Default: *false*

```
=== list of figures === and/or
=== list of tables ===
```

where each of these lists would have been. This helps identify where to insert the actual lists.

If set false, the actual lists are printed instead.

```
1888 \newbool{WPMarkLOFT}
1889 \boolfalse{WPMarkLOFT}
```

WPMarkMath (*bool*) While formatting for word processors, prints math as L^AT_EX code instead of creating SVG images or MATHJAX. This is useful for cut/paste into the *LibreOffice Writer TeXMaths* extension.
 Default: *false*

```
1890 \newbool{WPMarkMath}
1891 \boolfalse{WPMarkMath}
```

WPTitleHeading (*bool*) While formatting for word processors, *true* sets the document title to <h1>, which is expected for HTML documents, but also causes the lower-level section headings to start at **Heading 2** when imported into LIBREOFFICE. Set to *false* to cause the title to be plain text, and the section headings to begin at **Heading 1**.

See table 11 on page 190.

```
1892 \newbool{WPTitleHeading}
1893 \boolfalse{WPTitleHeading}
```

```
1894 \end{warpall}
```

39.2 Heading adjustments

If formatting the HTML for a word processor, adjust heading levels.

If WPTitleHeading is true, adjust so that part is **Heading 1**.

If WPTitleHeading is false, use <h1> for the title, and set part to **Heading 2**.

```

for HTML output: 1895 \begin{warpHTML}

1896 \AtBeginDocument{
1897 \ifbool{FormatWP}{
1898 \@ifundefined{chapter}{
1899 \ifbool{WPTitleHeading}{% part and section starting at h2
1900 \renewcommand*\LWR@tagtitle}{h1}
1901 \renewcommand*\LWR@tagtitleend}{/h1}
1902 \renewcommand*\LWR@tagpart}{h2}
1903 \renewcommand*\LWR@tagpartend}{/h2}
1904 \renewcommand*\LWR@tagsection}{h3}
1905 \renewcommand*\LWR@tagsectionend}{/h3}
1906 \renewcommand*\LWR@tagsubsection}{h4}
1907 \renewcommand*\LWR@tagsubsectionend}{/h4}
1908 \renewcommand*\LWR@tagsubsubsection}{h5}
1909 \renewcommand*\LWR@tagsubsubsectionend}{/h5}
1910 \renewcommand*\LWR@tagparagraph}{h6}
1911 \renewcommand*\LWR@tagparagraphend}{/h6}
1912 \renewcommand*\LWR@tagsubparagraph}{%
1913     span class=\textquotedbl{}subparagraph\textquotedbl{}
1914 }
1915 \renewcommand*\LWR@tagsubparagraphend}{/span}
1916 }% WPTitleHeading
1917 {% not WPTitleHeading, part and section starting at h1
1918 \renewcommand*\LWR@tagtitle}{div class=\textquotedbl{}title\textquotedbl}
1919 \renewcommand*\LWR@tagtitleend}{/div}
1920 \renewcommand*\LWR@tagpart}{h1}
1921 \renewcommand*\LWR@tagpartend}{/h1}
1922 \renewcommand*\LWR@tagsection}{h2}
1923 \renewcommand*\LWR@tagsectionend}{/h2}
1924 \renewcommand*\LWR@tagsubsection}{h3}
1925 \renewcommand*\LWR@tagsubsectionend}{/h3}
1926 \renewcommand*\LWR@tagsubsubsection}{h4}
1927 \renewcommand*\LWR@tagsubsubsectionend}{/h4}
1928 \renewcommand*\LWR@tagparagraph}{h5}
1929 \renewcommand*\LWR@tagparagraphend}{/h5}
1930 \renewcommand*\LWR@tagsubparagraph}{h6}
1931 \renewcommand*\LWR@tagsubparagraphend}{/h6}
1932 }% not WPTitleHeading
1933 }% chapter undefined
1934 {% chapter defined
1935 \ifbool{WPTitleHeading}{
1936 {% not WPTitleHeading, part and chapter starting at h1
1937 \renewcommand*\LWR@tagtitle}{div class=\textquotedbl{}title\textquotedbl}
1938 \renewcommand*\LWR@tagtitleend}{/div}
1939 \renewcommand*\LWR@tagpart}{h1}
1940 \renewcommand*\LWR@tagpartend}{/h1}
1941 \renewcommand*\LWR@tagchapter}{h2}
1942 \renewcommand*\LWR@tagchapterend}{/h2}
1943 \renewcommand*\LWR@tagsection}{h3}
1944 \renewcommand*\LWR@tagsectionend}{/h3}
1945 \renewcommand*\LWR@tagsubsection}{h4}

```



```

1946 \renewcommand*\LWR@tagsubsectionend}{/h4}
1947 \renewcommand*\LWR@tagsubsubsection}{h5}
1948 \renewcommand*\LWR@tagsubsubsectionend}{/h5}
1949 \renewcommand*\LWR@tagparagraph}{h6}
1950 \renewcommand*\LWR@tagparagraphend}{/h6}
1951 \renewcommand*\LWR@tagsubparagraph}{span class=\textquotedbl{}subparagraph\textquotedbl}
1952 \renewcommand*\LWR@tagsubparagraphend}{/span}
1953 }% not WPTitleHeading
1954 }% chapter defined
1955 }{}% FormatWP
1956 }% AtBeginDocument

1957 \end{warpHTML}

```

40 Remembering original formatting macros

for HTML output: 1958 \begin{warpHTML}

Remember original definitions of formatting commands. Will be changed to HTML commands for most uses. Will be temporarily restored to original meaning inside any `lateximage` environment and inside a `tabbing` environment. Also nullify unused commands.

Some packages redefine `\#`, which is used to generate HTML, so the original must be remembered here.

```

1959 \chardef\LWR@origpound=\#

1960 \let\LWR@origcomma\,
1961 \letLtxMacro\LWR@origtilde~
1962 \letLtxMacro\LWR@orignobreakspace\nobreakspace
1963 \let\LWR@origfil\hfil
1964 \let\LWR@orighss\hss
1965 \let\LWR@origllap\llap
1966 \let\LWR@origrlap\rlap
1967 \let\LWR@origfilneg\hfilneg
1968 \let\LWR@origspace\space
1969
1970 \let\LWR@origrule\rule
1971
1972 \let\LWR@origmedskip\medskip
1973 \let\LWR@origbigskip\bigskip

```

`libertinus-otf` has too much kerning for `\textquotedbl`, causing an extra space.

```

1974 \letLtxMacro\LWR@orig@textquotedbl\textquotedbl
1975 \letLtxMacro\LWR@orig@textquotedbl\LWR@orig@textquotedbl
1976
1977 \AtEndPreamble{
1978 \IfPackageLoadedTF{libertinus-otf}{
1979   \renewcommand*\LWR@orig@textquotedbl{\LWR@orig@textquotedbl\kern-.15em}
1980   \letLtxMacro\textquotedbl\LWR@orig@textquotedbl
1981 }{}
1982 }

1983 \letLtxMacro\LWR@origttfamily\ttfamily

```

```

1984
1985 \LetLtxMacro\LWR@origem\em
1986
1987 \LetLtxMacro\LWR@orignormalfont\normalfont
1988
1989 \let\LWR@origonecolumn\onecolumn
1990
1991 \let\LWR@origsp\sp
1992 \let\LWR@origsb\sb
1993
1994 \LetLtxMacro\LWR@origunderline\underline

1995 \let\LWR@orignewpage\newpage
1996
1997 \let\LWR@origpagestyle\pagestyle
1998 \let\LWR@origthispagestyle\thispagestyle
1999 \LetLtxMacro\LWR@origpagenumbering\pagenumbering
2000
2001 \let\LWR@orignewline\newline
2002
2003 \AtBeginDocument{% in case packages change definitions
2004 \let\LWR@orig@trivlist\@trivlist
2005 \let\LWR@origtrivlist\trivlist
2006 \let\LWR@origendtrivlist\endtrivlist
2007 \LetLtxMacro\LWR@origitem\item
2008 \LetLtxMacro\LWR@origitemize\itemize
2009 \LetLtxMacro\LWR@endorigitemize\enditemize
2010 \LetLtxMacro\LWR@origenumerate\enumerate
2011 \LetLtxMacro\LWR@endorigenumerate\endenumerate
2012 \LetLtxMacro\LWR@origdescription\description
2013 \LetLtxMacro\LWR@endorigdescription\enddescription
2014 \let\LWR@orig@mklab@mklab
2015 \let\LWR@origmakelabel\makelabel
2016 \let\LWR@orig@donoparitem\@donoparitem
2017 \LetLtxMacro\LWR@orig@item\@item
2018 \let\LWR@orig@nbitem\@nbitem
2019 }
2020
2021 \let\LWR@origpar\par
2022
2023 \LetLtxMacro\LWR@origfootnote\footnote
2024 \let\LWR@orig@mpfootnotetext\@mpfootnotetext
2025
2026
2027 \AtBeginDocument{% in case packages change definition
2028 \LetLtxMacro\LWR@orighline\hline%
2029 \LetLtxMacro\LWR@origcline\cline%
2030 }

2031 \end{warpHTML}

```

41 Accents

Native \LaTeX accents such as $\`$ will work, but many more kinds of accents are available when using Unicode-aware $X_{\text{q}}\LaTeX$ and $\text{Lua}\LaTeX$. If using accents in section names which will become file names, it is recommended to use the \LaTeX accents such as $\`$ and \v instead of Unicode accents. The \LaTeX accents will have

the accents stripped when creating the filenames, whereas the Unicode accents will appear in the file names, which may cause issues with some operating systems.

for HTML output: 2032 \begin{warHTML}

Without \AtBeginDocument, \t was being re-defined somewhere.

2033 \AtBeginDocument{

The following are restored for print when inside a lateximage.

For Unicode engines, only \t needs to be redefined:

2034 \LetLtxMacro\LWR@origtie\t

For PDF L^AT_EX, additional work is required:

```
2035 \ifPDFTeX% pdflatex or dvi latex
2036 \LetLtxMacro\LWR@origgraveaccent`\`
2037 \LetLtxMacro\LWR@origacuteaccent`\`
2038 \LetLtxMacro\LWR@origcircumflexaccent`\^
2039 \LetLtxMacro\LWR@origtildeaccent`\~
2040 \LetLtxMacro\LWR@origmacronaccent`\=
2041 \LetLtxMacro\LWR@origbreve\u
2042 \LetLtxMacro\LWR@origdotaccent`\.`
2043 \LetLtxMacro\LWR@origdiaeresisaccent`\`
2044 \LetLtxMacro\LWR@origdoubleacuteaccent`\H
2045 \LetLtxMacro\LWR@origcaronaccent`\v
2046 \LetLtxMacro\LWR@origdotbelowaccent`\d
2047 \LetLtxMacro\LWR@origcedillaaccent`\c
2048 \LetLtxMacro\LWR@origmacronbelowaccent`\b
```

The HTML redefinitions follow.

For PDF L^AT_EX, Unicode diacritical marks are used:

```
2049 \renewcommand*{\`}[1]{#1\HTMLUnicode{0300}}
2050 \renewcommand*{\'}[1]{#1\HTMLUnicode{0301}}
2051 \renewcommand*{\^}[1]{#1\HTMLUnicode{0302}}
2052 \renewcommand*{\~}[1]{#1\HTMLUnicode{0303}}
2053 \renewcommand*{\=}[1]{#1\HTMLUnicode{0304}}
2054 \renewcommand*{\u}[1]{#1\HTMLUnicode{0306}}
2055 \renewcommand*{\.}[1]{#1\HTMLUnicode{0307}}
2056 \renewcommand*{\`}[1]{#1\HTMLUnicode{0308}}
2057 \renewcommand*{\H}[1]{#1\HTMLUnicode{030B}}
2058 \renewcommand*{\v}[1]{#1\HTMLUnicode{030C}}
2059 \renewcommand*{\d}[1]{#1\HTMLUnicode{0323}}
2060 \renewcommand*{\c}[1]{#1\HTMLUnicode{0327}}
2061 \renewcommand*{\b}[1]{#1\HTMLUnicode{0331}}
2062 \fi
```

For all engines, a Unicode diacritical tie is used:

```
2063 \def\LWR@t#1#2{#1\HTMLUnicode{0361}#2}
2064 \renewcommand*{\t}[1]{\LWR@t#1}
```

\LWR@restoreorigaccents Called from \restoreoriginalformatting when a lateximage is begun.

```

2065 \ifPDFTeX% pdflatex or dvi latex
2066 \newcommand*{\LWR@restoreorigaccents}{%
2067   \LetLtxMacro`\LWR@origgraveaccent%
2068   \LetLtxMacro`\LWR@origacuteaccent%
2069   \LetLtxMacro`\LWR@origcircumflexaccent%
2070   \LetLtxMacro`\LWR@origtildeaccent%
2071   \LetLtxMacro`\LWR@origmacronaccent%
2072   \LetLtxMacro`\LWR@origbreve%
2073   \LetLtxMacro`\LWR@origdotaccent%
2074   \LetLtxMacro`\LWR@origdiaeresisaccent%
2075   \LetLtxMacro`\LWR@origdoubleacuteaccent%
2076   \LetLtxMacro`\LWR@origcaronaccent%
2077   \LetLtxMacro`\LWR@origtie%
2078   \LetLtxMacro`\LWR@origdotbelowaccent%
2079   \LetLtxMacro`\LWR@origcedillaaccent%
2080   \LetLtxMacro`\LWR@origmacronbelowaccent%
2081 }%
2082 \else% XeLaTeX, LuaLaTeX:
2083 \newcommand*{\LWR@restoreorigaccents}{%
2084   \LetLtxMacro`\LWR@origtie%
2085 }%
2086 \fi%
2087 }% AtBeginDocument

2088 \end{warpHTML}

```

42 Configuration files

42.1 Decide whether to generate configuration files

Configuration files are only written if processing the print version of the document, and not processing a `pstool` image. `pstool` uses an additional compile for each image using the original document's preamble, which includes `lwarp`, so the `lwarp` configuration files are turned off if `-pstool` is part of the `\jobname`.

Default to no configuration files:

```
2089 \LWR@excludacomment{\LWRwriteconf}{writeconf}
```

Generate configuration files if print mode and not `-pstool`:

```

for PRINT output: 2090 \begin{warpprint}
2091 \fullexpandarg%
2092 \IfSubStr*{\jobname}{-pstool}
2093   {
2094     \PackageInfo{lwarp}{%
2095       Jobname with -pstool is found.\MessageBreak
2096       Not generating lwarp configuration files,%
2097     }
2098   }
2099   {
2100     \PackageInfo{lwarp}{Generating lwarp configuration files,%
2101     \LWR@includacomment{\LWRwriteconf}{writeconf}
2102   }
2103 \end{warpprint}

```

42.2 <project>_html.tex

*_html.tex (*file*) Used to allow an HTML version of the document to exist alongside the print version.

Config file: 2104 \begin{LWRwriteconf}
 2105 \immediate\openout\LWR@quickfile=\jobname_html.tex
 2106 \immediate\write\LWR@quickfile{%
 2107 \detokenize{\PassOptionsToPackage}%
 2108 {warpHTML,BaseJobname=\jobname}{lwarp}%
 2109 }
 2110 \immediate\write\LWR@quickfile{%
 2111 \detokenize{\input}\string{\jobname.tex}\string }%
 2112 }
 2113 \immediate\closeout\LWR@quickfile
 2114 \end{LWRwriteconf}

42.3 lwarpmk configuration files

Config file: 2115 \begin{LWRwriteconf}

\LWR@lwarpcnfversion The version number of the configuration file, allowing *lwarpmk* to detect an obsolete configuration file format. Incremented by one each time the configuration file format changes. (This is NOT the same as the *lwarp* version number.)

2116 \newcommand*\LWR@lwarpcnfversion}{2}% also in lwarpmk.lua

42.3.1 Helper macros

\LWR@shellescapecmd The LaTeX compile option for shell escape, if used.

```
2117 \ifshellescape
2118   \def\LWR@shellescapecmd{--shell-escape }
2119 \else
2120   \def\LWR@shellescapecmd{}
2121 \fi
```

\LWR@compilecmd {<engine>} {<suffix>}

Used to form the basic compilation command for a document, adding the optional shell escape.

Engine is *pdflatex*, etc. Suffix is empty or `_html`

```
2122 \newcommand*\LWR@compilecmd}[2]{%
2123   #1 \LWR@shellescapecmd \jobname#2%
2124 }
```

\LWR@addcompilecmd {<cmd>} {<suffix>}

Adds to the compilation command.

Cmd is *dvipdfmx*, etc. Suffix is empty or `_html`

```
2125 \newcommand*\LWR@addcompilecmd}[2]{%
```

```

2126 \LWRopseq
2127 #1 \jobname#2%
2128 }

```

`\LWR@unknownengine` Error message if not sure which L^AT_EX engine is being used.

```

2129 \newcommand*\LWR@unknownengine}{%
2130 \PackageError{lwarp}%
2131 {Unknown LaTeX engine}%
2132 {%
2133 Lwarp only knows about pdflatex, DVI latex,
2134 xelatex, luatex, and upLatex.%
2135 }%
2136 }

```

`\LWR@latexmkvar` $\langle\{varname\}\rangle$ $\langle\{value\}\rangle$

Adds a *latexmk* variable assignment.

```

2137 \newcommand*\LWR@latexmkvar}[2]{%
2138 -e
2139 \LWRopquote%
2140 \LWRdo\lar #1=q/#2/%
2141 \LWRopquote
2142 }

```

`\LWR@latexmkcmd` $\langle\{latexmk\ options\}\rangle$

Sets a call to *latexmk* with the given options, possibly adding `--shell-escape`, and also adding the indexing program.

```

2143 \newcommand*\LWR@latexmkcmd}[1]{%
2144 latexmk \space \LWR@shellescapecmd \space #1 \space
2145 -recorder \space
2146 \LWR@latexmkvar{makeindex}\LWR@LatexmkIndexCmd}%
2147 }

```

`\LWR@latexmkdvipdfm` $\langle\{dvipdfm\ or\ dvipdfmx\}\rangle$

Adds the options settings for *dvipdfm* or *dvipdfmx*.

```

2148 \newcommand*\LWR@latexmkdvipdfm}[1]{%
2149 -pdfdvi \space
2150 \LWR@latexmkvar{dvipdf}{%
2151 #1
2152 \@percentchar O
2153 -o \@percentchar D
2154 \@percentchar S%
2155 }
2156 }

```

`\LWR@compileuplatex` Sets compile options for up^LA_TE_X with *ujarticle* or related classes.

```

2157 \newcommand*\LWR@compileuplatex}{
2158 \def\LWR@tempprintlatexcmd{%
2159 \LWR@compilecmd{upLatex}{%

```

```

2160     \LWR@addcompilecmd{dvipdfmx}{}
2161   }
2162   \def\LWR@tempHTMLlatexcmd{%
2163     \LWR@compilecmd{uplatex}{_html}
2164     \LWR@addcompilecmd{dvipdfmx}{_html}
2165   }
2166 }

```

`\LWR@PrintLatexCmd` If not set by the user, the following sets the command to use to compile the source `\LWR@HTMLLatexCmd` to PDF form.

If using *latexmk*, a complicated string is created, eventually resulting in something such as:

For *xelatex* with `--shell-escape`:

```
[[latexmk -xelatex --shell-escape -recorder
-e '$makeindex = q/makeindex -s lwarp.ist/' <jobname>_html]]
```

For *dvipdfmx*:

```
[[latexmk -pdfdvi -e '$dvipdf=q/dvipdfmx %0 -o %D %S/'
-recorder
-e '$makeindex=q/makeindex -s lwarp.ist/' <jobname>_html]]
```

For the following, temporary values are computed, but the permanent values are only set if the originals were not assigned by the user.

```
2167 \ifbool{LWR@latexmk}{
```

For *latexmk* with *pdflatex* or *lualatex*:

```
2168   \ifpdf
```

For *latexmk* with *pdflatex*:

```

2169     \ifPDFTeX
2170     \def\LWR@latexcmd{\LWR@latexmkcmd{-pdf -dvi- -ps-}}
2171     \else

```

For *latexmk* with *lualatex*:

```

2172     \ifLuaTeX
2173     \def\LWR@latexcmd{\LWR@latexmkcmd{-lualatex}}
2174     \else
2175     \LWR@unknownengine
2176     \fi
2177   \fi
2178   \else% \ifpdf

```

For *latexmk* with *xelatex* or DVI *latex*:

```
2179   \ifXeTeX
```

For *latexmk* with *xelatex*:

```
2180         \def\LWR@latexcmd{\LWR@latexmkcmd{-xelatex}}
2181         \else% \ifXeTeX
```

For *latexmk* with DVI *latex*:

```
2182         \ifbool{LWR@dvi-pdfm}{
2183             \def\LWR@latexcmd{%
2184                 \LWR@latexmkcmd{%
2185                     \LWR@latexmkdvi-pdfm{dvi-pdfm}%
2186                 }
2187             }
2188         }{
2189             \ifbool{LWR@dvi-pdfmx}{
2190                 \def\LWR@latexcmd{%
2191                     \LWR@latexmkcmd{%
2192                         \LWR@latexmkdvi-pdfm{dvi-pdfmx}%
2193                     }
2194                 }
2195             }{
2196                 \def\LWR@latexcmd{\LWR@latexmkcmd{-pdfps}}
2197             }
2198         }
2199         \fi
2200     \fi% \ifpdf
```

The final assignment if *latexmk*:

```
2201     \def\LWR@tempprintlatexcmd{\LWR@latexcmd \space \jobname}
2202     \def\LWR@tempHTMLlatexcmd{\LWR@latexcmd \space \jobname_html}
2203 }% latexmk
```

Without *latexmk*, the compiling command is simply the compiler name and the optional shell escape:

```
2204 {% not latexmk
2205     \ifpdf
```

For *pdflatex* or *lualatex*:

```
2206     \ifPDFTeX
```

For *pdflatex*:

```
2207         \def\LWR@tempprintlatexcmd{\LWR@compilecmd{pdflatex}{}}
2208         \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{pdflatex}{_html}}
2209     \else
2210         \ifLuaTeX
```

For *lualatex*:

```
2211         \def\LWR@tempprintlatexcmd{\LWR@compilecmd{lualatex}{}}
2212         \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{lualatex}{_html}}
2213     \else
2214         \LWR@unknownengine
2215     \fi
2216     \fi
2217     \else% \ifpdf
```


For DVI *latex* or *xelatex*:

```
2218     \ifXeTeX
```

For *xelatex*:

```
2219         \def\LWR@tempprintlatexcmd{\LWR@compilecmd{xelatex}{}}
2220         \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{xelatex}{_html}}
2221     \else
```

For DVI *latex*. Default to *dvips*, unless told to use *dvipdfm* or *dvipdfmx*:

```
2222         \ifbool{LWR@dvipdfm}{
```

For DVI *latex* with *dvipdfm*:

```
2223             \def\LWR@tempprintlatexcmd{%
2224                 \LWR@compilecmd{latex}{}
2225                 \LWR@addcompilecmd{dvipdfm}{}
2226             }
2227             \def\LWR@tempHTMLlatexcmd{%
2228                 \LWR@compilecmd{latex}{_html}
2229                 \LWR@addcompilecmd{dvipdfm}{_html}
2230             }
2231         }{
2232             \ifbool{LWR@dvipdfmx}{
```

For DVI *latex* with *dvipdfmx*:

```
2233             \def\LWR@tempprintlatexcmd{%
2234                 \LWR@compilecmd{latex}{}
2235                 \LWR@addcompilecmd{dvipdfmx}{}
2236             }
2237             \def\LWR@tempHTMLlatexcmd{%
2238                 \LWR@compilecmd{latex}{_html}
2239                 \LWR@addcompilecmd{dvipdfmx}{_html}
2240             }
2241         }{% dvips
```

For DVI *latex* with *dvips* and *ps2pdf*:

```
2242             \def\LWR@tempprintlatexcmd{%
2243                 \LWR@compilecmd{latex}{}
2244                 \LWR@addcompilecmd{dvips}{}
2245                 \LWR@addcompilecmd{ps2pdf -dALLOWPSTRANSARENCY}{} .ps
2246             }
2247             \def\LWR@tempHTMLlatexcmd{%
2248                 \LWR@compilecmd{latex}{_html}
2249                 \LWR@addcompilecmd{dvips}{_html}
2250                 \LWR@addcompilecmd{ps2pdf -dALLOWPSTRANSARENCY}{_html} .ps
2251             }
2252         }
2253     }
2254     \fi% \ifXeTeX
2255     \fi% \ifpdf
2256 }% latexmk
```

For *ujarticle*, *utarticle*, and related, using up \LaTeX and *dvipdfmx*:

```

2257 \IfClassLoadedTF{ujarticle}{\LWR@compileuplatex}{}
2258 \IfClassLoadedTF{ujbook}{\LWR@compileuplatex}{}
2259 \IfClassLoadedTF{ujreport}{\LWR@compileuplatex}{}
2260 \IfClassLoadedTF{utarticle}{\LWR@compileuplatex}{}
2261 \IfClassLoadedTF{utbook}{\LWR@compileuplatex}{}
2262 \IfClassLoadedTF{utreport}{\LWR@compileuplatex}{}

```

Only make the setting permanent if the original was empty:

```

2263 \ifdefempty{\LWR@PrintLatexCmd}{
2264   \def\LWR@PrintLatexCmd{\LWR@tempprintlatexcmd}
2265 }{}
2266 \ifdefempty{\LWR@HTMLLatexCmd}{
2267   \def\LWR@HTMLLatexCmd{\LWR@tempHTMLlatexcmd}
2268 }{}

```

`\LWR@writeconf {<filename>}`

Common code for each of `lwarpmk.conf` and `<project>.lwarpmkconf`. Each entry is a variable name, the equal sign, and a quoted string inside `[[` and `]]`, which are *lua*'s long quote characters, allowing the use of single and double quotes inside.

```

2269 \newcommand{\LWR@writeconf}[1]{
2270 \ifcsdef{LWR@quickfile}{}{\newwrite{\LWR@quickfile}}
2271 \immediate\openout\LWR@quickfile=#1
2272 \immediate\write\LWR@quickfile{confversion = [[\LWR@lwarpconfversion]]}
2273 \ifbool{usingOSWindows}{
2274   \immediate\write\LWR@quickfile{opsystem = [[Windows]]}
2275 }{
2276   \immediate\write\LWR@quickfile{opsystem = [[Unix]]}
2277 }
2278 \immediate\write\LWR@quickfile{sourcename = [[\jobname]]}
2279 \immediate\write\LWR@quickfile{homehtmlfilename = [[\HomeHTMLFilename]]}
2280 \immediate\write\LWR@quickfile{htmlfilename = [[\HTMLFilename]]}
2281 \immediate\write\LWR@quickfile{imagesdirectory = [[\LWR@ImagesDirectory]]}
2282 \immediate\write\LWR@quickfile{imagesname = [[\LWR@ImagesName]]}
2283 \immediate\write\LWR@quickfile{latexmk = [[\ifbool{LWR@latexmk}{true}{false}]]}
2284 \immediate\write\LWR@quickfile{printlatexcmd = [[\LWR@PrintLatexCmd]]}
2285 \immediate\write\LWR@quickfile{HTMLlatexcmd = [[\LWR@HTMLLatexCmd]]}
2286 \immediate\write\LWR@quickfile{printindexcmd = [[\LWR@PrintIndexCmd]]}
2287 \immediate\write\LWR@quickfile{HTMLindexcmd = [[\LWR@HTMLIndexCmd]]}
2288 \immediate\write\LWR@quickfile{latexmkindexcmd = [[\LWR@LatexmkIndexCmd]]}
2289 \immediate\write\LWR@quickfile{glossarycmd = [[\LWR@GlossaryCmd]]}
2290 \immediate\write\LWR@quickfile{pdftotextenc = [[\LWR@pdftotextEnc]]}
2291 \immediate\closeout\LWR@quickfile
2292 }
2293
2294 \end{LWRwriteconf}

```

42.3.2 lwarpmk.conf

`lwarpmk.conf` (*file*) `lwarpmk.conf` is automatically (re-)created by the `lwarp` package when executing `pdflatex <project.tex>`, or similar for *xelatex* or *lualatex*, in print-document generation mode, which is the default unless the `warpHTML` option is given. `lwarpmk.conf` is then used by the utility `lwarpmk`.

Config file: 2295 \begin{LWRwriteconf}
 2296
 2297 \AtBeginDocument{\LWR@writeconf{\lwarpmk.conf}}
 2298
 2299 \end{LWRwriteconf}

42.3.3 <project>.lwarpmkconf

`project.lwarpmkconf` (*file*) A project-specific configuration file for *lwarpmk*.

The `makeindex` and `xindy` options have already been handled for `lwarp.conf`.

Config file: 2300 \begin{LWRwriteconf}
 2301
 2302 \AtBeginDocument{\LWR@writeconf{\jobname.lwarpmk.conf}}
 2303
 2304 \end{LWRwriteconf}

42.4 lwarp.css

`lwarp.css` (*file*) This is the base CSS layer used by *lwarp*.

This must be present both when compiling the project and also when distributing the HTML files.

Config file: 2305 \begin{LWRwriteconf}
 2306 \begin{filecontents*}[overwrite]{lwarp.css}
 2307 /*
 2308 CSS stylesheet for the LaTeX Lwarp package
 2309 Copyright 2016-2025 Brian Dunn – BD Tech Concepts LLC
 2310 */
 2311
 2312
 2313 /* a fix for older browsers: */
 2314 header, section, footer, aside, nav, main,
 2315 article, figure { display: block; }
 2316
 2317
 2318 A:link {color:#000080 ; text-decoration: none ; }
 2319 A:visited {color:#800000 ; }
 2320 A:hover {color:#000080 ; text-decoration: underline ;}
 2321 A:active {color:#800000 ; }
 2322
 2323 a.tocbook {display: inline-block ; margin-left: 0em ;
 2324 font-weight: bold ; margin-top: 1ex ; margin-bottom: 1ex ; }
 2325 a.tocpart {display: inline-block ; margin-left: 0em ;
 2326 font-weight: bold ;}
 2327 a.tocchapter {display: inline-block ; margin-left: 0em ;
 2328 font-weight: bold ;}
 2329 a.tocsection {display: inline-block ; margin-left: 1em ;
 2330 text-indent: -.5em ; font-weight: bold ; }
 2331 a.tocsubsection {display: inline-block ; margin-left: 2em ;
 2332 text-indent: -.5em ; }
 2333 a.tocsubsubsection {display: inline-block ; margin-left: 3em ;
 2334 text-indent: -.5em ; }
 2335 a.tocparagraph {display: inline-block ; margin-left: 4em ;
 2336 text-indent: -.5em ; }

```
2337 a.tocsubparagraph {display: inline-block ; margin-left: 5em ;
2338     text-indent: -.5em ; }
2339 a.tocfigure {margin-left: 0em}
2340 a.tocsubfigure {margin-left: 2em}
2341 a.tocstable {margin-left: 0em}
2342 a.tocsubtable {margin-left: 2em}
2343 a.toctheorem {margin-left: 0em}
2344 a.toclstlisting {margin-left: 0em}
2345
2346 body {
2347     font-family: "DejaVu Serif", "Bitstream Vera Serif",
2348         "Lucida Bright", Georgia, serif;
2349     background: #FAF7F4 ;
2350     color: black ;
2351     margin:0em ;
2352     padding:0em ;
2353     font-size: 100% ;
2354     line-height: 1.2 ;
2355 }
2356
2357 p {margin: 1.5ex 0em 1.5ex 0em ;}
2358 table p {margin: .5ex 0em .5ex 0em ;}
2359
2360 /* Holds a section number */
2361 span.sectionnumber { margin-right: 0em }
2362
2363 /* Inserted in front of index lines */
2364 span.indexitem {margin-left: 0em}
2365 span.indexsubitem {margin-left: 2em}
2366 span.indexsubsubitem {margin-left: 4em}
2367 div.indexheading {margin-top: 2ex ; font-weight: bold}
2368
2369 div.hidden, span.hidden { display: none ; }
2370
2371 kbd, span.texttt, p span.texttt {
2372     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2373         "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2374         "Courier New", monospace;
2375     font-size: 100% ;
2376 }
2377
2378 pre { padding: 3pt ; }
2379
2380 span.strong, span.textbf, div.strong, div.textbf, table td.tdbfseries { font-weight: bold; }
2381
2382 span.textit, div.textit, table td.tditshape { font-style: italic; }
2383
2384 table td.tdbfit { font-weight: bold ; font-style:italic }
2385
2386 span.textnormal, div.textnormal {
2387     font-weight: normal;
2388     font-style: normal;
2389     font-variant: normal;
2390     font-variant-numeric: normal ;
2391     font-family: "DejaVu Serif", "Bitstream Vera Serif",
2392         "Lucida Bright", Georgia, serif;
2393 }
2394
2395 span.textmd, div.textmd { font-weight: normal; }
2396
```

```
2397 span.textup, div.textup {
2398     font-style: normal;
2399     font-variant: normal;
2400     font-variant-numeric: normal ;
2401 }
2402
2403
2404 /* For complex number i,j symbols */
2405 span.ijit {font-style: italic; font-variant: normal}
2406 span.ijup {font-style: normal; font-variant: normal}
2407
2408
2409 span.textsc, div.textsc {
2410     font-variant: small-caps;
2411     font-variant-numeric: oldstyle-nums ;
2412 }
2413
2414 span.textulc, div.textulc {
2415     font-variant: normal ;
2416     font-variant-numeric: normal ;
2417 }
2418
2419 span.textsl, div.textsl { font-style: oblique; }
2420
2421 span.textrm, div.textrm {
2422     font-family: "DejaVu Serif", "Bitstream Vera Serif",
2423     "Lucida Bright", Georgia, serif;
2424 }
2425
2426 span.textsf, div.textsf {
2427     font-family: "DejaVu Sans", "Bitstream Vera Sans",
2428     Geneva, Verdana, sans-serif ;
2429 }
2430
2431 /* nfssect-cfr lining figures */
2432 span.textln, div.textln {
2433     font-variant-numeric: lining-nums ;
2434 }
2435
2436 /* nfssect-cfr proportional figures */
2437 span.textp, div.textp {
2438     font-variant-numeric: proportional-nums ;
2439 }
2440
2441 /* nfssect-cfr tabular figures */
2442 span.textt, div.textt {
2443     font-variant-numeric: tabular-nums ;
2444 }
2445
2446 /* nfssect-cfr font weights */
2447 span.textdb, div.textdb {
2448     font-weight: 500 ;
2449 }
2450
2451 span.textsb, div.textsb {
2452     font-weight: 600 ;
2453 }
2454
2455 span.texteb, div.texteb {
2456     font-weight: 800 ;
```

```
2457 }
2458
2459 span.textub, div.textub {
2460     font-weight: 900 ;
2461 }
2462
2463 span.textlg, div.textlg {
2464     font-weight: 300 ;
2465 }
2466
2467 span.textel, div.textel {
2468     font-weight: 200 ;
2469 }
2470
2471 span.textul, div.textul {
2472     font-weight: 100 ;
2473 }
2474
2475
2476
2477 span.textcircled { border: 1px solid black ; border-radius: 1ex ; }
2478
2479 span.underline {
2480     text-decoration: underline ;
2481     text-decoration-skip: auto ;
2482 }
2483
2484 span.overline {
2485     text-decoration: overline ;
2486     text-decoration-skip: auto ;
2487 }
2488
2489 div.hrule { border-top: 1px solid silver }
2490
2491
2492 /* for vertical text: */
2493 div.verticalrl { writing-mode: vertical-rl }
2494 div.horizontaltb { writing-mode: horizontal-tb }
2495
2496
2497 /* for diagbox */
2498 div.diagboxtitleN { border-bottom: 1px solid gray }
2499 div.diagboxtitleS { border-top: 1px solid gray }
2500
2501 div.diagboxE {
2502     padding-left: 2em ;
2503     text-align: right ;
2504 }
2505
2506 div.diagboxW {
2507     padding-right: 2em ;
2508     text-align: left ;
2509 }
2510
2511
2512
2513 /* For realscripts */
2514 .supsubscript {
2515     display: inline-block;
2516     text-align:left ;
```

```
2517 }
2518
2519 .supsubscript sup,
2520 .supsubscript sub {
2521     position: relative;
2522     display: block;
2523     font-size: .7em;
2524     line-height: 1;
2525 }
2526
2527 .supsubscript sup {
2528     top: .3em;
2529 }
2530
2531 .supsubscript sub {
2532     top: .3em;
2533 }
2534
2535 div.attribution p {
2536     text-align: right ;
2537     font-size: 80%
2538 }
2539
2540 span.poemtitle {
2541     font-size: 120% ; font-weight: bold;
2542 }
2543
2544 pre.tabbing {
2545     font-family: "Linux Libertine Mono O", "Lucida Console",
2546                 "Droid Sans Mono", "DejaVu Mono", "Bitstream Vera Mono",
2547                 "Liberation Mono", "FreeMono", "Andale Mono",
2548                 "Nimbus Mono L", "Courier New", monospace;
2549 }
2550
2551 blockquote {
2552     display: block ;
2553     margin-left: 2em ;
2554     margin-right: 2em ;
2555 }
2556
2557 /* quotchap is for the quotchap package */
2558 div.quotchap {
2559     display: block ;
2560     font-style: oblique ;
2561     overflow-x: auto ;
2562     margin-left: 2em ;
2563     margin-right: 2em ;
2564 }
2565
2566 blockquote p, div.quotchap p {
2567     line-height: 1.5;
2568     text-align: left ;
2569     font-size: .85em ;
2570 }
2571
2572 /* qauthor is for the quotchap package */
2573 div.qauthor {
2574     display: block ;
2575     text-align: right ;
2576     margin-left: auto ;
```

```
2577 margin-right: 2em ;
2578 font-size: 80% ;
2579 font-variant: small-caps;
2580 }
2581
2582 div.qauthor p {
2583   text-align: right ;
2584 }
2585
2586 div.epigraph, div.dictum {
2587   line-height: 1.2;
2588   text-align: left ;
2589   padding: 3ex 1em 0ex 1em ;
2590 /*   margin: 3ex auto 3ex auto ; */ /* Epigraph centered */
2591   margin: 3ex 1em 3ex auto ; /* Epigraph to the right */
2592 /*   margin: 3ex 1em 3ex 1em ; */ /* Epigraph to the left */
2593   font-size: .85em ;
2594   max-width: 27em ;
2595 }
2596
2597 div.epigraphsource, div.dictumauthor {
2598   text-align:right ;
2599   margin-left:auto ;
2600 /*   max-width: 50% ; */
2601   border-top: 1px solid #A0A0A0 ;
2602   padding-bottom: 3ex ;
2603   line-height: 1.2;
2604 }
2605
2606 div.epigraph p, div.dictum p { padding: .5ex ; margin: 0ex ;}
2607 div.epigraphsource p, div.dictumauthor p { padding: .5ex 0ex 0ex 0ex ; margin: 0ex ;}
2608 div.dictumauthor { font-style:italic }
2609
2610
2611 /* copyrightbox package: */
2612 div.copyrightbox { margin: .5ex .5em }
2613 div.copyrightbox p {margin: 0px .5em ; padding: 0px}
2614 div.copyrightboxnote {text-align: left ; font-size: 60%}
2615
2616
2617 /* lettrine package: */
2618 span.lettrine { font-size: 4ex ; float: left ; }
2619 span.lettrinetext { font-variant: small-caps ; }
2620
2621 /* ulem, soul, umoline packages: */
2622 span.ulem {
2623   text-decoration: underline ;
2624   text-decoration-skip: auto ;
2625 }
2626
2627 span.uuline {
2628   text-decoration: underline ;
2629   text-decoration-skip: auto ;
2630   text-decoration-style: double ;
2631 }
2632
2633 span.uwave {
2634   text-decoration: underline ;
2635   text-decoration-skip: auto ;
2636   text-decoration-style: wavy ;
```



```
2637 }
2638
2639 span.sout {
2640     text-decoration: line-through ;
2641 }
2642
2643 span.oline {
2644     text-decoration: overline ;
2645     text-decoration-skip: auto ;
2646 }
2647
2648 span.xout {
2649     text-decoration: line-through ;
2650 }
2651
2652 span.dashuline {
2653     text-decoration: underline ;
2654     text-decoration-skip: auto ;
2655     text-decoration-style: dashed ;
2656 }
2657
2658 span.dotuline {
2659     text-decoration: underline ;
2660     text-decoration-skip: auto ;
2661     text-decoration-style: dotted ;
2662 }
2663
2664 span.letterspacing { letter-spacing: .2ex ; }
2665
2666 span.capsspacing {
2667     font-variant: small-caps ;
2668     letter-spacing: .1ex ;
2669 }
2670
2671 span.highlight { background: #F8E800 ; }
2672
2673
2674 /* keystroke package: */
2675 span.keystroke {
2676     border-style: outset ;
2677     padding: 0pt .5em 0pt .5em ;
2678 }
2679
2680
2681 html body {
2682     margin: 0 ;
2683     line-height: 1.2;
2684 }
2685
2686
2687 body div {
2688     margin: 0ex;
2689 }
2690
2691
2692 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
2693 {
2694     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
2695                 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
2696                 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
```

```
2697         "Times New Roman", serif;
2698     font-style: normal ;
2699     font-weight: bold ;
2700     text-align: left ;
2701 }
2702
2703 h1 { /* title of the entire website, used on each page */
2704     text-align: center ;
2705     font-size: 2.5em ;
2706     padding: .4ex 0em 0ex 0em ;
2707 }
2708
2709 div.book {
2710     text-align: center ;
2711     font-size: 2.325em ;
2712     padding: .4ex 0em 0ex 0em ;
2713 }
2714
2715 h2 { font-size: 2.25em }
2716 h3 { font-size: 2em }
2717 h4 { font-size: 1.75em }
2718 h5 { font-size: 1.5em }
2719 h6 { font-size: 1.25em }
2720 span.paragraph {font-size: 1em ; font-variant: normal ;
2721     margin-right: 1em ; }
2722 span.subparagraph {font-size: 1em ; font-variant: normal ;
2723     margin-right: 1em ; }
2724
2725 div.minisec {
2726     font-family: "DejaVu Sans", "Bitstream Vera Sans",
2727         Geneva, Verdana, sans-serif ;
2728     font-style: normal ;
2729     font-weight: bold ;
2730     text-align: left ;
2731 }
2732
2733 h1 {
2734     margin: 0ex 0em 0ex 0em ;
2735     line-height: 1.3;
2736     text-align: center ;
2737 }
2738
2739 h2 {
2740     margin: 1ex 0em 1ex 0em ;
2741     line-height: 1.3;
2742     text-align: center ;
2743 }
2744
2745 h3 {
2746     margin: 3ex 0em 1ex 0em ;
2747     line-height: 1.3;
2748 }
2749
2750 h4 {
2751     margin: 3ex 0em 1ex 0em ;
2752     line-height: 1.3;
2753 }
2754
2755 h5 {
2756     margin: 3ex 0em 1ex 0em ;
```

```
2757 line-height: 1.3;
2758 }
2759
2760 h6 {
2761   margin: 3ex 0em 1ex 0em ;
2762   line-height: 1.3;
2763 }
2764
2765
2766 div.titlepage {
2767   text-align: center ;
2768 }
2769
2770 .footnotes {
2771   text-align: left ;
2772   font-size: .85em ;
2773   margin: 3ex 2em 0ex 2em ;
2774   border-top: 1px solid silver ;
2775 }
2776
2777 .marginpar, .marginparblock {
2778   max-width: 50%;
2779   float: right ;
2780   clear: both ;
2781   text-align: left ;
2782   margin: 1ex 0.5em 1ex 1em ;
2783   padding: 1ex 0.5em 1ex 0.5em ;
2784   font-size: 85% ;
2785   border-top: 1px solid silver ;
2786   border-bottom: 1px solid silver ;
2787   overflow-x: auto ;
2788 }
2789
2790 .marginpar br { margin-bottom: 2ex ; }
2791
2792 div.marginblock, div.marginparblock {
2793   max-width:50%;
2794   min-width: 10em; /* room for caption */
2795   float:right;
2796   text-align:left;
2797   margin: 1ex 0.5em 1ex 1em ;
2798   padding: 1ex 0.5em 1ex 0.5em ;
2799   overflow-x: auto;
2800 }
2801
2802 div.marginblock div.minipage,
2803 div.marginparblock div.minipage {
2804   display: inline-block ;
2805   margin: 0pt auto 0pt auto ;
2806 }
2807
2808 div.marginblock div.minipage p ,
2809 div.marginparblock div.minipage p
2810   { font-size: 85%}
2811
2812 div.marginblock br ,
2813 div.marginparblock br
2814   { margin-bottom: 2ex ; }
2815
2816 main.bodycontainer {
```

```
2817     float: left ;
2818     width: 80% ;
2819 }
2820
2821 div.bodywithoutsidetoc main.bodycontainer {
2822     float: none ;
2823     width: 100% ;
2824 }
2825
2826 section.textbody div.footnotes{
2827     margin: 1ex 2em 2ex 2em ;
2828     border-bottom: 2px solid silver ;
2829 }
2830
2831 .footnoteheader {
2832     border-top: 2px solid silver ;
2833     margin-top: 3ex ;
2834     padding-top: 1ex ;
2835     font-weight: bold ;
2836 }
2837
2838 .mpfootnotes {
2839     text-align: left ;
2840     font-size: .85em ;
2841     margin-left: 1em ;
2842     border-top: 1px solid silver ;
2843 }
2844
2845 /* Remove footnote top border in the title page. */
2846 div.titlepage div.mpfootnotes {
2847     border-top: none ;
2848 }
2849
2850
2851
2852 ul, ol {
2853     margin: 1ex 1em 1ex 0em;
2854     line-height: 1.2;
2855 }
2856
2857 body dir, body menu {
2858     margin: 3ex 1em 3ex 0em;
2859     line-height: 1.2;
2860 }
2861
2862 li { margin: 0ex 0em 1ex 0em; }
2863
2864 li.p { display: inline ; }
2865
2866 html {
2867     margin: 0;
2868     padding: 0;
2869 }
2870
2871 .programlisting {
2872     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2873         "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2874         "Courier New", monospace;
2875     margin: 1ex 0ex 1ex 0ex ;
2876     padding: .5ex 0pt .5ex 0pt ;
```

```
2877 overflow-x: auto;
2878 }
2879
2880 section.textbody>pre.programlisting {
2881 border-top: 1px solid silver ;
2882 border-bottom: 1px solid silver ;
2883 }
2884
2885
2886 div.displaymath {
2887     text-align: center ;
2888 }
2889
2890 div.displaymathnumbered {
2891     text-align: right ;
2892     margin-left: 5% ;
2893     margin-right: 5% ;
2894     min-width: 2.5in ;
2895 }
2896
2897 @media all and (min-width: 400px) {
2898     div.displaymathnumbered {
2899         margin-left: 10% ;
2900         margin-right: 10% ;
2901     }
2902 }
2903
2904 @media all and (min-width: 800px) {
2905     div.displaymathnumbered {
2906         margin-right: 20% ;
2907     }
2908 }
2909
2910 @media all and (min-width: 1200px) {
2911     div.displaymathnumbered {
2912         margin-right: 30% ;
2913     }
2914 }
2915
2916
2917 .inlineprogramlisting {
2918     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2919                 "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2920                 "Courier New", monospace;
2921     overflow-x: auto;
2922 }
2923
2924 span.listinglabel {
2925     display: inline-block ;
2926     font-size: 70% ;
2927     width: 4em ;
2928     text-align: right ;
2929     margin-right: 2em ;
2930 }
2931
2932 div.abstract {
2933     margin: 2em 5% 2em 5% ;
2934     padding: 1ex 1em 1ex 1em ;
2935     /* font-weight: bold ; */
2936     font-size: 90% ;
```

```
2937     text-align: left ;
2938 }
2939
2940 div.abstract dl {line-height:1.5;}
2941 div.abstract dt {color:#304070;}
2942
2943 div.abstracttitle{
2944     font-family: "URW Classico", Optima, "Linux Biolinum O",
2945         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
2946         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
2947     font-weight:bold;
2948     font-size:1.25em;
2949     text-align: center ;
2950 }
2951
2952 span.abstracrunintitle{
2953     font-family: "URW Classico", Optima, "Linux Biolinum O",
2954         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
2955         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
2956     font-weight:bold;
2957 }
2958
2959
2960 .verbatim {
2961     overflow-x: auto ;
2962 }
2963
2964 .alltt {
2965     overflow-x: auto ;
2966 }
2967
2968
2969 .bverbatim {
2970     margin: 1ex 0pt 1ex 0pt ;
2971     padding: .5ex 0pt .5ex 0pt ;
2972     overflow-x: auto ;
2973 }
2974
2975 .lverbatim {
2976     margin: 1ex 0pt 1ex 0pt ;
2977     padding: .5ex 0pt .5ex 0pt ;
2978     overflow-x: auto ;
2979 }
2980
2981 .fancyvrb {
2982     margin: 3ex 0pt 3ex 0pt ;
2983     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2984         "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2985         "Courier New", monospace;
2986 }
2987
2988 .fancyvrblabel {
2989     font-size: .85em ;
2990     text-align: center ;
2991     font-weight: bold ;
2992     margin-top: 1ex ;
2993     margin-bottom: 1ex ;
2994 }
2995
2996
```

```
2997 .verse {
2998     font-family: "Linux Libertine Mono O", "Lucida Console",
2999         "Droid Sans Mono", "DejaVu Mono", "Bitstream Vera Mono",
3000         "Liberation Mono", "FreeMono", "Andale Mono",
3001         "Nimbus Mono L", "Courier New", monospace;
3002     margin-left: 1em ;
3003 }
3004
3005
3006 div.singlespace { line-height: 1.2 ; }
3007 div.onehalfspace { line-height: 1.5 ; }
3008 div.doublespace { line-height: 2 ; }
3009
3010
3011 /* Word processor format output: */
3012 div.wpfigure { border: 1px solid red ; margin: .5ex ; padding: .5ex ; }
3013 div.wptable { border: 1px solid blue ; margin: .5ex ; padding: .5ex ; }
3014 div.wpminipage { border: 1px solid green ; margin: .5ex ; padding: .5ex ; }
3015
3016
3017
3018
3019 /* Minipage environments, vertically aligned to top, center, bottom: */
3020 .minipage, .fminipage, .fcolorminipage {
3021     /* display: inline-block ; */
3022     /* Mini pages which follow each other will be tiled. */
3023     text-align:left;
3024     margin: .25em .25em .25em .25em;
3025     padding: .25em .25em .25em .25em;
3026     display: inline-flex;
3027     flex-direction: column ;
3028     overflow: auto;
3029 }
3030
3031 .inlineminipage {
3032     display: inline-block ;
3033     text-align: left
3034 }
3035
3036 /* Paragraphs in the flexbox did not collapse their margins. */
3037 /* Have not yet researched this. */
3038 .minipage p {margin: .75ex 0em .75ex 0em ;}
3039
3040 .fboxBlock .minipage, .colorbox .minipage, .colorboxBlock .minipage,
3041 .fcolorbox .minipage, .fcolorboxBlock .minipage
3042     {border: none ; background: none;}
3043
3044 .fbox, .fboxBlock { border: 1px solid black ; padding: 4pt }
3045
3046 .fbox, .fboxBlock, .fcolorbox, .fcolorboxBlock, .colorbox, .colorboxBlock,
3047 .fminipage, .fcolorminipage
3048     {display: inline-block}
3049
3050 .shadowbox, .shabox {
3051     border: 1px solid black;
3052     box-shadow: 3px 3px 3px #808080 ;
3053     border-radius: 0px ;
3054     padding: .4ex .3em .4ex .3em ;
3055     margin: 0pt .3ex 0pt .3ex ;
3056     display: inline-block ;
```

```
3057 }
3058
3059 .doublebox {
3060   border: 3px double black;
3061   border-radius: 0px ;
3062   padding: .4ex .3em .4ex .3em ;
3063   margin: 0pt .3ex 0pt .3ex ;
3064   display: inline-block ;
3065 }
3066
3067 .ovalbox, .Ovalbox {
3068   border: 1px solid black;
3069   border-radius: 1ex ;
3070   padding: .4ex .3em .4ex .3em ;
3071   margin: 0pt .3ex 0pt .3ex ;
3072   display: inline-block ;
3073 }
3074
3075 .Ovalbox { border-width: 2px ; }
3076
3077 .framebox {
3078   border: 1px solid black;
3079   border-radius: 0px ;
3080   padding: .3ex .2em 0ex .2em ;
3081   margin: 0pt .1ex 0pt .1ex ;
3082   display: inline-block ;
3083 }
3084
3085
3086 /* mdframed, tcolorbox, shadebox packages */
3087 .mdframed, .tcolorbox, .shadebox {
3088   padding: 0ex ;
3089   margin: 2ex 0em 2ex 0em ;
3090   border: 1px solid black ;
3091 }
3092
3093 .tcolorbox {
3094   border-radius: 10pt ;
3095   margin: 2ex 1em 2ex 1em ;
3096 }
3097
3098 .mdframed p, .tcolorbox p { padding: 0ex .5em 0ex .5em ; }
3099
3100 .mdframed dl, .tcolorbox dl { padding: 1ex .5em 0ex .5em ; }
3101
3102 .mdframedtitle, .tcolorboxtitle {
3103   padding: .5ex 0pt 0pt 0pt ;
3104   border-radius: 10pt 10pt 0pt 0pt ;
3105   display: block ;
3106   margin-bottom: 1ex ;
3107   border-bottom: 1px solid silver ;
3108 }
3109
3110 .tcolorboxsubtitle .tcolorbox {
3111   margin: 2ex 0em 2ex 0em ;
3112   border-radius: 0pt ;
3113 }
3114
3115 .mdframedsubtitle {
3116   display: block ;
```



```
3117 }
3118
3119 .mdframedsubsubtitle {
3120     display: block ;
3121 }
3122
3123 .mdtheorem {
3124     padding: 0ex .5em 0ex .5em ;
3125     margin: 3ex 5% 3ex 5% ;
3126 }
3127
3128
3129 /* framed package */
3130 .framed, pre.boxedverbatim, fcolorbox {
3131     margin: 3ex 0em 3ex 0em ;
3132     border: 1px solid black;
3133     border-radius: 0px ;
3134     padding: .3ex 1em 0ex 1em ;
3135     display: block ;
3136 }
3137
3138 .shaded {
3139     margin: 3ex 0em 3ex 0em ;
3140     padding: .3ex 1em .3ex 1em ;
3141     display: block ;
3142 }
3143
3144 .snugframed {
3145     margin: 3ex 0em 3ex 0em ;
3146     border: 1px solid black;
3147     border-radius: 0px ;
3148     display: block ;
3149 }
3150
3151 .framedleftbar {
3152     margin: 3ex 0em 3ex 0em ;
3153     border-left: 3pt solid black;
3154     border-radius: 0px ;
3155     padding: .3ex .2em .3ex 1em ;
3156     display: block ;
3157 }
3158
3159 .framedtitle {
3160     margin: 0em ;
3161     padding: 0em ;
3162     font-size: 130%
3163 }
3164
3165 .framedtitle p { padding: .3em }
3166
3167
3168 /* For the niceframe package: */
3169
3170 div.niceframe, div.curlyframe, div.artdecoframe, div.generalframe {
3171     padding: 1ex ;
3172     margin: 2ex auto ;
3173     border-radius: 2ex ;
3174 }
3175
3176 div.niceframe {
```

```
3177     border: 6px groove black ;
3178 }
3179
3180 div.curlyframe {
3181     border-left: 3px dotted black ;
3182     border-right: 3px dotted black ;
3183     border-radius: 6ex ;
3184 }
3185
3186 div.artdecoframe {
3187     border-left: 10px double black ;
3188     border-right: 10px double black ;
3189     border-radius: 6ex ;
3190 }
3191
3192 div.generalframe {
3193     border: 6px groove black ;
3194 }
3195
3196
3197 /* For beamerarticle: */
3198 div.beamerframe {
3199     margin: 3ex 1em 3ex 1em ;
3200     border: 1px solid gray;
3201     border-radius: 0px ;
3202     padding: .3ex 1em 0ex 1em ;
3203     display: block ;
3204 }
3205
3206
3207 dl {
3208     margin: 1ex 2em 1ex 0em;
3209     line-height: 1.3;
3210 }
3211
3212 li dl { margin-left: 2em }
3213
3214 dl dt {
3215     display: block ;
3216     float:left ;
3217     font-weight: bold;
3218     padding-right: 1em ;
3219 }
3220
3221 dl dd { display: block ; }
3222
3223 dl dd:after { content: "" ; display: block ; clear: both }
3224
3225 dl dd p { margin-top: 0em; }
3226
3227 dd ul, dd ol, dd dl {
3228     clear: both ;
3229 /*     padding-top: 1ex ; */
3230 }
3231
3232
3233 nav {
3234     font-family: "URW Classico", Optima, "Linux Biolinum 0",
3235         "DejaVu Sans", "Bitstream Vera Sans",
3236         Geneva, Verdana, sans-serif ;
```

```
3237     margin-bottom: 4ex ;
3238 }
3239
3240 nav p {
3241     line-height: 1.2 ;
3242     margin-top:.5ex ;
3243     margin-bottom:.5ex;
3244     font-size: .9em ;
3245 }
3246
3247
3248
3249 img, img.hyperimage, img.borderimage {
3250     max-width: 600px;
3251     border: 1px solid silver;
3252     box-shadow: 3px 3px 3px #808080 ;
3253     padding: .5% ;
3254     margin: .5% ;
3255     background: none ;
3256 }
3257
3258 img.inlineimage{
3259     padding: 0px ;
3260     box-shadow: none ;
3261     border: none ;
3262     background: none ;
3263     margin: 0px ;
3264     display: inline-block ;
3265     border-radius: 0px ;
3266 }
3267
3268 img.logoimage{
3269     max-width: 300px ;
3270     box-shadow: 3px 3px 3px #808080 ;
3271     border: 1px solid black ;
3272     background:none ;
3273     padding:0 ;
3274     margin:.5ex ;
3275     border-radius: 10px ;
3276 }
3277
3278
3279 .section {
3280 /*
3281     To have each section float relative to each other:
3282 */
3283 /*
3284     display: block ;
3285     float: left ;
3286     position: relative ;
3287     background: white ;
3288     border: 1px solid silver ;
3289     padding: .5em ;
3290 */
3291     margin: 0ex .5em 0ex .5em ;
3292     padding: 0 ;
3293 }
3294
3295
3296 figure {
```

```
3297     margin: 5ex auto 5ex auto ;
3298     padding: 1ex 1em 1ex 1em ;
3299     overflow-x: auto ;
3300 }
3301
3302
3303 /* To automatically center images in figures: */
3304 /*
3305 figure img.inlineimage {
3306     margin: 0ex auto 0ex auto ;
3307     display: block ;
3308 }
3309 */
3310
3311 /* To automatically center minipages in figures: */
3312 /*
3313 figure div.minipage, figure div.minipage div.minipage {
3314     margin: 1ex auto 1ex auto ;
3315     display: block ;
3316 }
3317 */
3318
3319 figure figure { margin: 0pt }
3320
3321 figure div.minipage p { font-size: 85% ; }
3322
3323 figure.subfigure, figure.subtable {
3324     display: inline-block ; margin: 3ex 1em 3ex 1em ;
3325 }
3326
3327 div.figurecaption .minipage { margin:0 ; padding: 0 }
3328
3329 /* for subcaptions: */
3330 figure div.minipage div.figurecaption {
3331     max-width: 100% ; /* fallback if min() does not work */
3332     max-width: min(30em,100%)
3333 }
3334
3335 div.minipage figure { border: none ; box-shadow: none ; }
3336 div.minipage figure.table { margin: 0ex }
3337 div.minipage div.footnotes { margin: 1ex 2em 0ex 2em }
3338
3339 div.floatrow { text-align: center; }
3340
3341 div.floatrow figure { display: inline-block ; margin: 1ex 2% ; }
3342
3343 div.floatfoot { font-size: .85em ;
3344     border-top: 1px solid silver ; line-height: 1.2 ; }
3345
3346 /* Center if only one line, "start" align if more than one line: */
3347 div.figurecaption , .lstlistingtitle {
3348     font-size: .85em ;
3349     font-weight: bold ;
3350     text-align: start ;
3351     margin: 1ex auto;
3352     width: max-content;
3353     max-width: 100%;
3354 }
3355
3356 /* A marginblock is small, so always center and don't mess with the width. */
```

```
3357 div.marginblock div.figurecaption {
3358     width: 100% ;
3359     text-align: center ;
3360 }
3361
3362 figure.subfigure div.figurecaption, figure.subtable div.figurecaption {
3363     border-bottom: none ; background: none ;
3364 }
3365
3366 div.nonfloatcaption {
3367     margin: 1ex auto 1ex auto ;
3368     font-size: .85em ;
3369     text-align: center ;
3370     font-weight: bold ;
3371 }
3372
3373 /* For a \RawCaption inside a minipage inside a figure's floatrow: */
3374 figure div.floatrow div.minipage div.figurecaption {
3375     border: none ;
3376     background: none ;
3377 }
3378
3379
3380 /* For packages such as float, rotfloat, and algorithm2e: */
3381
3382 figure.boxed, figure.boxruled {
3383     border: 1px solid black ;
3384 }
3385
3386 figure.ruled {
3387     border-top: 1px solid black ;
3388     border-bottom: 1px solid black ;
3389     border-left: 0px ;
3390     border-right: 0px ;
3391     border-radius: 0px ;
3392     background: none ;
3393     box-shadow: none ;
3394 }
3395
3396 figure.ruled div.figurecaption, figure.boxruled div.figurecaption {
3397     border-top: 1px solid silver ;
3398     border-bottom: 1px solid silver ;
3399 }
3400
3401
3402 table {
3403     margin: 1ex auto 1ex auto ;
3404     border-collapse: separate ;
3405     border-spacing: 0px ;
3406     line-height: 1.3 ;
3407 }
3408
3409 table > tbody > tr.hline > td {border-top: 1px solid #808080 ; margin-top: 0ex ;
3410     margin-bottom: 0ex ; } /* for \hline */
3411
3412 tr.tbrule td {border-top: 1px solid black ; margin-top: 0ex ;
3413     margin-bottom: 0ex ; } /* for \toprule, \bottomrule */
3414
3415 td {padding: .5ex .5em .5ex .5em ;}
3416
```

```
3417 table td.tdl { text-align: left ; vertical-align: middle ; }
3418 table td.tdc { text-align: center ; vertical-align: middle ; }
3419 table td.tdat { text-align: center ; vertical-align: middle ; padding: 0px ; margin: 0px ; }
3420 table td.tdbang { text-align: center ; vertical-align: middle ; }
3421 table td.tdr { text-align: right ; vertical-align: middle ; }
3422 table td.tdp { text-align: left ; vertical-align: bottom ; }
3423 table td.tdm { text-align: left ; vertical-align: middle ; }
3424 table td.tdb { text-align: left ; vertical-align: top ; }
3425
3426 table td.tvertbarl { border-left: 1px solid black }
3427 table td.tvertbarldouble { border-left: 4px double black }
3428 table td.tvertbarr { border-right: 1px solid black }
3429 table td.tvertbarrdouble { border-right: 4px double black }
3430
3431 table td.tvertbarldash { border-left: 1px dashed black }
3432 table td.tvertbarldoubledash { border-left: 2px dashed black }
3433 table td.tvertbarrdash { border-right: 1px dashed black }
3434 table td.tvertbarrdoubledash { border-right: 2px dashed black }
3435
3436 table td.tdcenter { text-align: center }
3437 table td.tdleft { text-align: left }
3438 table td.tdright { text-align: right }
3439
3440
3441 /* for cmidrules: */
3442 table td.tdrule {
3443     border-top: 1px solid #A0A0A0 ;
3444 }
3445
3446 table td.tdrulel {
3447     border-top-left-radius:.5em ;
3448     border-top: 1px solid #A0A0A0 ;
3449 }
3450
3451 table td.tdruler {
3452     border-top-right-radius:.5em ;
3453     border-top: 1px solid #A0A0A0 ;
3454 }
3455
3456 table td.tdrulelr {
3457     border-top-left-radius:.5em ;
3458     border-top-right-radius:.5em ;
3459     border-top: 1px solid #A0A0A0 ;
3460 }
3461
3462
3463 /* Margins of paragraphs inside table cells: */
3464 td.tdp p , td.tdprule p , td.tdP p , td.tdPrule p { padding-top: 1ex ;
3465     padding-bottom: 1ex ; margin: 0ex ; }
3466 td.tdm p , td.tdbrule p , td.tdM p , td.tdMrule p { padding-top: 1ex ;
3467     padding-bottom: 1ex ; margin: 0ex ; }
3468 td.tdb p , td.tdbrule p , td.tdB p , td.tdBrule p { padding-top: 1ex ;
3469     padding-bottom: 1ex ; margin: 0ex ; }
3470
3471 td.tdp , td.tdprule , td.tdP , td.tdPrule
3472     { padding: 0ex .5em 0ex .5em ; }
3473 td.tdm , td.tdbrule , td.tdM , td.tdMrule
3474     { padding: 0ex .5em 0ex .5em ; }
3475 td.tdb , td.tdbrule , td.tdB , td.tdBrule
3476     { padding: 0ex .5em 0ex .5em ; }
```

```
3477
3478
3479 /* table notes: */
3480 .tnotes {
3481     margin: 0ex 5% 1ex 5% ;
3482     padding: 0.5ex 1em 0.5ex 1em;
3483     font-size:.80em;
3484     text-align: left ;
3485 }
3486
3487 .minipage .tnotes {
3488     margin: 0pt ;
3489     padding: 0pt ;
3490 }
3491
3492 .tnotes dl dt p {margin-bottom:0px;}
3493
3494 .tnoteitemheader {margin-right: 1em;}
3495
3496
3497 /* for colortbl and cell color */
3498 div.cellcolor {
3499     width: 100% ;
3500     padding: .5ex .5em .5ex .5em ;
3501     margin: -.5ex -.5em -.5ex -.5em ;
3502 }
3503
3504
3505 /* for lyluatex */
3506 span.lyluateX {
3507     display: inline-block ;
3508 }
3509
3510 div.lyluateX p span.lateximagesource img {
3511     display: block ;
3512     margin-top: 3ex ;
3513     margin-bottom: 3ex ;
3514 }
3515
3516
3517 /* for bigdelim */
3518 .ldelim, .rdelim { font-size: 200% }
3519
3520
3521 /* center, flushleft, flushright environments */
3522 div.center{text-align:center;}
3523 div.center table {margin-left:auto;margin-right:auto;}
3524 div.flushleft{text-align:left;}
3525 div.flushleft table {margin-left:0em ; margin-right:auto;}
3526 div.flushright{text-align:right;}
3527 div.flushright table {margin-left:auto ; margin-right: 0em ;}
3528
3529
3530 /* Fancybox */
3531 div.Btrivlist table tr td {
3532     padding: .2ex 0em ;
3533 }
3534
3535
3536 /* program listing callouts: */
```

```
3537 span.callout {
3538     font-family: "DejaVu Sans", "Bitstream Vera Sans",
3539         Geneva, Verdana, sans-serif ;
3540     border-radius: .5em;
3541     background-color:black;
3542     color:white;
3543     padding:0px .25em 0px .25em;
3544     margin: 0 ;
3545     font-weight: bold;
3546     font-size:.72em ;
3547 }
3548
3549 div.programlisting pre.verbatim span.callout{
3550     font-size: .85em ;
3551 }
3552
3553 span.verbatim, span.verb {
3554     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
3555         "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
3556         "Courier New", monospace;
3557 }
3558
3559
3560
3561 div.titlehead
3562 {
3563     text-align: left ;
3564     font-style: normal ;
3565     font-weight: normal ;
3566     font-style: normal ;
3567     font-size: .8em ;
3568     margin: 1ex 0em 1ex 0em ;
3569 }
3570
3571 div.subject
3572 {
3573     text-align: center ;
3574     font-style: normal ;
3575     font-weight: bold ;
3576     font-style: normal ;
3577     font-size: .8em ;
3578     margin: 1ex 0em 1ex 0em ;
3579 }
3580
3581 div.published
3582 {
3583     text-align: center ;
3584     font-variant: normal ;
3585     font-style: italic ;
3586     font-size: 1em ;
3587     margin: 1ex 0em 1ex 0em ;
3588 }
3589
3590 div.subtitle
3591 {
3592     text-align: center ;
3593     font-variant: normal ;
3594     font-style: italic ;
3595     font-size: 1.25em ;
3596     margin: 1ex 0em 1ex 0em ;
```



```
3597 }
3598
3599 div.subtitle p { margin: 1ex ; }
3600
3601 div.author
3602 {
3603     text-align: center ;
3604     font-variant: normal ;
3605     font-style: normal ;
3606     font-size: 1em ;
3607     margin: 1ex 0em 1ex 0em ;
3608 }
3609
3610 div.oneauthor {
3611     display: inline-block ;
3612     margin: 0ex 1em 0ex 1em ;
3613 }
3614
3615 /*
3616 div.author table {
3617     margin: 1ex auto 0ex auto ;
3618     background: none ;
3619 }
3620
3621 div.author table tbody tr td { padding: .25ex ; }
3622 */
3623
3624 span.affiliation {font-size: .85em ; font-variant: small-caps; }
3625
3626 div.titledate {
3627     text-align: center ;
3628     font-size: .85em ;
3629     font-style: italic;
3630     margin: 1ex 0em 1ex 0em ;
3631 }
3632
3633
3634 nav.topnavigation{
3635     text-align: left ;
3636     padding: 0.5ex 1em 0.5ex 1em ;
3637 /*     margin: 2ex 0em 3ex 0em ; */
3638     margin: 0 ;
3639     border-bottom: 1px solid silver ;
3640     border-top: 1px solid silver ;
3641     clear:both ;
3642 }
3643
3644 nav.botnavigation{
3645     text-align: left ;
3646     padding: 0.5ex 1em 0.5ex 1em ;
3647 /*     margin: 3ex 0em 2ex 0em ; */
3648     margin: 0 ;
3649     border-top: 1px solid silver ;
3650     border-bottom: 1px solid silver ;
3651     clear:both ;
3652 }
3653
3654
3655 header {
3656     line-height: 1.2 ;
```

```
3657     font-size: 1em ;
3658     border-bottom: 1px solid silver ;
3659     margin: 0px ;
3660     padding: 2ex 1em 2ex 1em ;
3661     text-align:left ;
3662 }
3663
3664
3665 footer {
3666     font-size: .85em ;
3667     line-height: 1.2 ;
3668     margin-top: 1ex ;
3669     border-top: 1px solid silver ;
3670     padding: 2ex 1em 2ex 1em ;
3671     clear:both ;
3672     text-align:left ;
3673 }
3674
3675
3676 /* for \LinkHome, \LinkPrevious, and \LinkNext: */
3677 a.linkhome { font-weight:bold ; font-size: 1em ;}
3678
3679
3680 div.lateximagesource { padding: 0px ; margin: 0px ; display: none; }
3681
3682 img.lateximage{
3683     padding: 0pt ;
3684     margin: 0pt ;
3685     box-shadow: none ;
3686     border: none ;
3687     background: none ;
3688     max-width: 100% ;
3689     border-radius: 0ex ;
3690     border: none ;
3691 }
3692
3693
3694 div.sidetoccontainer {
3695     font-family: "DejaVu Serif", "Bitstream Vera Serif",
3696         "Lucida Bright", Georgia, serif;
3697     float: left ;
3698     width: 19%; /* room for border-right next to 80% main */
3699     margin: 0pt 0em 3ex 0pt ;
3700     border-right: 1px solid silver;
3701     border-bottom: 1px solid silver;
3702     background: #FAF7F4 ;
3703     font-size:.9em ;
3704     border-radius: 0px 0px 20px 0px ;
3705 }
3706
3707 div.sidetoccontents {
3708     overflow-y: auto ;
3709     width: 100% ;
3710     text-align: left ;
3711 }
3712
3713
3714 nav.sidetoc p {line-height:1.2 ; margin: 1ex .5em 1ex .5em ;
3715     text-indent: 0 ; }
3716
```

```
3717 nav.sidetoc p a {color:black ; font-size: .7em ;}
3718
3719 div.sidetoc title {font-size: 1.2em; font-weight:bold; text-align:center;
3720     border-bottom: 1px solid silver ;    }
3721
3722 nav.sidetoc a:hover {text-decoration: underline ; }
3723
3724
3725
3726 section.textbody { margin: 0ex 1em 0ex 1em ;}
3727
3728
3729 div.multicols heading { -webkit-column-span: all;
3730     -moz-column-span: all; column-span: all; }
3731 div.multicols {
3732     -webkit-columns: 3 auto ;
3733     -moz-columns: 3 auto ;
3734     columns: 3 auto ;
3735 }
3736 div.multicols p {margin-top: 0ex}
3737
3738
3739 /* Used for xfrac and nicefrac: */
3740 span.numerator {
3741     font-size: 60% ;
3742     vertical-align: .4em ;
3743 }
3744
3745 span.denominator {
3746     font-size: 60%
3747 }
3748
3749
3750 /* Used for algorithm2e: */
3751 div.alg2evline{
3752     margin-left: 1em ;
3753     padding-left: 1em ;
3754     border-left: 1px solid black ;
3755     border-radius: 0px 0px 0px 1ex ;
3756 }
3757
3758 div.alg2evsline{
3759     margin-left: 1em ;
3760     padding-left: 1em ;
3761     border-left: 1px solid black ;
3762 }
3763
3764 div.alg2enoline{
3765     margin-left: 1em ;
3766     padding-left: 1em ;
3767 }
3768
3769 span.alg2elinenumber{
3770     margin-right: .5em ;
3771     font-size: 60% ;
3772     color: red ;
3773 }
3774
3775
3776 /* Used for algorithmicx: */
```

```
3777 span.floatright { float: right ; }
3778
3779
3780 /* keyfloat and tocdata: */
3781 .floatnotes {
3782     margin: 0ex 5% 0ex 5% ;
3783     padding: 0ex 1em 0ex 1em ;
3784     font-size:.80em ;
3785     text-align: left ;
3786 }
3787
3788 .authorartist{
3789     display:block ;
3790     font-size:.70em ;
3791     font-style: italic;
3792 }
3793
3794 nav .authorartist{ display:inline; }
3795
3796
3797
3798 /* Native LaTeX theorems: */
3799
3800 .theoremcontents {
3801     font-style: italic; margin-top: 3ex ; margin-bottom: 3ex ;
3802 }
3803
3804 .theoremlabel {
3805     font-style: normal; font-weight: bold ; margin-right: .5em ;
3806 }
3807
3808
3809
3810 /* theorem, amsthm, and ntheorem packages */
3811
3812 span.theoremheader,
3813 span.theoremheaderplain,
3814 span.theoremheaderdefinition,
3815 span.theoremheaderbreak,
3816 span.theoremheadermarginbreak,
3817 span.theoremheaderchangebreak,
3818 span.theoremheaderchange,
3819 span.theoremheadermargin
3820 {
3821     font-style:normal ; font-weight: bold ; margin-right: 1em ;
3822 }
3823
3824 span.amsthmnameplain,
3825 span.amsthmnamedefinition,
3826 span.amsthmnumberplain,
3827 span.amsthmnumberdefinition
3828 {
3829     font-style:normal ; font-weight: bold ;
3830 }
3831
3832
3833 span.amsthmnameremark,
3834 span.amsthmnumberremark
3835 {font-style:italic ; font-weight: normal ; }
3836
```

```
3837
3838 span.amsthmnoteplain,
3839 span.amsthmnotedefinition
3840 {font-style:normal ;}
3841
3842
3843 span.theoremheaderremark,
3844 span.theoremheaderproof,
3845 span.amsthmproofname
3846 {font-style:italic ; font-weight: normal ; margin-right: 1em ; }
3847
3848 span.theoremheadersc
3849 {
3850     font-style:normal ;
3851     font-variant: small-caps ;
3852     font-weight: normal ;
3853     margin-right: 1em ;
3854 }
3855
3856 .theoremendmark {float:right}
3857
3858 div.amsthmbodyplain, div.theorembodyplain, div.theorembodynonumberplain,
3859 div.theorembodybreak, div.theorembodynonumberbreak,
3860 div.theorembodymarginbreak,
3861 div.theorembodychangebreak,
3862 div.theorembodychange,
3863 div.theorembodymargin
3864 {
3865     font-style:italic;
3866     margin-top: 3ex ; margin-bottom: 3ex ;
3867 }
3868
3869 div.theorembodydefinition, div.theorembodyremark, div.theorembodyproof,
3870 div.theorembodyplainupright, nonumberplainuprightsc,
3871 div.amsthmbodydefinition, div.amsthmbodyremark,
3872 div.amsthmproof
3873 {
3874     font-style: normal ;
3875     margin-top: 3ex ; margin-bottom: 3ex ;
3876 }
3877
3878 span.amsthmnoteremark {}
3879
3880
3881 /* thmbox */
3882
3883 .thmbox {
3884     font-style: italic; margin-top: 3ex ; margin-bottom: 3ex ;
3885     border: 1px solid gray ;
3886     padding: 1ex ;
3887 }
3888
3889 .thmboxtitle {
3890     font-style: normal; font-weight: bold ; margin-right: .5em ;
3891     border-bottom: 1px solid gray ;
3892 }
3893
3894 span.thmboxproofname, span.thmboxexemplename {
3895     font-weight: bold ;
3896 }
```

```
3897
3898 div.thmboxproof, div.thmboxexample {
3899     font-size: 0.85em ;
3900     margin: 2ex ;
3901 }
3902
3903 div.thmboxleftbar {
3904     border-left: 2px solid black ;
3905     padding-left: 1em ;
3906 }
3907
3908
3909
3910 /* For the backnaur package: */
3911 div.backnaur {
3912     display: block ;
3913     margin: 2ex 2em 2ex 2em ;
3914 }
3915
3916 div.backnaur p {
3917     margin: .25ex 0ex .25ex 0ex ;
3918 }
3919
3920 div.backnaurprod {
3921     display: inline-block ;
3922     min-width: 8em ;
3923     text-align:right ;
3924 }
3925
3926 div.backnaurdesc {
3927     display: inline-block ;
3928 }
3929
3930
3931 /* For the notes package: */
3932 div.notesimportantnote, div.noteswarningnote, div.notesinformationnote {
3933     clear: both ;
3934     margin: 2ex 2em 2ex 2em ;
3935     border: 1px solid silver ;
3936 }
3937
3938 div.notesicon {
3939     float:left ;
3940     display: inline-block ;
3941     background: gold ;
3942     padding: 0ex 1em 0ex 1em ;
3943     margin-right: 1em ;
3944     font-weight: bold ;
3945 }
3946
3947 div.notescontents { font-style: italic }
3948
3949
3950 /* nolbreaks package: */
3951 span.nolbreaks { white-space: nowrap ; }
3952
3953
3954 /*
3955 For CSS LaTeX and related logos:
3956 Based on spacing demonstrated by the metafont package.
```

```
3957
3958 The subscripts are shrunk instead of lowered below the baseline,
3959 to avoid browser rendering errors with the line height in lists, etc.
3960 */
3961
3962 .latexlogofont {
3963     font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
3964         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3965     font-variant: normal ;
3966 }
3967
3968 .latexlogo {
3969     font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
3970         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3971 }
3972
3973 .latexlogosup {
3974     text-transform: uppercase;
3975     letter-spacing: .03em ;
3976     font-size: 0.7em;
3977     vertical-align: 0.25em;
3978     margin-left: -0.4em;
3979     margin-right: -0.15em;
3980 }
3981
3982 .latexlogosub {
3983     text-transform: uppercase;
3984 /* vertical-align: -0.27ex; */
3985     margin-left: -0.08em;
3986     margin-right: -0.07em;
3987 /* font-size: 1em; */
3988     font-size: .7em ;
3989 }
3990
3991 .latexlogotwoe {
3992     text-transform: none ;
3993     font-variant-numeric: oldstyle-nums ;
3994 }
3995
3996 .latexlogotwoesub {
3997     font-style: italic ;
3998 /* vertical-align: -0.27ex; */
3999     margin-left: -0.11em;
4000     margin-right: -0.1em;
4001 /* font-size: 1em; */
4002     font-size: .7em ;
4003 }
4004
4005 .xelatexlogo {
4006     font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
4007         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4008     letter-spacing: .03em ;
4009 }
4010
4011 .xelatexlogosub {
4012 /* vertical-align: -0.27ex; */
4013     margin-left: -0.0667em;
4014     margin-right: -.05em;
4015 /* font-size: 1em; */
4016     font-size: .7em ;
```

```
4017 letter-spacing: .03em ;
4018 }
4019
4020 .amslogo {
4021     font-family: "TeXGyreChorus","URW Chancery L",
4022         "Apple Chancery","ITC Zapf Chancery","Monotype Corsiva",
4023         "Linux Libertine O", "Nimbus Roman No 9 L", "FreeSerif",
4024         "Hoefler Text", Times, "Times New Roman", serif ;
4025     font-style: italic ;
4026 }
4027
4028 .lyxlogo {
4029     font-family: "URW Classico", Optima, "Linux Biolinum O",
4030         "DejaVu Sans", "Bitstream Vera Sans", Geneva,
4031         Verdana, sans-serif ;
4032 }
4033
4034
4035 /* Only display top and bottom navigation if a small screen: */
4036 /* Hide the sidetoc if a small screen: */
4037 nav.topnavigation { display:none; }
4038 nav.botnavigation { display:none; }
4039
4040 /* Only display the sidetoc's webpage title if a small screen */
4041 span.sidetocthetitle { display: none }
4042
4043 @media screen and (max-width: 100em) {
4044     div.multicols {
4045         -webkit-columns: 2 auto ;
4046         -moz-columns: 2 auto ;
4047         columns: 2 auto ;
4048     }
4049 }
4050
4051 @media screen and (max-width: 50em) {
4052     div.sidetoccontainer {
4053         float: none ;
4054         width: 100% ;
4055         padding: 0 ;
4056         border-radius: 0 ;
4057         border-bottom: 1px solid black ;
4058         border-top: 1px solid black ;
4059         box-shadow: none ;
4060     }
4061     span.sidetocthetitle { display: inline }
4062     nav.topnavigation { display:block }
4063     nav.botnavigation { display:block }
4064     main.bodycontainer { width: 100% }
4065     .marginpar {
4066         max-width: 100%;
4067         float: none;
4068         display:block ;
4069         margin: 1ex 1em 1ex 1em ;
4070     }
4071     div.multicols {
4072         -webkit-columns: 1 auto ;
4073         -moz-columns: 1 auto ;
4074         columns: 1 auto ;
4075     }
4076 }
```



```

4077
4078 @media print {
4079     body {
4080         font-family: "Linux Libertine O",
4081             "DejaVu Serif", "Bitstream Vera Serif",
4082             "Liberation Serif", "Nimbus Roman No 9 L",
4083             "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4084     }
4085     div.sidetoccontainer { display:none; }
4086     nav.topnavigation { display: none; }
4087     nav.botnavigation { display: none; }
4088     main.bodycontainer { width: 100% }
4089 }
4090
4091 @media handheld {
4092     div.sidetoccontainer { display:none; }
4093     nav.topnavigation { display:block }
4094     nav.botnavigation { display:block }
4095     main.bodycontainer { width: 100% }
4096 }
4097
4098 @media projection {
4099     div.sidetoccontainer { display:none; }
4100     nav.topnavigation { display:block }
4101     nav.botnavigation { display:block }
4102     main.bodycontainer { width: 100% }
4103 }
4104 \end{filecontents*}
4105 % \end{Verbatim}% for syntax highlighting
4106 \end{LWRwriteconf}

```

42.5 lwarp_sagebrush.css

lwarp_sagebrush.css (*file*) An optional css which may be used for a semi-modern appearance.

If used, this must be present both when compiling the project and also when distributing the HTML files.

```

Config file: 4107 \begin{LWRwriteconf}
4108 \begin{filecontents*}[overwrite]{lwarp_sagebrush.css}
4109 @import url("lwarp.css") ;
4110
4111
4112 A:link {color:#105030 ; text-decoration: none ; }
4113 A:visited {color:#705030 ; text-shadow:1px 1px 2px #a0a0a0;}
4114 A:hover {color:#006000 ; text-decoration: underline ; text-shadow:0px 0px 2px #a0a0a0;}
4115 A:active {color:#00C000 ; text-shadow:1px 1px 2px #a0a0a0;}
4116
4117
4118
4119 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
4120 {
4121     font-family: "URW Classico", Optima, "Linux Biolinum O",
4122         "Linux Libertine O", "Liberation Serif",
4123         "Nimbus Roman No 9 L", "FreeSerif",
4124         "Hoefler Text", Times, "Times New Roman", serif;
4125     font-variant: small-caps ;
4126     font-weight: normal ;

```

```
4127     color: #304070 ;
4128     text-shadow: 2px 2px 3px #808080;
4129 }
4130
4131 h1 { /* title of the entire website, used on each page */
4132     font-variant: small-caps ;
4133     color: #304070 ;
4134     text-shadow: 2px 2px 3px #808080;
4135     background-color: #F7F7F0 ;
4136     background-image: linear-gradient(to bottom, #F7F7F0, #C0C0C4);
4137 }
4138
4139 h1 {
4140     border-bottom: 1px solid #304070;
4141 /* border-top: 2px solid #304070; */
4142 }
4143
4144 h2 {
4145     border-bottom: 1px solid #304070;
4146 /* border-top: 2px solid #304070; */
4147     background-color: #F7F7F0 ;
4148     background-image: linear-gradient(to bottom, #F7F7F0, #DAD0C0);
4149 }
4150
4151
4152
4153 div.abstract {
4154     background: #f5f5eb ;
4155     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
4156
4157     border: 1px solid silver;
4158     border-radius: 1em ;
4159 }
4160
4161 div.abstract dl {line-height:1.5;}
4162 div.abstract dt {color:#304070;}
4163
4164 div.abstracttitle{
4165     font-family: "URW Classico", Optima, "Linux Biolinum 0",
4166         "Linux Libertine 0", "Liberation Serif", "Nimbus Roman No 9 L",
4167         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4168     font-weight:bold;
4169     font-variant: small-caps ;
4170     font-size:1.5em;
4171     border-bottom: 1px solid silver ;
4172     color: #304070 ;
4173     text-align: center ;
4174     text-shadow: 1px 1px 2px #808080;
4175 }
4176
4177 span.abstracruntintitle{
4178     font-family: "URW Classico", Optima, "Linux Biolinum 0",
4179         "Linux Libertine 0", "Liberation Serif", "Nimbus Roman No 9 L",
4180         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4181     font-weight:bold;
4182 }
4183
4184
4185 div.epigraph, div.dictum {
4186     background: #f5f5eb ;
```

```
4187     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
4188
4189     border: 1px solid silver ;
4190     border-radius: 1ex ;
4191     box-shadow: 3px 3px 3px #808080 ;
4192 }
4193
4194
4195 .example {
4196     background-color: #f5f5eb ;
4197     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
4198
4199 }
4200
4201 div.exampletitle{
4202     font-family: "URW Classico", Optima, "Linux Biolinum 0",
4203         "Linux Libertine 0", "Liberation Serif", "Nimbus Roman No 9 L",
4204         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4205     font-weight:bold;
4206     font-variant: small-caps ;
4207     border-bottom: 1px solid silver ;
4208     color: #304070 ;
4209     text-align: center ;
4210     text-shadow: 1px 1px 2px #808080;
4211 }
4212
4213
4214 .sidebar {
4215     background-color: #f5f5eb ;
4216     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
4217
4218 }
4219
4220 div.sidebar{
4221     font-family: "URW Classico", Optima, "Linux Biolinum 0",
4222         "Linux Libertine 0", "Liberation Serif", "Nimbus Roman No 9 L",
4223         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4224     font-weight:bold;
4225     font-variant: small-caps ;
4226     border-bottom: 1px solid silver ;
4227     color: #304070 ;
4228     text-align: center ;
4229     text-shadow: 1px 1px 2px #808080;
4230 }
4231
4232
4233 .fancyvrlabel {
4234     font-family: "URW Classico", Optima, "Linux Biolinum 0",
4235         "Linux Libertine 0", "Liberation Serif", "Nimbus Roman No 9 L",
4236         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4237     font-weight:bold;
4238     font-variant: small-caps ;
4239     font-size: 1.5em ;
4240     color: #304070 ;
4241     text-align: center ;
4242     text-shadow: 1px 1px 2px #808080;
4243 }
4244
4245 div.minipage {
4246     background-color: #eeeeee7 ;
```

```
4247     border: 1px solid silver ;
4248     border-radius: 1ex ;
4249 }
4250
4251 table div.minipage { background: none ; border: none ; }
4252
4253 div.framebox div.minipage {border:none ; background:none}
4254
4255 section.textbody > div.minipage {
4256     box-shadow: 3px 3px 3px #808080 ;
4257 }
4258
4259 div.fboxBlock div.minipage { box-shadow: none ; }
4260
4261 .framed .minipage , .framedleftbar .minipage {
4262     border: none ;
4263     background: none ;
4264     padding: 0ex ;
4265     margin: 0ex ;
4266 }
4267
4268 figure.figure .minipage, div.figurecaption .minipage { border: none; }
4269
4270 div.marginblock div.minipage ,
4271 div.marginparblock div.minipage
4272     { border: none; }
4273
4274 figure , div.marginblock {
4275     background-color: #eeeeee7 ;
4276     border: 1px solid silver ;
4277     border-radius: 1ex ;
4278     box-shadow: 3px 3px 3px #808080 ;
4279 }
4280
4281 figure figure {
4282     border: 1px solid silver ;
4283     margin: 0em ;
4284     box-shadow: none ;
4285 }
4286
4287 /*
4288 div.figurecaption {
4289     border-top: 1px solid silver ;
4290     border-bottom: 1px solid silver ;
4291     background-color: #e8e8e8 ;
4292 }
4293 */
4294
4295
4296 div.table {
4297     box-shadow: 3px 3px 3px #808080 ;
4298 }
4299
4300 /*
4301 .tnotes {
4302     background: #e8e8e8;
4303     border: 1px solid silver;
4304 }
4305 */
4306
```

```
4307
4308 nav.topnavigation{
4309     background-color: #b0b8b0 ;
4310     background-image: linear-gradient(to bottom,#e0e0e0,#b0b8b0) ;
4311 }
4312
4313 nav.botnavigation{
4314     background-color: #b0b8b0 ;
4315     background-image: linear-gradient(to top,#e0e0e0,#b0b8b0) ;
4316 }
4317
4318
4319
4320 header{
4321     background-color: #F7F7F0 ;
4322     background-image: linear-gradient(to top, #F7F7F0, #b0b8b0);
4323 }
4324
4325 footer{
4326     background-color: #F7F7F0 ;
4327     background-image: linear-gradient(to bottom, #F7F7F0, #b0b8b0);
4328 }
4329
4330
4331
4332 div.sidetoccontainer {
4333     background-color: #F7F7F0 ;
4334     background-image: linear-gradient(to bottom, #F7F7F0, #C0C0C0);
4335     box-shadow: 3px 3px 3px #808080 ;
4336 }
4337
4338 div.sidetocitle {color: #304070 ; }
4339
4340 nav.sidetoc a:hover {
4341     color:#006000 ;
4342     text-decoration: none ;
4343     text-shadow:0px 0px 2px #a0a0a0;
4344 }
4345
4346
4347 @media screen and (max-width: 45em) {
4348     div.sidetoccontainer { border-radius: 0 ; }
4349 }
4350
4351
4352 \end{filecontents*}
4353 % \end{Verbatim}% for syntax highlighting
4354 \end{LWRwriteconf}
```

42.6 lwarp_formal.css

lwarp_formal.css (*file*) An optional css which may be used for a more formal appearance.

If used, this must be present both when compiling the project and also when distributing the HTML files.

Config file: 4355 \begin{LWRwriteconf}
4356 \begin{filecontents*}[overwrite]{lwarp_formal.css}

```
4357 @import url("lwarp.css") ;
4358
4359
4360
4361 A:link {color:#802020 ; text-decoration:none; }
4362 A:visited {color:#802020 ; text-shadow:none ;}
4363 A:hover {color:#400000 ; text-shadow:none ;}
4364 A:active {color:#C00000 ; text-shadow:none ;}
4365
4366
4367 body {
4368     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4369         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4370         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4371         "Times New Roman", serif;
4372     background: #fffcf5;
4373 }
4374
4375 span.textrm {
4376     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4377         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4378         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4379         "Times New Roman", serif;
4380 }
4381
4382 span.textsf {
4383     font-family: "DejaVu Sans", "Bitstream Vera Sans",
4384         Geneva, Verdana, sans-serif ;
4385 }
4386
4387
4388
4389 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
4390 {
4391     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4392         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4393         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4394         "Times New Roman", serif;
4395     color: #800000 ;
4396     text-shadow: none ;
4397 }
4398
4399 h1, h2 {
4400     background-color: #fffcf5 ;
4401     background-image: none ;
4402     border-bottom: 1px solid #808080;
4403 /*     border-top: 2px solid #808080; */
4404 }
4405
4406 div.abstracttitle {
4407     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4408         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4409         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4410         "Times New Roman", serif;
4411     color: black ;
4412     text-shadow: none ;
4413 }
4414
4415 span.abstracruntintitle {
4416     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
```

```
4417     "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4418     "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4419     "Times New Roman", serif;
4420     color: black ;
4421     text-shadow: none ;
4422 }
4423
4424 div.abstract { font-size: 100% }
4425
4426 .sidebar {
4427     background: #fffcf5;
4428     background-image: none ;
4429     margin: 2em 5% 2em 5%;
4430     padding: 0.5em 1em;
4431     border: none ;
4432     border-top : 1px solid silver;
4433     border-bottom : 1px solid silver;
4434     font-size: 90% ;
4435 }
4436
4437 div.sidebar{title{
4438     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4439     "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4440     "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4441     "Times New Roman", serif;
4442     color: #800000 ;
4443     text-shadow: none ;
4444     border: none ;
4445 }
4446
4447 .example {
4448     background: #fffcf5;
4449     background-image: none ;
4450     margin: 2em 5% 2em 5%;
4451     padding: 0.5em 1em;
4452     border: none ;
4453     border-top : 1px solid silver;
4454     border-bottom : 1px solid silver;
4455 }
4456
4457 div.exampletitle{
4458     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4459     "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4460     "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4461     "Times New Roman", serif;
4462     color: #800000 ;
4463     text-shadow: none ;
4464     border: none ;
4465 }
4466
4467 div.fancyvrblabel{
4468     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4469     "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4470     "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4471     "Times New Roman", serif;
4472     color: #800000 ;
4473     text-shadow: none ;
4474     border: none ;
4475 }
4476
```

```
4477
4478
4479 figure {
4480     margin: 5ex 5% 5ex 5% ;
4481     padding: 1ex 1em 1ex 1em ;
4482     background-color: #ffffcf5 ;
4483     overflow-x: auto ;
4484     border: none ;
4485 /*     border-top: 1px solid silver; */
4486 /*     border-bottom: 1px solid silver; */
4487 }
4488
4489
4490 div.figurecaption , .lstlisting {
4491     border: none ;
4492 /*     border-top: 1px solid silver ; */
4493 /*     border-bottom: 1px solid silver ; */
4494     background-color: #ffffcf5 ;
4495 }
4496
4497 .tnotes {
4498     background: #ffffcf5 ;
4499     border-top: 1px solid silver ;
4500     border-bottom: 1px solid silver ;
4501 }
4502
4503 .theorem {
4504     background: none ;
4505 }
4506
4507 .minipage {
4508     background-color: #ffffcf5 ;
4509     border: none ;
4510 }
4511
4512 div.floatrow figure { border: none ; }
4513
4514 figure figure { border: none ; }
4515
4516
4517 nav.toc, nav.lof, nav.lot, nav.lol {
4518     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4519         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4520         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4521         "Times New Roman", serif;
4522 }
4523
4524 div.sidetoccontainer {
4525     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4526         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4527         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4528         "Times New Roman", serif;
4529     background-image: linear-gradient(to bottom, #ffffcf5, #C0C0C0);
4530 }
4531
4532 div.sidetoctitle{
4533     color: #800000 ;
4534 }
4535
4536 header{
```



```

4537     background-color: #e0e0e0 ;
4538     background-image: linear-gradient(to top, #fffcf5, #b0b0b0);
4539     text-align:center ;
4540 }
4541
4542 footer{
4543     background-color: #e0e0e0 ;
4544     background-image: linear-gradient(to bottom, #fffcf5, #b0b0b0);
4545     padding: 2ex 1em 2ex 1em ;
4546     text-align:left ;
4547 }
4548
4549 nav.botnavigation {
4550     background: #dedcd5 ;
4551     border-top: 1px solid black ;
4552 }
4553 \end{filecontents*}
4554 % \end{Verbatim}% for syntax highlighting
4555 \end{LWRwriteconf}

```

42.7 sample_project.css

sample_project.css (*file*) The project-specific CSS file. Use with \CSSFilename.

If used, this must be present both when compiling the project and also when distributing the HTML files.

Config file:

```

4556 \begin{LWRwriteconf}
4557 \begin{filecontents*}[overwrite]{sample_project.css}
4558 /* ( --- Start of project.css --- ) */
4559 /* ( --- A sample project-specific CSS file for lwarp --- ) */
4560
4561 /* Uncomment one of the following: */
4562 @import url("lwarp.css") ;
4563 /* @import url("lwarp_formal.css") ; */
4564 /* @import url("lwarp_sagebrush.css") ; */
4565
4566 /* Project-specific CSS setting follow here. */
4567 /* . . . */
4568
4569 /* ( --- End of project.css --- ) */
4570 \end{filecontents*}
4571 % \end{Verbatim}% for syntax highlighting
4572 \end{LWRwriteconf}

```

42.8 lwarp.ist

lwarp.ist (*file*) Used to modify the index for lwarp.

This must be present when compiling the project, but does not need to be present when distributing the resulting HTML files.

The page compositor line is for memoir's \specialindex.

Config file:

```

4573 \begin{LWRwriteconf}
4574 \begin{filecontents*}[overwrite]{lwarp.ist}
4575 preamble

```

```

4576 "\begin{theindex}
4577  \providecommand*\lettergroupDefault[1]{
4578  \providecommand*\lettergroup[1]{%
4579    \par\textbf{#1}\par
4580    \nopagebreak
4581  }
4582 "
4583 headings_flag 1
4584 heading_prefix "
4585  \lettergroup{"
4586 heading_suffix "}"
4587 delim_0 ", \hyperindexref{"
4588 delim_1 ", \hyperindexref{"
4589 delim_2 ", \hyperindexref{"
4590 delim_n "}, \hyperindexref{"
4591 delim_r "} -- \hyperindexref{"
4592 delim_t "}"
4593 page_compositor "."
4594 \end{filecontents*}
4595 % \end{Verbatim}% for syntax highlighting
4596 \end{LWRwriteconf}

```

42.9 lwarp.xdy

lwarp.xdy (*file*) Used to modify the index for lwarp.

This must be present when compiling the project, but does not need to be present when distributing the resulting HTML files.

See:

<https://tex.stackexchange.com/questions/80300/how-can-i-convince-hyperref-and-xindy-to-play-together-nicely>

Config file:

```

4597 \begin{LWRwriteconf}
4598 \begin{filecontents*}[overwrite]{lwarp.xdy}
4599 (require "tex/inputenc/latin.xdy")
4600 (merge-rule "\PS *" "Postscript")
4601 (require "texindy.xdy")
4602 (require "page-ranges.xdy")
4603 (require "book-order.xdy")
4604 (define-location-class "arabic-page-numbers"
4605   ("arabic-numbers") :min-range-length 1)
4606 (require "makeindex.xdy")
4607 (define-attributes (("hyperindexref")))
4608 (markup-locref :open "\hyperindexref{" :close "}")
4609 (markup-locref :open "\hyperindexref{" :close "}" :attr "hyperpage")
4610 (markup-locref :open "\textbf{\hyperindexref{" :close "}}" :attr "textbf")
4611 (markup-locref :open "\textit{\hyperindexref{" :close "}}" :attr "textit")
4612 (define-location-class-order ("roman-page-numbers"
4613   "arabic-page-numbers"
4614   "alpha-page-numbers"
4615   "Roman-page-numbers"
4616   "Alpha-page-numbers"
4617   "see"
4618   "seealso"))
4619 \end{filecontents*}
4620 % \end{Verbatim}% for syntax highlighting
4621 \end{LWRwriteconf}

```

42.10 `lwarp_one_limage.cmd`

`lwarp_one_limage.cmd` (*file*) Used by `lwarp` to help make lateximages when using WINDOWS.

This must be present when compiling the project, but does not need to be present when distributing the resulting HTML files.

The arguments are each of the three fields from `<project>-images.txt`, and also the base name of the source file.

MiKTeX does not allow file `lwarp_one_limage.cmd` to be created directly by `lwarpmk`, so `lwarp_one_limage.txt` is created instead, then copied to `lwarp_one_limage.cmd` by `lwarpmk`. This occurs each time `lwarpmk` used to create lateximages.

Config file:

```

4622 \begin{LWRwriteconf}
4623 \immediate\openout\LWR@quickfile=lwarp_one_limage.txt
4624 \immediate\write\LWR@quickfile{%
4625     pdfseparate -f \LWRpercent 1 -l \LWRpercent 1 \LWRpercent 4_html.pdf %
4626     \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent\LWRpercent d.pdf%
4627 }
4628 \immediate\write\LWR@quickfile{%
4629     pdfcrop --hires --margins \LWRopquote0 1 0 0\LWRopquote\space %
4630     \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent 1.pdf %
4631     \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf%
4632 }
4633 \immediate\write\LWR@quickfile{%
4634     pdftocairo -svg -noshrink \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf %
4635     \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.svg%
4636 }
4637 \immediate\write\LWR@quickfile{%
4638     del \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf%
4639 }
4640 \immediate\write\LWR@quickfile{%
4641     del \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent 1.pdf%
4642 }
4643 \immediate\write\LWR@quickfile{exit}
4644 \immediate\closeout\LWR@quickfile
4645 \end{LWRwriteconf}

```

42.11 `lwarp_mathjax.txt`

(Emulates or patches code by DAVIDE P. CERVONE, BRIAN DUNN.)

`lwarp_mathjax.txt` (*file*) The default MATHJAX script used by `lwarp` when using MATHJAX. A recent version of MATHJAX is used, as served by the recommended repository. Adjustments are made to allow \LaTeX to control the equation tags and provide for starred macros.

`\MathJaxFilename` determines which script file is copied into the HTML pages, and defaults to `lwarp_mathjax.txt`. The script files must be present when compiling the project, but do not need to be present when distributing the resulting HTML files.

custom script To generate a custom script, such as to use a local repository, copy `lwarp_mathjax.txt` to a new file, make changes while keeping `lwarp`'s adjustments for equation numbering and starred macros, and use `\MathJaxFilename` to select the new filename.

Config file:

```
4646 \begin{LWRwriteconf}
4647 \begin{filecontents*}[overwrite]{lwarp_mathjax.txt}
4648 <script>
4649 // Lwarp MathJax emulation code
4650 //
4651 // Based on code by Davide P. Cervone.
4652 // Equation numbering: https://github.com/mathjax/MathJax/issues/2427
4653 // Starred and ifnextchar macros: https://github.com/mathjax/MathJax/issues/2428
4654 // \left, \right delimiters: https://github.com/mathjax/MathJax/issues/2535
4655 //
4656 // Modified by Brian Dunn to adjust equation numbering and add subequations.
4657 //
4658 // LaTeX can use \seteqnumber{subequations?}{section}{number} before each equation.
4659 // subequations? is 0 usually, 1 if inside subequations.
4660 // section is a string printed as-is, or empty.
4661 // number is auto-incremented by MathJax between equations.
4662 //
4663 MathJax = {
4664   subequations: "0",
4665   section: "",
4666   loader: {
4667     load: ['[tex]/tagformat', '[tex]/textmacros'],
4668   },
4669   startup: {
4670     ready() {
4671       // These would be replaced by import commands if you wanted to make
4672       // a proper extension.
4673       const Configuration = MathJax._.input.tex.Configuration.Configuration;
4674       const CommandMap = MathJax._.input.tex.SymbolMap.CommandMap;
4675       const Macro = MathJax._.input.tex.Symbol.Macro;
4676       const TexError = MathJax._.input.tex.TexError.default;
4677       const ParseUtil = MathJax._.input.tex.ParseUtil.default;
4678       const expandable = MathJax._.util.Options.expandable;
4679
4680       // Insert the replacement string into the TeX string, and check
4681       // that there haven't been too many macro substitutions (prevents
4682       // infinite loops).
4683       const useArgument = (parser, text) => {
4684         parser.string = ParseUtil.addArgs(parser, text, parser.string.slice(parser.i));
4685         parser.i = 0;
4686         if (++parser.macroCount > parser.configuration.options.maxMacros) {
4687           throw new TexError('MaxMacroSub1',
4688             'MathJax maximum macro substitution count exceeded; ' +
4689             'is there a recursive macro call?');
4690         }
4691       }
4692
4693       // Create the command map for:
4694       // \ifstar, \ifnextchar, \ifblank, \ifstreqequal, \gsub, \seteqnumber
4695       new CommandMap('Lwarp-macros', {
4696         ifstar: 'IfstarFunction',
4697         ifnextchar: 'IfnextcharFunction',
4698         ifblank: 'IfblankFunction',
4699         ifstreqequal: 'IfstreqequalFunction',
4700         gsubstitute: 'GsubstituteFunction',
4701         seteqnumber: 'SeteqnumberFunction'
4702       }, {
4703         // This function implements an ifstar macro.
4704         IfstarFunction(parser, name) {
4705           const resultstar = parser.GetArgument(name);
```

```

4706     const resultnostar = parser.GetArgument(name);
4707     const star = parser.GetStar();           // true if there is a *
4708     useArgument(parser, star ? resultstar : resultnostar);
4709 },
4710
4711 // This function implements an ifnextchar macro.
4712 IfnextcharFunction(parser, name) {
4713     let whichchar = parser.GetArgument(name);
4714     if (whichchar.match(/^(?:0x[0-9A-F]+|[0-9]+)$/i)) {
4715         // $ syntax highlighting
4716         whichchar = String.fromCodePoint(parseInt(whichchar));
4717     }
4718     const resultnextchar = parser.GetArgument(name);
4719     const resultnotnextchar = parser.GetArgument(name);
4720     const gotchar = (parser.GetNext() === whichchar);
4721     useArgument(parser, gotchar ? resultnextchar : resultnotnextchar);
4722 },
4723
4724 // This function implements an ifblank macro.
4725 IfblankFunction(parser, name) {
4726     const blankarg = parser.GetArgument(name);
4727     const resultblank = parser.GetArgument(name);
4728     const resultnotblank = parser.GetArgument(name);
4729     const isblank = (blankarg.trim() == "");
4730     useArgument(parser, isblank ? resultblank : resultnotblank);
4731 },
4732
4733 // This function implements an ifstrequal macro.
4734 IfstrequalFunction(parser, name) {
4735     const strequalfirst = parser.GetArgument(name);
4736     const strequalsecond = parser.GetArgument(name);
4737     const resultequal = parser.GetArgument(name);
4738     const resultnotequal = parser.GetArgument(name);
4739     const isequal = (strequalfirst == strequalsecond);
4740     useArgument(parser, isequal ? resultequal : resultnotequal);
4741 },
4742
4743 // This function implements a gsub macro.
4744 GsubstituteFunction(parser, name) {
4745     const gsubfirst = parser.GetArgument(name);
4746     const gsubsecond = parser.GetArgument(name);
4747     const gsubthird = parser.GetArgument(name);
4748     let gsubresult=gsubfirst.replace(gsubsecond, gsubthird);
4749     useArgument(parser, gsubresult);
4750 },
4751
4752 // This function modifies the equation numbers.
4753 SeteqnumberFunction(parser, name) {
4754     // Get the macro parameters
4755     const star = parser.GetStar();           // true if there is a *
4756     const optBrackets = parser.GetBrackets(name); // contents of optional brackets
4757     const newsubequations = parser.GetArgument(name); // the subequations argument
4758     const neweqsection = parser.GetArgument(name); // the eq section argument
4759     const neweqnumber = parser.GetArgument(name); // the eq number argument
4760     MathJax.config.subequations=newsubequations; // a string with boolean meaning
4761     MathJax.config.section=neweqsection; // a string with numeric meaning
4762     parser.tags.counter = parser.tags.allCounter = neweqnumber ;
4763 }
4764
4765 });

```

```
4766
4767 // Create the Lwarp-macros package
4768 Configuration.create('Lwarp-macros', {
4769   handler: {macro: ['Lwarp-macros']}
4770 });
4771
4772 MathJax.startup.defaultReady();
4773
4774 // For forward references:
4775 MathJax.startup.input[0].preFilters.add(({math}) => {
4776   if (math.inputData.recompile){
4777     MathJax.config.subequations = math.inputData.recompile.subequations;
4778     MathJax.config.section = math.inputData.recompile.section;
4779   }
4780 });
4781 MathJax.startup.input[0].postFilters.add(({math}) => {
4782   if (math.inputData.recompile){
4783     math.inputData.recompile.subequations = MathJax.config.subequations;
4784     math.inputData.recompile.section = MathJax.config.section;
4785   }
4786 });
4787
4788 // For \left, \right with unicode-math:
4789 const {DelimiterMap} = MathJax._.input.tex.SymbolMap;
4790 const {Symbol} = MathJax._.input.tex.Symbol;
4791 const {MapHandler} = MathJax._.input.tex.MapHandler;
4792 const delimiter = MapHandler.getMap('delimiter');
4793 delimiter.add('\lBrack', new Symbol('\lBrack', '\u27E6'));
4794 delimiter.add('\rBrack', new Symbol('\rBrack', '\u27E7'));
4795 delimiter.add('\lAngle', new Symbol('\lAngle', '\u27EA'));
4796 delimiter.add('\rAngle', new Symbol('\rAngle', '\u27EB'));
4797 delimiter.add('\lbrbrak', new Symbol('\lbrbrak', '\u2772'));
4798 delimiter.add('\rbrbrak', new Symbol('\rbrbrak', '\u2773'));
4799 delimiter.add('\lbag', new Symbol('\lbag', '\u27C5'));
4800 delimiter.add('\rbag', new Symbol('\rbag', '\u27C6'));
4801 delimiter.add('\llparenthesis', new Symbol('\llparenthesis', '\u2987'));
4802 delimiter.add('\rrparenthesis', new Symbol('\rrparenthesis', '\u2988'));
4803 delimiter.add('\llangle', new Symbol('\llangle', '\u2989'));
4804 delimiter.add('\rrangle', new Symbol('\rrangle', '\u298A'));
4805 delimiter.add('\lLbrbrak', new Symbol('\lLbrbrak', '\u27EC'));
4806 delimiter.add('\rRbrbrak', new Symbol('\rRbrbrak', '\u27ED'));
4807 delimiter.add('\lBrace', new Symbol('\lBrace', '\u2983'));
4808 delimiter.add('\rBrace', new Symbol('\rBrace', '\u2984'));
4809 delimiter.add('\lParen', new Symbol('\lParen', '\u2985'));
4810 delimiter.add('\rParen', new Symbol('\rParen', '\u2986'));
4811 delimiter.add('\lbrackubar', new Symbol('\lbrackubar', '\u298B'));
4812 delimiter.add('\rbrackubar', new Symbol('\rbrackubar', '\u298C'));
4813 delimiter.add('\lbrackultick', new Symbol('\lbrackultick', '\u298D'));
4814 delimiter.add('\rbracklrtick', new Symbol('\rbracklrtick', '\u298E'));
4815 delimiter.add('\lbracklltick', new Symbol('\lbracklltick', '\u298F'));
4816 delimiter.add('\rbrackurtick', new Symbol('\rbrackurtick', '\u2990'));
4817 delimiter.add('\llangledot', new Symbol('\llangledot', '\u2991'));
4818 delimiter.add('\rangledot', new Symbol('\rangledot', '\u2992'));
4819 delimiter.add('\lparenless', new Symbol('\lparenless', '\u2993'));
4820 delimiter.add('\rparengtr', new Symbol('\rparengtr', '\u2994'));
4821 delimiter.add('\lparengtr', new Symbol('\lparengtr', '\u2995'));
4822 delimiter.add('\Rparenless', new Symbol('\Rparenless', '\u2996'));
4823 delimiter.add('\lblbrbrak', new Symbol('\lblbrbrak', '\u2997'));
4824 delimiter.add('\rblbrbrak', new Symbol('\rblbrbrak', '\u2998'));
4825 delimiter.add('\lvzigzag', new Symbol('\lvzigzag', '\u29D8'));
```

```

4826     delimiter.add('\rvzigzag', new Symbol('\rvzigzag', '\u29D9'));
4827     delimiter.add('\Lvzigzag', new Symbol('\Lvzigzag', '\u29DA'));
4828     delimiter.add('\Rvzigzag', new Symbol('\Rvzigzag', '\u29DB'));
4829     delimiter.add('\lcurvyangle', new Symbol('\lcurvyangle', '\u29FC'));
4830     delimiter.add('\rcurvyangle', new Symbol('\rcurvyangle', '\u29FD'));
4831     delimiter.add('\Vvert', new Symbol('\Vvert', '\u2980'));
4832   } // ready
4833 }, // startup
4834
4835 tex: {
4836   packages: {'[+]': ['tagformat', 'Lwarp-macros', 'textmacros']},
4837   tags: "ams",
4838   tagformat: {
4839     number: function (n) {
4840       if(MathJax.config.subequations==0)
4841         return(MathJax.config.section + n);
4842       else
4843         return(MathJax.config.section + String.fromCharCode(96+n));
4844     },
4845   },
4846 }
4847 }
4848 </script>
4849
4850 <script
4851   id="MathJax-script"
4852   src="https://cdn.jsdelivr.net/npm/mathjax@3/es5/tex-svg.js"
4853 ></script>
4854 \end{filecontents*}
4855 % \end{Verbatim}% for syntax highlighting
4856 \end{LWRwriteconf}

```

42.12 lwarpmk.lua — lwarpmk option

`lwarpmk (Opt)` Creates a local copy of `lwarpmk`.

`lwarpmk (Prog)` Command-line utility to process `lwarp` files and images.

parallel processing `lateximages` and `svg` math images are generated using multiple processes in parallel. For `UNIX` and `LINUX`, every 32 images the `wait` command is issued to wait for the previous batch of images to finish processing before starting a new batch. For `WINDOWS`, every 32 images one task is dispatched with

```
START /B /WAIT /BELOWNORMAL
```

which causes the operating system to wait until this lesser-priority tasks finishes, hopefully also waiting for the normal priority tasks which were already in progress to also complete. Afterwards, the next batch of images is started.

The following is only generated if the `lwarpmk` option was given to `lwarp`.

```

4857 \begin{LWRcreatelwarpmk}
4858 \begin{filecontents*}[overwrite]{lwarpmk.lua}
4859 #!/usr/bin/env texlua
4860
4861 -- Copyright 2016-2025 Brian Dunn
4862

```

```
4863
4864 printversion = "v0.917"
4865 requiredconfversion = "2" -- also at *lwarpmk.conf
4866
4867 function printhelp ()
4868 print ("lwarpmk: Use lwarpmk -h or lwarpmk --help for help.");
4869 end
4870
4871
4872 function printusage ()
4873 --
4874 -- Print the usage of the lwarpmk command:
4875 --
4876 print ( [[
4877
4878 lwarpmk print [-p project]: Compile the print version if necessary.
4879 lwarpmk print1 [-p project]: Forced single compile of the print version.
4880 lwarpmk printindex [-p project]: Process print indexes.
4881 lwarpmk printglossary [-p project]: Process the glossary for the print version.
4882 lwarpmk html [-p project]: Compile the HTML version if necessary.
4883 lwarpmk html1 [-p project]: Forced single compile of the HTML version.
4884 lwarpmk htmlindex [-p project]: Process HTML indexes.
4885 lwarpmk htmlglossary [-p project]: Process the glossary for the html version.
4886 lwarpmk again [-p project]: Touch the source code to trigger recompiles.
4887 lwarpmk limages [-p project]: Process the "lateximages" created by lwarp.sty.
4888 lwarpmk pdftohtml [-p project]:
4889     For use with latexmk or a Makefile:
4890     Converts project_html.pdf to project_html.html and individual HTML files.
4891     Finishes the HTML conversion even if there was a compile error.
4892 lwarpmk pdftosvg <list of file names>: Converts each PDF file to SVG.
4893 lwarpmk epstopdf <list of file names>: Converts each EPS file to PDF.
4894 lwarpmk clean [-p project]: Remove *.aux, *.toc, *.lof/t,
4895     *.idx, *.ind, *.bbl, *.log, *_html_inc.*, .gl*,
4896     *_html.pdf, *_html.html, *_html.sidetoc
4897 lwarpmk cleanall [-p project]: Remove auxiliary files, project.pdf, *.html
4898 lwarpmk cleanlimages: Removes all images from the "lateximages" directory.
4899 lwarpmk -v: Print the version number.
4900 lwarpmk -h: Print this help message.
4901 lwarpmk --help: Print this help message.
4902
4903 ]] )
4904 -- printconf ()
4905 end
4906
4907
4908 function splitfilename ( pathandfilename )
4909 --
4910 -- Separates out the path and extension from a filename.
4911 -- Returns path, filename with extension, and extension.
4912 -- Ex: thispath, thisfilename, thisextension = splitfilename ("path/to/filename.ext")
4913 --
4914 -- https://www.fhug.org.uk/wiki/wiki/doku.php?id=plugins:code\_snippets:
4915 --     split_filename_in_to_path_filename_and_extension
4916 --
4917 if lfs.attributes(pathandfilename,"mode") == "directory" then
4918     local strPath = pathandfilename:gsub("[\\\/]$", "") -- $ (syntax highlighting)
4919     return strPath.."\\", "", ""
4920 end
4921 pathandfilename = pathandfilename.."."
4922 return pathandfilename:match("^(-)([^\\/]-)%.(^[^\./-]-)%?.?$")
```



```
4923 end
4924
4925
4926 function splitfile (destfile,sourcefile)
4927 --
4928 -- Split one large sourcefile into a number of files,
4929 -- starting with destfile.
4930 -- The file is split at each occurrence of <!--|Start file|newfilename|*
4931 -- If lwarp is in use, sets usinglwarp.
4932 --
4933 usinglwarp = false ;
4934 print ("lwarpmk: Splitting " .. sourcefile .. " into " .. destfile) ;
4935 local sfile = io.open(sourcefile)
4936 io.output(destfile)
4937 for line in sfile:lines() do
4938 i,j,copen,cstart,newfilename = string.find (line,"(.*)|(.*)|(.*)|") ;
4939 if ( (i~= nil) and (copen == "<!--") and (cstart == "Start file")) then
4940     -- split the file
4941     io.output(newfilename) ;
4942 else
4943 if ( (i~= nil) and (copen == "<!--") and (cstart == "Using lwarp")) then
4944     -- verified the use of \usepackage{lwarp}
4945     usinglwarp = true ;
4946 else
4947     -- not a splitpoint
4948     io.write (line .. "\n") ;
4949 end end
4950 end -- do
4951 io.close(sfile)
4952 if ( usinglwarp == false ) then
4953     print ("lwarpmk: ===")
4954     print ("lwarpmk: \usepackage{lwarp} was not detected.")
4955     print ("lwarpmk: The HTML output will not be correct.")
4956     print ("lwarpmk: Ensured that \usepackage{lwarp} is enabled,")
4957     print ("lwarpmk: then lwarpmk print and lwarpmk html again.")
4958     print ("lwarpmk: ===")
4959 end
4960 end -- function
4961
4962
4963 function cvalueerror ( line, linenum , cvalue )
4964 --
4965 -- Incorrect value, so print an error and exit.
4966 --
4967     print ("lwarpmk: ===")
4968     print ("lwarpmk: " .. linenum .. " : " .. line ) ;
4969     print (
4970         "lwarpmk: incorrect variable value \"\" .. cvalue ..
4971         "\" in lwarpmk.conf.\n"
4972     ) ;
4973     print ("lwarpmk: ===")
4974 --     printconf () ;
4975     os.exit(1) ;
4976 end
4977
4978
4979 function printhowtorecompile ()
4980 -- Tells the user how to recompile to regenerate the configuration files.
4981     print ("lwarpmk: The configuration files lwarpmk.conf and "..sourcename.."lwarpmkconf" )
4982     print ("lwarpmk: must be updated. To do so, recompile" )
```

```
4983 print ("lwarpmk:  ", sourcename..".tex" )
4984 if ( printlatexcmd == "" ) then
4985     print ("lwarpmk:  using xe/lua/pdflatex," )
4986 else
4987     print ("lwarpmk:  using the command:")
4988     print ("lwarpmk:  ", printlatexcmd )
4989 end
4990 print ("lwarpmk:  then use lwarpmk again.")
4991 end -- printhowtorecompile
4992
4993
4994 function ignoreconf ()
4995 -- Global argument index
4996 argindex = 2
4997 end
4998
4999 function loadconf ()
5000 --
5001 -- Load settings from the project's "lwarpmk.conf" file:
5002 --
5003 -- Default configuration filename:
5004 local conffile = "lwarpmk.conf"
5005 local confroot = "lwarpmk"
5006 -- Global argument index
5007 argindex = 2
5008 -- Optional configuration filename:
5009 if ( arg[argindex] == "-p" ) then
5010     argindex = argindex + 1
5011     confroot = arg[argindex]
5012     conffile = confroot..".lwarpmkconf"
5013     argindex = argindex + 1
5014 end
5015 -- Additional defaults:
5016 confversion = "0"
5017 opsystem = "Unix"
5018 imagesdirectory = "lateximages"
5019 imagesname = "image-"
5020 latexmk = "false"
5021 printlatexcmd = ""
5022 HTMLlatexcmd = ""
5023 printindexcmd = ""
5024 HTMLindexcmd = ""
5025 latexmkindexcmd = ""
5026 -- to be removed:
5027 -- indexprog = "makeindex"
5028 -- makeindexstyle = "lwarp.ist"
5029 -- xindylanguage = "english"
5030 -- xindycodepage = "utf8"
5031 -- xindystyle = "lwarp.xdy"
5032 -- pdftotextenc = "UTF-8"
5033 glossarycmd = "makeglossaries"
5034 -- Verify the file exists:
5035 if (lfs.attributes(conffile,"mode")==nil) then
5036     -- file not exists
5037     print ("lwarpmk: ===")
5038     print ("lwarpmk: File \\" .. conffile .. "\" does not exist.")
5039     print ("lwarpmk: Move to the project's source directory,")
5040     print ("lwarpmk: recompile using pdflatex, xelatex, or lualatex,")
5041     print ("lwarpmk: then try using lwarpmk again.")
5042     if ( arg[argindex] ~= nil ) then
```

```

5043     print (
5044         "lwarpmk: (\\"" .. confroot ..
5045         "\" does not appear to be a project name.)"
5046     )
5047 end
5048 print ("lwarpmk: ===")
5049 printhelp () ;
5050 os.exit(1) -- exit the entire lwarpmk script
5051 else -- file exists
5052 -- Read the file:
5053 print ("lwarpmk: Reading " .. conffile .. ".")
5054 local cfile = io.open(conffile)
5055 -- Scan each line, parsing each line as: name = [[string]]
5056 local linenum = 0
5057 for line in cfile:lines() do -- scan lines
5058     linenum = linenum + 1
5059     i,j,cvarname,cvalue = string.find (line,"([%w-_]*)%s*=%s*%[[%^%]]*%]");
5060 -- Error if incorrect enclosing characters:
5061 if ( i == nil ) then
5062     print ("lwarpmk: ===")
5063     print ("lwarpmk: " .. linenum .. " : " .. line ) ;
5064     print ("lwarpmk: Incorrect entry in " .. conffile .. ".\n" ) ;
5065     print ("lwarpmk: ===")
5066 --     printconf () ;
5067     os.exit(1) ;
5068 end -- nil
5069 if ( cvarname == "confversion" ) then
5070     confversion = cvalue
5071 elseif ( cvarname == "opssystem" ) then
5072     -- Verify choice of opssystem:
5073     if ( cvalue == "Unix" ) or ( cvalue == "Windows" ) ) then
5074         opssystem = cvalue
5075     else
5076         cvalueerror ( line, linenum , cvalue )
5077     end
5078 elseif ( cvarname == "sourcename" ) then sourcename = cvalue
5079 elseif ( cvarname == "homehtmlfilename" ) then homehtmlfilename = cvalue
5080 elseif ( cvarname == "htmlfilename" ) then htmlfilename = cvalue
5081 elseif ( cvarname == "imagesdirectory" ) then imagesdirectory = cvalue
5082 elseif ( cvarname == "imagesname" ) then imagesname = cvalue
5083 elseif ( cvarname == "latexmk" ) then latexmk = cvalue
5084 elseif ( cvarname == "printlatexcmd" ) then printlatexcmd = cvalue
5085 elseif ( cvarname == "HTMLlatexcmd" ) then HTMLlatexcmd = cvalue
5086 elseif ( cvarname == "printindexcmd" ) then printindexcmd = cvalue
5087 elseif ( cvarname == "HTMLindexcmd" ) then HTMLindexcmd = cvalue
5088 elseif ( cvarname == "latexmkindexcmd" ) then latexmkindexcmd = cvalue
5089 elseif ( cvarname == "glossarycmd" ) then glossarycmd = cvalue
5090 elseif ( cvarname == "pdftotextenc" ) then pdftotextenc = cvalue
5091 else
5092     print ("lwarpmk: ===")
5093     print ("lwarpmk: " .. linenum .. " : " .. line ) ;
5094     print (
5095         "lwarpmk: Incorrect variable name \"" .. cvarname .. "\" in " ..
5096         conffile .. ".\n"
5097     ) ;
5098     print ("lwarpmk: ===")
5099 --     printconf () ;
5100 os.exit(1) ;
5101 end -- cvarname
5102 end -- do scan lines

```

```
5103 io.close(cfile)
5104 end -- file exists
5105 -- Error if sourcename is "lwarp".
5106 -- This could happen if a local copy of lwarp has recently been recompiled.
5107 if sourcename=="lwarp" then
5108   print ("lwarpmk: ===")
5109   print ("lwarpmk: lwarp.sty has recently been recompiled in this directory,")
5110   print ("lwarpmk: and \"lwarpmk.conf\" is no longer set for your own project.")
5111   print ("lwarpmk: (Perhaps you are not in your project's directory?)")
5112   print ("lwarpmk: In your project directory, recompile your project")
5113   print ("lwarpmk: using pdf/luaxelatex <projectname>.")
5114   print ("lwarpmk: After a recompile, \"lwarpmk.conf\" will be set for your project,")
5115   print ("lwarpmk: and you may again use lwarpmk.")
5116   print ("lwarpmk: ===")
5117   os.exit(1)
5118 end -- sourcename of "lwarp"
5119 -- Select some operating-system commands:
5120 if opsystem=="Unix" then -- For Unix / Linux / Mac OS:
5121   rmname = "rm"
5122   mvname = "mv"
5123   cpname = "cp"
5124   touchnamepre = "touch"
5125   touchnamepost = ""
5126   newtouchname = "touch"
5127   dirslash = "/"
5128   opquote= "\""
5129   cmdgroupopenname = " ( "
5130   cmdgroupclosename = " ) "
5131   seqname = " && "
5132   bgname = " &"
5133 elseif opsystem=="Windows" then -- For Windows
5134   rmname = "DEL"
5135   mvname = "MOVE"
5136   cpname = "COPY"
5137   touchnamepre = "COPY /b"
5138   touchnamepost = "+,,"
5139   newtouchname = "echo empty >"
5140   dirslash = "\\\"
5141   opquote= "\""
5142   cmdgroupopenname = ""
5143   cmdgroupclosename = ""
5144   seqname = " & "
5145   bgname = ""
5146 else
5147   print ("lwarpmk: ===")
5148   print ("lwarpmk: Select Unix or Windows for opsystem." )
5149   print ("lwarpmk: ===")
5150   os.exit(1)
5151 end --- for Windows
5152 -- Warning if the operating system does not appear to be correct,
5153 -- in case files were transferred to another system.
5154 if ( (package.config:sub(1,1)) ~= dirslash ) then
5155   print ("lwarpmk: ===")
5156   print ("lwarpmk: It appears that lwarpmk.conf is for a different operating system." )
5157   printhowtorecompile ()
5158   print ("lwarpmk: ===")
5159   os.exit(1)
5160 end
5161 -- Error if the configuration file's version is not current:
5162 if ( confversion ~= requiredconfversion ) then
```

```
5163     print ("lwarpmk: ===")
5164     printhowtorecompile ()
5165     print ("lwarpmk: ===")
5166     os.exit(1)
5167 end
5168 end -- loadconf
5169
5170
5171 function executecheckerror ( executecommands , errormessage )
5172 --
5173 -- Execute an operating system call,
5174 -- and maybe exit with an error message.
5175 --
5176 local err
5177 err = os.execute ( executecommands )
5178 if ( err ~= 0 ) then
5179     print ("lwarpmk: ===")
5180     print ("lwarpmk: " .. errormessage )
5181     print ("lwarpmk: ===")
5182     os.exit(1)
5183 end
5184 end -- executecheckerror
5185
5186
5187 function refreshdate ()
5188 os.execute(touchnamepre .. " " .. sourcename .. ".tex " .. touchnamepost)
5189 end
5190
5191
5192
5193 function reruntoget (filesource)
5194 --
5195 -- Scan the LaTeX log file for the phrase "Rerun to get",
5196 -- indicating that the file should be compiled again.
5197 -- Return true if found.
5198 --
5199 local fsource = io.open(filesource)
5200 for line in fsource:lines() do
5201 if ( string.find(line,"Rerun to get") ~= nil ) then
5202     io.close(fsource)
5203     return true
5204 end -- if
5205 end -- do
5206 io.close(fsource)
5207 return false
5208 end
5209
5210
5211
5212 function onetime (latexcmd, fsuffix)
5213 --
5214 -- Compile one time, return true if should compile again.
5215 -- fsuffix is "" for print, "_html" for HTML output.
5216 --
5217 print("lwarpmk: Compiling with: " .. latexcmd)
5218 executecheckerror (
5219     latexcmd ,
5220     "Compile error."
5221 )
5222 return (reruntoget(sourcename .. fsuffix .. ".log") ) ;
```

```
5223 end
5224
5225
5226 function manytimes (latexcmd, fsuffix)
5227 --
5228 -- Compile up to five times.
5229 -- fsuffix is "" for print, "_html" for HTML output
5230 --
5231 if onetime(latexcmd, fsuffix) == true then
5232 if onetime(latexcmd, fsuffix) == true then
5233 if onetime(latexcmd, fsuffix) == true then
5234 if onetime(latexcmd, fsuffix) == true then
5235 if onetime(latexcmd, fsuffix) == true then
5236 end end end end end
5237 end
5238
5239
5240 function verifyfileexists (filename)
5241 --
5242 -- Exit if the given file does not exist.
5243 --
5244 if (lfs.attributes ( filename , "modification" ) == nil ) then
5245     print ("lwarpmk: ===")
5246     print ("lwarpmk: " .. filename .. " not found." );
5247     print ("lwarpmk: ===")
5248     os.exit (1) ;
5249 end
5250 end
5251
5252
5253
5254 function pdftohtml ()
5255 --
5256 -- Convert <project>_html.pdf into HTML files:
5257 --
5258 -- Convert to text:
5259 print ("lwarpmk: Converting " .. sourcename
5260     .. "_html.pdf to " .. sourcename .. "_html.html")
5261 err = os.execute("pdftotext -enc " .. pdftotextenc .. " -nopgbrk -layout "
5262     .. sourcename .. "_html.pdf " .. sourcename .. "_html.html")
5263 if ( err ~= 0 ) then
5264     print ("lwarpmk: ===")
5265     print ("lwarpmk: Ensure that the Poppler utilities are installed." )
5266     print ("lwarpmk: See the Lwarp manual: `Installing additional utilities'." )
5267     print ("lwarpmk: ===")
5268     os.exit(1)
5269 end
5270 -- Split the result into individual HTML files:
5271 splitfile (homehtmlfilename .. ".html" , sourcename .. "_html.html")
5272 end
5273
5274
5275 function removeaux ()
5276 --
5277 -- Remove auxiliary files:
5278 -- All .aux files are removed since there may be many bbl*.aux files.
5279 -- Also removes sourcename_html.pdf, sourcename_html.html,
5280 -- and sourcename_html.sidetoc, plus comment_*.cut.
5281 --
5282 os.execute ( rmname .. " *.aux " ..
```

```
5283 sourcename ..".toc " .. sourcename .. "_html.toc " ..
5284 sourcename ..".lof " .. sourcename .. "_html.lof " ..
5285 sourcename ..".lot " .. sourcename .. "_html.lot " ..
5286 sourcename ..".bbl " .. sourcename .. "_html.bbl " ..
5287 " *.idx " ..
5288 " *.ind " ..
5289 sourcename ..".ps " .. sourcename .."_html.ps " ..
5290 sourcename ..".log " .. sourcename .. "_html.log " ..
5291 sourcename ..".gl*" .. sourcename .. "_html.gl*" ..
5292 sourcename .. "_html.pdf " ..
5293 sourcename .. "_html.html " ..
5294 sourcename .. "_html.sidetoc " ..
5295 " *_html_inc.* " ..
5296 " comment_*.cut"
5297 )
5298 end
5299
5300 function checkhtmlpdfexists ()
5301 --
5302 -- Error if the HTML document does not exist.
5303 -- The lateximages are drawn from the HTML PDF version of the document,
5304 -- so "lwarpmk html" must be done before "lwarpmk limages".
5305 --
5306 local htmlpdffile = io.open(sourcename .. "_html.pdf", "r")
5307 if ( htmlpdffile == nil ) then
5308   print ("")
5309   print ("lwarpmk: ===")
5310   print ("lwarpmk: The HTML version of the document does not exist.")
5311   print ("lwarpmk: Enter \"lwarpmk html\" to compile the HTML version.")
5312   print ("lwarpmk: ===")
5313   os.exit(1)
5314 end
5315 io.close (htmlpdffile)
5316 end -- checkhtmlpdfexists
5317
5318
5319 function warnlimages ()
5320 --
5321 -- Warning of a missing <sourcename>-images.txt file:
5322   print ("lwarpmk: ===")
5323   print ("lwarpmk: \" .. sourcename .. "-images.txt\" does not exist.")
5324   print ("lwarpmk: Your project does not use SVG math or other lateximages,")
5325   print ("lwarpmk: or the file has been deleted somehow.")
5326   print ("lwarpmk: Use \"lwarpmk html1\" to recompile your project")
5327   print ("lwarpmk: and recreate \" .. sourcename .. "-images.txt\".")
5328   print ("lwarpmk: If your project does not use SVG math or other lateximages,")
5329   print ("lwarpmk: then \" .. sourcename .. "-images.txt\" will never exist, and")
5330   print ("lwarpmk: \"lwarpmk limages\" will not be necessary.")
5331   print ("lwarpmk: ===")
5332 end -- warnlimages
5333
5334
5335 function warnlimagesrecompile ()
5336 -- Warning if must recompile before creating limages:
5337   print ("")
5338   print ("lwarpmk: ===")
5339   print ("lwarpmk: Cross-references are not yet correct.")
5340   print ("lwarpmk: The document must be recompiled before creating the lateximages.")
5341   print ("lwarpmk: Enter \"lwarpmk html1\" again, then try \"lwarpmk limages\" again.")
5342   print ("lwarpmk: ===")
```

```
5343 end --warnlimagesrecompile
5344
5345
5346 function checklimages ()
5347 --
5348 -- Check <sourcename>.txt to see if need to recompile first.
5349 -- If any entry has a page number of zero, then there were incorrect images.
5350 --
5351 print ("lwarpmk: Checking for a valid " .. sourcename .. "-images.txt file.")
5352 local limagesfile = io.open(sourcename .. "-images.txt", "r")
5353 if ( limagesfile == nil ) then
5354     warnlimages ()
5355     os.exit(1)
5356 end
5357 -- Track warning to recompile if find a page 0
5358 local pagezerowarning = false
5359 -- Scan <sourcename>.txt
5360 for line in limagesfile:lines() do
5361     -- lwimgpage is the page number in the PDF which has the image
5362     -- lwimghash is true if this filename is a hash
5363     -- lwimgname is the lateximage filename root to assign for the image
5364     i,j,lwimgpage,lwimghash,lwimgname = string.find (line,"|(.*)|(.)|(.)|")
5365     -- For each entry:
5366     if ( (i~=nil) ) then
5367         -- If the page number is 0, image references are incorrect
5368         -- and must recompile the soure document:
5369         if ( lwimgpage == "0" ) then
5370             pagezerowarning = true
5371         end
5372     end -- if i~=nil
5373 end -- do
5374 -- The last line should be |end|end|end|.
5375 -- If not, the compile must have aborted, and the images are incomplete.
5376 if ( lwimgpage ~= "end" ) then
5377     warnlimagesrecompile()
5378     os.exit(1) ;
5379 end
5380 if ( pagezerowarning ) then
5381     warnlimagesrecompile()
5382     os.exit(1) ;
5383 end -- pagezerowarning
5384 end -- checklimages
5385
5386
5387 function createuniximage ( lwimgfullname )
5388 --
5389 -- Create one lateximage for Unix / Linux / Mac OS.
5390 --
5391 executecheckerror (
5392     cmdgroupopename ..
5393     "pdfseparate -f " .. lwimgpage .. " -l " .. lwimgpage .. " " ..
5394     sourcename .. "_html.pdf " ..
5395     imagesdirectory .. dirslash .. "lateximagetemp-%d" .. ".pdf" ..
5396     seqname ..
5397     -- Crop the image:
5398     "pdfcrop --hires --margins \"0 1 0 0\" " .. imagesdirectory .. dirslash .. "lateximagetemp-" ..
5399     lwimgpage .. ".pdf " ..
5400     imagesdirectory .. dirslash .. lwimgname .. ".pdf" ..
5401     seqname ..
5402     -- Convert the image to svg:
```



```

5403 "pdftocairo -svg -noshrink " .. imagesdirectory .. dirslash .. lwimgname .. ".pdf" ..
5404     imagesdirectory .. dirslash .. lwimgname .. ".svg" ..
5405     seqname ..
5406 -- Remove the temporary files:
5407 rmname .. " " .. imagesdirectory .. dirslash .. lwimgname .. ".pdf" .. seqname ..
5408 rmname .. " " .. imagesdirectory .. dirslash .. "lateximagetemp-" .. lwimgpage .. ".pdf" ..
5409     cmdgroupclosename .. " >/dev/null " .. bname
5410     ,
5411     "File error trying to convert " .. lwimgfullname
5412 )
5413 -- Every 32 images, wait for completion at below normal priority,
5414 -- allowing other image tasks to catch up.
5415 numimageprocesses = numimageprocesses + 1
5416 if ( numimageprocesses > 32 ) then
5417     numimageprocesses = 0
5418     print ( "lwarpmk: waiting" )
5419     executecheckerror ( "wait" , "File error trying to wait.")
5420 end
5421 end -- createuniximage
5422
5423
5424 function createwindowsimage ( lwimgfullname )
5425 --
5426 -- Create one lateximage for Windows.
5427 --
5428 -- Every 32 images, wait for completion at below normal priority,
5429 -- allowing other image tasks to catch up.
5430 numimageprocesses = numimageprocesses + 1
5431 if ( numimageprocesses > 32 ) then
5432     numimageprocesses = 0
5433     thiswaitcommand = "/WAIT /BELOWNORMAL"
5434     print ( "lwarpmk: waiting" )
5435 else
5436     thiswaitcommand = ""
5437 end
5438 -- Execute the image generation command
5439 executecheckerror (
5440     "start /B " .. thiswaitcommand .. " \"\" lwarp_one_limage " ..
5441     lwimgpage .. " " ..
5442     lwimghash .. " " ..
5443     lwimgname .. " " ..
5444     sourcename .. " <nul >nul"
5445     ,
5446     "File error trying to create image."
5447 )
5448 end -- createwindowsimage
5449
5450
5451 function createonelateximage ( line )
5452 --
5453 -- Given the next line of <sourcename>.txt, convert a single image.
5454 --
5455 -- lwimgpage is the page number in the PDF which has the image
5456 -- lwimghash is true if this filename is a hash
5457 -- lwimgname is the lateximage filename root to assign for the image
5458 i,j,lwimgpage,lwimghash,lwimgname = string.find (line,"|(.*)|(.*)|(.*)|")
5459 -- For each entry:
5460 if ( (i~=nil) ) then
5461     -- Skip if the page number is 0:
5462     if ( lwimgpage == "0" ) then

```

```

5463     pagezerowarning = true
5464 -- Skip if the page number is "end":
5465 else if ( lwimgpage == "end" ) then
5466     else
5467         -- Skip is this image is hashed and already exists:
5468         local lwimgfullname = imagesdirectory .. dirslash .. lwimgname .. ".svg"
5469         if (
5470             (lwimghash ~= "true") or
5471             (lfs.attributes(lwimgfullname,"mode")==nil) -- file not exists
5472         )
5473         then -- not hashed or not exists:
5474             -- Print the name of the file being generated:
5475             print ( "lwarpmk: " .. lwimgname )
5476             -- Touch/create the dest so that only once instance tries to build it:
5477             executecheckerror (
5478                 newtouchname .. " " .. lwimgfullname ,
5479                 "File error trying to touch " .. lwimgfullname
5480             )
5481             -- Separate out the image into its own single-page pdf:
5482             if opsystem=="Unix" then
5483                 createuniximage (lwimgfullname)
5484             elseif opsystem=="Windows" then
5485                 createwindowsimage (lwimgfullname)
5486             end
5487         end -- not hashed or not exists
5488     end -- not page "end"
5489 end -- not page 0
5490 end -- not nil
5491 end -- createonelateximage
5492
5493
5494 function createlateximages ()
5495 --
5496 -- Create lateximages based on <sourcename>-images.txt:
5497 --
5498 -- See if the document must be recompiled first:
5499 checklimages ()
5500 -- See if the HTML version exists:
5501 checkhtmlpdfexists ()
5502 -- Attempt to create the lateximages:
5503 print ("lwarpmk: Creating lateximages.")
5504 local limagesfile = io.open(sourcename .. "-images.txt", "r")
5505 if ( limagesfile == nil ) then
5506     warnlimages ()
5507     os.exit(1)
5508 end
5509 -- Create the lateximages directory, ignore error if already exists
5510 err = os.execute("mkdir " .. imagesdirectory)
5511 -- For Windows, create lwarp_one_limage.cmd from lwarp_one_limage.txt:
5512 if opsystem=="Windows" then
5513     executecheckerror (
5514         cpname .. " lwarp_one_limage.txt lwarp_one_limage.cmd" ,
5515         "File error trying to copy lwarp_one_limage.txt to lwarp_one_limage.cmd"
5516     )
5517 end -- create lwarp_one_limage.cmd
5518 -- Track the number of parallel processes
5519 numimageprocesses = 0
5520 -- Track warning to recompile if find a page 0
5521 pagezerowarning = false
5522 -- Scan <sourcename>.txt

```

```
5523 for line in limagesfile:lines() do
5524     createonelateximage ( line )
5525 end -- do
5526 io.close(limagesfile)
5527 print ( "lwarpmk limages: ===")
5528 print ( "lwarpmk limages: Wait a moment for the images to complete" )
5529 print ( "lwarpmk limages:  before reloading the page." )
5530 print ( "lwarpmk limages: ===")
5531 print ( "lwarpmk limages: Done." )
5532 if ( pagezerowarning == true ) then
5533     print ( "lwarpmk limages: WARNING: Images will be incorrect." )
5534     print ( "lwarpmk limages:  Enter \"lwarpmk cleanlimages\", then" )
5535     print ( "lwarpmk limages:  recompile the document one more time, then" )
5536     print ( "lwarpmk limages:  repeat \"lwarpmk images\" again." )
5537 end -- pagezerowarning
5538 end -- function
5539
5540
5541 function convertstepstopdf ()
5542 --
5543 -- Converts EPS files to PDF files.
5544 -- The filenames are arg[argindex] and up.
5545 -- arg[1] is the command "epstopdf".
5546 --
5547 ignoreconf ()
5548 for i = argindex , #arg do
5549     if (lfs.attributes(arg[i],"mode")==nil) then
5550         print ("lwarpmk: File \"\" .. arg[i] .. "\"" does not exist.")
5551     else
5552         print ("lwarpmk: Converting \"\" .. arg[i] .. "\""")
5553         thispath, thisfilename, thisextension = splitfilename(arg[i])
5554         if ( thispath == nil ) then
5555             os.execute ( "epstopdf " .. arg[i] )
5556         else
5557             os.execute (
5558                 "epstopdf " ..
5559                 thispath .. thisfilename .. "." .. thisextension .. " " ..
5560                 thispath .. thisfilename .. ".pdf"
5561             )
5562         end
5563     end -- if
5564 end -- do
5565 end --function
5566
5567
5568 function convertpdfptosvg ()
5569 --
5570 -- Converts PDF files to SVG files.
5571 -- The filenames are arg[argindex] and up.
5572 -- arg[1] is the command "pdftosvg".
5573 --
5574 ignoreconf ()
5575 for i = argindex , #arg do
5576     if (lfs.attributes(arg[i],"mode")==nil) then
5577         print ("lwarpmk: File \"\" .. arg[i] .. "\"" does not exist.")
5578     else
5579         print ("lwarpmk: Converting \"\" .. arg[i] .. "\""")
5580         thispath, thisfilename, thisextension = splitfilename(arg[i])
5581         if ( thispath == nil ) then
5582             os.execute ( "pdftocairo -svg " .. arg[i] )
```

```
5583     else
5584         os.execute (
5585             "pdftocairo -svg " ..
5586             thispath .. thisfilename .. "." .. thisextension .. " " ..
5587             thispath .. thisfilename .. ".svg"
5588         )
5589     end
5590 end -- if
5591 end -- do
5592 end --function
5593
5594
5595 -- Force an update and conclude processing:
5596 function updateanddone ()
5597 print ("lwarpmk: Forcing an update of " .. sourcename .. ".tex.")
5598 refreshdate ()
5599 print ("lwarpmk: " .. sourcename .. ".tex is ready to be recompiled.")
5600 print ("lwarpmk: Done.")
5601 end -- function
5602
5603
5604 -- Start of the main code: --
5605
5606
5607 -- lwarpmk --version :
5608
5609 if (arg[1] == "--version") then
5610 print ( "lwarpmk: " .. printversion )
5611
5612 else -- not --version
5613
5614
5615 -- print intro:
5616
5617 print ("lwarpmk: " .. printversion .. " Automated make for the LaTeX Lwarp package.")
5618
5619
5620 -- lwarpmk print:
5621
5622 if arg[1] == "print" then
5623 loadconf ()
5624 if ( latexmk == "true" ) then
5625     print ("lwarpmk: Compiling with: " .. printlatexcmd)
5626     executecheckerror (
5627         printlatexcmd ,
5628         "Compile error."
5629     )
5630     print ("lwarpmk: Done.")
5631 else -- not latexmk
5632     verifyfileexists (sourcename .. ".tex") ;
5633     -- See if up to date:
5634     if (
5635         ( lfs.attributes ( sourcename .. ".pdf" , "modification" ) == nil ) or
5636         (
5637             lfs.attributes ( sourcename .. ".tex" , "modification" ) >
5638             lfs.attributes ( sourcename .. ".pdf" , "modification" )
5639         )
5640     ) then
5641         -- Recompile if not yet up to date:
5642         manytimes(printlatexcmd, "")
```

```
5643     print ("lwarpmk: Done.") ;
5644     else
5645     print ("lwarpmk: " .. sourcename .. ".pdf is up to date.") ;
5646     end
5647 end -- not latexmk
5648
5649
5650 -- lwarpmk print1:
5651
5652 elseif arg[1] == "print1" then
5653     loadconf ()
5654     verifyfileexists (sourcename .. ".tex") ;
5655     onetime(printlatexcmd, "")
5656     print ("lwarpmk: Done.") ;
5657
5658
5659 -- lwarpmk printindex:
5660 -- Compile the index then touch the source
5661 -- to trigger a recompile of the document:
5662
5663 elseif arg[1] == "printindex" then
5664 loadconf ()
5665 os.execute ( printindexcmd )
5666 print ("lwarpmk: -----")
5667 updateanddone ()
5668
5669
5670 -- lwarpmk printglossary:
5671 -- Compile the glossary then touch the source
5672 -- to trigger a recompile of the document:
5673
5674 elseif arg[1] == "printglossary" then
5675 loadconf ()
5676 print ("lwarpmk: Processing the glossary.")
5677
5678 os.execute(glossarycmd .. " " .. sourcename)
5679 updateanddone ()
5680
5681
5682 -- lwarpmk html:
5683
5684 elseif arg[1] == "html" then
5685 loadconf ()
5686 if ( latexmk == "true" ) then
5687     print ("lwarpmk: Compiling with: " .. HTMLlatexcmd)
5688     executecheckerror (
5689         HTMLlatexcmd ,
5690         "Compile error."
5691     )
5692     pdftohtml ()
5693     print ("lwarpmk: Done.")
5694 else -- not latexmk
5695     verifyfileexists ( sourcename .. ".tex" ) ;
5696     -- See if exists and is up to date:
5697     if (
5698         ( lfs.attributes ( homehtmlfilename .. ".html" , "modification" ) == nil ) or
5699         (
5700             lfs.attributes ( sourcename .. ".tex" , "modification" ) >
5701             lfs.attributes ( homehtmlfilename .. ".html" , "modification" )
5702         )
5703     )
```

```
5703     ) then
5704         -- Recompile if not yet up to date:
5705         manytimes(HTMLlatexcmd, "_html")
5706         pdftohtml ()
5707         print ("lwarpmk: Done.")
5708     else
5709         print ("lwarpmk: " .. homehtmlfilename .. ".html is up to date.")
5710     end
5711 end -- not latexmk
5712
5713
5714 -- lwarpmk html1:
5715
5716 elseif arg[1] == "html1" then
5717     loadconf ()
5718     verifyfileexists ( sourcename .. ".tex" );
5719     onetime(HTMLlatexcmd, "_html")
5720     pdftohtml ()
5721     print ("lwarpmk: Done.")
5722
5723
5724 -- lwarpmk pdftohtml:
5725 elseif arg[1] == "pdftohtml" then
5726     loadconf ()
5727     pdftohtml ()
5728
5729
5730 -- lwarpmk htmlindex:
5731 -- Compile the index then touch the source
5732 -- to trigger a recompile of the document:
5733
5734 elseif arg[1] == "htmlindex" then
5735 loadconf ()
5736 os.execute ( HTMLindexcmd )
5737 print ("lwarpmk: -----")
5738 updateanddone ()
5739
5740
5741 -- lwarpmk htmlglossary:
5742 -- Compile the glossary then touch the source
5743 -- to trigger a recompile of the document.
5744 -- The <sourcename>.xdy file is created by the glossaries package.
5745
5746 elseif arg[1] == "htmlglossary" then
5747 loadconf ()
5748 print ("lwarpmk: Processing the glossary.")
5749 os.execute(glossarycmd .. " " .. sourcename .. "_html")
5750 updateanddone ()
5751
5752
5753 -- lwarpmk limages:
5754 -- Scan the <sourcename>.txt file to create lateximages.
5755
5756 elseif arg[1] == "limages" then
5757 loadconf ()
5758 print ("lwarpmk: Processing images.")
5759 createlateximages ()
5760 print ("lwarpmk: Done.")
5761
5762
```

```
5763 -- lwarpmk again:
5764 -- Touch the source to trigger a recompile.
5765
5766 elseif arg[1] == "again" then
5767 loadconf ()
5768 updateanddone ()
5769
5770
5771 -- lwarpmk clean:
5772 -- Remove project.aux, .toc, .lof, .lot, .log, *.idx, *.ind, *_html_inc.*, .gl*
5773
5774 elseif arg[1] == "clean" then
5775 loadconf ()
5776 removeaux ()
5777 print ("lwarpmk: Done.")
5778
5779
5780 -- lwarpmk cleanall
5781 -- Remove project.aux, .toc, .lof, .lot, .log, *.idx, *.ind, *_html_inc.*, .gl*
5782 -- and also project.pdf, project.dvi, *.html
5783
5784 elseif arg[1] == "cleanall" then
5785 loadconf ()
5786 removeaux ()
5787 os.execute ( rmname .. " " ..
5788     sourcename .. ".pdf " .. sourcename .. "_html.pdf " ..
5789     sourcename .. ".dvi " .. sourcename .. "_html.dvi " ..
5790     "*.html"
5791 )
5792 print ("lwarpmk: Done.")
5793
5794
5795 -- lwarpmk cleanimages
5796 -- Remove images from the imagesdirectory.
5797
5798 elseif arg[1] == "cleanimages" then
5799 loadconf ()
5800 os.execute ( rmname .. " " .. imagesdirectory .. dirslash .. "*" )
5801 print ("lwarpmk: Done.")
5802
5803 -- lwarpmk epstopdf <list of file names>
5804 -- Convert EPS files to PDF using epstopdf
5805 elseif arg[1] == "epstopdf" then
5806 convertepstopdf ()
5807 print ("lwarpmk: Done.")
5808
5809
5810 -- lwarpmk pdftosvg <list of file names>
5811 -- Convert PDF files to SVG using pdftocairo
5812 elseif arg[1] == "pdftosvg" then
5813 convertpdftosvg ()
5814 print ("lwarpmk: Done.")
5815
5816
5817 -- lwarpmk with no argument :
5818
5819 elseif (arg[1] == nil) then
5820 printhelp ()
5821
5822
```

```

5823 -- lwarpmk -v:
5824
5825 elseif (arg[1] == "-v" ) then
5826 -- The version number has already been printed
5827 -- by the lwarpmk intro.
5828
5829 -- lwarpmk -h or lwarpmk --help :
5830
5831 elseif (arg[1] == "-h" ) or (arg[1] == "--help") then
5832 printusage ()
5833
5834
5835 -- Unknown command:
5836
5837 else
5838 printhehelp ()
5839 print ("\nlwarpmk: ***** Unknown command \"\"..arg[1]..\"\". *****\n")
5840 end
5841
5842 end -- not --version
5843 \end{filecontents*}
5844 % \end{Verbatim}% for syntax highlighting

5845 \end{LWRcreate\lwarpmk}

```

43 Stacks

for HTML output: 5846 \begin{warpHTML}



Stacks are used to remember how to close sections and list items. Before a new section is started, previously nested sections and items must be closed out (un-nested) in proper order. Note that starting a new section may close several levels of previously nested items at the same time. For example, starting a new `\section` would close any currently open subsection, subsubsection, and paragraph. General environments are not nested on the stack since they have their own close mechanism. List environments are nested, and items inside those environments are nested one level deeper still. List environments may be nested inside other list environments, and list items are nested inside list environments as well. Thus, the stack may have items which are not necessarily in order, since a description may contain an enumerate, for example. Depths to be recorded in `\LWR@closedepthone`, etc.

43.1 Assigning depths

initial depths for empty stack entries:

```
5847 \newcommand*\LWR@depthnone}{-5}
```

All sectioning depths are deeper than `LWR@depthfinished`:

```

5848 \newcommand*\LWR@depthfinished}{-4}
5849 \newcommand*\LWR@depthbook}{-2}
5850 \newcommand*\LWR@depthpart}{-1}
5851 \newcommand*\LWR@depthchapter}{0}
5852 \newcommand*\LWR@depthsection}{1}

```



```

5853 \newcommand*\LWR@depthsubsection}{2}
5854 \newcommand*\LWR@depthsubsubsection}{3}
5855 \newcommand*\LWR@depthparagraph}{4}
5856 \newcommand*\LWR@depthsubparagraph}{5}

```

Used by `\itemize`, `\enumerate`, `\description`:

```
5857 \newcommand*\LWR@depthlist}{6}
```

Used by `\item`:

```

5858 \newcommand*\LWR@depthlistitem}{7}
5859 \let\LWR@depthdescitem\LWR@depthlistitem

```

43.2 Closing actions

A stack to record the action to take to close each nesting level: Add more levels of stack if necessary for a very deeply nested document, adding to `\pushclose` and `\popclose` as well.

```

5860 \newcommand*\LWR@closeone}{% top of the stack
5861 \newcommand*\LWR@closetwo}{ }
5862 \newcommand*\LWR@closethree}{ }
5863 \newcommand*\LWR@closefour}{ }
5864 \newcommand*\LWR@closefive}{ }
5865 \newcommand*\LWR@closesix}{ }
5866 \newcommand*\LWR@closeseven}{ }
5867 \newcommand*\LWR@closeeight}{ }
5868 \newcommand*\LWR@closenine}{ }
5869 \newcommand*\LWR@closeten}{ }
5870 \newcommand*\LWR@closeeleven}{ }
5871 \newcommand*\LWR@closetwelve}{ }
5872 \newcommand*\LWR@closethirteen}{ }
5873 \newcommand*\LWR@closefourteen}{ }
5874 \newcommand*\LWR@closefifteen}{ }
5875 \newcommand*\LWR@closesixteen}{ }
5876 \newcommand*\LWR@closeseventeen}{ }
5877 \newcommand*\LWR@closeeighteen}{ }
5878 \newcommand*\LWR@closenineteen}{ }

```

43.3 Closing depths

A stack to record the depth of each level:



Note that nested L^AT_EX structures may push depths which are non-sequential.

Ex:

```

\begin{itemize}
  \item{A}
  \begin{description}
    \item{B}
  \end{description}
\end{itemize}

```

```

5879 \newcommand*{\LWR@closedepthone}{\LWR@depthnone}% top of the stack
5880 \newcommand*{\LWR@closedepthtwo}{\LWR@depthnone}
5881 \newcommand*{\LWR@closedepththree}{\LWR@depthnone}
5882 \newcommand*{\LWR@closedepthfour}{\LWR@depthnone}
5883 \newcommand*{\LWR@closedepthfive}{\LWR@depthnone}
5884 \newcommand*{\LWR@closedepthsix}{\LWR@depthnone}
5885 \newcommand*{\LWR@closedepthseven}{\LWR@depthnone}
5886 \newcommand*{\LWR@closedeptheight}{\LWR@depthnone}
5887 \newcommand*{\LWR@closedepthnine}{\LWR@depthnone}
5888 \newcommand*{\LWR@closedephten}{\LWR@depthnone}
5889 \newcommand*{\LWR@closedeptheleven}{\LWR@depthnone}
5890 \newcommand*{\LWR@closedephtwelve}{\LWR@depthnone}
5891 \newcommand*{\LWR@closedepththirteen}{\LWR@depthnone}
5892 \newcommand*{\LWR@closedepthfourteen}{\LWR@depthnone}
5893 \newcommand*{\LWR@closedepthfifteen}{\LWR@depthnone}
5894 \newcommand*{\LWR@closedepthsixteen}{\LWR@depthnone}
5895 \newcommand*{\LWR@closedepthseventeen}{\LWR@depthnone}
5896 \newcommand*{\LWR@closedeptheighteen}{\LWR@depthnone}
5897 \newcommand*{\LWR@closedepthnineteen}{\LWR@depthnone}

```

43.4 Pushing and popping the stack

`\LWR@pushclose` {<*sectiontype*>}

Pushes one return action and its L^AT_EX depth onto the stacks.

```

5898 \NewDocumentCommand{\LWR@pushclose}{m}
5899 {%
5900 \global\let\LWR@closenineteen\LWR@closeeighteen%
5901 \global\let\LWR@closeeighteen\LWR@closeeseventeen%
5902 \global\let\LWR@closeeseventeen\LWR@closesixteen%
5903 \global\let\LWR@closesixteen\LWR@closefifteen%
5904 \global\let\LWR@closefifteen\LWR@closefourteen%
5905 \global\let\LWR@closefourteen\LWR@closethirteen%
5906 \global\let\LWR@closethirteen\LWR@closetwelve%
5907 \global\let\LWR@closetwelve\LWR@closeeleven%
5908 \global\let\LWR@closeeleven\LWR@closeten%
5909 \global\let\LWR@closeten\LWR@closenine%
5910 \global\let\LWR@closenine\LWR@closeeight%
5911 \global\let\LWR@closeeight\LWR@closeseven%
5912 \global\let\LWR@closeseven\LWR@closesix%
5913 \global\let\LWR@closesix\LWR@closefive%
5914 \global\let\LWR@closefive\LWR@closefour%
5915 \global\let\LWR@closefour\LWR@closethree%
5916 \global\let\LWR@closethree\LWR@closetwo%
5917 \global\let\LWR@closetwo\LWR@closeone%
5918 \global\csletcs{LWR@closeone}{LWR@printclose#1}%
5919 \global\let\LWR@closedepthnineteen\LWR@closedeptheighteen%
5920 \global\let\LWR@closedeptheighteen\LWR@closedepthseventeen%
5921 \global\let\LWR@closedepthseventeen\LWR@closedepthsixteen%
5922 \global\let\LWR@closedepthsixteen\LWR@closedepthfifteen%
5923 \global\let\LWR@closedepthfifteen\LWR@closedepthfourteen%
5924 \global\let\LWR@closedepthfourteen\LWR@closedepththirteen%
5925 \global\let\LWR@closedepththirteen\LWR@closedephtwelve%
5926 \global\let\LWR@closedephtwelve\LWR@closedeptheleven%
5927 \global\let\LWR@closedeptheleven\LWR@closedephten%

```

```

5928 \global\let\LWR@closedepthten\LWR@closedepthnine%
5929 \global\let\LWR@closedepthnine\LWR@closedeptheight%
5930 \global\let\LWR@closedeptheight\LWR@closedepthseven%
5931 \global\let\LWR@closedepthseven\LWR@closedepthsix%
5932 \global\let\LWR@closedepthsix\LWR@closedepthfive%
5933 \global\let\LWR@closedepthfive\LWR@closedepthfour%
5934 \global\let\LWR@closedepthfour\LWR@closedepththree%
5935 \global\let\LWR@closedepththree\LWR@closedepthtwo%
5936 \global\let\LWR@closedepthtwo\LWR@closedepthone%
5937 \global\csletcs{LWR@closedepthone}{LWR@depth#1}%

```

Error if the deepest depth is no longer `\LWR@depthnone`, which means that it somehow has been nested too deeply, or things are not being unnested correctly.

```

5938 \ifdefstring{\LWR@closedepthnineteen}{\LWR@depthnone}%
5939   {}%
5940   {%
5941     \PackageError{lwarp}%
5942       {The document is nested too deeply for Lwarp}%
5943       {PLEASE inform the Lwarp maintainer!}%
5944   }%
5945 }

```

`\LWR@popclose` Pops one action and its depth off the stacks.

```

5946 \newcommand*{\LWR@popclose}
5947 {%
5948 \global\let\LWR@closeone\LWR@closetwo%
5949 \global\let\LWR@closetwo\LWR@closethree%
5950 \global\let\LWR@closethree\LWR@closefour%
5951 \global\let\LWR@closefour\LWR@closefive%
5952 \global\let\LWR@closefive\LWR@closesix%
5953 \global\let\LWR@closesix\LWR@closeseven%
5954 \global\let\LWR@closeseven\LWR@closeeight%
5955 \global\let\LWR@closeeight\LWR@closenine%
5956 \global\let\LWR@closenine\LWR@closeten%
5957 \global\let\LWR@closeten\LWR@closeeleven%
5958 \global\let\LWR@closeeleven\LWR@closetwelve%
5959 \global\let\LWR@closetwelve\LWR@closethirteen%
5960 \global\let\LWR@closethirteen\LWR@closefourteen%
5961 \global\let\LWR@closefourteen\LWR@closefifteen%
5962 \global\let\LWR@closefifteen\LWR@closesixteen%
5963 \global\let\LWR@closesixteen\LWR@closeseventeen%
5964 \global\let\LWR@closeseventeen\LWR@closeeighteen%
5965 \global\let\LWR@closeeighteen\LWR@closenineteen%
5966 \global\let\LWR@closedepthone\LWR@closedepthtwo%
5967 \global\let\LWR@closedepthtwo\LWR@closedepththree%
5968 \global\let\LWR@closedepththree\LWR@closedepthfour%
5969 \global\let\LWR@closedepthfour\LWR@closedepthfive%
5970 \global\let\LWR@closedepthfive\LWR@closedepthsix%
5971 \global\let\LWR@closedepthsix\LWR@closedepthseven%
5972 \global\let\LWR@closedepthseven\LWR@closedeptheight%
5973 \global\let\LWR@closedeptheight\LWR@closedepthnine%
5974 \global\let\LWR@closedepthnine\LWR@closedepthten%
5975 \global\let\LWR@closedepthten\LWR@closedeptheleven%
5976 \global\let\LWR@closedeptheleven\LWR@closedepthtwelve%
5977 \global\let\LWR@closedepthtwelve\LWR@closedepththirteen%
5978 \global\let\LWR@closedepththirteen\LWR@closedepthfourteen%
5979 \global\let\LWR@closedepthfourteen\LWR@closedepthfifteen%

```

```

5980 \global\let\LWR@closedepthfifteen\LWR@closedepthsixteen%
5981 \global\let\LWR@closedepthsixteen\LWR@closedepthseventeen%
5982 \global\let\LWR@closedepthseventeen\LWR@closedeptheighteen%
5983 \global\let\LWR@closedeptheighteen\LWR@closedepthnineteen%
5984 }

5985 \end{warpHTML}

```

44 Data arrays

These macros are similar to the `arrayjobx` package, except that `\LWR@setexparray's` argument is expanded only once when assigned.

`name` has no backslash, `index` can be a number or a text name, and an empty value must be `\relax` instead of empty.

To assign an empty value:

```
\LWR@setexparray{name}{index}{}
```

for HTML output: 5986 \begin{warpHTML}

```
\LWR@setexparray {<name>} {<index>} {<contents>}
```

```

5987 \newbool{LWR@setexparray@doingparhooks}
5988
5989 \NewDocumentCommand{\LWR@setexparray}{m m m}{%

```

Temporarily disable paragraph handling during the assignment. This is not done in a group with global assignments because a table may be nested.

```

5990 \let\ifLWR@setexparray@doingparhooks\ifLWR@doingparhooks%
5991 \setbool{LWR@doingparhooks}{false}%
5992 \let\LWR@setexparray@par\par%
5993 \let\par\relax%

```

The name of the control sequence is the given name with the index appended.

```
5994 \xdef\LWR@thisexparrayname{#1#2}%
```

Locally assign the value to the control sequence:

```

5995 \ifstrempy{#3}%
5996 {\csdef{\LWR@thisexparrayname}{}}%
5997 {\csdef{\LWR@thisexparrayname}{#3}}%

```

Restore the paragraph handling:

```

5998 \let\ifLWR@doingparhooks\ifLWR@setexparray@doingparhooks%
5999 \let\par\LWR@setexparray@par%
6000 }

```

```
\LWR@getexparray {<name>} {<index>}
```

```


6001 \newcommand*\LWR@getexpparray}[2]{%
6002   \@nameuse{#1#2}%
6003 }

6004 \end{warpHTML}

```

45 Localizing catcodes

for HTML & PRINT: 6005 \begin{warpall}

 **Misplaced alignment tab character &** Place `\StartDefiningTabulars` and `\StopDefiningTabulars` before and after defining macros or environments which include the tabular & character in their definitions.

The catcode of & must be changed before the definitions begin, and must be restored afterwards. Doing so avoids the error
Misplaced alignment tab character &.

`\StartDefiningTabulars` Place before defining something with & in it.

```

6006 \newcommand{\StartDefiningTabulars}{%
6007   \LWR@traceinfo{StartDefiningTabulars}%
6008   \warpHTMLonly{\catcode`\&=\active}%
6009 }

```

`\StopDefiningTabulars` Place after defining something with & in it.

```

6010 \newcommand{\StopDefiningTabulars}{%
6011   \LWR@traceinfo{StopDefiningTabulars}%
6012   \warpHTMLonly{\catcode`\&=4}%
6013 }

```

`LWR@mathmacro` (*bool*) True if currently defining math macros. Used to disable SVG math hashing and MATHJAX math contents while defining a macro using inline math. Begin a macro, it is not guaranteed that the contents are static, and so the image must be unique. The contents also almost certainly will not be parsed correctly by MATHJAX.

```

6014 \newbool{LWR@mathmacro}
6015 \boolfalse{LWR@mathmacro}

```

`\StartDefiningMath` Place before defining something with \$ in it.

```

6016 \newcommand{\StartDefiningMath}{%
6017   \LWR@traceinfo{StartDefiningMath}%
6018   \warpHTMLonly{\catcode`\$=\active}%
6019 }

```

`\StopDefiningMath` Place after defining something with \$ in it.

```

6020 \newcommand{\StopDefiningMath}{%
6021   \LWR@traceinfo{StopDefiningMath}%
6022   \warpHTMLonly{\catcode`\$=3}% math shift
6023 }

```

```
6024 \end{warpall}
```

for HTML output: 6025 \begin{warpHTML}

A definition for & in case it is referred to after \StartDefiningTabulars but outside a tabular.

```
6026 \StartDefiningTabulars
6027 \protected\gdef&{%
6028   \PackageWarning{lwarp}{%
6029     An ampersand is being used inside a tabular\MessageBreak
6030   }%
6031 }%
6032 \StopDefiningTabulars

6033 \end{warpHTML}
```

46 Localizing dynamic math

Inline SVG math usually uses a hash of its contents to generate lateximages which are reusable for multiple instances with the same contents. If the contents may change for each use, such as depending on the current value of a counter, then \inlinemathother must be used before the inline math expression, and \inlinemathnormal must be used after.

For MATHJAX, the inline math expression is usually printed for MATHJAX to interpret. When marked as dynamic math, the following inline math expression will be displayed as an unhashed inline SVG image instead.

For existing code and packages, it may be possible to patch macros after they have been defined, using the xpatch package, which is pre-loaded by lwarp:

```
\xpatchcmd{\macroname}
  {$math expression$}
  {\inlinemathother$math expression$\inlinemathnormal}
  {}
  {\typeout{Error patching macroname.}}
```

for HTML & PRINT: 6034 \begin{warpall}

LWR@dynamicmath (*bool*) True to mark inline math which is dynamic in nature, thus should not be hashed
 Default: false for reuse.

```
6035 \newbool{LWR@dynamicmath}
6036 \boolfalse{LWR@dynamicmath}
```

\inlinemathother Place before using \$... \$ or \ (... \) if the contents of the math are not static, depending on counters or dynamic macros.

```
6037 \newcommand{\inlinemathother}{%
6038 \LWR@traceinfo{inlinemathother}%
6039 \booltrue{LWR@dynamicmath}%
6040 }
```

`\inlinemathnormal` Place after using `$... $` or `\(... \)` with dynamic contents.

```
6041 \newcommand{\inlinemathnormal}{%
6042 \LWR@traceinfo{inlinemathnormal}%
6043 \boolfalse{LWR@dynamicmath}%
6044 }

6045 \end{warpall}
```

47 HTML entities

for HTML output: 6046 `\begin{warpHTML}`

HTML Unicode entities:

```
6047 \let\LWR@origampersand\&
```

`\LWR@fontfortags` `{\macro name}` `{\argument}`

Forces roman TT font for HTML tags.

```
6048 \newrobustcmd*\LWR@fontfortags}[2]{%
6049   \ifmmode%
6050     \PackageError{lwarp}%
6051     {%
6052       An HTML tag was generated inside math.\MessageBreak
6053       This should never occur.\MessageBreak
6054       Something is broken in Lwarp.\MessageBreak
6055       Enter `h' for details%
6056     }%
6057     {(Using #1{#2}.)}%
6058   \else%
```

Used by `ljtbook`, `platex`, and related.

```
6059   \ifdef{\romanencoding}%
6060     {%
6061       \romanencoding{\encodingdefault}%
6062     }%
6063   {%
```

Used by `babel`:

```
6064   \ifdef{\latintext}
6065     {\latintext}
6066     {\fontencoding\encodingdefault}%
6067   }%
6068   \LWR@print@normalfont%
6069   \LWR@origttfamily%
6070   \fi%
6071 }
```

`\HTMLentity` `{\entitytag}`

`\protect` is in case the tag appears in TOC, LOF, LOT.

```
6072 \newcommand*{\HTMLentity}[1]{%
6073 % \LWR@traceinfo{HTMLentity \detokenize{#1}}%
6074   \begingroup%
6075   \LWR@hook@processingtags%
6076   \LWR@fontfortags{HTMLentity}{\detokenize{#1}}%
6077   \protect\LWR@origampersand\LWR@isolate{#1};%
6078   \endgroup%
6079 % \LWR@traceinfo{HTMLentity done}%
6080 }
```

`\HTMLunicode` $\langle hex_unicode \rangle$

```
6081 \newcommand*{\HTMLunicode}[1]{\HTMLentity{\LWR@origpound{x#1}}}
```

`\&`

```
6082 \renewrobustcmd*{\&}{\HTMLentity{amp}}
```

`\textless`

```
6083 \let\LWR@origtextless\textless
6084 \renewrobustcmd*{\textless}{\HTMLentity{lt}}
```

`\textgreater`

```
6085 \let\LWR@origtextgreater\textgreater
6086 \renewrobustcmd*{\textgreater}{\HTMLentity{gt}}
```

`\%`

```
6087 \let\LWR@origpercent\%
6088 \renewrobustcmd*{\%}{\HTMLentity{percnt}}
```

```
6089 \end{warpHTML}
```

48 HTML filename generation

The filename of the homepage is set to `\HomeHTMLfilename.html`. The filenames of additional sections start with `\HTMLfilename`, to which is appended a section number or a simplified section name, depending on `FileSectionNames`.

for HTML & PRINT: 6090 `\begin{warpall}`

`\BaseJobname` The `\jobname` of the printed version, even if currently compiling the HTML version. I.e. this is the `\jobname` without `_html` appended. This is used to set `\HomeHTMLfilename` if the user did not provide one.

```
6091 \providecommand*{\BaseJobname}{\jobname}
```


`\HTMLFilename` The prefix for all generated HTML files other than the home page, defaulting to empty. See section 7.6.1.

```
6092 \providecommand*\HTMLFilename{}
```

`\HomeHTMLFilename` The filename of the home page, defaulting to the `\BaseJobname`. See section 7.6.1.

```
6093 \providecommand*\HomeHTMLFilename{\BaseJobname}
```

`\SetHTMLFileNumber` $\langle number \rangle$

Sets the file number for the next file to be generated. 0 is the home page. Use just before the next sectioning command, and set it to one less than the desired number of the next section. May be used to generate numbered groups of nodes such as 100+ for one chapter, 200+ for another chapter, etc.

```
6094 \newcommand*\SetHTMLFileNumber[1]{%
6095   \setcounter{LWR@htmlfilenumber}{#1}%
6096 }
```

`FileSectionNames` (*bool*) Selects how to create HTML file names.

Defaults to use section names in the filenames.

```
6097 \newbool{FileSectionNames}
6098 \booltrue{FileSectionNames}
```

```
6099 \end{warppall}
```

for HTML output: 6100 `\begin{warppHTML}`

Updated each time a new HTML file is begun. Used to provide HTML previous/next web page links.

```
6101 \newcounter{LWR@HTMLpagenum}
6102 \setcounter{LWR@HTMLpagenum}{0}
```

`LWR@htmlseqfilenumber` (*Ctr*) A sequential count of the number of each HTML file as it is being created. Number 0 is the home page. Unlike `\LWR@htmlfilenumber`, this one is known to increment by one for each file. This is used to generate previous /next links for each web page, via labels called `\BaseJobname-autofile-*`, and the last page is also labelled `\BaseJobname-autofile-last`.

```
6103 \newcounter{LWR@htmlseqfilenumber}
6104 \setcounter{LWR@htmlseqfilenumber}{0}
```

`LWR@setseqfilelabel` (*bool*) At each new HTML file, this is false until a sectional unit is used, at which point this is set true and a label is placed. In this way, the previous/next labels will point to a named section.

```
6105 \newbool{LWR@setseqfilelabel}
6106 \setbool{LWR@setseqfilelabel}{false}
```

`LWR@htmlfilenumber` (*Ctr*) Records the number of each HTML file as it is being created. Number 0 is the home

page. This might not be sequential, as the user may use `\SetHTMLFileNumber` to create groups of numbered nodes.

```
6107 \newcounter{LWR@htmlfilenumber}
6108 \setcounter{LWR@htmlfilenumber}{0}
```

`\LWR@htmlsectionfilename` \langle *htmlfilenumber or name* \rangle

Prints the filename for a given section: `\HTMLFilename{ }filenumber/name.html`

```
6109 \newcommand*{\LWR@htmlsectionfilename}[1]{%
6110 \LWR@traceinfo{LWR@htmlsectionfilename A !\detokenize{#1}!}%
6111 \begingroup%
```

Disable CJK xpinyin while generating file names.

```
6112 \LWR@disablepinyin%
```

Section 0 or empty is given the home filename. The filename must be detokenized for underscores.

```
6113 % \LWR@traceinfo{about to assign temp}%
6114 \LWR@sanitize{#1}%
6115 \LWR@traceinfo{about to compare with ??}%
6116 \ifdefstring{\LWR@sanitized}{??}
6117   {\LWR@traceinfo{found ??}}%
6118   {\LWR@traceinfo{not found ??}}%
6119 \LWR@traceinfo{about to compare with zero or empty}%
6120 \ifboolexpr{
6121   test {\ifdefstring{\LWR@sanitized}{0}} or
6122   test {\ifdefstring{\LWR@sanitized}{}} or
6123   test {\ifdefstring{\LWR@sanitized}{??}}
6124 }
6125 {%
6126   \LWR@traceinfo{LWR@htmlsectionfilename B \HomeHTMLFilename.html}%
6127   \HomeHTMLFilename.html%
6128 }%
```

For a \LaTeX section named “Index” or “index” without a prefix, create a filename with a trailing `-0` to avoid colliding with the HTML filename `index.html`:

```
6129 {%
6130   \LWR@traceinfo{LWR@htmlsectionfilename C \LWR@sanitized}%
6131   \ifboolexpr{
6132     test{\ifdefvoid{\HTMLFilename}} and
6133     (
6134       test{\ifdefstring{\LWR@sanitized}{Index}} or
6135       test{\ifdefstring{\LWR@sanitized}{index}}
6136     )
6137   }%
6138   {%
6139     \LWR@traceinfo{Adding a zero to the index filename.}%
6140     \LWR@sanitized-0.html%
6141   }%
```

Otherwise, create a filename with the chosen prefix:

```
6142   {%
```

```

6143     \HTMLFilename\LWR@isolate{\LWR@sanitized}.html%
6144   }%
6145 }%
6146 \LWR@traceinfo{LWR@htmlsectionfilename Z}%
6147 \endgroup%
6148 }

```

`\LWR@htmlrefsectionfilename {<label>}`

Prints the filename for the given label

```

6149 \newcommand*{\LWR@htmlrefsectionfilename}[1]{%
6150   \LWR@traceinfo{LWR@htmlrefsectionfilename: !\detokenize{#1}!}%

```

`\LWR@nullfonts` to allow math in a section name.

```

6151   \begingroup%
6152   \LWR@nullfonts%
6153   \LWR@htmlsectionfilename{\LWR@htmlfileref{#1}}%
6154   \endgroup%
6155   \LWR@traceinfo{LWR@htmlrefsectionfilename: done}%
6156 }

```

```
6157 \end{warpHTML}
```

49 Homepage link

for HTML & PRINT: 6158 `\begin{warpall}`

`\linkhomename` Holds the default name for the home link.

```

6159 \newcommand{\linkhomename}{Home}
6160 \end{warpall}

```

for HTML output: 6161 `\begin{warpHTML}`

`\LinkHome` May be used wherever you wish to place a link back to the homepage. The filename must be detokenized for underscores.

```

6162 \newcommand*{\LinkHome}{%
6163   \LWR@subhyperrefclass{\HomeHTMLFilename.html}{\linkhomename}{linkhome}%
6164 }

```

```
6165 \end{warpHTML}
```

for PRINT output: 6166 `\begin{warpprint}`

`\LinkHome` May be used wherever you wish to place a link back to the homepage. For print output, if `hyperref` is available a hyperlink to the first page is used, named by `\linkhomename`. If `hyperref` is not available, a `pageref` is used instead.

`\BaseJobname` is included in the link label in case multiple documents are cross-referenced.

```

6167 \AtBeginDocument{
6168 \@ifundefined{hyperref}{
6169   \newcommand*\LinkHome{%
6170     \linkhomename\ --- page \pageref{\BaseJobname-page-LWRfirstpage}%
6171   }
6172 }{
6173   \newcommand*\LinkHome{%
6174     \hyperref[\BaseJobname-page-LWRfirstpage]{\linkhomename}%
6175   }
6176 }
6177 }
6178
6179 \AfterEndPreamble{\label{\BaseJobname-page-LWRfirstpage}}

6180 \end{warpprint}

```

for HTML output: 6181 `\begin{warppHTML}`

`\LWR@topnavigation` Creates a link to the homepage at the top of the page for use when the window is too narrow for the sideroc.

```

6182 \newcommand*\LWR@topnavigation{%
6183   \LWR@html@element@class@line{nav}{topnavigation}{\LinkHome}
6184 }

```

`\LWR@botnavigation` Creates a link to the homepage at the bottom of the page for use when the window is too narrow for the sideroc.

```

6185 \newcommand*\LWR@botnavigation{%
6186   \LWR@html@element@class@line{nav}{botnavigation}{\LinkHome}
6187 }

```

```
6188 \end{warppHTML}
```

50 Previous/next navigation links

for HTML & PRINT: 6189 `\begin{warppall}`

`\linkpreviousname` What to call the link to the previous web page.

```
6190 \newcommand*\linkpreviousname{Previous}
```

`\linknextname` What to call the link to the next web page.

```
6191 \newcommand*\linknextname{Next}
```

```
6192 \end{warppall}
```

for PRINT output: 6193 `\begin{warpprint}`

`\LinkPrevious` Creates a link to the previous web page if there is one.

```
6194 \newcommand*\LinkPrevious{}
```

`\LinkNext` Creates a link to the next web page if there is one.

```
6195 \newcommand*\LinkNext{}
```

```
6196 \end{warpprint}
```

for HTML output: 6197 `\begin{warpHTML}`

`\LinkPrevious` Creates a link to the previous web page if there is one.

The links refer to the L^AT_EX labels `\Basejobname-autofile-*`

```
6198 \newcommand*\LinkPrevious{%
6199     \ifnumless{\value{LWR@htmlseqfilenumber}}{1}}{%
6200         \setcounter{LWR@tempcountone}{\value{LWR@htmlseqfilenumber}-1}%
6201         \LWR@subhyperrefclass{%
6202             \LWR@htmlrefsectionfilename{%
6203                 \BaseJobname-autofile-\arabic{LWR@tempcountone}%
6204             }}%
6205         }{\linkpreviousname}{linkhome}%
6206     }%
6207 }
```

`\LinkNext` Creates a link to the next web page if there is one.

The links refer to the L^AT_EX labels `\Basejobname-autofile-*`
and the last is the label `\Basejobname-autofile-last`

```
6208 \newcommand*\LinkNext{%
6209     \ifcsdef{r@\BaseJobname-autofile-last@lwarp}{%
6210         \edef\LWR@tempone{%
6211             \LWR@htmlfileref{\BaseJobname-autofile-\arabic{LWR@htmlseqfilenumber}}}%
6212         }%
6213         \edef\LWR@temptwo{%
6214             \LWR@htmlfileref{\BaseJobname-autofile-last}%
6215         }%
6216         \ifdefequal{\LWR@tempone}{\LWR@temptwo}}{%
6217             \setcounter{LWR@tempcountone}{\value{LWR@htmlseqfilenumber}+1}%
6218             \LWR@subhyperrefclass{%
6219                 \LWR@htmlrefsectionfilename{%
6220                     \BaseJobname-autofile-\arabic{LWR@tempcountone}%
6221                 }}%
6222             }{\linknextname}{linkhome}%
6223         }%
6224     }{}%
6225 }

6226 \end{warpHTML}
```

51 \LWRPrintStack diagnostic tool



Diagnostics tool: Prints the L^AT_EX nesting depth values for the stack levels. \LWR@startpars is used before printing the stack, so that \LWRPrintStack may be called from anywhere in the normal text flow.

for HTML output: 6227 \begin{warpHTML}

\LWRPrintStack Prints the closedepth stack.

```

6228 \newcommand*\LWR@subprintstack){
6229 \LWR@closedepthone\ \LWR@closedepthtwo\ \LWR@closedepththree\
6230 \LWR@closedepthfour\ \LWR@closedepthfive\ \LWR@closedepthsix\
6231 \LWR@closedepthseven\ \LWR@closedeptheight\ \LWR@closedepthnine\
6232 \LWR@closedephten\ \LWR@closedeptheleven\ \LWR@closedephtwelve\
6233 \LWR@closedepththirteen\ \LWR@closedepthfourteen\ \LWR@closedepthfifteen\
6234 \LWR@closedepthsixteen\ \LWR@closedepthseventeen\ \LWR@closedeptheighteen\
6235 \LWR@closedepthnineteen\
6236 }
6237
6238 \newcommand*\LWRPrintStack){
6239 \LWR@startpars
6240 \LWR@subprintstack
6241 }

6242 \end{warpHTML}

```

for PRINT output: 6243 \begin{warpprint}

```

6244 \newcommand*\LWRPrintStack){}

6245 \end{warpprint}

```

52 Closing stack levels

for HTML output: 6246 \begin{warpHTML}

Close one nested level:

```

6247 \newcommand*\LWR@closeoneprevious){%
6248
6249 \LWR@closeone
6250
6251 \LWR@popclose
6252 }

```

\LWR@closeprevious {<*sectintype*>} Close everything up to the given depth:

```

6253 \newcommand*\LWR@closeprevious}[1]{%
6254 \LWR@traceinfo{%
6255   \LWR@closeprevious to depth \csuse{LWR@depth#1}, %
6256   depths are \LWR@subprintstack%
6257 }%

```

Close any pending paragraph:

```
6258 \LWR@stoppars%
```

Close anything nested deeper than the desired depth. First close anything deeper, then at most one of the same level.

```
6259 \whileboolexpr{test{\ifnumcomp{\LWR@closedepthone}{>}{\csuse{\LWR@depth#1}}}}%
6260 {%
6261   \LWR@traceinfo{\LWR@closeprevious: closing out depth \LWR@closedepthone}%
6262   \LWR@closeoneprevious%
6263 }%
6264 \ifboolexpr{test{\ifnumcomp{\LWR@closedepthone}{=}{\csuse{\LWR@depth#1}}}}%
6265 {%
6266   \LWR@traceinfo{\LWR@closeprevious: closing out depth \LWR@closedepthone}%
6267   \LWR@closeoneprevious%
6268 }{%}%
6269 \LWR@traceinfo{\LWR@closeprevious: done, depths are \LWR@subprintstack}%
6270 }

6271 \end{warpHTML}
```

53 PDF pages and styles

for HTML output: 6272 \begin{warpHTML}

\LWR@forcenewpage New PDF page a before major environment.

This is used just before major environments, such as verse. Reduces the chance of an environment overflowing the HTML PDF output page.

```
6273 \newcommand{\LWR@forcenewpage}{%
6274 \LWR@traceinfo{\LWR@forcenewpage}%
6275 \ifinner\else%
6276   \LWR@traceinfo{\LWR@forcenewpage A}%
6277   \LWR@stoppars%
6278   \LWR@traceinfo{\LWR@forcenewpage B}%
6279   \LWR@maybe@orignewpage%
6280   \LWR@traceinfo{\LWR@forcenewpage C}%
6281   \LWR@startpars%
6282 \fi%
6283 \LWR@traceinfo{\LWR@forcenewpage done}%
6284 }
```

\pagestyle, etc. are nullified for HTML output.

```
\pagestyle {\style}
```

```
6285 \renewcommand*\pagestyle[1]{}
```

```
\thispagestyle {\style}
```

```
6286 \renewcommand*\thispagestyle[1]{}
```

`\markboth` $\{\langle left \rangle\} \{\langle right \rangle\}$

6287 `\renewcommand*\markboth}[2]{}`

`\markright` $\{\langle right \rangle\}$

6288 `\renewcommand*\markright}[1]{}`

`\raggedbottom`

6289 `\renewcommand*\raggedbottom}{}`

`\flushbottom`

6290 `\renewcommand*\flushbottom}{}`

`\sloppy`

6291 `\renewcommand*\sloppy}{}`

`\fussy`

6292 `\renewcommand*\fussy}{}`

`\pagenumbering` * $\{\langle commands \rangle\}$

6293 `\RenewDocumentCommand{\pagenumbering}{s m}{}`

6294 `\end{warpHTML}`

54 HTML tags, spans, divs, elements

for HTML output: 6295 `\begin{warpHTML}`

54.1 Mapping L^AT_EX sections to HTML sections

6296 `\newcommand*\LWR@tagtitle}{h1}`

6297 `\newcommand*\LWR@tagtitleend}{/h1}`

6298 `\newcommand*\LWR@tagbook}{div class=\textquotedbl{}book\textquotedbl}`

6299 `\newcommand*\LWR@tagbookend}{/div}`

6300 `\newcommand*\LWR@tagpart}{h2}`

6301 `\newcommand*\LWR@tagpartend}{/h2}`

6302 `\newcommand*\LWR@tagchapter}{h3}`

6303 `\newcommand*\LWR@tagchapterend}{/h3}`

6304 `\newcommand*\LWR@tagsection}{h4}`

6305 `\newcommand*\LWR@tagsectionend}{/h4}`

6306 `\newcommand*\LWR@tagsubsection}{h5}`

6307 `\newcommand*\LWR@tagsubsectionend}{/h5}`

6308 `\newcommand*\LWR@tagsubsubsection}{h6}`

6309 `\newcommand*\LWR@tagsubsubsectionend}{/h6}`


```

6310 \newcommand*{\LWR@tagparagraph}{span class=\textquotedbl{}paragraph\textquotedbl}
6311 \newcommand*{\LWR@tagparagraphend}{/span}
6312 \newcommand*{\LWR@tagsubparagraph}{span class=\textquotedbl{}subparagraph\textquotedbl}
6313 \newcommand*{\LWR@tagsubparagraphend}{/span}
6314
6315 \newcommand*{\LWR@tagregularparagraph}{p}

```

54.2 Hook while processing tags

`\LWR@hook@processingtags` This is used to disable special text processing while processing HTML tags. Special processing includes that done by babel-french, luavina, xe \LaTeX l \LaTeX na.
(Hook) [lwarp]

`\LWR@hook@processingtags` Disable special text processing while generating tags. Replaces `\LWR@FBcancel` in most places.

```
6316 \newcommand*{\LWR@hook@processingtags}{}

```

54.3 Babel-French tag modifications

Adjust babel-french for HTML spaces. So far, this only works for *pdf \LaTeX* and *xe \LaTeX* .

(Emulates or patches code by DANIEL FLIPO.)

```

6317 \providecommand*{\LWR@FBcancel}{}
6318
6319 \AtBeginDocument{%

```

In some circumstances, `\NoAutoSpacing` may be defined when `\frenchbsetup` is not.

```

6320 \@ifundefined{NoAutoSpacing}%
6321   {}%
6322   {%
6323     \LetLtxMacro\LWR@FBcancel\NoAutoSpacing%
6324     \appto{\LWR@hook@processingtags}{\LWR@FBcancel}%
6325   }%
6326
6327 \@ifundefined{frenchbsetup}%
6328   {}%
6329   {%
6330     \frenchbsetup{FrenchFootnotes=false}%
6331   }%
6332   \renewrobustcmd*{\FBcolonspace}{%
6333     \begingroup%
6334     \LWR@hook@processingtags%
6335     \LWR@origampersand{} \nbsp;%
6336     \endgroup%
6337   }%
6338   \renewrobustcmd*{\FBthinspace}{%
6339     \begingroup%
6340     \LWR@hook@processingtags%
6341     \LWR@origampersand\LWR@origpound{x202f;% \,
6342     \endgroup%

```

```

6343 }%
6344 \renewrobustcmd*{\FBguillspace}{%
6345   \begingroup%
6346   \LWR@hook@processingtags%
6347   \LWR@origampersand{ } \nbsp;% ~, for \og xyz \fg{ }
6348   \endgroup%
6349 }%
6350 \DeclareDocumentCommand{\FBmedkern}{}{%
6351   \begingroup%
6352   \LWR@hook@processingtags%
6353   \LWR@origampersand\LWR@origpound{x202f;% \,
6354   \endgroup%
6355 }%
6356 \DeclareDocumentCommand{\FBthickern}{}{%
6357   \begingroup%
6358   \LWR@hook@processingtags%
6359   \LWR@origampersand{ } \nbsp;% ~
6360   \endgroup%
6361 }%
6362 \renewrobustcmd*{~}{\HTMLentity{nbsp}}% was overwritten by babel-french
6363 \ifFBunicode%
6364 \else%
6365   \DeclareTextSymbol{\FBtextellipsis}{LY1}{133}%
6366   \DeclareTextCommandDefault{\FBtextellipsis}{\textellipsis\xspace}%
6367 \fi%
6368 }%
6369 }

```

54.4 HTML output formatting

Helps format the output HTML code for human readability.

`\LWR@indentHTML` Newline and indent the output HTML code.

```

6370 \newcommand*{\LWR@indentHTML}{%
6371   \LWR@orignewline\LWR@origrule{2em}{0pt}%
6372 }

```

`\LWR@indentHTMLtwo` Newline and indent the output HTML code.

```

6373 \newcommand*{\LWR@indentHTMLtwo}{%
6374   \LWR@orignewline\LWR@origrule{4em}{0pt}%
6375 }

```

54.5 HTML tags

`\LWR@htmltagc` `{<tag>}` Break ligatures and use upright apostrophes in HTML tags.

`\protect` is in case the tag appears in TOC, LOF, LOT.

```

6376 \newcommand*{\LWR@htmltagc}[1]{%
6377   \LWR@traceinfo{\LWR@htmltagc !\detokenize{#1}!}%
6378   \begingroup%
6379   \LWR@hook@processingtags%

```

```

6380 \LWR@fontfortags{LWR@htmltagc}{\detokenize{#1}}%
6381 \protect\LWR@origtextless%
6382 \LWR@traceinfo{LWR@htmltagc B}%
6383 \LWR@isolate{#1}%
6384 \LWR@traceinfo{LWR@htmltagc C}%
6385 \protect\LWR@origtextgreater%
6386 \endgroup%
6387 \LWR@traceinfo{LWR@htmltagc done}%
6388 }

```

`\LWR@spanwarnformat {<object>}`

Warns if the given object is used inside a span.

```

6389 \newcommand*{\LWR@spanwarnformat}[1]{%
6390   \ifnumcomp{\value{LWR@spandepth}}{>}{0}{%
6391     \PackageWarning{lwarp}{%
6392       A #1 is being used inside a span.\MessageBreak
6393       Formatting may be lost,%
6394     }%
6395   }%
6396 }

```

`\LWR@spanwarninvalid {<object>}`

Warns if the given object is used inside a span.

```

6397 \newcommand*{\LWR@spanwarninvalid}[1]{%
6398   \ifnumcomp{\value{LWR@spandepth}}{>}{0}{%
6399     \PackageWarning{lwarp}{%
6400       A #1 is being used inside a span.\MessageBreak
6401       This generates invalid HTML,%
6402     }%
6403   }%
6404 }

```

`LWR@nestspan (env)` Disable minipage, `\parbox`, and HTML `<div>`s inside a ``.

- ⚠ `\begin{LWR@nestspan}` must follow the opening `` tag to allow a paragraph to start if the span is at the beginning of a new paragraph.
- ⚠ `\end{LWR@nestspan}` must follow the `` or a `<p>` may appear inside the span.

```

6405 \newcommand*{\LWR@nestspanitem}{%
6406   \if@newlist\else{
6407     \LWR@htmltagc{br /}%
6408     \LWR@orignewline%
6409   }\fi%
6410   \LWR@origitem%
6411 }
6412
6413 \newenvironment*{LWR@nestspan}
6414 {%
6415   \LWR@traceinfo{LWR@nestspan starting}%
6416   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}{%
6417     {%
6418       \LWR@traceinfo{LWR@nestspan: inside a lateximage}%

```

```

6419 }%
6420 {% not in a lateximage
6421 \LWR@traceinfo{LWR@nestspan: NOT inside a lateximage}%
6422 \addtocounter{LWR@spandepth}{1}%

```

Nullify several objects inside the span:

```

6423 \RenewDocumentEnvironment{minipage}{O{t} o O{t} m}%
6424 {\LWR@spanwarnformat{minipage or \protect\parbox}}%
6425 {}%
6426 \RenewDocumentEnvironment{BlockClass}{o D(){ } m}%
6427 {\LWR@spanwarnformat{multi-paragraph object}}%
6428 {}%
6429 \RenewDocumentEnvironment{LWR@BlockClassWP}{m m D(){ } m}%
6430 {\LWR@spanwarnformat{multi-paragraph object}}%
6431 {}%
6432 \renewcommand{\BlockClassSingle}[2]{%
6433 {\LWR@spanwarnformat{multi-paragraph object}}%
6434 ##2%
6435 }%
6436 \renewcommand{\LWR@forcenewpage}{}%
6437 \renewcommand{\LWR@liststart}{\LetLtxMacro\item\LWR@nestspanitem}%
6438 \renewcommand{\LWR@listend}{\leavevmode}%
6439 \renewenvironment{quote}{\LWR@htmltagc{br /}}{\LWR@htmltagc{br /}}%
6440 \renewenvironment{quotation}{\LWR@htmltagc{br /}}{\LWR@htmltagc{br /}}%
6441 }% not in a lateximage
6442 \LWR@traceinfo{LWR@nestspan starting: done}%
6443 }% starting env
6444 {% ending env
6445 \LWR@traceinfo{LWR@nestspan ending}%
6446 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
6447 {}%
6448 {\addtocounter{LWR@spandepth}{-1}}%
6449 \LWR@traceinfo{LWR@nestspan ending: done}%
6450 }

```

`\LWR@htmlspan {<tag>} {<text>}`



`\LWR@spandepth` is used to ensure that paragraph tags are not generated inside a span. The exact sequence of when to add and subtract the counter is important to correctly handle the paragraph tags before and after the span.

```

6451 \NewDocumentCommand{\LWR@htmlspan}{m +m}{%
6452 \LWR@ensuredoingapar%
6453 \LWR@htmltagc{#1}%
6454 \begin{LWR@nestspan}%
6455 #2%
6456 \LWR@htmltagc{/#1}%
6457 \end{LWR@nestspan}%
6458 }

```

`\LWR@htmlspanclass [<style>] (<aria role>) {<class>} {<text>}`

```

6459 \NewDocumentCommand{\LWR@htmlspanclass}{o D(){ } m +m}{%
6460 \LWR@traceinfo{LWR@htmlspanclass #3}%
6461 \LWR@ensuredoingapar%
6462 \ifblank{#2}%
6463 {\LWR@subhtmlclass{span}[#1]{#3}}%

```

```

6464     {\LWR@subhtmlclass{span}[#1](#2){#3}}%
6465 \begin{LWR@nestspan}%
6466 #4%
6467 \LWR@htmltag{/span}%
6468 \end{LWR@nestspan}%
6469 \LWR@traceinfo{LWR@htmlspanclass done}%
6470 }

```

`\LWR@htmltag {<tag>}`

Print an HTML tag: <tag>

```

6471 \newcommand*{\LWR@htmltag}[1]{%
6472   \LWR@htmltag{#1}%
6473 }

```

54.6 Block tags and comments

In the following, `\origttfamily` breaks ligatures, which may not be used for HTML codes:

`\LWR@htmlcomment`
`\LWR@htmlclosecomment`

```

6474 \newcommand*{\LWR@htmlcomment}{%
6475 % \LWR@traceinfo{LWR@htmlcomment}%
6476   \begingroup%
6477   \LWR@hook@processingtags%
6478   \LWR@fontfortags{LWR@htmlcomment}{}%
6479   \LWR@print@box{\LWR@origtextless{!-/-}%
6480   \endgroup%
6481 }
6482
6483 \newcommand*{\LWR@htmlclosecomment}{%
6484 % \LWR@traceinfo{LWR@htmlclosecomment}%
6485   \begingroup%
6486   \LWR@hook@processingtags%
6487   \LWR@fontfortags{LWR@htmlclosecomment}{}%
6488   \LWR@print@box{-/-\LWR@origtextgreater}%
6489   \endgroup%
6490 }

```

`\LWR@htmlcomment {<comment>}`

```

6491 \newcommand{\LWR@htmlcomment}[1]{%
6492   \ifmmode%
6493   \else%
6494     \LWR@htmlcomment{#1}%
6495     {%
6496       \LWR@print@normalfont%
6497       \LWR@origttfamily% break ligatures
6498       #1%
6499     }%
6500   \LWR@htmlclosecomment{#1}%
6501   \fi%
6502 }

```

```
\LWR@htmlblockcomment {<comment>}
```

```
6503 \newcommand{\LWR@htmlblockcomment}[1]
6504   {\LWR@stoppars\LWR@htmlcomment{#1}\LWR@startpars}
```

```
\LWR@htmlblocktag {<tag>} print a stand-alone HTML tag
```

```
6505 \newcommand*\LWR@htmlblocktag}[1]{%
6506   \LWR@stoppars%
6507   \LWR@htmltag{#1}%
6508   \LWR@startpars%
6509 }
```

54.7 Div class and element class

```
\LWR@subhtmlElementclass {<element>} [<style>] (<aria role>) {<class>}
```

Factored and reused in several places.

The trailing spaces allow more places for a line break.

The use of `\textquotedbl` instead of `"` provides improved compatibility with Xe_LTeX.

```
6510 \NewDocumentCommand{\LWR@subhtmlElementclass}{m O{} D(){} m}{%
6511   \LWR@traceinfo{\LWR@subhtmlElementclass !#1!#4!}%
6512   \ifblank{#2}%
6513   {% empty style
6514     \LWR@htmltag{%
6515       #1%
6516       \ifblank{#3}{\role=\textquotedbl#3\textquotedbl}% spaces
6517       \ifblank{#4}{\class=\textquotedbl#4\textquotedbl}% spaces
6518     }%
6519   }%
6520   {% non-empty style
6521     \LWR@htmltag{%
6522       #1\LWR@indentHTML%
6523       \ifblank{#3}{\role=\textquotedbl#3\textquotedbl\LWR@indentHTML}%
6524       \ifblank{#4}{\class=\textquotedbl#4\textquotedbl\LWR@indentHTML}%
6525       style=\textquotedbl#2\textquotedbl\LWR@originewline%
6526     }%
6527   }%
6528   \LWR@traceinfo{\LWR@subhtmlElementclass done}%
6529 }
```

```
\LWR@htmlElementclass {<element>} [<style>] (<aria role>) {<class>}
```

```
6530 \NewDocumentCommand{\LWR@htmlElementclass}{m o D(){} m}{%
6531   \LWR@stoppars%
6532   \LWR@forceemptyline%
6533   \ifblank{#3}%
6534   {\LWR@subhtmlElementclass{#1}[#2]{#4}}%
6535   {\LWR@subhtmlElementclass{#1}[#2](#3){#4}}%
6536   \LWR@startpars%
6537 }
```

`\LWR@htmlElementclassend` $\langle element \rangle$ $\langle class \rangle$

```
6538 \newcommand*\LWR@htmlElementclassend}[2]{%
6539   \LWR@stoppars%
6540   \LWR@htmltag{/#1}%
6541   \ifbool{HTMLDebugComments}{%
6542     \ifblank{#2}%
6543       {\LWR@htmlcomment{End of #1}}%
6544       {\LWR@htmlcomment{End of #1 ``#2'}}}%
6545   }{%
6546   \LWR@startpars%
6547 }
```

`\LWR@htmldivclass` [$\langle style \rangle$] ($\langle aria\ role \rangle$) $\langle class \rangle$

```
6548 \NewDocumentCommand{\LWR@htmldivclass}{o D(){} m}{%
6549   \ifblank{#2}
6550     {\LWR@htmlElementclass{div}[#1]{#3}}%
6551     {\LWR@htmlElementclass{div}[#1](#2){#3}}%
6552 }
```

`\LWR@htmldivclassend` $\langle class \rangle$

```
6553 \newcommand*\LWR@htmldivclassend}[1]{%
6554   \LWR@htmlElementclassend{div}{#1}%
6555 }
```

54.8 Single-line elements

A single-line element, without a paragraph tag for the line of text:

`\LWR@htmlElementclassline` $\langle element \rangle$ [$\langle style \rangle$] $\langle class \rangle$ $\langle text \rangle$

```
6556 \NewDocumentCommand{\LWR@htmlElementclassline}{m o m +m}{%
6557   \LWR@stoppars
6558   \LWR@forceemptyline%
6559   \LWR@subhtmlElementclass{#1}[#2]{#3}%
6560   #4%
6561   \LWR@htmltag{/#1}
6562   \LWR@startpars
6563 }
```

54.9 HTML5 semantic elements

`\LWR@htmlElement` $\langle element \rangle$

```
6564 \newcommand*\LWR@htmlElement}[1]{%
6565   \LWR@htmlblocktag{#1}
6566 }
```

`\LWR@htmlElementend` $\langle element \rangle$

```

6567 \newcommand*\LWR@htmlElementend}[1]{%
6568   \LWR@stoppars
6569   \LWR@htmltag{/#1}
6570   \LWR@startpars
6571 }
6572
6573 \end{warpHTML}

```

54.10 High-level block and inline classes

These are high-level commands which allow the creation of arbitrary block or inline sections which may be formatted with CSS.

Nullified versions are provided for print mode.

For other direct-formatting commands, see section 97.

`BlockClass` (*env.*) [*<style>*] (*<aria role>*) {*<class>*} High-level interface for `<div>` classes.

Ex: `\begin{BlockClass}{class} text \end{BlockClass}`

for HTML & PRINT: `6574 \begin{warpall}`
`6575 \NewDocumentEnvironment{BlockClass}{o D(){} m}{}{}`
`6576 \end{warpall}`

for HTML output: `6577 \begin{warpHTML}`
`6578`
`6579 \NewDocumentEnvironment{LWR@HTML@BlockClass}{o D(){} m}%`
`6580 {\LWR@htmldivclass[#1](#2){#3}}%`
`6581 {\LWR@htmldivclassend{#3}}`
`6582`
`6583 \LWR@formattedenv{BlockClass}`
`6584 \end{warpHTML}`

`\BlockClassSingle` {*<class>*} {*<text>*} A single-line `<div>`, without a paragraph tag for the line of text.

for HTML & PRINT: `6585 \begin{warpall}`
`6586 \newcommand{\BlockClassSingle}[2]{#2}`
`6587 \end{warpall}`

for HTML output: `6588 \begin{warpHTML}`
`6589 \newcommand{\LWR@HTML@BlockClassSingle}[2]{%`
`6590 \LWR@htmlElementclassline{div}{#1}{#2}}%`
`6591 }`
`6592`
`6593 \LWR@formatted{BlockClassSingle}`
`6594 \end{warpHTML}`

`\InlineClass` (*<WP style>*) [*<style>*] {*<class>*} {*<text>*}

High-level interface for inline span classes.

(*<WP style>*) is CSS styling to add when formatting for a word processor import.

[*<style>*] is the CSS styling to add when not formatting for a word processor.

for HTML & PRINT: 6595 \begin{warpall}
 6596 \NewDocumentCommand{\InlineClass}{D{()}{ } o m +m}{#4}%
 6597 \end{warpall}

for HTML output: 6598 \begin{warpHTML}
 6599 \NewDocumentCommand{\LWR@HTML@InlineClass}{D{()}{ } o m +m}{%
 6600 \LWR@traceinfo{\LWR@HTML@InlineClass #3}%
 6601 \ifbool{FormatWP}{%
 6602 \LWR@traceinfo{\LWR@HTML@InlineClass: FormatWP}%
 6603 \LWR@htmlspanclass[#1]{#3}{#4}%
 6604 }{%
 6605 \LWR@traceinfo{\LWR@HTML@InlineClass: not FormatWP}%
 6606 \LWR@htmlspanclass[#2]{#3}{#4}%
 6607 }%
 6608 \LWR@traceinfo{\LWR@HTML@InlineClass: done}%
 6609 }
 6610
 6611 \LWR@formatted{InlineClass}
 6612 \end{warpHTML}

`LWR@BlockClassWP (enu)` `{\WPstyle}` `{\HTMLstyle}` `(\aria role)` `{\class}` Low-level interface for `<div>` classes with an automatic float ID. These are often used when `\ifbool{FormatWP}`.

The use of `\textquotedbl` instead of `"` provides improved compatibility with `xeCJK`.

for HTML & PRINT: 6613 \begin{warpall}
 6614 \NewDocumentEnvironment{\LWR@BlockClassWP}{m m D(){ } m}{ }
 6615 \end{warpall}

for HTML output: 6616 \begin{warpHTML}
 6617 \NewDocumentEnvironment{\LWR@HTML@\LWR@BlockClassWP}{m m D(){ } m}{%
 6618 {%
 6619 \LWR@stoppars%
 6620 \ifbool{FormatWP}%
 6621 {%
 6622 \addtocounter{\LWR@thisautoidWP}{1}%

 6623 \LWR@htmltag{%
 6624 div class=\textquotedbl#4\textquotedbl\ % space
 6625 id=\textquotedbl%
 6626 \LWR@print@embox{autoidWP-\arabic{\LWR@thisautoidWP}}%
 6627 \textquotedbl%
 6628 \ifblank{#3}{ }{ role=\textquotedbl#3\textquotedbl}%
 6629 \ifblank{#1}{ }{ style=\textquotedbl#1\textquotedbl}%
 6630 }%
 6631 }% FormatWP
 6632 {% not FormatWP
 6633 \LWR@htmltag{%
 6634 div class=\textquotedbl#4\textquotedbl%
 6635 \ifblank{#3}{ }{ role=\textquotedbl#3\textquotedbl}%
 6636 \ifblank{#2}{ }{ style=\textquotedbl#2\textquotedbl}%
 6637 }%
 6638 }% not FormatWP
 6639 \LWR@startpars%
 6640 }
 6641 {\LWR@htmldivclassend{#4}}
 6642

```
6643 \LWR@formattedenv{\LWR@BlockClassWP}
6644 \end{warpHTML}
```

54.11 Closing HTML tags

for HTML output: 6645 \begin{warpHTML}

Sections H1, H2, etc. do not need a closing HTML tag, but we add a comment for readability:

```
6646 \newcommand*\LWR@printclosebook}
6647   {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing book}}{}}
6648 \newcommand*\LWR@printclosepart}
6649   {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing part}}{}}
6650 \newcommand*\LWR@printclosechapter}
6651   {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing chapter}}{}}
6652 \newcommand*\LWR@printclosesection}
6653   {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing section}}{}}
6654 \newcommand*\LWR@printclosesubsection}
6655   {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subsection}}{}}
6656 \newcommand*\LWR@printclosesubsubsection}
6657   {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subsubsection}}{}}
6658 \newcommand*\LWR@printcloseparagraph}
6659   {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing paragraph}}{}}
6660 \newcommand*\LWR@printclosesubparagraph}
6661   {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subparagraph}}{}}
```

Lists require closing HTML tags:

```
6662 \newcommand*\LWR@printcloselistitem}
6663   {\LWR@htmltag{/li}}
6664 \newcommand*\LWR@printclosedescitem}
6665   {\LWR@htmltag{/dd}}
6666 \newcommand*\LWR@printcloseitemize}
6667   {\LWR@htmltag{/ul}}
6668 \newcommand*\LWR@printcloseenumerate}
6669   {\LWR@htmltag{/ol}}
6670 \newcommand*\LWR@printclosedescription}
6671   {\LWR@htmltag{/dl}}

6672 \end{warpHTML}
```

55 Paragraph handling

These commands generate the HTML paragraph tags when allowed and required.

Paragraph tags are or are not allowed depending on many conditions. Section 56 has high-level commands which allow paragraph-tag generation to start/stop. Even when allowed (`LWR@doingstartpars`), tags are not generated until a $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ paragraph is being used (`LWR@doingapar`). `LWR@lateximagedepth` is used to prevent nesting tags inside a `lateximage`. `LWR@spandepth` is used to prevent nesting paragraph tags inside a paragraph, which became important inside `\fbox` commands and other spans.

The L^AT_EX paragraph hooks are used to manage tag creation.

for HTML output: 6673 `\begin{warphTML}`

`LWR@spandepth` (*Ctr*) Do not create paragraph tags inside of an HTML span.

```
6674 \newcounter{LWR@spandepth}
6675 \setcounter{LWR@spandepth}{0}
```

`LWR@doingparhooks` (*bool*) Tells whether the `lwarp` paragraph hooks are to be active.

```
6676 \newbool{LWR@doingparhooks}
6677 \boolfalse{LWR@doingparhooks}
```

`LWR@in@multirow@par` (*bool*) Tells whether to generate break instead of paragraph tags inside a `\multirow`.

```
6678 \newbool{LWR@in@multirow@par}
6679 \boolfalse{LWR@in@multirow@par}
```

`LWR@starting@fancybox` (*bool*) Suppresses `
` if beginning a `fancybox` environment.

```
6680 \newbool{LWR@starting@fancybox}
6681 \boolfalse{LWR@starting@fancybox}
```

`LWR@doingstartpars` (*bool*) Tells whether paragraphs may be generated.

```
6682 \newbool{LWR@doingstartpars}
6683 \boolfalse{LWR@doingstartpars}
```

`LWR@doingapar` (*bool*) Tells whether have actually generated and are currently processing paragraph text.

```
6684 \newbool{LWR@doingapar}
6685 \global\boolfalse{LWR@doingapar}
```

`LWR@algocf@dopars` (*bool*) Tells whether `algorithm2e` has patched paragraph handling using `\everypar`. If so, the open paragraph tags are generated by `algorithm2e`'s `\algocf@everypar` instead of `\LWR@openparagraph`.

```
6686 \newbool{LWR@algocf@dopars}
6687 \boolfalse{LWR@algocf@dopars}
```

`\PN@parnotes@auto` Redefined by `parnotes` to print paragraph notes at the end of each paragraph.

```
6688 \def\PN@parnotes@auto{ }%
```

`\LWR@ensuredoingapar` These were different in older versions of `lwarp`, but are now the same thing.
`\LWR@openparagraph`

```
6689 \newcommand*{\LWR@openparagraph}
6690 {%
```

See if paragraph handling is enabled:

```
6691 \ifboolexpr{
6692     bool{LWR@doingparhooks} and
6693     bool{LWR@doingstartpars}
6694 }%
6695 {% handling pars
```

See if have already started a lateximage or a . If so, do not generate nested paragraph tags.

```
6696     \ifboolexpr{
6697         test {\ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}} or
6698         test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}}
6699     }% nested par tags?
```

If so: Do nothing if already started a lateximage page. Cannot nest a lateximage. Also do nothing if already inside a . Do not nest paragraph tags inside a .

```
6700     {}% no nested par tags
```

Else: No lateximage or has been started yet, so it's OK to generate paragraph tags.

```
6701     {% yes nest par tags
6702     \ifbool{LWR@doingapar}}{%
```

If parnotes is used, paragraph notes are inserted before starting the next paragraph:

```
6703     \PN@parnotes@auto%
```

Set flag before creating the tag, so that the tag itself does not trigger a new paragraph:

```
6704     \global\booltrue{LWR@doingapar}%
```

The opening paragraph tag. Do not create tag if doing algorithm2e handling or inside a \multirow.

```
6705     \ifbool{LWR@algocf@dopars}}{%
6706         \ifbool{LWR@in@multirow@par}%
6707         {}%
6708         {\LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline}%
6709     }%
6710     }%
6711     }% end of yes nest par tags
6712     }% end of handling pars
6713     {}% not handling pars
6714 }
6715
6716 \let\LWR@ensuredoingapar\LWR@openparagraph
```

\LWR@closeparagraph@br Add an HTML break if in a span, and not in a lateximage, and not in tabular metadata. Factored from \LWR@closeparagraph.

```
6717 \newcommand*{\LWR@closeparagraph@br}
6718 {%
6719     \ifboolexpr{
6720         test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}} and
6721         test {\ifnumcomp{\value{LWR@lateximagedepth}}{=}{0}} and
6722         not bool {LWR@starting@fancybox} and
6723         not bool {LWR@intabularmetadata} or
6724         bool {LWR@in@multirow@par}
```

```

6725     }%
6726     {\unskip\LWR@htmltagc{br /}}%
6727     }%
6728 }

```

\LWR@closeparagraph

```

6729 \newcommand*{\LWR@closeparagraph}
6730 {%
6731 % \LWR@traceinfo{\LWR@closeparagraph}%

```

See if paragraph handling is enabled:

```

6732     \ifbool{\LWR@doingparhooks}{%
6733         \ifbool{\LWR@doingapar}%

```

If currently in paragraph mode:

```

6734         {% handling pars

```

See if already started a lateximage or a :

```

6735         \ifboolexpr{
6736             test {\ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}} or
6737             test {\ifnumcomp{\value{\LWR@spandepth}}{>}{0}} or
6738             bool{\LWR@in@multirow@par}
6739         }%

```

Add a parbreak if in a span, not in a lateximage, and not in table metadata.

```

6740         {% no nested par tags
6741             \LWR@closeparagraph@br%
6742         }% no nested par tags

```

If have not already started a lateximage or a :

```

6743         {% yes nest par tags

```

Print a closing tag.

(The fill seems to be required to force the caption package to create flush left caption text in the HTML.)

```

6744             \@hspacer{\fill}% \hspace*{\fill}
6745             \leavevmode\LWR@orignewline%
6746             \LWR@htmltagc{/\LWR@tagregularparagraph}%

```

No longer doing a paragraph:

```

6747             \global\boolfalse{\LWR@doingapar}%

```

Disable the special minipage & \hspace interaction until a new minipage is found:

```

6748             \global\boolfalse{\LWR@minipagethispar}%

```

If parnotes is used, paragraph notes are inserted after ending the previous paragraph:

```

6749          \PN@parnotes@auto%
6750          }% end of yes nest par tags
6751          }% LWR@doingapar: end of handling pars

```

Add a parbreak if in a span, not in a lateximage, and not in table metadata.

```

6752          {% not LWR@doingapar: not handling pars
6753          \LWR@closeparagraph@br%
6754          }% not handling pars

```

In most cases, finish with a L^AT_EX `\par`, but in the case of paragraphs between lines in a tabular fetch the next token instead. Required for `\multicolumn`.

```

6755          \ifboolexpr{%
6756          not bool {LWR@doingapar} and
6757          test {\ifnumcomp{\value{LWR@tabulardepth}}{>}{0}} and
6758          test {
6759          \ifnumcomp{\value{LWR@tabulardepth}}{=}{\value{LWR@tabularpardepth}}
6760          } and
6761          bool {LWR@intabularmetadata} and
6762          not bool {LWR@tableparcell} and
6763          test {\ifnumcomp{\value{LWR@lateximagedepth}}{=}{0}}
6764          }%
6765          {\LWR@getmynexttoken}%
6766          }%
6767          }% LWR@doingparhooks
6768          }% not LWR@doingparhooks
6769 % Do not place anything here, due to the above \LWR@getmynexttoken.
6770 }

```

55.1 Paragraph Hooks

`para/begin (Hook)` [LaTeX]

```
6771 \AddToHook{para/begin}[lwarp]{\LWR@openparagraph}
```

`para/end (Hook)` [LaTeX]

```
6772 \AddToHook{para/end}[lwarp]{\LWR@closeparagraph}
```

```
6773 \end{warpHTML}
```

56 Paragraph start/stop handling

These commands allow/disallow the generation of HTML paragraph tags.

Section 55 has the commands which actually generate the tags.

The L^AT_EX paragraph hooks are used to generate the opening and closing paragraph tags.

for HTML output: `6774 \begin{warpHTML}`

`\LWR@startpars` Begin handling HTML paragraphs. This allows an HTML paragraph to start, but one has not yet begun.

```
6775 \newcommand*{\LWR@startpars}%
6776 {%
```

Ignore if inside a `lateximage` or ``:

```
6777   \ifboolexpr{
6778     test {\ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}} or
6779     test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}}
6780   }%
6781   {}% nesting
6782   {% not nesting
```

The L^AT_EX paragraph hook controls tag generation for the start and end of paragraphs.

See if currently handling HTML paragraphs:

```
6783   \ifboolexpr {bool{LWR@doingparhooks} and bool{LWR@doingstartpars}}%
```

If already in paragraph mode, do nothing.

```
6784   {}%
```

If not currently in paragraph mode:

```
6785   {\par}%
```

Are now handling paragraphs, but have not yet actually started one:

```
6786   \global\booltrue{LWR@doingstartpars}%
```

No `<par>` tag yet to undo:

```
6787   \global\boolfalse{LWR@doingapar}%
6788   }% not nesting
6789 }
```

`\LWR@stoppars` Stop handling HTML paragraphs. Any currently open HTML paragraph is closed, and no more will be opened.

```
6790 \newcommand*{\LWR@stoppars}%
6791 {%
```

Ignore if inside a `lateximage` or ``:

```
6792   \ifboolexpr{
6793     test {\ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}} or
6794     test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}}
6795   }%
6796   {}% nesting
6797   {% not nesting
```

See if currently handling HTML paragraphs:

```
6798   \ifboolexpr{bool{LWR@doingparhooks} and bool{LWR@doingapar}}%
```

if currently in an HTML paragraph:

```
6799          {%
```

Print a closing tag:

```
6800          \leavevmode\LWR@orignewline%
6801          \LWR@htmltagc{/\LWR@tagregularparagraph}%
6802          \LWR@orignewline%
```

No longer have an open HTML paragraph:

```
6803          \global\boolfalse{LWR@doingapar}%
```

Disable the special minipage & \hspace interaction until a new minipage is found:

```
6804          \global\boolfalse{LWR@minipagethispar}%
6805          }%
```

If was not in an HTML paragraph:

```
6806          }%
```

No longer in paragraph mode:

```
6807          \global\setbool{LWR@doingstartpars}{false}%
```

No <p> tag to undo:

```
6808          \global\boolfalse{LWR@doingapar}%
6809          }% not nesting
6810 }
```

```
6811 \end{warpHTML}
```

57 Indentfirst

`indentfirst (Pkg)` `indentfirst` redefines `\@afterindentfalse` to be `\@afterindenttrue`. This is reversed `\AtBeginDocument` here.

for HTML output: 6812 `\begin{warpHTML}`

```
6813 \AtBeginDocument{
6814   \def\@afterindentfalse{\let\if@afterindent\iffalse}
6815   \@afterindentfalse
6816 }
6817 \let\LWR@afterindent@syntaxhighlight\fi% syntax highlighting
6818 \end{warpHTML}
```


58 Page headers and footers

for HTML & PRINT: 6819 \begin{warpall}

In the following, catcode is manually changed back and forth without groups, since new macros are being defined which must not be contained within the groups.

```
6820 \newcommand{\LWR@firstpagetop}{} % for the home page alone
6821 \newcommand{\LWR@firstpagebottom}{} % for the home page alone
6822 \newcommand{\LWR@pagetop}{} % for all other pages
6823 \newcommand{\LWR@pagebottom}{}

```

```
6824 \newcommand{\LWR@HTMLmeta}{}

```

\HTMLFirstPageTop {<*text and logos*>}

```
6825 \newcommand{\HTMLFirstPageTop}[1]{%
6826   \renewcommand{\LWR@firstpagetop}{#1}%
6827 }

```

\HTMLFirstPageBottom {<*text and logos*>}

```
6828 \newcommand{\HTMLFirstPageBottom}[1]{%
6829   \renewcommand{\LWR@firstpagebottom}{#1}%
6830 }

```

\HTMLPageTop {<*text and logos*>}

```
6831 \newcommand{\HTMLPageTop}[1]{%
6832   \renewcommand{\LWR@pagetop}{#1}%
6833 }

```

\HTMLPageBottom {<*text and logos*>}

```
6834 \newcommand{\HTMLPageBottom}[1]{%
6835   \renewcommand{\LWR@pagebottom}{#1}%
6836 }

```

\HTMLMeta {<*name*>} {<*content*>}

Sets a custom meta tag for the following pages.

```
6837 \newcommand{\HTMLMeta}[2]{%
6838   \renewcommand{\LWR@HTMLmeta}{%
6839     \LWR@htmltag{%
6840       meta name=\LWR@orig@textquotedbl{}#1\LWR@orig@textquotedbl\ % space
6841       content=\LWR@orig@textquotedbl{}#2\LWR@orig@textquotedbl\ /%
6842     }\LWR@orig@textquotedbl{}#2\LWR@orig@textquotedbl\ /%
6843   }}{}%
6844 }

```

\HTMLAddMeta {<*name*>} {<*content*>}

Adds to the custom meta tags for the following pages.

```

6845 \newcommand{\HTMLAddMeta}[2]{%
6846   \apptocmd{\LWR@HTMLmeta}{%
6847     \LWR@htmltag{%
6848       meta name=\LWR@orig@textquotedbl{}#1\LWR@orig@textquotedbl\ % space
6849       content=\LWR@orig@textquotedbl{}#2\LWR@orig@textquotedbl\ /%
6850     }\LWR@orig@newline%
6851   }}{%
6852 }

6853 \end{warpall}

```

59 CSS

for HTML output: 6854 \begin{warpHTML}

`\LWR@currentcss` The css filename to use. This may be changed mid-document using `\CSSFilename`, allowing different css files to be used for different sections of the document.

```
6855 \newcommand*{\LWR@currentcss}{lwarp.css}
```

`\CSSFilename` $\langle new-css-filename.css \rangle$ Assigns the css file to be used by the following HTML pages.

```

6856 \newcommand*{\CSSFilename}[1]{%
6857   \renewcommand*{\LWR@currentcss}{#1}%
6858   \@onelevel@sanitize\LWR@currentcss%
6859 }
6860
6861 \end{warpHTML}

```

for PRINT output: 6862 \begin{warpprint}
6863 \newcommand*{\CSSFilename}[1]{
6864 \end{warpprint}

60 MATHJAX script

for HTML output: 6865 \begin{warpHTML}

Default: `lwarp_mathjax.txt`

`\LWR@mathjaxfilename` The MATHJAX script filename to use. This file is copied into the head of each HTML page. This may be changed mid-document using `\MathJaxFilename`, allowing the use of a custom MATHJAX script, such as for a local repository, or different MATHJAX script files to be used for different sections of the document.

```
6866 \newcommand*{\LWR@mathjaxfilename}{lwarp_mathjax.txt}
```

`\MathJaxFilename` $\langle filename \rangle$ Assigns the MATHJAX script file to be used by the following HTML pages.

```

6867 \newcommand*{\MathJaxFilename}[1]{%
6868   \renewcommand*{\LWR@mathjaxfilename}{#1}%
6869   \@onelevel@sanitize\LWR@mathjaxfilename%
6870 }
6871
6872 \end{warpHTML}

```

for PRINT output:

```

6873 \begin{warpprint}
6874 \newcommand*{\MathJaxFilename}[1]{}
6875 \end{warpprint}

```

61 Title, HTML meta author, HTML meta description

for HTML output:

```

6876 \begin{warpHTML}

```

`\title` $\langle\{title\}\rangle$ Modified to remember `\thetitle`, which is used to set the HTML page titles.

```

6877 \let\LWR@origtitle\title
6878
6879 \renewcommand*{\title}[1]{%
6880   \LWR@origtitle{#1}%
6881   \begingroup%
6882     \renewcommand{\thanks}[1]{}%
6883     \protected@xdef\thetitle{#1}%
6884   \endgroup%
6885 }

```

6886 \end{warpHTML}

for HTML & PRINT:

```

6887 \begin{warpall}

```

`\HTMLTitle` $\langle\{Titlename\}\rangle$ The Title to place into an HTML meta tag. The default is to use the document `\title`'s setting.

```

6888 \providecommand{\thetitle}{\BaseJobname}
6889
6890 \newcommand{\theHTMLTitle}{\thetitle}
6891
6892 \newcommand{\HTMLTitle}[1]{\renewcommand{\theHTMLTitle}{#1}}

```


`\HTMLAuthor` $\langle\{authorname\}\rangle$ The author to place into an HTML meta tag. If none given, the default is `\theauthor`, which is empty unless the titling package is used.

```

6893 \providecommand{\theauthor}{}
6894
6895 \newcommand{\theHTMLAuthor}{\theauthor}
6896
6897 \newcommand{\HTMLAuthor}[1]{\renewcommand{\theHTMLAuthor}{#1}}

```

This is placed inside an HTML meta tag at the start of each file. This may be changed mid-document using `\HTMLAuthor`, allowing different HTML authors to be used for different sections of the document.

 **HTML author** Do not use double quotes, and do not exceed 150 characters.

`\HTMLDescription` $\{\langle New html meta description.\rangle\}$ Assigns the HTML file's description meta tag.

```
6898 \newcommand{\LWR@currentHTMLDescription}{}
6899
6900 \newcommand{\HTMLDescription}[1]{%
6901 \renewcommand{\LWR@currentHTMLDescription}{#1}
6902 }
```

`\HTMLKeywords` $\{\langle New html meta keywords.\rangle\}$ Assigns the HTML file's keywords meta tag.

```
6903 \newcommand{\LWR@currentHTMLKeywords}{}
6904
6905 \newcommand{\HTMLKeywords}[1]{%
6906 \renewcommand{\LWR@currentHTMLKeywords}{#1}
6907 }
6908
6909 \end{warppall}
```

62 Footnotes

`lwarp` uses native L^AT_EX footnote code, although with its own `\box` to avoid the L^AT_EX output routine. The usual functions mostly work as-is.

footnote numbering To have footnote numbers reset each time footnotes are printed:

```
\setcounter{footnoteReset}{1}
```

For `bigfoot`, `manyfoot`, or `perpage`:

```
\MakePerPage{footnoteX}
— or —
\MakeSortedPerPage{footnoteX}
```

The footnotes are reset when they are printed, according to section level as set by `FootnoteDepth`, which is not necessarily by HTML page. This is recommended for `\alph`, `\Alph`, or `\fnsymbol` footnotes, due to the limited number of symbols which are available.

MATHJAX Also for `MATHJAX`, `\footnotename` is used for a `\footnotemark` if the actual footnote number is not known. To redefine it, provide it before loading `lwarp`:


```
\providecommand{\footnotename}{something}
\usepackage{lwarp}
```

Similar for `sidenotes`. For `endnotes`:

```
\def\endnotename{something}% \def allows name to start with
"end"
```

For the `pagenote` package, there is no `\pagenotename` to define, since there is no `\pagenotemark` command.

footmisc The `footmisc` `stable` option is emulated by `lwarp`.

 **sectioning commands** When using footnotes in sectioning commands, to generate consistent results between print and HTML, use the `footmisc` package with the `stable` option, provide a short TOC entry, and `\protect` the `\footnote`:

```

\usepackage[stable]{footmisc}
. . .
\subsection[Subsection Name]
  {Subsection Name\protect\footnote{A footnote.}}

```

memoir with footmisc If using memoir class, with which lwarp preloads footmisc, the stable option must be declared before lwarp is loaded:

⚠ **memoir**

```

\PassOptionsToPackage{stable}{footmisc}
\usepackage{lwarp}
. . .

```

Do not use a starred sectioning command. As an alternative, it may be possible to adjust `\secnumdepth` instead.

Several kinds of footnotes are used: in a regular page, in a minipage, or as thanks in the titlepage. Each of these is handle differently.

62.1 Regular page footnotes

In HTML documents, footnotes are placed at the bottom of the web page or the section, depending on `FootnoteDepth`, using the L^AT_EX box `\LWR@footnotebox`. Using this instead of the original `\footins` box avoids having footnotes be printed by the output routine, since footnotes should be printed per HTML page instead of per PDF page.

See section 62.4 for the implementation.

62.2 Minipage footnotes

See section 62.5 for how minipage footnotes are gathered. See section 96.4 for how minipage footnotes are placed into the document.

62.3 Titlepage thanks

See section 71.7 for titlepage footnotes.

62.4 Regular page footnote implementation

for HTML & PRINT: 6910 `\begin{warpall}`

`FootnoteDepth` (*Ctrl*) Determines how deeply to place footnotes in the HTML files, similar to `tocdepth`.
Default: 3 The default of 3 places footnotes before each `\subsubsection` or higher. See table 12 for a table of L^AT_EX section headings.

```

6911 \newcounter{FootnoteDepth}
6912 \setcounter{FootnoteDepth}{3}

```

`footnoteReset` (*Ctrl*) If non-zero, the footnote counter is reset to this value each time the footnotes are printed, as controlled by `FootnoteDepth`. For the `manyfoot` and `bigfoot` packages, additional counters such as `footnote<suffix>Reset` will be defined
Default: 0

as well. These counters may be set non-zero by the user, and are also set if the `perpage`'s `\MakePerPage` or `\MakeSortedPerPage` macros are used for the footnote or `footnote<suffix>` counters.

(The name is not capitalized because it is made from the counter's name with "Reset" appended.)

```
6913 \newcounter{footnoteReset}
6914 \setcounter{footnoteReset}{0}

6915 \end{warpall}
```

for HTML output: 6916 `\begin{warpHTML}`

Required for footnotes inside description or `amsthm` square braces:

```
6917 \AtBeginDocument{
6918 \robustify{\footnote}
6919 \robustify{\footnotemark}
6920 }
```

`\LWR@footnotebox` Patch L^AT_EX footnotes to use a new `\box` instead of an insert for `lwarp` footnotes. This avoids having the original `\footins` appear at the bottom of a `lateximage`, which is on its own new page.

```
6921 \newbox\LWR@footnotebox
```

`LWR@spewingnotes` (*bool*) Used with the footnote package to suppress paragraph tags before and after `\spewnotes`.

```
6922 \newbool{LWR@spewingnotes}% For the footnote package.
```

Much of the following has unneeded print-mode formatting removed.

`\@makefntext` $\langle text \rangle$

```
6923 \long\def\@makefntext#1{\textsuperscript{\@thefnmark}~{#1}}
```

`\@makefnmark`

```
6924 \def\@makefnmark{%
6925   \textsuperscript{\@thefnmark}%
6926 }
```

Footnotes may be in regular text, in which case paragraphs are tagged, or in a table data cell or `lateximage`, in which case paragraph tags must be added manually.

In a `lateximage` during HTML output, the `lateximage` is placed inside a print-mode `minipage`, but the footnotes are broken out by:

```
\def\@mpfn{footnote}
\def\@thempfn{\thefootnote}
\let\@footnotetext\LWR@footnotetext
```

`\LWR@@footnotetext {<text>} {<footnote box name>}`

Factored to allow multiple footnote boxes for manyfoot.

```
6927 \long\def\LWR@@footnotetext#1#2{%
6928 \LWR@traceinfo{LWR@footnotetext}%
```

Perhaps generate an autopage in the text to link a citation backreference closer to its usage.

```
6929 \LWR@newautopagelabel{page}%
6930 \LWR@ensuredoingapar%
```

Locally disable auto page labels inside the footnote text. Footnotes are accumulated in the current page before finally being placed in a potentially later page, so the autopages would be incorrect.

```
6931 \begingroup%
6932 \let\LWR@newautopagelabel\LWR@null@newautopagelabel%
```

Take the existing footnote box and add the new content:

```
6933 \global\setbox\csname #2\endcsname=\vbox{%
6934 \unvbox\csname #2\endcsname%
```

Remember the footnote number for `\ref`:

```
6935 \def\@currentcounter{footnote}%
6936 \protected@edef\@currentlabel{%
6937 \csname p@footnote\endcsname\@thefnmark%
6938 }% @currentlabel
```

Open a group:

```
6939 \color@begingroup%
```

Disable CJK xpinyin while generating footnotes.

```
6940 \LWR@disablepinyin%
```

Use HTML superscripts in the footnote even when the main text is inside a `lateximage`, because the footnote will be in HTML:

```
6941 \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%
```

Use paragraph tags if in a tabular data cell or a `lateximage`:

```
6942 \ifbool{LWR@spewingnotes}{}{%
6943 \LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline%
6944 }%
```

Append the footnote to the list:

```
6945 \@makefntext{#1}%
```

Closing paragraph tag:

```

6946   \ifbool{LWR@spewingnotes}{}{%
6947     \LWR@orignobreakspace\LWR@orignewline%
6948     \LWR@htmltagc{/\LWR@tagregularparagraph}%
6949     \LWR@orignewline%
6950   }%

```

Close the group:

```

6951   \color@endgroup%
6952 }% vbox
6953 \endgroup%
6954 }%

```

`\LWR@footnotetext {<text>}`

```

6955 \long\def\LWR@footnotetext#1{\LWR@footnotetext{#1}{LWR@footnotebox}}%

```

`\@footnotetext {<text>}`

```

6956 \LetLtxMacro\@footnotetext\LWR@footnotetext

```

62.5 Minipage footnote implementation

Patch L^AT_EX minipage footnotes to use a new `\box` instead of an insert for `lwarp` minipage footnotes. This avoids having the original `\mpfootins` appear at the bottom of a `lateximage`, which is on its own new page.

```

6957 \newbox\LWR@mpfootnotes

```

`\@mpfootnotetext {<text>}`

```

6958 \long\def\@mpfootnotetext#1{%
6959 \LWR@traceinfo{\@mpfootnotetext}%
6960 \LWR@ensuredoingapar%
6961 \global\setbox\LWR@mpfootnotes\vbox{%
6962   \unvbox\LWR@mpfootnotes%
6963   \reset@font\footnotesize%
6964   \hsize\columnwidth%
6965   \@parboxrestore%

6966   \def\@currentcounter{mpfootnote}%

6967   \protected@edef\@currentlabel%
6968     {\csname pmpfootnote\endcsname\@thefnmark}%
6969   \color@begingroup%

```

Add paragraph tag:

```

6970   \LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline%

6971   \@makefnctext{%
6972     \ignorespaces#1%
6973   }%

```


Add the closing paragraph tag:

```
6974 \leavevmode\LWR@orignewline%
6975 \LWR@htmltagc{/LWR@tagregularparagraph}%

6976 \color@endgroup%
6977 }% vbox
```

Paragraph handling:

```
6978 \LWR@ensuredoingapar%
6979 \LWR@traceinfo{@mpfootnotetext: done}%
6980 }
```

`\thempfootnote` Redefined to remove the `\itshape`, which caused an obscure compiling error in some situations.

```
6981 \AtBeginDocument{
6982   \def\thempfootnote{\@alph\c@mpfootnote}
6983 }
```

62.6 Printing pending footnotes

`\LWR@@printpendingfootnotes` $\langle\textit{footnote counter name}\rangle$

```
6984 \newcommand*\LWR@@printpendingfootnotes[1]{%
6985 \expandafter\ifvoid\csname LWR@#1box\endcsname\else
6986   \LWR@forcenewpage
6987   \begin{BlockClass}(note){footnotes}%
```

Create a new autopage in case citation back references occur inside the footnotes:

```
6988   \LWR@newautopagelabel{page}%

6989   \null
6990   \unvbox\csuse{LWR@#1box}
6991   \setbox\csuse{LWR@#1box}=\vbox{}
6992   \end{BlockClass}
6993   \ifltxcounter{#1Reset}{%
6994     \ifnumgreater{\value{#1Reset}}{0}{%
6995       \setcounter{#1}{\value{#1Reset}}%
6996       \addtocounter{#1}{-1}%
6997     }{}%
6998   }{}%
6999 \fi
7000 }
```

`\LWR@@printpendingfootnotes` Enclose the footnotes in a class, print, then clear. For `manynotes`, new footnotes may be added via `\appto`.

```
7001 \newcommand*\LWR@@printpendingfootnotes{%
7002   \LWR@@printpendingfootnotes{footnote}%
7003 }
```

`\LWR@maybeprintpendingfootnotes` [*depth*] Used to print footnotes before sections only if formatting for an EPUB or word processor:

```
7004 \newcommand*\LWR@maybeprintpendingfootnotes}[1]{%
7005 \ifboolexpr{
7006   not test{\ifnumcomp{#1}{>}{\value{FootnoteDepth}}} or
7007   bool{FormatEPUB} or
7008   bool{FormatWP}
7009 }%
7010 {\LWR@printpendingfootnotes}%
7011 {}%
7012 }
```

`\LWR@printpendingmpfootnotes` Enclose the minipage footnotes in a class, print, then clear.

```
7013 \newcommand*\LWR@printpendingmpfootnotes}{%
7014 \ifvoid\LWR@mpfootnotes\else
7015   \LWR@forcenewpage
7016   \begin{BlockClass}(note){footnotes}%
7017   \null
7018   \unvbox\LWR@mpfootnotes
7019   \setbox\LWR@mpfootnotes=\vbox{}
7020   \end{BlockClass}
7021 \fi
7022 }
```

`\LWR@nullifyfootnotes` Cancels footnotes, such as inside an HTML comment or a `\nameref`.

```
7023 \newcommand*\LWR@nullifyfootnotes}{%
7024   \renewcommand{\footnote}[2][{}]{%
7025     \renewcommand{\footnotemark}[1][{}]{%
7026       }
7027 \end{warpHTML}
```

63 Marginpars

`\marginpar` [*left*] [*right*] `\marginpar` may contains paragraphs, but in order to remain inline with the surrounding text `lwarp` nullifies block-related macros inside the `\marginpar`. Paragraph breaks are converted to `
` tags.

`\marginparBlock` [*left*] [*right*] To include block-related macros, use `\marginparBlock`, which takes the same arguments but creates a `<div>` instead of a ``. A line break will occur in the text where the `\marginBlock` occurs.

for HTML output: 7028 `\begin{warpHTML}`

`\marginpar` [*left*] [*right*]

```
7029 \renewcommand{\marginpar}[2][{}]{%
7030 \ifbool{FormatWP}%
7031 {%
7032   \begin{LWR@BlockClassWP}%
7033     {width:2in; float:right; margin:10pt}{(note){marginblock}%
```

```

7034     #2
7035     \end{LWR@BlockClassWP}%
7036 }%
7037 {%
7038     \LWR@htmlspanclass(note){marginpar}{#2}%
7039 }%
7040 }

```

`\marginparBlock` [*<left>*] {*<right>*}

For use when the marginpar will be more than one paragraph, and/or contains more than simple text.

HTML version.

```

7041 \newcommand{\marginparBlock}[2][[]]{%
7042     \LWR@stoppars%
7043     \ifbool{FormatWP}%
7044     {%
7045         \begin{LWR@BlockClassWP}%
7046             {width:2in; float:right; margin:10pt}{}%
7047             (note){marginblock}%
7048         #2
7049         \end{LWR@BlockClassWP}
7050     }%
7051     {%
7052         \begin{BlockClass}[width:2in; float:right; margin:10pt]%
7053             (note){marginparblock}%
7054         #2
7055         \end{BlockClass}
7056     }%
7057     \LWR@startpars%
7058 }

```

`\reversemarginpar`

```
7059 \renewcommand*{\reversemarginpar}{}

```

`\normalmarginpar`

```
7060 \renewcommand*{\normalmarginpar}{}

```

```
7061 \end{warphTML}

```

for PRINT output: 7062 `\begin{warpprint}`

`\marginparBlock` [*<left>*] {*<right>*}

For use when the marginpar will be more than one paragraph, and/or contains more than simple text.

Print version.

```
7063 \LetLtxMacro\marginparBlock\marginpar

```

```
7064 \end{warpprint}

```

64 Tracking internal cross references

Cross references are generated using the PDF file's page number during L^AT_EX compilation. Internal labels are generated which include these page numbers in the label.

*_html.aux (*file*) A new entry in the *_html.aux file is used to help cross-references:

```
\newlabel{autopage-<nnn>}{<x>}{<y>}}
```

LWR@currentautosecpage (*Ctr*) Records the page number when the section was created. (If a math expression is included in the section name, and `svg math` is used, the corresponding `lateximage` will cause the page number to change by the time the following autosec label is created, thus the initial page number is recorded here.) LWR@currentautosecfloatpage is updated more often than LWR@currentautosecpage.

```
7065 \newcounter{LWR@currentautosecpage}
7066 \setcounter{LWR@currentautosecpage}{1}
```

LWR@currentautosecfloatpage (*Ctr*) The HTML output's PDF page number at the start of a new HTML file, section, or float. Updated more often than LWR@currentautosecpage, such as when a new float occurs. Used only for table of contents, list of figures, list of tables, but not for general cross references such as `\label`, citation backlinks, etc.

`\LWRsetnextfloat` is written with this and the `autoid` by the modified `\addcontentsline` just before each float's entry.

```
7067 \newcounter{LWR@currentautosecfloatpage}
7068 \setcounter{LWR@currentautosecfloatpage}{1}
```

LWR@previousautopagelabel (*Ctr*) Remembers which autopage label was most recently generated. Used to avoid duplicates.

```
7069 \newcounter{LWR@previousautopagelabel}
7070 \setcounter{LWR@previousautopagelabel}{-1}
```

```
\LWR@newautopagelabel {<pagenumber counter>}
```

`\BaseJobname` is added to the label in case `xr` or `xr-hyper` are used.

```
7071 \newcommand*{\LWR@newautopagelabel}[1]{%
```

No action if this autopage label has already been defined:

```
7072 \ifnumequal{\value{LWR@previousautopagelabel}}{\value{page}}%
7073     {}%
```

If the PDF page has changed, create a label using the desired counter.

If the counter is LWR@currentautosecpage, that was the page number when the section generation began, but the current PDF page may be different by now if the section name had an `svg image`, such as `svg math`. To allow the cross-reference to point just after the section heading, the label must be made after the section heading is complete, which may have generated a new PDF page. Thus, the label

is made with the given counter, which may be the PDF page number where the section heading began, then if the PDF page number has changed, another label is made for the current page number.

```
7074     {%
7075         \label{\BaseJobname-autopage-\csuse{the#1}}%
```

If there are intervening pages, such as an SVG image, define another label for the new page:

```
7076         \ifnumequal{\value{#1}}{\value{page}}%
7077             {%
7078             \label{\BaseJobname-autopage-\csuse{thepage}}}%
```

Remember the latest autopage label:

```
7079         \setcounter{LWR@previousautopagelabel}{\value{page}}%
7080     }%
7081 }
```

`\LWR@null@newautopagelabel` $\{ \langle \textit{pagenumber counter} \rangle \}$

Inside a footnote, the page numbers will be incorrect, so this is nullified.

```
7082 \newcommand*{\LWR@null@newautopagelabel}[1]{}
```

65 Splitting HTML files

- Files are split according to `FileDepth` and `CombineHigherDepths`.
- Filenames are sanitized by `\LWR@filenamoblanks`.
- `\LWR@newhtmlfile` finishes an HTML page, adds a comment to tell where and how to split the file, then starts a new HTML page.

for HTML & PRINT: 7083 `\begin{warpall}`

`FileDepth` (*Ctr*) $\{ \langle \textit{section depth} \rangle \}$ determines how deeply to break into new HTML files, similar to `tocdepth`. The default of -5 produces one large HTML file.

```
7084 \newcounter{FileDepth}
7085 \setcounter{FileDepth}{-5}
```

`CombineHigherDepths` (*bool*) Combile higher-level sections together into one file?

```
7086 \newbool{CombineHigherDepths}
7087 \booltrue{CombineHigherDepths}
```

`\FilenameLimit` Maximum length of the generated filenames.

```
7088 \newcommand*{\FilenameLimit}{80}
```

```
7089 \end{warpall}
```

for HTML output: 7090 \begin{warpHTML}

\LWR@thisfilename The currently-active filename or number. At first, this is the homepage.

```
7091 \AtBeginDocument{
7092 \ifbool{FileSectionNames}%
7093   {\newcommand*\LWR@thisfilename{\HomeHTMLFilename}}
7094   {\newcommand*\LWR@thisfilename{0}}
7095 }
```

\LWR@thisnewfilename The filename being sanitized.

```
7096 \newcommand*\LWR@thisnewfilename{}
```

\LWR@simplifyname *{\langle*expression*\rangle} Simplify \LWR@thisnewfilename.

If starred, detokenizes the input expression. If found, changes the expression to a single detokenized dash.

```
7097 \NewDocumentCommand{\LWR@simplifyname}{s m}{%
7098 \IfBooleanTF{#1}{%
7099   \StrSubstitute{\LWR@thisnewfilename}%
7100   {\detokenize{#2}}%
7101   {\detokenize{-}}[\LWR@thisnewfilename]%
7102 }{%
7103   \StrSubstitute{\LWR@thisnewfilename}%
7104   {#2}%
7105   {\detokenize{-}}[\LWR@thisnewfilename]%
7106 }
7107 }
```

\LWR@simplifycustom User-defined filename simplifications. Redefine with \newcommand.

```
7108 \newcommand*\LWR@simplifycustom{}
```

\FilenameSimplify *{\langle*phrase*\rangle} Assign a user-defined filename simplification. Appends to \LWR@simplifycustom.

```
7109 \NewDocumentCommand{\FilenameSimplify}{s m}{%
7110 \IfBooleanTF{#1}{%
7111   \appto{\LWR@simplifycustom}{%
7112     \LWR@simplifyname*{#2}%
7113   }%
7114 }{%
7115   \appto{\LWR@simplifycustom}{%
7116     \LWR@simplifyname{#2}%
7117   }%
7118 }%
7119 }
```

\LWR@avoiddupfilenames Instructions for how to avoid duplicate filenames. This is used in a warning in \LWR@filenamenoblanks, and in an error in \LWR@newhtmlfile.

```
7120 \newcommand*\LWR@avoiddupfilenames{%
7121   To avoid duplicate filenames, use the optional\MessageBreak
```

```

7122 short Table of Contents entry:\MessageBreak
7123 \space\space\protect\section[Unique name, no math]{Name with math}%
7124 \MessageBreak
7125 or use \protect\texorpdfstring, from the hyperref package:\MessageBreak
7126 \space\space%
7127 \protect\section{\MessageBreak
7128 \space\space\space\space\protect\texorpdfstring\MessageBreak
7129 \space\space\space\space\space\space%
7130 {Name with math}{Unique name, no math}\MessageBreak
7131 \space\space}
7132 }

```

`\LWR@filenamenoblanks` $\{\langle filename \rangle\}$

Convert blanks into dashes, removes short words, store result in `\LWR@thisfilename`.

Also see `\LWR@nullfonts` for nullified macros.

```

7133 \newcommand*\LWR@filenamenoblanks}[1]{%
7134 \begingroup

```

Locally temporarily disable direct-formatting commands, not used in filenames:

```

7135 \LWR@nullfonts%
7136 \renewcommand*\LWR@htmltagc}[1]{}%

```

```

7137 \edef\LWR@thisnewfilename{#1}%

```

Replaces common macros with hyphens. (& is done by `\LWR@nullfonts`.)

```

7138 \RenewDocumentCommand{\LWR@subsingledollar}{s m m m}{}%
7139 \LWR@simplifiname{\_}
7140 \LWR@simplifiname{\#}
7141 \LWR@simplifiname{\textbackslash}
7142 \LWR@simplifiname{\protect}
7143 \LWR@simplifiname{\ }
7144 \LWR@simplifiname{\textless}
7145 \LWR@simplifiname{\textgreater}

```

```

7146 \edef\LWR@thisnewfilename{\detokenize\expandafter{\LWR@thisnewfilename}}%

```

Warn if there is dollar math in the section name:

```

7147 \ifbool{FileSectionNames}{%
7148 \IfSubStr{\LWR@thisnewfilename}{\LWRdollar}{%
7149 \PackageWarning{lwarp}
7150 {%
7151 This section name:\MessageBreak
7152 \space\space``\detokenize\expandafter{#1}''\MessageBreak
7153 at the line number listed below,\MessageBreak
7154 is using $dollar-delimited math$,
7155 which generates\MessageBreak
7156 complicated file names. It is better to use\MessageBreak
7157 \space\space%
7158 \protect\section{Name with \protect\(\parenthesis math\protect\)}%
7159 \MessageBreak

```

```

7160           The math then will be removed from the file name.\MessageBreak
7161           \MessageBreak
7162           \LWR@avoiddupfilenames%
7163           \MessageBreak
7164           This section is found before or%
7165           }
7166     }{}%
7167 }{}

```

```

7168 \LWR@traceinfo{LWR@filenameno blanks edef: !\LWR@thisnewfilename!}%
7169 \fullexpandarg%

```

Convert spaces into hyphens:

```

7170 \LWR@simplifiname*{ }

```

Convert punctutation into hyphens:

```

7171 \LWR@simplifiname*{*}
7172 \LWR@simplifiname*{(}
7173 \LWR@simplifiname*{)}
7174 \LWR@simplifiname*{.}
7175 \LWR@simplifiname*{!}
7176 \LWR@simplifiname*{,}
7177 \LWR@simplifiname*{' }
7178 \LWR@simplifiname*{+}
7179 \LWR@simplifiname*{/}
7180 \LWR@simplifiname*{:}
7181 \LWR@simplifiname*{;}
7182 \LWR@simplifiname*{=}
7183 \LWR@simplifiname*{?}
7184 \LWR@simplifiname*{@}
7185 \LWR@simplifiname*{^}
7186 \LWR@simplifiname*{&}
7187 \LWR@simplifiname*{"}
7188 \LWR@simplifiname*{<}
7189 \LWR@simplifiname*{>}

```

```

7190 \LWR@simplifiname{\LWRbackslash}

```

Braces are removed entirely to avoid extra dashes in the result.

```

7191 \StrSubstitute{\LWR@thisnewfilename}%
7192   {\LWRleftbrace}{}[\LWR@thisnewfilename]%
7193 \StrSubstitute{\LWR@thisnewfilename}%
7194   {\LWRrightbrace}{}[\LWR@thisnewfilename]%

```

```

7195 \LWR@simplifiname{\LWRpercent}
7196 \LWR@simplifiname{\LWRdollar}

```

```

7197 \LWR@simplifiname*{|}
7198 \LWR@simplifiname*{^}
7199 \LWR@simplifiname*{~}
7200 \LWR@simplifiname*{[}
7201 \LWR@simplifiname*{]}
7202 \LWR@simplifiname*{` }

```


Convert short words:

```

7203 \LWR@simplifiname*{-s-}
7204 \LWR@simplifiname*{-S-}
7205 \LWR@simplifiname*{-a-}
7206 \LWR@simplifiname*{-A-}
7207 \LWR@simplifiname*{-an-}
7208 \LWR@simplifiname*{-AN-}
7209 \LWR@simplifiname*{-to-}
7210 \LWR@simplifiname*{-TO-}
7211 \LWR@simplifiname*{-by-}
7212 \LWR@simplifiname*{-BY-}
7213 \LWR@simplifiname*{-of-}
7214 \LWR@simplifiname*{-OF-}
7215 \LWR@simplifiname*{-and-}
7216 \LWR@simplifiname*{-AND-}
7217 \LWR@simplifiname*{-for-}
7218 \LWR@simplifiname*{-FOR-}
7219 \LWR@simplifiname*{-the-}
7220 \LWR@simplifiname*{-THE-}

```

Convert custom words:

```
7221 \LWR@simplifycustom%
```

If PDF L^AT_EX and not utf8 encoding, don't try to convert emdash, endash:

```

7222 \ifPDFTeX% pdflatex or dvi latex
7223 \ifdefstring{\inputencodingname}{utf8}{%
7224   \LWR@simplifiname*{-}
7225 %   emdash
7226   \LWR@simplifiname*{-}
7227 %   endash
7228 }{}%
7229 \else% not PDFTeX
7230   \LWR@simplifiname*{-}
7231   \LWR@simplifiname*{-}
7232 \fi%

```

Convert multiple hyphens:

```

7233 \LWR@simplifiname*{-----}
7234 \LWR@simplifiname*{----}
7235 \LWR@simplifiname*{---}
7236 \LWR@simplifiname*{--}

```

If starts with a dash, remove the leading dash:

```

7237 \IfBeginWith{\LWR@thisnewfilename}{\detokenize{-}}{%
7238   \StrGobbleLeft{\LWR@thisnewfilename}{1}[\LWR@thisnewfilename]%
7239 }{}%

```

If ends with a dash, remove the trailing dash:

```

7240 \IfEndWith{\LWR@thisnewfilename}{\detokenize{-}}{%
7241   \StrGobbleRight{\LWR@thisnewfilename}{1}[\LWR@thisnewfilename]%
7242 }{}%

```

Limits the length of the filename:

```
7243 \StrLeft{\LWR@thisnewfilename}{\FilenameLimit}[\LWR@thisnewfilename]%
```

Return the global result:

```
7244 \global\let\LWR@thisfilename\LWR@thisnewfilename%
7245 \endgroup%
7246 \LWR@traceinfo{\LWR@filenamoblanks: result is \LWR@thisfilename}%
7247 }
```

65.1 Sanitizing expressions for HTML


Math expressions are converted to `lateximages`, and some math environments may contain `&`, `<`, or `>`, which should not be allowed inside an HTML `<alt>` tag, so must convert them to HTML entities.

```
\LWR@replacestrings {<search>} {<replace>}
```

Replaces strings inside `\tmpb`.

Modified from the original, by PETR OLSAK, from the `opmac` package.

```
7248 \bgroup
7249 \catcode`!=3 \catcode`?=3
7250
7251 \long\gdef\LWR@replacestrings@addto#1#2{%
7252   \expandafter\def\expandafter#1\expandafter{#1#2}%
7253 }
7254
7255 \gdef\LWR@replacestrings#1#2{%
7256   \long\def\LWR@replacestringsA##1#1{\def\tmpb{##1}\LWR@replacestringsB}%
7257   \long\def\LWR@replacestringsB##1#1{%
7258     \ifx!##1\relax \else\LWR@replacestrings@addto\tmpb{##1}%
7259     \expandafter\LWR@replacestringsB\fi%
7260   }%
7261   \expandafter\LWR@replacestringsA\tmpb?#1!#1% from pysyntax.tex by Petr Krajnik
7262   \long\def\LWR@replacestringsA##1?{%
7263     \def\tmpb{##1}%
7264   }\expandafter\LWR@replacestringsA\tmpb%
7265 }
7266 \egroup
```

`LWR@HTMLsanitize@tmpb@enable` Allow to disable sanitization while inside a `lateximage`, or while using `minted`.
 (*bool*) HTML sanitization was occurring too early, and `minted` would then colorize the
 sanitized results, breaking the HTML entities in `lwarp`'s HTML output.

```
7267 \newbool{\LWR@HTMLsanitize@tmpb@enable}
7268 \booltrue{\LWR@HTMLsanitize@tmpb@enable}
```

`LWR@HTMLsanitize@tmpb@removebackslash`

(*bool*)

Allow to enable/disable sanitization of the macros `\%`, `\#`, `\%`. This is usually enabled to allow the user to enter these macros in URLs, for example, but is disabled

for ALT tags and MATHJAX output where the literal L^AT_EX source must be preserved.

```
7269 \newbool{LWR@HTMLsanitize@tmpb@removebackslash}
7270 \booltrue{LWR@HTMLsanitize@tmpb@removebackslash}
```

LWR@MathJax@silentquotes If true, double quotes (\ " and ") are removed (used for mathspec). This unfortunately includes double quotes used inside \text with MATHJAX. If false, double quotes are escaped.

```
7271 \newbool{LWR@MathJax@silentquotes}
7272 \boolfalse{LWR@MathJax@silentquotes}
```

\LWR@eolspace The end of line character generated by detokenizing \<space> when at the end of a line.

```
7273 \expandafter\def\expandafter\LWR@eolspace\expandafter{\detokenize{\
7274 }}% there is a trailing space in the previous line
```

\LWR@HTMLsanitize@tmpb Sanitizes HTML for \tmpb. These characters may be interpreted by the browser, causing false HTML code.

To allow sanitization, expand anything \detokenized before assigning to \tmpb.

```
7275 \catcode`\&=12
7276 \newcommand*\LWR@HTMLsanitize@tmpb}{%
7277   \ifbool{LWR@HTMLsanitize@tmpb@enable}%
7278   {%
```

HTML entities:

At the end of a line, \<space> is turned in to an end of line character, which is now converted to a regular \<space>.

```
7279   \expandafter\LWR@replacestrings\expandafter{\LWR@eolspace}{\ }%
```

& must be first because & is used for lt, gt, etc.

```
7280   \LWR@replacestrings{&}{&};% Must be before the following:
7281   \LWR@replacestrings{<}{&lt;};%
7282   \LWR@replacestrings{>}{&gt;};%
7283   \LWR@replacestrings{'}{&apos;};%
7284   \LWR@replacestrings{`}{&grave;};%
7285   \LWR@replacestrings_{_}{\detokenize_{_}}%
```

Neutralize \%, \#, \& in case used by the author.

\@tempa is built to be

```
\LWR@replacestrings{\#}{#}
```

and similar for % and &.

```
7286   \ifbool{LWR@HTMLsanitize@tmpb@removebackslash}%
```

```

7287     {%
7288         \def\@tempa{\LWR@replacestrings}%
7289         \expandafter\appto\expandafter\@tempa\expandafter{\expandafter{\detokenize{\#}}}%
7290         \expandafter\appto\expandafter\@tempa\expandafter{\expandafter{\LWRhash}}%
7291         \@tempa%
7292         \def\@tempa{\LWR@replacestrings}%
7293         \expandafter\appto\expandafter\@tempa\expandafter{\expandafter{\detokenize{\%}}}%
7294         \expandafter\appto\expandafter\@tempa\expandafter{\expandafter{\LWRpercent}}%
7295         \@tempa%
7296         \def\@tempa{\LWR@replacestrings}%
7297         \expandafter\appto\expandafter\@tempa\expandafter{\expandafter{\detokenize{\&}}}%
7298         \expandafter\appto\expandafter\@tempa\expandafter{\expandafter{\LWRamp}}%
7299         \@tempa%
7300     }%
7301     {%

```

The quotes occasionally causes problems. For MathJax, also allow neutralization of `\` and the `"` character.

```

7302     \ifbool{\LWR@MathJax@silentquotes}
7303     {%
7304         \expandafter\LWR@replacestrings\expandafter{\LWRbackslash"}{%}
7305         \LWR@replacestrings{""}{%}
7306     }%
7307     {%
7308         \LWR@replacestrings{""}{&quot;}%
7309     }%
7310 }% sanitizing enabled
7311 {}% sanitizing not enabled
7312 }
7313 \catcode`\&=4

```

`\LWR@HTMLsanitize@use@tmpb` $\langle text \rangle$

Sanitizes via `\LWR@HTMLsanitize@tmpb` and then immediately uses the result.

```

7314 \newcommand{\LWR@HTMLsanitize@use@tmpb}[1]{%
7315     \ifbool{\LWR@HTMLsanitize@tmpb@enable}%
7316     {%
7317         \def\tmpb{#1}%
7318         \LWR@HTMLsanitize@tmpb%
7319         \tmpb%
7320     }%
7321     {#1}%
7322 }

```

`\LWR@subHTMLsanitize` `\LWR@strresult` must first be set by `\LWR@HTMLsanitizedetokenized`, `\LWR@HTMLsanitizeexpanded`, or `\CustomizeMathJax`.

```

7323 \catcode`\#=12
7324 \newcommand{\LWR@subHTMLsanitize}{%
7325     \edef\tmpb{\detokenize\expandafter{\LWR@strresult}}%
7326     \LWR@HTMLsanitize@tmpb%

```

MATHJAX allows expressions to be defined with `\newcommand`. These expressions would appear with `##` for each argument, and each must be changed to a single

#. This must be done after all the above changes. Attempting another conversion after this causes an error upon further expansion.

```
7327 \LWR@replacestrings{##}{#}%
7328 \edef\LWR@strresult{\detokenize\expandafter{\tmpb}}%
7329 }
7330 \catcode`\#=6
```

`\LWR@HTMLsanitizedetokenized` $\langle \textit{detokenized text} \rangle$

Prints the sanitized text, already detokenized.

```
7331 \newrobustcmd{\LWR@HTMLsanitizedetokenized}[1]{%
7332 \LWR@traceinfo{\LWR@HTMLsanitizedetokenized !#!}%
```

Cancel French babel character handling, and fully expand the strings:

```
7333 \begingroup%
7334 \LWR@hook@processingtags%
7335 \edef\LWR@strresult{#1}%
7336 \LWR@subHTMLsanitize%
7337 \LWR@strresult%
7338 \endgroup%
7339 \LWR@traceinfo{\LWR@HTMLsanitize done}%
7340 }
```

`\LWR@HTMLsanitizeexpanded` $\langle \textit{text} \rangle$

This version must be given the detokenized and expanded text. This is only used for adding math to MATHJAX expressions or lateximage alt tags.

```
7341 \edef\LWR@beginspaceleftbrace{begin \LWRleftbrace}
7342 \edef\LWR@beginspaceleftbrace{\detokenize\expandafter{\LWR@beginspaceleftbrace}}
7343 \edef\LWR@beginleftbrace{begin\LWRleftbrace}
7344 \edef\LWR@beginleftbrace{\detokenize\expandafter{\LWR@beginleftbrace}}
7345
7346 \edef\LWR@endspacerightbrace{end \LWRrightbrace}
7347 \edef\LWR@endspacerightbrace{\detokenize\expandafter{\LWR@endspacerightbrace}}
7348 \edef\LWR@endrightbrace{end\LWRrightbrace}
7349 \edef\LWR@endrightbrace{\detokenize\expandafter{\LWR@endrightbrace}}
7350
7351 \newrobustcmd{\LWR@HTMLsanitizeexpanded}[1]{%
```

Cancel French babel character handling, and fully expand the strings:

```
7352 \begingroup%
7353 \LWR@hook@processingtags%
7354 \edef\LWR@strresult{#1}%
```

The math expression may includes spaces between tokens, but MATHJAX does not want a space between `\begin` or `\end` and the following brace. This space is removed here.

```
7355 \protect\StrSubstitute{\LWR@strresult}%
7356 {\LWR@beginspaceleftbrace}{\LWR@beginleftbrace}{\LWR@strresult}%
```

```

7357 \protect\StrSubstitute{\LWR@strresult}%
7358     {\LWR@endspacerightbrace}{\LWR@endrightbrace}[\LWR@strresult]%

7359 \LWR@subHTMLsanitize%
7360 \LWR@strresult%
7361 \endgroup%
7362 }

```

65.2 Customizing MATHJAX

`\LWR@customizedMathJax` Additional MATHJAX definitions to be added to the start of each HTML page.

```
7363 \newcommand*{\LWR@customizedMathJax}{}

```

`LWR@warnedcustomizemathjax` Used to issue only one warning about using a `\CustomizeMathJax` per macro.
(*bool*)

```

7364 \newbool{LWR@warnedcustomizemathjax}
7365 \boolfalse{LWR@warnedcustomizemathjax}

```

`\LWR@subcustomizedmathjax` {*macro definition*}

```

7366 \newcommand*{\LWR@subcustomizedmathjax}[1]{%
7367     \begingroup%
7368     \LWR@hook@processingtags%
7369     \boolfalse{LWR@HTMLsanitize@tmpb@removebackslash}%
7370     \edef\LWR@strresult{\detokenize{#1}}%
7371     \LWR@subHTMLsanitize%
7372     \xdef\LWR@customizedMathJax{%
7373         \LWR@customizedMathJax%
7374         \LWR@strresult%
7375     }%
7376     \endgroup%
7377 }
7378 \@onlypreamble\LWR@subcustomizedmathjax

```

`\CustomizeMathJax` {*macro definition*}

A warning is issued if a very long argument is given.

```

7379 \newcommand*{\CustomizeMathJax}[1]{%
7380     \ifbool{LWR@warnedcustomizemathjax}{}{%
7381         \StrLen{\detokenize{#1}}[\LWR@tempone]%
7382         \ifnumgreater{\LWR@tempone}{350}{%
7383             \AtEndDocument{%
7384                 \PackageNoteNoLine[lwarp]}{%
7385                     To ensure faster MathJax compilation, place each\MessageBreak
7386                     custom macro in its own \protect\CustomizeMathJax.\MessageBreak
7387                     See the Lwarp documentation regarding customizing\MessageBreak
7388                     MathJax%
7389                 }%
7390             }%
7391             \booltrue{LWR@warnedcustomizemathjax}%
7392         }{}%
7393     }%
7394     \appto\LWR@customizedMathJax{\LWRbackslash}%

```

```

7395 \LWR@subcustomizedmathjax{#1}%
7396 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
7397 }
7398 \@onlypreamble\CustomizeMathJax

```

`\LWR@infoprocessingmathjax` $\{ \langle package name \rangle \}$

```

7399 \newcommand*{\LWR@infoprocessingmathjax}[1]{%
7400 \typeout{---}
7401 \typeout{Package lwarp: Processing MathJax customizations for #1.}
7402 \typeout{\space\space This may take a moment.}
7403 \typeout{---}
7404 }

```

defaults Default customizations:

In the MATHJAX code, footnotes are only referenced. For equations, they are also generated in the HTML when the L^AT_EX math is generated inside the HTML comment. For other math environments, the `\footnotemark/\footnotetext` method must be used. See section 8.5.4 regarding `\footnotemark`.



`\footnotemark`

For footnotes, `\footnotename` is used in most cases, however for equation the footnote is picked up from L^AT_EX in `\LWR@doendequation`.

First, `\footnotename` for MATHJAX is copied from L^AT_EX.

```

7405 \providecommand{\footnotename}{footnote}
7406
7407 % due to warpMathJax:
7408 \end{warpHTML}
7409
7410 \begin{warpMathJax}
7411 \xdef\LWR@customizedMathJax{\LWR@customizedMathJax%
7412 \LWRbackslash(%
7413 \LWRbackslash{ }newcommand%
7414 \{\LWRbackslash{ }footnotename\}%
7415 \{\footnotename\}%
7416 \LWRbackslash)\par%
7417 }
7418 \end{warpMathJax}

```

`\LWRfootnote` is set per equation if a footnote is detected in the equation's math expression, otherwise it defaults to `\footnotename`.

```

7419 \begin{warpMathJax}
7420 \CustomizeMathJax{\def\LWRfootnote{1}}
7421 \CustomizeMathJax{\newcommand{\footnote}[2][\LWRfootnote]{\^{\mathrm{#1}}}}
7422 \CustomizeMathJax{\newcommand{\footnotemark}[1][\LWRfootnote]{\^{\mathrm{#1}}}}

```

`\hspace` is modified to accept and ignore a star:

```

7423 \CustomizeMathJax{\let\LWRorighspace\hspace}
7424 \CustomizeMathJax{\renewcommand{\hspace}{\ifstar\LWRorighspace\LWRorighspace}}

```

Various other customizations:

```

7425 \CustomizeMathJax{\newcommand{\TextOrMath}[2]{#2}}
7426 \CustomizeMathJax{\newcommand{\mathnormal}[1]{#1}}

```

```

7427 \CustomizeMathJax{\newcommand\ensuremath[1]{#1}}
7428 \CustomizeMathJax{% absorb two optional arguments
7429   \newcommand{\LWRframebox}[2][\fbox{#2}]
7430   \newcommand{\framebox}[1][\LWRframebox]
7431 }
7432 \CustomizeMathJax{\newcommand{\setlength}[2]{}}
7433 \CustomizeMathJax{\newcommand{\addtolength}[2]{}}
7434 \CustomizeMathJax{\newcommand{\setcounter}[2]{}}
7435 \CustomizeMathJax{\newcommand{\addtocounter}[2]{}}
7436 \CustomizeMathJax{\newcommand{\arabic}[1]{}}
7437 \CustomizeMathJax{\newcommand{\number}[1]{}}
7438 \CustomizeMathJax{\newcommand{\noalign}[1]{\text{#1}\notag \\\}}
7439 \CustomizeMathJax{\newcommand{\cline}[1]{}}
7440 \CustomizeMathJax{\newcommand{\directlua}[1]{\text{(directlua)}}}
7441 \CustomizeMathJax{\newcommand{\luatexdirectlua}[1]{\text{(directlua)}}}

```

`\protect`, `\mathchar`, and `\delimiter` are silently discarded; and `\mathcode` and `\delcode` are ignored.

```

7442 \CustomizeMathJax{\newcommand{\protect}{}}
7443 \CustomizeMathJax{\def\LWRabsorbnumber#1 {}}
7444 \CustomizeMathJax{\def\LWRabsorbquotenumber"#1 {}}
7445 \CustomizeMathJax{\newcommand{\LWRabsorboption}[1][{}]}
7446 \CustomizeMathJax{\newcommand{\LWRabsorbtwoptions}[1][\LWRabsorboption]}
7447 \CustomizeMathJax{\def\mathchar{\ifnextchar"\LWRabsorbquotenumber\LWRabsorbnumber}}
7448 \CustomizeMathJax{\def\mathcode#1={\mathchar}}
7449 \CustomizeMathJax{\let\delcode\mathcode}
7450 \CustomizeMathJax{\let\delimiter\mathchar}

```

Some text symbols missing from MATHJAX:

```

7451 \CustomizeMathJax{\def\oe{\unicode{x0153}}}
7452 \CustomizeMathJax{\def\OE{\unicode{x0152}}}
7453 \CustomizeMathJax{\def\ae{\unicode{x00E6}}}
7454 \CustomizeMathJax{\def\AE{\unicode{x00C6}}}
7455 \CustomizeMathJax{\def\aa{\unicode{x00E5}}}
7456 \CustomizeMathJax{\def\AA{\unicode{x00C5}}}
7457 \CustomizeMathJax{\def\o{\unicode{x00F8}}}
7458 \CustomizeMathJax{\def\O{\unicode{x00D8}}}
7459 \CustomizeMathJax{\def\l{\unicode{x0142}}}
7460 \CustomizeMathJax{\def\L{\unicode{x0141}}}
7461 \CustomizeMathJax{\def\ss{\unicode{x00DF}}}
7462 \CustomizeMathJax{\def\SS{\unicode{x1E9E}}}
7463 \CustomizeMathJax{\def\dag{\unicode{x2020}}}
7464 \CustomizeMathJax{\def\ddag{\unicode{x2021}}}
7465 \CustomizeMathJax{\def\P{\unicode{x00B6}}}
7466 \CustomizeMathJax{\def\copyright{\unicode{x00A9}}}
7467 \CustomizeMathJax{\def\pounds{\unicode{x00A3}}}
7468 \end{warpMathJax}
7469
7470
7471 \begin{warpHTML}% due to warpMathJax

```

`\LWR@customizeMathJax` Prints MATHJAX commands to the HTML output.

```

7472 \newcommand{\LWR@customizeMathJax}{%
7473 \ifbool{mathjax}{

```



```

7474 \LWR@stoppars
7475 \LWR@htmlcomment{MathJax customizations:}

7476 \LWR@htmlclass{div data-nosnippet}[display:none]{}
7477 \LWR@stoppars

```

Avoid ligatures while printing MATHJAX customizations:

```

7478 {
7479   \LWR@print@ttfamily
7480   \LWR@customizedMathJax
7481 }
7482 \LWR@htmlclassend{div}{}
7483 }{}
7484 }

7485 \end{warpHTML}

```

for PRINT output: 7486 \begin{warpprint}

\CustomizeMathJax The print-mode version:

```
7487 \newcommand*{\CustomizeMathJax}[1]{}

```

\FilenameSimplify * {<expression>}

```

7488 \NewDocumentCommand{\FilenameSimplify}{s m}{}

7489 \end{warpprint}

```

for HTML output: 7490 \begin{warpHTML}

\LWR@createfooter If specified, create the first or later web page footer.

```

7491 \newcommand*{\LWR@createfooter}{%
7492   \ifnumLess{\value{LWR@htmlseqfilenumber}}{1}{%
7493     \ifdefempty{\LWR@firstpagebottom}{}%
7494     \LWR@htmlclass{footer}
7495
7496     \LWR@firstpagebottom
7497
7498     \LWR@htmlclassend{footer}
7499   }%
7500 }{}%
7501   \ifdefempty{\LWR@pagebottom}{}%
7502   \LWR@htmlclass{footer}
7503
7504   \LWR@pagebottom
7505
7506   \LWR@htmlclassend{footer}
7507 }%
7508 }%
7509 }

```

\LWR@newhtmlfile {<section name>}

Finishes the current HTML page with footnotes, footer, navigation, then starts a new HTML page with an HTML comment telling where to split the page and what the new filename and CSS are, then adds navigation, side TOC, header, and starts the text body.

```
7510 \newcommand*{\LWR@newhtmlfile}[1]{
7511 \LWR@traceinfo{\LWR@newhtmlfile}
```

At the bottom of the ending file:

```
7512 \LWR@htmlElementclassend{section}{tbody}
7513 \LWR@htmlElementclassend{main}{bodycontainer}
7514 \LWR@htmlElementclassend{div}{bodyandsidetoc}
7515
7516 \LWR@printpendingfootnotes
7517
```

No footer between files if EPUB:

```
7518 \ifbool{FormatEPUB}{\LWR@createfooter}
```

No bottom navigation if are finishing the home page or formatting for EPUB or a word-processor.

```
7519 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7520   {}
7521   {\ifnumcomp{\value{\LWR@htmlfilenumber}}{>}{0}{\LWR@botnavigation}{}}
```

End of this HTML file:

```
7522 \LWR@stoppars
7523 \LWR@htmltag{/body}\LWR@orignewline
7524 \LWR@htmltag{/html}\LWR@orignewline
7525 \LWR@traceinfo{\LWR@newhtmlfile: about to \LWR@orignewpage}
7526 \LWR@maybe@orignewpage
```

```
7527 \addtocounter{\LWR@htmlfilenumber}{1}%
7528 \addtocounter{\LWR@htmlseqfilenumber}{1}%
```

If using a filename based on section name, create a version without blanks. The filename without blanks will be placed into \LWR@thisfilename. Duplicates will be detected using MD5 hashes.

If not using a filename, the file number will be used instead.

```
7529 \ifbool{FileSectionNames}%
7530 {%
```

Convert the section name to a filename with blanks and common words removed. The resulting filename is in \LWR@thisfilename.

```
7531   \LWR@filenamenooblanks{#1}%
```

Create a macro name from the MD5 hash of the file name, to detect duplicates:

```
7532   \edef\LWR@hashedname{\LWR@mdfive{\LWR@thisfilename}}%
```

If the macro name is not yet defined, this filename is unique. If the filename is unique, create an empty macro using the hashed name, to be used to test for additional duplicates in the future. The first time a duplicate is found, a warning is issued and this macro then contains a 1. For further duplicates of the same name, no additional warning is issued.

```
7533 \ifcsundef{LWR@filename\LWR@hashedname}{%
7534 \csdef{LWR@filename\LWR@hashedname}{}%
7535 }
```

If the filename is not unique, create a warning if the first duplicate, and modify the filename by appending a unique file number.

```
7536 \ifcseempty{LWR@filename\LWR@hashedname}%
7537 {% first instance
7538 \PackageWarning{lwarp}
7539 {%
7540 The section name:\MessageBreak
7541 ``#1'',\MessageBreak
7542 at the line number listed below,\MessageBreak
7543 generates the filename\MessageBreak
7544 ``\LWR@thisfilename'',\MessageBreak
7545 which appears to be a duplicate. There is a\MessageBreak
7546 previous section with an identical or similar name.\MessageBreak
7547 A unique file number has been appended to the file name\MessageBreak
7548 of this and any further similar files.\MessageBreak
7549 This number may change as sections are added/removed,\MessageBreak
7550 and obsolete HTML files may result.\MessageBreak
7551 To remove these files, use lwarpmk cleanall.\MessageBreak
7552 (While generating file names, Lwarp sanitizes math,\MessageBreak
7553 most symbols, and a few common short words,\MessageBreak
7554 and this may cause a conflict.)\MessageBreak
7555 \LWR@avoiddupfilenames%
7556 }%
7557 \csdef{LWR@filename\LWR@hashedname}{1}%
7558 }% first instance
7559 }% repeated instances
7560 \edef\LWR@thisfilename{\LWR@thisfilename-\arabic{LWR@htmlseqfilenumber}}%
7561 }%
7562 }
```

If using file numbers instead of names, the name is set to the next file number.

```
7563 {\renewcommand*{\LWR@thisfilename}{\arabic{LWR@htmlfilenumber}}}
```

Include an HTML comment to instruct lwarpmk where to split the files apart. Uses pipe-separated fields for `split_html.gawk`. Uses monospaced font with ligatures disabled for everything except the title.

```
7564 \LWR@traceinfo{LWR@newhtmlfile: about to print start file}%
```

`\LWR@nullfonts` to allow math in a section name.

```
7565 \begingroup%
7566 \LWR@nullfonts%
7567 \LWR@htmlblockcomment{%
7568 |Start file|%
7569 \LWR@htmlsectionfilename{\LWR@thisfilename}|%
```

```
7570 }
7571 \endgroup%
```

At the top of the starting file:

```
7572 \LWR@stoppars
7573
```

Start a new file with the given section name:

```
7574 \LWR@filestart[#1]
7575
```

Track the PDF page numbers of the HTML output. This is updated more frequently than LWR@currentautosecpage.

```
7576 \setcounter{LWR@currentautosecfloatpage}{\value{page}}%
7577 \LWR@newautopagelabel{LWR@currentautosecfloatpage}%
```

No navigation between files if formatting for an EPUB or word processor:

```
7578 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7579   {}
7580   {\LWR@topnavigation}
7581
```

No header if between files if formatting for an EPUB or word processor:

```
7582 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7583   {}
7584   {
7585       \ifdefempty{\LWR@pagetop}{}{
7586           \LWR@htmlElement{header}
7587       }
7588       \LWR@pagetop
7589       \LWR@htmlElementend{header}
7590   }
7591 }
7592 }
7593
```

The container for the sidetoc and text body:

```
7594 \LWR@htmlElementclass{div}{bodyandsidetoc}
```

No sidetoc if formatting for an EPUB or word processor:

```
7595 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7596   {}
7597   {\LWR@sidetoc}
7598
```

Start of the <textbody>:

```
7599 \LWR@htmlElementclass{main}{bodycontainer}
7600 \LWR@htmlElementclass{section}{textbody}
```

Not yet found a new section in this file. Once one is found, a label will be placed for previous/next links.

```
7601 \boolfalse{LWR@setseqfilelabel}
```

Print title only if there is one. Skip if formatting for an EPUB or word processor:

```
7602 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}{%
7603   {}%
7604   {%
7605     \ifcvoid{thetitle}{%
7606       \LWR@printthetitle%
7607     }%
7608   }%
```

Keep paragraph tags disabled for now:

```
7609 \LWR@stoppars
7610
```

If using MATHJAX, print the customizations here.

```
7611 \LWR@customizeMathJax
```

```
7612 \LWR@traceinfo{LWR@newhtmlfile: done}
7613 }
```

```
7614 \end{warpHTML}
```

66 Sectioning

Sectioning and cross-references have been emulated from scratch, rather than try to patch several layers of existing L^AT_EX code and packages. Formatting is handled by css, so the emulated code has much less work to do than the print versions.

Unicode Section names and the resulting filenames with accented characters are partially supported, depending on the ability of *pdf_latex* to generate characters and *pdf_totext* to read them. If extra symbols appear in the text, it may be that *pdf_latex* is actually producing a symbol over or under a character, resulting in *pdf_totext* picking up the accent symbol separately.

 accents in filenames

X_ƎL^AT_EX and LuaL^AT_EX directly support accented section and file names, but it may be necessary to use L^AT_EX accents instead of native Unicode accents. L^AT_EX accents will have the accents stripped when creating file names, whereas using Unicode accents will create filenames which include accents, which may cause issues with some operating systems.

for HTML output: 7615 \begin{warpHTML}

66.1 User-level starred section commands

`\ForceHTMLPage` For HTML output, forces the next section to be on its own HTML page, if `FileDepth` allows, even if starred. For use with `\printindex` and others which generate a starred section which should be on its own HTML page. Also see `\ForceHTMLTOC`.

For print output, no effect.

```
7616 \newbool{LWR@forcinghtmlpage}
7617 \boolfalse{LWR@forcinghtmlpage}
7618
7619 \newcommand*{\ForceHTMLPage}{%
7620 \global\booltrue{LWR@forcinghtmlpage}%
7621 }
```

`\ForceHTMLTOC` For HTML output, forces the next section to have a TOC entry, even if starred. For use with `\printindex` and others which generate a starred section which should be in the TOC so that it may be accessed via HTML. Not necessary if used with `tocbibind`. Also see `\ForceHTMLPage`.

For print output, no effect.

```
7622 \newbool{LWR@forcinghtmltoc}
7623 \boolfalse{LWR@forcinghtmltoc}
7624
7625 \newcommand*{\ForceHTMLTOC}{%
7626 \global\booltrue{LWR@forcinghtmltoc}%
7627 }
```

```
7628 \end{warpHTML}
```

for PRINT output:

```
7629 \begin{warpprint}
7630 \newcommand*{\ForceHTMLPage}{}
7631 \newcommand*{\ForceHTMLTOC}{}
7632 \end{warpprint}
```

for HTML output:

```
7633 \begin{warpHTML}
```

66.2 Book class commands

`\mainmatter` Declare the main matter section of the document. Does not reset the page number, which must be consecutive arabic numbers for the HTML conversion.



```
7634 \newbool{LWR@mainmatter}
7635 \DeclareDocumentCommand{\mainmatter}{}{}%
7636 \booltrue{LWR@mainmatter}%
7637 }
```

`\frontmatter` Declare the front matter section of the document, using arabic numbering for the internal numbering. Does not reset the page number.

```
7638 \DeclareDocumentCommand{\frontmatter}{}{}%
7639 \boolfalse{LWR@mainmatter}%
7640 }
```

`\backmatter` Declare the back matter section of the document. Does not reset the page number.

```
7641 \DeclareDocumentCommand{\backmatter}{}{}%
7642 \boolfalse{LWR@mainmatter}
7643 }
```

66.3 Sectioning support macros

`\LWR@sectionnumber` $\{\langle section type \rangle\}$

Typeset a section number and its trailing space with CSS formatting:

```
7644 \newcommand*\LWR@sectionnumber}[1]{%
7645 \InlineClass{sectionnumber}{#1}%
7646 }
```

`autosec` A tag used by the toc and index.


`\LWR@createautosec` $\{\langle section type \rangle\}$

Create an autosection tag.

The use of `\textquotedbl` instead of `"` provides improved compatibility with Xe_{La}TeX.

```
7647 \newcommand*\LWR@createautosec}[1]{%
7648 \LWR@htmltag{%
7649   #1 % space
7650   id=\textquotedbl\LWR@print@mbbox{autosec-\arabic{page}}\textquotedbl%
7651 }%
7652 }
```


`\LWR@pushoneclose` $\{\langle section type \rangle\}$ Stacks the new sectioning level's closing tag, to be used when this section is closed some time later.

 `\LWR@stoppars` must be executed first.

```
7653 \NewDocumentCommand{\LWR@pushoneclose}{m}{%
7654 \LWR@traceinfo{\LWR@pushoneclose #1}%
7655   \LWR@pushclose{#1}%
7656 }
```

`\LWR@startnewdepth` $\{\langle section type \rangle\}$

Closes currently stacked tags of a lesser level, then opens the new nesting level by saving this new sectioning level's closing tag for later use.

 `\LWR@stoppars` must be executed first.

```
7657 \NewDocumentCommand{\LWR@startnewdepth}{m}{%
7658 \LWR@closeprevious{#1}%
7659 \LWR@pushoneclose{#1}%
7660 }
```

Close any stacked sections up to this new one.

```
7658 \LWR@closeprevious{#1}%
```

Push a new section depth:

```
7659 \LWR@pushoneclose{#1}%
7660 }
```

`\LWR@prevFileDepth` (*Ctrl*) Remembers the previous `\LWR@FileDepth`.

Initialized to a deep level so that any section will trigger a new HTML page after the home page.

```
7661 \newcounter{LWR@prevFileDepth}
7662 \setcounter{LWR@prevFileDepth}{\LWR@depthsubparagraph}
```

`\@secntformat` $\{\langle sectiontype \rangle\}$

```
7663 \def\@secntformat#1{\csname the#1\endcsname\quad}
```

`\simplechapterdelim` Used by `tocbibind` and `anonchap`.

```
7664 \newcommand*\simplechapterdelim{}
```

`\@chapcntformat` $\{\langle sectiontype \rangle\}$

\let to `\@secntformat` by default, but may be redefined by `\simplechapter` and `\restorechapter` from `tocbibind` or `anonchap`.

```
7665 \let\@chapcntformat\@secntformat
```

`\@partcntformat` $\{\langle sectiontype \rangle\}$

\let to `\@secntformat` by default, but may be redefined by `ctex`.

```
7666 \let\@partcntformat\@secntformat
```

`\@partnameformat` Prints “Part” for part sections.

Nullified by `ctex`.

```
7667 \newcommand*\@partnameformat{\LWR@isolate{\partname}~}%
```

`\LWR@printchaptername` Print `\chaptername` in most cases, but this is nullified for `ctexbook`, `komascript`, `ujt`* classes.

```
7668 \newcommand*\LWR@printchaptername{%
7669   \ifdefvoid{\chaptername}{\chaptername~}%
7670 }
```

`\LWR@section` * [$\langle TOC name \rangle$] $\{\langle name \rangle\}$ $\{\langle sectiontype \rangle\}$

The common actions for the high-level sectioning commands.

```
7671 \DeclareDocumentCommand{\LWR@section}{m m m m}{%
7672   \IfValueTF{#2}%
7673     {\LWR@traceinfo{LWR@section: starting #4 #2}}%
7674     {\LWR@traceinfo{LWR@section: starting #4 #3}}%
```

Warn if starting a section inside a ``:

```
7675   \LWR@spanwarninvalid{section}%
```



```

7676 \LWR@maybeprintpendingfootnotes{\csuse{LWR@depth#4}}%
7677 \LWR@stoppars%
7678 \LWR@startnewdepth{#4}%

```

Cancel special minipage horizontal space interaction:

```
7679 \global\boolfalse{LWR@minipagethispar}%
```

Start a new HTML file unless starred, and if is a shallow sectioning depth.

Exception: Also start a new HTML file for `\part*`, for appendix.

Generate a new L^AT_EX page so that toc and index page number points to the section:

```

7680 \LWR@traceinfo{LWR@section: testing whether to start a new HTML file}%
7681 \IfBooleanT{#1}{\LWR@traceinfo{LWR@section: starred}}%
7682 \ifbool{LWR@forcinghtmlpage}{\LWR@traceinfo{LWR@section: forcinghtmlpage}}{}%
7683 \ifthenelse{%
7684   \(%
7685     \(\NOT\equal{#1}{\BooleanTrue})\OR%
7686     \(\cnttest{\@nameuse{LWR@depth#4}}{=}{\LWR@depthpart})\OR%
7687     \(\boolean{LWR@forcinghtmlpage})\)%
7688   \)%
7689   \AND%
7690   \cnttest{\@nameuse{LWR@depth#4}}{<=}{\value{FileDepth}}}%
7691   \AND%
7692   \(%
7693     \NOT\boolean{CombineHigherDepths}\OR%
7694     \cnttest{\@nameuse{LWR@depth#4}}{<=}{\value{LWR@prevFileDepth}}}%
7695   \)%
7696   \AND%

7697   \(% phantomsection
7698     \NOT\isempty{#3}%
7699     \OR%
7700     \(\NOT\equal{#1}{\BooleanTrue})\)%
7701   \)%
7702 }%

```

If so: start a new HTML file:

```

7703 {% new file
7704   \LWR@traceinfo{LWR@section: new HTML file}%

```

See if there was an optional toc name entry:

```
7705   \IfNoValueTF{#2}%
```

If no optional entry

```
7706     {\LWR@newhtmlfile{#3}}%
```

If yes an optional entry

```

7707     {\LWR@newhtmlfile{#2}}%
7708 }% new file

```

Else: No new HTML file:

```
7709 {% not new file
```

Generate a new L^AT_EX page so that toc and index page number points to the section:

```
7710 \LWR@traceinfo{LWR@section: not a new HTML file, about to LWR@orignewpage}%
7711 \LWR@stoppars%
7712 \LWR@maybe@orignewpage%
7713 }% not new file
```

```
7714 %
7715 % Remember this section's name for \cs{nameref}:
7716 % \begin{macrocode}
7717 \IfValueT{#3}{%
7718 \LWR@traceinfo{LWR@section: about to LWR@setlatestname}%
7719 \IfValueTF{#2}{\LWR@setlatestname{#2}}{\LWR@setlatestname{#3}}%
7720 }%
```

Print an opening comment with the level and the name; ex: “section” “Introduction”
Footnotes may be used in section names, which would also appear in the HTML
section opening comments, so the short toc entry is used if possible, and a limited
opening comment is made if the sectional unit is starred.

Avoid extra <par> tag:

```
7721 \LWR@stoppars%
```

Form a sectioning comment:

```
7722 \begingroup%
7723 \LWR@nullfonts%
7724 \LWR@nullifyfootnotes%
7725 \LWR@htmlcomment{%
7726 \LWR@orignewline%
7727 \IfValueTF{#2}{%
7728 {..... #4 #2 .....}%
7729 {..... #4 #3 .....}%
7730 \LWR@orignewline%
7731 }%
7732 \LWR@orignewline%
7733 \ifbool{HTMLDebugComments}%
7734 {%
7735 \IfBooleanTF{#1}% starred
7736 {%
7737 \IfNoValueTF{#2}% short TOC
7738 {\LWR@htmlcomment{Opening #4* ``#3'}}}%
7739 {\LWR@htmlcomment{Opening #4* ``#2'}}}%
7740 }%
7741 {%
7742 \IfNoValueTF{#2}% short TOC
7743 {\LWR@htmlcomment{Opening #4 ``#3'}}}%
7744 {\LWR@htmlcomment{Opening #4 ``#2'}}}%
7745 }%
7746 \LWR@orignewline%
7747 }%
7748 }%
7749 \endgroup%
```

For inline sections paragraph and subparagraph, start a new paragraph now:

```
7750 \ifthenelse{%
7751   \cinttest{\@nameuse{LWR@depth#4}}{>=}{\LWR@depthparagraph}%
7752 }%
7753   {\LWR@startpars}%
7754   {}%
```

Create the opening tag with an autosec:

```
7755 \LWR@traceinfo{LWR@section: about to LWR@createautosec}%
7756 \LWR@createautosec{\@nameuse{LWR@tag#4}}%
```

```
7757 \setcounter{LWR@currentautosecpage}{\value{page}}%
```

Check if starred:

```
7758 \IfBooleanTF{#1}%
7759 {%
7760   \LWR@traceinfo{LWR@section: starred}%
```

Starred, but also forcing a TOC entry, so add unnumbered TOC name or regular name:

```
7761   \ifbool{LWR@forcinghtmltoc}%
7762   {%
7763     \addcontentsline{toc}{#4}{%
7764       \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
7765     }%
7766   }%
7767   {}%
7768 }% starred
```

Not starred, so step counter and add to TOC:

```
7769 {% not starred
```

Only add a numbered TOC entry if section number is not too deep:

```
7770   \ifthenelse{%
7771     \cinttest{\@nameuse{LWR@depth#4}}{<=}{\value{secnumdepth}}%
7772   }%
7773   {% if secnumdepth
```

If in the main matter, step the counter and add the TOC entry. For article class, **lwarp** assumes that all is mainmatter.

```
7774     \LWR@traceinfo{LWR@section: about to test main matter}%
7775     \ifbool{LWR@mainmatter}%
7776     {%
7777       \LWR@traceinfo{LWR@section: yes mainmatter}%
7778       \refstepcounter{#4}%
```

Add main matter numbered TOC entry with the TOC name or the regular name:

```
7779       \LWR@traceinfo{LWR@section: about to addcontentsline}%
7780       \addcontentsline{toc}{#4}%
```

```

7781      {%
7782          \protect\numberline{%
7783              \@nameuse{pre#4name}%
7784              \@nameuse{the#4}%
7785              \@nameuse{post#4name}%
7786          }%
7787      {%
7788          \ignorespaces%
7789          \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}\protect\relax%
7790      }%
7791  }%
7792  \LWR@traceinfo{LWR@section: finished addcontentsline}%
7793  }% end of if main matter

```

If not main matter, add unnumbered TOC name or regular name:

```

7794      {% not main matter
7795          \LWR@traceinfo{LWR@section: no main matter}%
7796          \addcontentsline{toc}{#4}{%
7797              \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
7798          }%
7799      }% end of not main matter
7800  }% end of secnumdepth

```

Deeper than secnumdepth, so add an unnumbered TOC entry:

```

7801      {%
7802          \addcontentsline{toc}{#4}{%
7803              \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
7804          }%
7805      }%

```

For part, print "Part":

```

7806      \ifbool{LWR@mainmatter}%
7807      {%
7808          \ifthenelse{%
7809              \(\cntttest{\@nameuse{LWR@depth#4}}{<=}%
7810              {\value{secnumdepth}}\)\ \AND%
7811              \(\cntttest{\@nameuse{LWR@depth#4}}{=}{\LWR@depthpart}\)%
7812          }%
7813          {\@partnameformat}%
7814      }%

```

Print the section number:

```

7815      \LWR@traceinfo{LWR@section: about to print section number}%
7816      \ifthenelse{%
7817          \cntttest{\@nameuse{LWR@depth#4}}{<=}{\value{secnumdepth}}%
7818      }%
7819      {%
7820          \ifstrequal{#4}{part}%
7821          {\protect\LWR@sectionnumber{\@partcntformat{#4}}}%
7822          {%
7823              \ifstrequal{#4}{chapter}%
7824              {%
7825                  \LWR@printchaptername%
7826                  \protect\LWR@sectionnumber{\@chapcntformat{#4}}%

```

```

7827             }%
7828             {\protect\LWR@sectionnumber{\@secntformat{#4}}}%
7829             }%
7830             }%
7831             }%
7832             \LWR@traceinfo{LWR@section: finished print section number}%
7833             }{}%
7834 }% not starred

```

Print the section name:

```

7835 \LWR@traceinfo{LWR@section: about to print the section name}%
7836 \LWR@isolate{#3}%

```

Close the heading tag, such as /H2:

```

7837 \LWR@traceinfo{LWR@section: about to close the heading tag}%
7838 \LWR@htmltag{\@nameuse{LWR@tag#4end}}%
7839 \LWR@orignewline%

```

Generate a L^AT_EX label.

Track the PDF page numbers of the HTML output. A new autopage label may be generated for LWR@currentautosecpage for the start of the section, and also for the current page if it is different due to an SVG image in the section name. Also, the final page after the section has been created is updated in LWR@currentautosecfloatpage.

```

7840 \LWR@traceinfo{LWR@section: about to create the LaTeX label}%
7841 \setcounter{LWR@currentautosecfloatpage}{\value{page}}%
7842 \LWR@newautopagelabel{LWR@currentautosecpage}\LWR@orignewline%

```

If this is the first section found in this file, create a label for previous/next links:

```

7843 \ifbool{LWR@setseqfilelabel}{}{}%
7844     \label{\BaseJobname-autofile-\arabic{LWR@htmlseqfilenumber}}%
7845     \booltrue{LWR@setseqfilelabel}%
7846 }%

```

Start paragraph handing unless is an inline paragraph or subparagraph:

```

7847 \ifthenelse{%
7848     \cntttest{\@nameuse{LWR@depth#4}}{<}{\LWR@depthparagraph}%
7849 }%
7850     {\LWR@startpars}%
7851     }%

```

If not starred, remember the previous depth to possibly trigger a new HTML page.

HOWEVER, allow a \part* to start a new HTML page. This is used by appendix.

A starred section does not trigger a new HTML page at the beginning of this macro, so it should not affect it here at the end either. This became an issue when a \listoftables was tested in the middle of the document. The \chapter* for the list was not allowing a new HTML page for the section following it while CombineHigherDepths was true.

```

7852 \ifthenelse{%
7853   \NOT\equal{#1}{\BooleanTrue}\OR%
7854   \cnttest{\@nameuse{LWR@depth#4}}{=}{\LWR@depthpart}%
7855 }%
7856   {% not starred
7857     \setcounter{LWR@prevFileDepth}{\@nameuse{LWR@depth#4}}%
7858   }% not starred
7859   {}%

```

Reset to defaults if not a phantomsection:

```

7860 \ifstrempy{#3}%
7861   {}%
7862   {%
7863     \global\boolfalse{LWR@forcinghtmlpage}%
7864     \global\boolfalse{LWR@forcinghtmltoc}%
7865   }%
7866 %
7867 \LWR@traceinfo{LWR@section: done}%
7868 }

```

66.4 Pre- and post- sectioning names

`\prebookname` Usually null, but is used by `uj*` and `ut*` Japanese classes.

`\postbookname`

```

7869 \providecommand*\prebookname{}
7870 \providecommand*\postbookname{}

```

`\prepartname` Usually null, but is used by `uj*` and `ut*` Japanese classes.

`\postpartname`

```

7871 \providecommand*\prepartname{}
7872 \providecommand*\postpartname{}

```

`\prechaptername` Usually null, but is used by `uj*` and `ut*` Japanese classes.

`\postchaptername`

```

7873 \providecommand*\prechaptername{}
7874 \providecommand*\postchaptername{}

```

`\presectionname` Always null, but provided here for algorithmic simplicity in `\LWR@section`.

`\postsectionname`

```

7875 \providecommand*\presectionname{}
7876 \let\postsectionname\presectionname
7877
7878 \let\presubsectionname\presectionname
7879 \let\postsubsubsectionname\postsectionname
7880
7881 \let\presubsubsectionname\presectionname
7882 \let\postsubsubsectionname\postsectionname
7883
7884 \let\preparagraphname\presectionname
7885 \let\postparagraphname\postsectionname
7886
7887 \let\presubparagraphname\presectionname
7888 \let\postsubparagraphname\postsectionname

```

66.5 \section and friends

For memoir, a second optional argument is allowed.

For hypbmsc, a second optional argument or either parenthesis argument is allowed.

Each of these additional arguments are for headers or PDF bookmarks, and are ignored for HTML output.

```
\part * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}
```

```
7889 \newcommand{\part@preamble}{}% for koma-script
7890
7891 \DeclareDocumentCommand{\part}{s d() o o d() m}{%
7892   \LWR@section{#1}{#3}{#6}{part}%
7893
7894   \part@preamble% for koma-script
7895   \renewcommand{\part@preamble}{}%
7896 }
```

```
\chapter * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}
```

```
7897 \let\@printcites\relax% for quotchap package
7898
7899 \newcommand{\chapter@preamble}{}% for koma-script
7900
7901 \ifundefined{chapter}
7902 {}
7903 {%
7904   \DeclareDocumentCommand{\chapter}{s d() o o d() m}{%
7905     \LWR@section{#1}{#3}{#6}{chapter}%
7906
7907     \@printcites% for quotchap package
7908
7909     \chapter@preamble% for koma-script
7910     \renewcommand{\chapter@preamble}{}%
7911   }
7912 }
```

```
\section * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}
```

```
7913 \DeclareDocumentCommand{\section}{s d() o o d() m}{%
7914   \LWR@section{#1}{#3}{#6}{section}%
7915 }
```

```
\subsection * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}
```

```
7916 \DeclareDocumentCommand{\subsection}{s d() o o d() m}{%
7917   \LWR@section{#1}{#3}{#6}{subsection}%
7918 }
```

`\subsubsection * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}`

```
7919 \DeclareDocumentCommand{\subsubsection}{s d() o o d() m}{%
7920   \LWR@section{#1}{#3}{#6}{subsubsection}%
7921 }
```

`\paragraph * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}`

```
7922 \DeclareDocumentCommand{\paragraph}{s d() o o d() m}{%
7923   \LWR@section{#1}{#3}{#6}{paragraph}%
7924 }
```

`\subparagraph * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}`

```
7925 \DeclareDocumentCommand{\subparagraph}{s d() o o d() m}{%
7926   \LWR@section{#1}{#3}{#6}{subparagraph}%
7927 }
```

```
7928 \end{warpHTML}
```

67 Starting a new file

for HTML & PRINT: 7929 `\begin{warpall}`

`\HTMLLanguage` Default language for the `HTML lang` tag.

```
7930 \newcommand*{\LWR@currentHTMLLanguage}{en-US}
7931
7932 \newcommand*{\HTMLLanguage}[1]{%
7933   \renewcommand*{\LWR@currentHTMLLanguage}{#1}%
7934 }
```

`\theHTMLTitleSeparator` May be used inside `\theHTMLTitleSection` to separate the website's overall HTML title and the particular page's section name.

```
7935 \ifPDFTeX% pdflatex or dvi latex
7936   \ifdefstring{\inputencodingname}{utf8}{%
7937     \newcommand*{\theHTMLTitleSeparator}{ -\ }% EMDash
7938   }{%
7939     \newcommand*{\theHTMLTitleSeparator}{ -\ }% hyphen
7940   }%
7941 \else%
7942   \ifpTeX
7943     \newcommand*{\theHTMLTitleSeparator}{ -\ }% hyphen
7944   \else
7945     \newcommand*{\theHTMLTitleSeparator}{ -\ }% EMDash
7946   \fi%
7947 \fi%
```


`\HTMLTitleBeforeSection` Sets the HTML page's meta title tag to show the website title before the section name.

```
7948 \newcommand*\HTMLTitleBeforeSection}{%
7949     \def\theHTMLTitleSection{%
7950         \theHTMLTitle\theHTMLTitleSeparator\theHTMLSection%
7951     }%
7952 }
```

`\HTMLTitleAfterSection` Sets the HTML page's meta title tag to show the section name before the website title.

```
7953 \newcommand*\HTMLTitleAfterSection}{%
7954     \def\theHTMLTitleSection{%
7955         \theHTMLSection\theHTMLTitleSeparator\theHTMLTitle%
7956     }%
7957 }
```

`\theHTMLTitleSection` Forms the HTML page's meta title tag. The default is to show the website title before the section name.

```
7958 \HTMLTitleBeforeSection
```

`\theHTMLSection` The section name is passed to `\LWR@filestart`, which then sets `\theHTMLSection` for use inside `\theHTMLTitleSection` to create an HTML meta title tag.

```
7959 \newcommand*\theHTMLSection{}
7960 \end{warpall}
```

for HTML output: `7961 \begin{warpHTML}`

`\LWR@filestart` [*section name*] Creates the opening HTML tags.

```
7962 \newcommand*\LWR@filestart}[1][{}]{%
7963 \LWR@traceinfo{LWR@filestart !#1!}%
```

Locally temporarily disable direct-formatting commands:

```
7964 \begingroup%
7965 \LWR@nullfonts%
```

Save the section name for use while creating the HTML meta title tag:

```
7966 \edef\theHTMLSection{#1}%
```

Remove extra material:

```
7967 \StrSubstitute{\theHTMLSection}{\protect}{\detokenize{-}}[\theHTMLSection]%
7968 \StrSubstitute{\theHTMLSection}%
7969     {\detokenize{-----}}{\detokenize{-}}[\theHTMLSection]%
7970 \StrSubstitute{\theHTMLSection}%
7971     {\detokenize{----}}{\detokenize{-}}[\theHTMLSection]%
7972 \StrSubstitute{\theHTMLSection}%
7973     {\detokenize{---}}{\detokenize{-}}[\theHTMLSection]%
```

```
7974 \StrSubstitute{\theHTMLSection}%
7975   {\detokenize{--}}{\detokenize{-}}[\theHTMLSection]%
```

If starts with a dash, remove the leading dash:

```
7976 \IfBeginWith{\theHTMLSection}{\detokenize{-}}{%
7977   \StrGobbleLeft{\theHTMLSection}{1}[\theHTMLSection]%
7978 }{%}
```

Create the page's HTML header:

```
7979 \LWR@htmltag{!DOCTYPE html}\LWR@orignewline
```

The language is user-adjustable:

NOTE: \LWR@orig@textquotedbl is used here because \textquotedbl is nullified by \LWR@nullfonts while starting the new file.

```
7980 \LWR@htmltag{%
7981   html lang=\LWR@orig@textquotedbl\LWR@currentHTMLLanguage\LWR@orig@textquotedbl%
7982 }\LWR@orignewline
```

Start of the meta data:

```
7983 \LWR@htmltag{head}\LWR@orignewline
```

Charset is fixed at UTF-8:

```
7984 \LWR@htmltag{%
7985   meta charset=\LWR@orig@textquotedbl{}UTF-8\LWR@orig@textquotedbl\ /%
7986 }\LWR@orignewline
```

Author:

```
7987 \ifthenelse{\equal{\theHTMLAuthor}{}}{%
7988   {}%
7989   {%
7990     \LWR@htmltag{%
7991       meta name=\LWR@orig@textquotedbl{}author\LWR@orig@textquotedbl\ % space
7992       content=\LWR@orig@textquotedbl\theHTMLAuthor\LWR@orig@textquotedbl\ /%
7993     }\LWR@orignewline%
7994   }%}
```

lwarp is the generator:

```
7995 \LWR@htmltag{%
7996   meta % space
7997   name=\LWR@orig@textquotedbl{}generator\LWR@orig@textquotedbl\ % space
7998   content=\LWR@orig@textquotedbl{}LaTeX Lwarp package\LWR@orig@textquotedbl\ /%
7999 }\LWR@orignewline%
```

If there is a description, add it now:

```
8000 \ifdefempty{\LWR@currentHTMLDescription}{%}{%
8001   \LWR@htmltag{%
8002     meta name=%
8003     \LWR@orig@textquotedbl{}description\LWR@orig@textquotedbl\ % space
8004     content=%
```

```

8005     \LWR@orig@textquotedbl\LWR@currentHTMLDescription\LWR@orig@textquotedbl \ /%
8006   }\LWR@orignewline
8007 }%

```

If there are keywords, add it now:

```

8008 \ifdefempty{\LWR@currentHTMLKeywords}{}%
8009   \LWR@htmltag{%
8010     meta name=%
8011       \LWR@orig@textquotedbl{ }keywords\LWR@orig@textquotedbl \ % space
8012     content=%
8013       \LWR@orig@textquotedbl\LWR@currentHTMLKeywords\LWR@orig@textquotedbl \ /%
8014   }\LWR@orignewline
8015 }%

```

Mobile-friendly viewport:

```

8016 \LWR@htmltag{%
8017   meta % space
8018   name=\LWR@orig@textquotedbl{ }viewport\LWR@orig@textquotedbl \ % space
8019   content=%
8020     \LWR@orig@textquotedbl{ }width=device-width, initial-scale=1.0\LWR@orig@textquotedbl \ /%
8021 }\LWR@orignewline

```

Custom HTML meta tags:

```

8022 \LWR@HTMLmeta

```

The page's title, if there is one. A section name is also added if given.

```

8023 \ifthenelse{\equal{\theHTMLTitle}{}}%
8024   {}%
8025   {%
8026     \LWR@htmltag{title}%
8027     \ifdefempty{\theHTMLSection}%
8028       {\theHTMLTitle}%
8029       {\theHTMLTitleSection}%
8030     \LWR@htmltag{/title}\LWR@orignewline%
8031   }%

```

The page's stylesheet:

```

8032 \LWR@htmltag{%
8033   link % space
8034   rel=\LWR@orig@textquotedbl{ }stylesheet\LWR@orig@textquotedbl \ % space
8035   type=\LWR@orig@textquotedbl{ }text/css\LWR@orig@textquotedbl \ % space
8036   href=\LWR@orig@textquotedbl\LWR@currentcss\LWR@orig@textquotedbl \ /%
8037 }%
8038 \LWR@orignewline

```

Optional MATHJAX support. The HTML tags must be turned off during the verbatim input, and the paragraph handling which was turned on at the end of verbatim input must be immediately turned off again.

```

8039 \ifbool{mathjax}%
8040 {%
8041   \begingroup%
8042   \LWR@restoreoriglists%

```

```

8043 \boolfalse{LWR@verbtags}%
8044 \boolfalse{LWR@HTMLsanitize@tmpb@removebackslash}%

8045 \IfFileExists{\LWR@mathjaxfilename}%
8046   {\verbatiminput{\LWR@mathjaxfilename}}%
8047   {%
8048     \PackageError{lwarp}%
8049     {%
8050       \protect\MathJaxFilename\space specified the file\MessageBreak
8051       \space\space\LWR@mathjaxfilename\MessageBreak
8052       which does not exist%
8053     }%
8054     {Specify an existing file, or remove \protect\MathJaxFilename.}%
8055   }%

8056 \endgroup%
8057 \LWR@stoppars%
8058 }% end of mathjax
8059 {}%

```

End of the header:

```
8060 \LWR@htmltag{/head}\LWR@orignewline
```

Start of the body:

```
8061 \LWR@htmltag{body}\LWR@orignewline
```

```

8062 \endgroup%
8063 \LWR@traceinfo{LWR@filestart: done}%
8064 }

```

```
8065 \end{warpHTML}
```

68 Starting HTML output

for HTML output: 8066 \begin{warpHTML}

\LWR@LwarpStart Executed at the beginning of the entire document.

The use of \textquotedbl instead of " improves compatibility with xeCJK.

```

8067 \catcode`\$=\active
8068 \newcommand*\LWR@LwarpStart{
8069 {%
8070 \LWR@traceinfo{LWR@lwarpStart}

```

If formatting for a word processor, force filedepth to single-file only, force HTML debug comments off.

```

8071 \ifbool{FormatWP}{%
8072   \setcounter{FileDepth}{-5}%
8073   \boolfalse{HTMLDebugComments}%
8074 }{}

```

Expand and detokenize \HomeHTMLFilename and \HTMLFilename:

```
8075 \edef\LWR@strresult{\HomeHTMLFilename}
8076 \edef\HomeHTMLFilename{\detokenize\expandafter{\LWR@strresult}}
8077 \edef\LWR@strresult{\HTMLFilename}
8078 \edef\HTMLFilename{\detokenize\expandafter{\LWR@strresult}}
```

Force onecolumn and empty page style:

```
8079 \LWR@origonecolumn%
8080 \LWR@origpagestyle{empty}%
```

No black box for overfull lines:

```
8081 \overfullrule=0pt
```

Reduce chance of line overflow when HTML tags are added:

```
8082 \LWR@print@footnotesize%
```

In PDF output, don't allow line breaks to interfere with HTML tags:

```
8083 \LWR@print@raggedright%
8084 \LetLtxMacro{\}{\LWR@endofline}%
```

Spread the lines for *pdftotext* to read them well:

```
8085 \linespread{1.3}%
```

For *pdftotext* to reliably identify paragraph splits:

```
8086 \setlength{\parindent}{0pt}
8087 \setlength{\parskip}{2ex}
```

For the lateximage record file:

```
8088 \immediate\openout\LWR@lateximagesfile=\BaseJobname-images.txt
```

Removes space around the caption in the HTML:

```
8089 \setlength{\belowcaptionskip}{0ex}
8090 \setlength{\abovecaptionskip}{0ex}
```

Redefine the plain page style to be empty when used by index pages:

```
8091 \renewcommand{\ps@plain}{}
```

Plug in some new actions. This is done just before the document start so that they won't be over-written by some other package.

Float captions:

```
8092 \let\LWR@origcaption\caption
```

Not yet started any paragraph handling:

```
8093 \global\booltrue\LWR@doingparhooks}
```

```
8094 \global\boolfalse{LWR@doingapar}
8095 \global\boolfalse{LWR@doingstartpars}
```

`\color@endgroup's \endgraf` was conflicting with `lwarp's` paragraph handling.

```
8096 \let\color@endgroup\endgroup
```

Document and page settings:

```
8097 \mainmatter
8098 \LWR@origpagenumbering{arabic}
```

Start a new HTML file and a header:

```
8099 \LWR@traceinfo{LWR@lwarpStart: Starting new file.}
8100 \LWR@filestart%
```

Tell `lwarpmk` that the `lwarp` package is in use. This allows `lwarpmk` to warn if `usepackage{lwarp}` was somehow disabled.

```
8101 \begingroup%
8102 \LWR@nullfonts%
8103 \LWR@htmlblockcomment{%
8104 |Using lwarp|}%
8105 \LWR@htmlsectionfilename{\LWR@thisfilename}|}%
8106 }
8107 \endgroup%
```

```
8108 \LWR@traceinfo{LWR@lwarpStart: Generating first header.}
8109 \ifdefempty{\LWR@firstpagetop}{}%
8110   \LWR@htmltag{header}\LWR@orignewline
8111   \LWR@startpars
8112   \LWR@firstpagetop
8113   \LWR@stoppars
8114   \LWR@htmltag{/header}\LWR@orignewline
8115 }%
```

```
8116 \LWR@htmlclass{div}{bodywithoutstoc}
8117 \LWR@htmlclass{main}{bodycontainer}
8118 \LWR@traceinfo{LWR@lwarpStart: Generating textbody.}
8119 \LWR@htmlclass{section}{textbody}
```

Create a label for previous/next links, and remember it has been done:

```
8120 \booltrue{LWR@setseqfilelabel}%
8121 \label{\BaseJobname-autofile-\arabic{LWR@htmlseqfilenumber}}
```

Patch the `itemize`, `enumerate`, and `description` environments and `\item`. This works with the native L^AT_EX environments, as well as those provided by `enumitem`, `enumerate`, and `paralist`.

```
8122 \LWR@patchlists
```

Ensure that math mode is active to call `lwarp's` patches:

```
8123 \catcode`\$=\active
```

Required for `\nameref` to work with SVG math:

```
8124 \immediate\write\@mainaux{\catcode`\string$\active}%
8125 \LetLtxMacro\LWR@syntaxhighlightone$% balance for editor syntax highlighting
```

Allow HTML paragraphs to begin:

```
8126 \LWR@startpars
```

If using MATHJAX, disable `\ensuremath` by printing a nullified definition at the start of each file, and add further customizations:

```
8127 \ifbool{mathjax}{
8128   \typeout{---}
8129   \typeout{Package lwarp:}
8130   \typeout{Processing MathJax customizations for the first HTML page.}
8131   \typeout{Later HTML pages will take the same amount of time.}
8132   \typeout{If this takes too long, see the Lwarp manual regarding customizing MathJax.}
8133 }{}
8134
8135 \LWR@customizeMathJax
8136
8137 \ifbool{mathjax}{
8138   \typeout{Done.}
8139   \typeout{---}
8140 }{}
```

First autopage label in case a figure occurs early before the first section: A new autopage label may be generated for `LWR@currentautosecpage` for the start of the section, and also for the current page if it is different due to an SVG image in the section name. Also, the final page after the section has been created is updated in `LWR@currentautosecfloatpage`.

```
8141 \setcounter{LWR@currentautosecfloatpage}{\value{page}}%
8142 \LWR@newautopagelabel{LWR@currentautosecpage}%

8143 \LWR@traceinfo{LWR@lwarpStart: done}
8144 }
8145 \catcode`\$=3% math shift until lwarp starts

8146 \end{warpHTML}
```

69 Ending HTML output

for HTML output: 8147 `\begin{warpHTML}`

`\LWR@requesttoc` $\langle\{boolean}\rangle$ $\langle\{suffix}\rangle$ Requests that a TOC, LOF, or LOT be generated.

```
8148 \newcommand*{\LWR@requesttoc}[2]{%
8149 \ifbool{#1}
8150 {
8151   \expandafter\newwrite\@nameuse{tf@#2}
8152   \immediate\openout \@nameuse{tf@#2} \jobname.#2\relax
8153 }{}
8154 }
```

`\LWR@LwarpEnd` Final stop of all HTML output:

```
8155 \newcommand*{\LWR@LwarpEnd}
8156 {
8157 \LWR@stoppars
8158 \LWR@closeprevious{finished}
```

At the bottom of the ending file:

Print any pending footnotes:

```
8159 \LWR@printpendingfootnotes
```

Close the textbody.

(The `\LWR@originbreakspace` is in case no autopage is required for the label, which would not print anything, and something must be printed before the new-line.)

```
8160 \label{\BaseJobname-autofile-last}\LWR@originbreakspace\LWR@originewline
```

```
8161 \LWR@htmlclassend{section}{textbody}
8162 \LWR@htmlclassend{main}{bodycontainer}
8163 \LWR@htmlclassend{div}{bodyandsidetoc}
```

Create the footer if not EPUB

```
8164 \ifbool{FormatEPUB}{\LWR@createfooter}
```

No bottom navigation if are finishing the home page, or if formatting for an EPUB or word processor.

Presumably has a table-of-contents.

```
8165 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
8166   {}
8167   {
8168     \ifnumcomp{\value{LWR@htmlfilenumber}}{>}{0}{\LWR@botnavigation}{
8169     }
```

```
8170 \LWR@stoppars% final stop of all paragraphs
```

Finish the HTML file:

```
8171 \LWR@htmltag{/body}\LWR@originewline
8172 \LWR@htmltag{/html}\LWR@originewline
```

Seems to be required sometimes:

```
8173 \LWR@maybe@originewpage
8174 }
```

`enddocument/info (Hook)` Used to close the `*-images.txt` file.
[LaTeX]

`\enddocument` If labels have not changed, mark successful completion of the `lateximages.txt` file. Executed as everything is being shut down.

For the newer kernel hooks, see `texdoc lthooks-doc` and `texdoc ltshipout-doc`.

```
8175 \ifdef{\AddToHook}{% newer kernel
8176   \AddToHook{enddocument/info}{%
8177     \if@filesw
8178     \ifx \@multiplelabels \relax
8179     \if@tempswa
```

This is where warnings of duplicate labels would appear.

```
8180   \else
```

No duplicate labels, so safe to create images.

```
8181       \immediate\write\LWR@lateximagesfile{%
8182         |end|end|end|}%
8183     }%
8184   \fi
8185 \fi\fi
8186 }
8187 }% newer kernel
8188 {% older kernel
8189   \xpatchcmd{\enddocument}
8190     {%
8191       \if@tempswa
8192       \@latex@warning@no@line{Label(s) may have changed.
8193 Rerun to get cross-references right}%
8194       \fi
8195     }
8196     {%
8197       \if@tempswa
8198       \@latex@warning@no@line{Label(s) may have changed.
8199 Rerun to get cross-references right}%
8200     \else
```

No duplicate labels, so safe to create images.

```
8201       \immediate\write\LWR@lateximagesfile{%
8202         |end|end|end|}%
8203     }%
8204   \fi
8205 }
8206 {}
8207 {
8208   \AtEndDocument{
8209     \PackageWarningNoLine{lwarp}
8210     {%
8211       Could not patch \protect\enddocument.\MessageBreak
8212       If labels have changed, be sure to recompile before\MessageBreak
8213       creating lateximages with\MessageBreak
8214       \space\space lwarpmk limages,\MessageBreak
8215       or the images may be corrupt%
8216     }
8217   }
8218 }
8219 }% older kernel
```

70 Nullifying foreground/background hooks

See `texdoc lthooks-doc` and `texdoc ltshipout-doc`.

`shipout/background` (*Hook*) Nullified.

[LaTeX]

`shipout/foreground` (*Hook*) Nullified.

[LaTeX]

```

8220 \ifdef{\RemoveFromHook}{
8221   \AfterEndPreamble{
8222     \IfHookEmptyTF{shipout/background}{}{
8223       \PackageInfo{lwarp}{Removing background hook}
8224       \RemoveFromHook{shipout/background}[*]
8225     }
8226     \IfHookEmptyTF{shipout/foreground}{}{
8227       \PackageInfo{lwarp}{Removing foreground hook}
8228       \RemoveFromHook{shipout/foreground}[*]
8229     }
8230   }
8231 }{}

8232 \end{warpHTML}

```

71 Title page

package support `lwarp` supports the native L^AT_EX titling commands, and also supports the packages `authblk` and `titling`. If both are used, `authblk` should be loaded before `titling`.

⚠ **load order**

`\published` and `\subtitle` If using the `titling` package, additional titlepage fields for `\published` and `\subtitle` may be added by using `\AddSubtitlePublished` in the preamble. See section 71.8.

affiliation `lwarp` provides for the `\author` macro an additional `\affiliation` macro to provide an affiliation and other additional information for each author in the title page. The affiliation information is removed when using `titlingpage`'s `\theauthor` in the main text.

reusing titlepage information The `titling` package maintains the definitions of `\thetitle`, `\theauthor`, etc., after the title has been typeset. These commands are to be used to refer to the document's title and author, etc., in the main text. These definitions have the `\thanks` and `\affiliation` removed, and for `\author` the `\and` is replaced to generate a simple inline list of authors separated by commas. Note: `\theauthor` does not work well with `authblk` unless the traditional L^AT_EX syntax is used.

⚠ **`\theauthor`, `authblk`**

custom titlepages `\printtitle`, `\printauthor`, etc., are provided for use inside a custom titlepage or `titlingpage` environment, and these retain the `\thanks` and `\affiliation`.

`\printthanks` `\printthanks` has been added to force the printing of thanks inside a `titlingpage` environment when `\maketitle` is not used.

⚠ **`\thanks`** Inside a `\titlepage` or `\titlingpage` environment, use `\thanks` instead of `\footnote` for acknowledgements, etc.

71.1 Setting the title, etc.

The following provide setting commands for both HTML and print outputs.

`\author` `{\author}` While using `\maketitle` and print mode, the author is treated as a single-column tabular and the `\and` feature finishes the current tabular then starts a new one for the next author. Each author thus is placed into its own tabular, and an affiliation may be placed on its own line such as

```
\author{Name \ Affiliation \and Second Name \ Second Affiliation}
```

For HTML, the entire author block is placed inside a `<div>` of class `author`, and each individual author is inside a `<div>` of class `oneauthor`.

`\@title` `\@author`, and `\@date` store the values as originally assigned, including any `\thanks`, `\and`, or `\affiliation`. These are low-level macros intended to be used by other macros only inside a `titlepage` or `titlingpage`, and are used by `\maketitle`. The author is printed inside a single-column tabular, which becomes multiple single-column tabulars if multiples authors are included. For HTML, these tabulars become side-by-side `<div>`s of class `oneauthor`, all of which are combined into one `<div>` of class `author`.

`\printtitle` `\printauthor` `\printdate` `\thetitle` `\theauthor` `\thedata` `\HTMLPageBottom` `\printtitle`, etc. are user-level macros intended to be used in custom `titlepage` or `titlingpage` environments in cases where `\maketitle` is not desired. These commands preserve the `\thanks`, etc., and should not be used in the main text. `\thetitle`, `\theauthor`, and `\thedata` are available if `titling` has been loaded, and are sanitized user-level versions from which have been removed the `\thanks` and `\affiliation`, and `\and` is changed for inline text usage. The author is printed inline without `\affiliation` or `\thanks`, with `\and` placing commas between multiple authors. Thus, these commands are to be used in the main text whenever the user wishes to refer to the document's title and such. One practical use for this is to place the authors at the bottom of each HTML page, such as:

```
\HTMLPageBottom{
  \begin{center}\textcopyright~20xx \theauthor\end{center}
}
```

⚠ `\theauthor`, `authblk` `\theauthor` does not work well if `authblk` is used. If `\theauthor` is important, it is recommended to use the standard L^AT_EX syntax for `\author`, optionally with `lwarp`'s `\affiliation` macro as well.

⚠ **affiliations** After `\maketitle` has completed, `\theauthor` retains the definition of the author, but `\and` is changed to become a comma and a space, intending to print the authors names separated by spaces. This fails when affiliations are included on their own table rows.

`\affiliation` A solution, provide here, is to define a macro `\affiliation` which, during `\maketitle`, starts a new row and adds the affiliation, but after `\maketitle` is finished `\affiliation` is re-defined to discard its argument, thus printing only the author names when `\author` is later used inline.

71.2 \if@titlepage

for HTML & PRINT: 8233 `\begin{warpall}`

`\if@titlepage` Some classes do not provide `\if@titlepage`. In this case, provide it and force it false.

```
8234 \ifcsvoid{@titlepagefalse}{
8235   \newif\if@titlepage
8236   \@titlepagefalse
8237 }{}

8238 \end{warpall}
```

71.3 Changes for `\affiliation`

`\affiliation` $\langle text \rangle$

Adds the affiliation to the author for use in `\maketitle`.

Inside `titlepage`, this macro prints its argument. Outside, it is null.

for HTML & PRINT: 8239 `\begin{warpall}`
 8240 `\providerobustcmd{\affiliation}[1]{}{}`
 8241 `\end{warpall}`

for PRINT output: 8242 `\begin{warpprint}`

```
8243 \AtBeginEnvironment{titlepage}{
8244 \renewrobustcmd{\affiliation}[1]{\ \ \ \textsc{\small#1}}
8245 }
8246
8247 \AtBeginDocument{
8248 \IfPackageLoadedTF{titling}{
8249 \AtBeginEnvironment{titlingpage}{
8250 \renewrobustcmd{\affiliation}[1]{\ \ \ \textsc{\small#1}}
8251 }
8252 }{}% titling loaded
8253 }% AtBeginDocument

8254 \end{warpprint}
```

for HTML output: 8255 `\begin{warpHTML}`

`titlepage` (*enu*) Sets up a `<div>` of class `titlepage`. Provided even for memoir class, since it is used by `\maketitle`.

```
8256 \DeclareDocumentEnvironment{titlepage}{}
8257 {%
8258   \renewrobustcmd{\affiliation}[1]{\ \ \ \InlineClass{affiliation}{##1}}%
8259   \LWR@printpendingfootnotes
8260   \LWR@forcenewpage
8261   \BlockClass{titlepage}
8262 }
8263 {
8264   \endBlockClass
8265   \LWR@printpendingfootnotes
8266 }

8267 \end{warpHTML}
```

71.4 Printing the thanks

`\printthanks` Forces the `\thanks` to be printed. This is necessary in a `titlingpage` environment when `\maketitle` was not used.

for PRINT output: 8268 `\begin{warpprint}`
 8269 `\newcommand*\printthanks{\@thanks}`
 8270 `\end{warpprint}`

for HTML output: 8271 `\begin{warpHTML}`
 8272 `\newcommand*\printthanks{\LWR@stoppars\@thanks\LWR@startpars}`
 8273 `\end{warpHTML}`

71.5 Printing the title, etc. in HTML

The following are for printing the title, etc. in a `titlepage` or a `titlingpage` in HTML:

for HTML output: 8274 `\begin{warpHTML}`

`\printtitle`

```
8275 \newcommand*\printtitle{
8276 {%
8277   \LWR@stoppars%
8278   \LWR@htmltag{\LWR@tagtitle}%
8279   \@title%
8280   \LWR@htmltag{\LWR@tagtitleend}%
8281   \LWR@startpars%
8282 }
```

`\LWR@printthetitle` A private version which prints the title without footnotes, used to title each HTML page.

```
8283 \newcommand*\LWR@printthetitle{
8284 {%
8285   \LWR@stoppars%
8286   \LWR@htmltag{\LWR@tagtitle}%
8287   \thetitle%
8288   \LWR@htmltag{\LWR@tagtitleend}%
8289   \LWR@startpars%
8290 }
```

`\printauthor` HTML version.

```
8291 \newcommand*\printauthor{
```

The entire author block is contained in a `<div>` named `author`:

```
8292 \begin{BlockClass}{author}
```

`\and` finishes one author and starts the next:

```
8293 \renewcommand{\and}{%
```

```
8294 \end{BlockClass}
8295 \begin{BlockClass}{oneauthor}
8296 }
```

Individual authors are contained in a <div> named oneauthor:

```
8297 \begin{BlockClass}{oneauthor}
8298 \@author
8299 \end{BlockClass}
8300 \end{BlockClass}
8301 }
```

`\printdate`

```
8302 \newcommand*\printdate{%
8303 \begin{BlockClass}{titledate}
8304 \@date
8305 \end{BlockClass}
8306 }
```

```
8307 \end{warppHTML}
```

71.6 Printing the title, etc. in print form

The following are for printing the title, etc. in a titlepage or a titlingpage in print form:

for PRINT output: 8308 \begin{warpprint}

`\printtitle`

```
8309 \newcommand*\printtitle{{\Huge\@title}}
```

`\printauthor` Print mode.

```
8310 \newcommand*\printauthor
8311   {{\large\begin{tabular}[t]{c}\@author\end{tabular}}}
```

`\printdate`

```
8312 \newcommand*\printdate{{\small\textit{\@date}}}
```

```
8313 \end{warpprint}
```

71.7 \maketitle for HTML output

An HTML <div> of class titlepage is used.

`\thanks` are a form of footnotes used in the title page. See section 62 for other kinds of footnotes.

See `\thanksmarkseries{series}`, below, to set the style of the footnote marks.

for HTML output: 8314 \begin{warppHTML}

```

8315 \IfClassLoadedTF{memoir}
8316 {
8317 \newcommand{\LWR@setfootnoteseries}{%
8318   \renewcommand\thefootnote{\@arabic\c@footnote}%
8319 }
8320 }{% not memoir
8321 \if@titlepage
8322 \newcommand{\LWR@setfootnoteseries}{%
8323   \renewcommand\thefootnote{\@arabic\c@footnote}%
8324 }
8325 \else
8326 \newcommand{\LWR@setfootnoteseries}{%
8327   \renewcommand\thefootnote{\@fnsymbol\c@footnote}%
8328 }
8329 \fi
8330 }{% not memoir

```

`\LWR@maketitlesetup` Patches `\thanks` macros.

```
8331 \newcommand*{\LWR@maketitlesetup}{%
```

Redefine the footnote mark:

```

8332 \LWR@setfootnoteseries%
8333 \def\@makefnmark{%
8334   \textsuperscript{\thefootnote}%
8335 }

```

`\thefootnote` ⇒ `\nameuse{arabic}{footnote}`, or
`\thefootnote` ⇒ `\nameuse{fnsymbol}{footnote}`

Redefine the footnote text:

```
8336 \long\def\@makefntext##1{%
```

Make the footnote mark and some extra horizontal space for the tags:

```
8337 \textsuperscript{\@thefnmark}~%
```

`\makethanksmark` ⇒ `\thanksfootmark` ⇒ `\tmark` ⇒
`\@thefnmark` ⇒ `\itshape a` (or similar)

Print the text:

```

8338 {##1}%
8339 }%
8340 }

```

`\@fnsymbol` {*counter*}

Re-defined to use an HTML entity for the double vertical bar symbol. The original definition used `\|` which was not being seen by *pdftotext*.

```
8341 \def\LWR@HTML@fnsymbol#1{%
```

```

8342 \ifcase#1\or *\or
8343 \HTMLentity{dagger}\or
8344 \HTMLentity{Dagger}\or
8345 \HTMLentity{sect}\or
8346 \HTMLentity{para}\or
8347 \HTMLunicode{2016}\or
8348 **\or
8349 \HTMLentity{dagger}\HTMLentity{dagger} \or
8350 \HTMLentity{Dagger}\HTMLentity{Dagger} \else
8351 \@ctrerr\fi%
8352 }
8353 \LWR@formatted{@fnsymbol}

```

`\maketitle` HTML mode. Creates an HTML titlepage div and typesets the title, etc.

Code from the titling package is adapted, simplified, and modified for HTML output.

The name `\LWR@maketitle` is used to preserve its definition in case a later package overwrites `\maketitle`.

```
8354 \newcommand*{\LWR@maketitle}{%
```

An HTML titlepage `<div>` is used for all classes.

```
8355 \begin{titlepage}
```

Set up special patches:

```
8356 \LWR@maketitlesetup
```

Typeset the title, etc:

```
8357 \@maketitle
```

Immediately generate any `\thanks` footnotes:

```
8358 \LWR@stoppars\@thanks\LWR@startpars
```

Close the HTML titlepage div and cleanup:

```

8359 \end{titlepage}
8360 \setcounter{footnote}{0}%
8361 \global\let\thanks\relax
8362 \global\let\maketitle\relax
8363 \global\let\@maketitle\relax
8364 \global\let\@thanks\@empty
8365 \global\let\@author\@empty
8366 \global\let\@date\@empty
8367 \global\let\@title\@empty
8368 \global\let\title\relax
8369 \global\let\author\relax
8370 \global\let\date\relax
8371 \global\let\and\relax
8372 }
8373
8374 \LetLtxMacro\maketitle\LWR@maketitle

```


`\@maketitle` HTML mode. Typesets the title, etc.:

```
8375 \providecommand*\@maketitle{}
8376 \renewrobustcmd{\@maketitle}{%
8377   \LWR@stoppars%
8378   \LWR@htmltag{\LWR@tagtitle}%
8379   \@title%
8380   \LWR@htmltag{\LWR@tagtitleend}%
8381   \LWR@startpars%
8382   \begin{BlockClass}{author}%
```

For IEEEtran class:

```
8383   \renewcommand*\cr{}%
8384   \renewcommand*\crr{}%
8385   \renewcommand*\noalign{}%

8386   \renewcommand{\and}{%
8387     \end{BlockClass}%
8388     \begin{BlockClass}{oneauthor}%
8389   }%
8390   \begin{BlockClass}{oneauthor}%
8391     \@author%
8392   \end{BlockClass}%
8393 \end{BlockClass}%
8394 \begin{BlockClass}{titledate}%
8395   \@date%
8396 \end{BlockClass}%
8397 }
```

`\LWR@titlingmaketitle` `\maketitle` for use inside an HTML titlingpage environment.

```
8398 \newcommand*\LWR@titlingmaketitle{%
```

Keep pending footnotes out of the title block:

```
8399 \LWR@stoppars\@thanks\LWR@startpars
```

Set up special patches:

```
8400 \LWR@maketitlesetup
```

Typeset the title, etc:

```
8401 \@maketitle
```

Immediately generate any `\thanks` footnotes:

```
8402 \LWR@stoppars\@thanks\LWR@startpars
8403 }
```

```
8404 \end{warpHTML}
```


71.8 `\published` and `\subtitle`

`\subtitle` and `\published` To add `\subtitle` and `\published` to the titlepage, load the titling package and

use `\AddSubtitlePublished` in the preamble.

The default `lwarp.css` has definitions for the `published` and `subtitle` classes.

If `titling` is loaded, `\AddSubtitlePublished` creates a number of additional macros, and also assigns some of the `titling` hooks. If `titling` is not loaded, `\AddSubtitlePublished` creates null macros.

 **titling hooks** Do not use `\AddSubtitlePublished` if the user has patched the `titling` hooks for some other reason. Portions are marked `\warpprintonly` to reduce extra tags in HTML. Similarly, `BlockClass` has no effect in print mode. Thus, the following may be marked `warpall`.

for HTML & PRINT: 8405 `\begin{warpall}`

`\AddSubtitlePublished` Adds `\published` and `\subtitle`, and related.

```

8406 \newcommand*{\AddSubtitlePublished}{%
8407 \IfPackageLoadedTF{titling}{% yes titling package
8408   \newcommand{\@published}{}%
8409   \newcommand{\published}[1]{\gdef\@published{##1}}%
8410   \renewcommand*\maketitlehooka{\printpublished}%
8411   \newcommand*\printpublished{%
8412     \warpprintonly{\begin{center}\unskip}%
8413     \begin{BlockClass}{published}%
8414     \warpprintonly{\large\itshape}%
8415     \@published%
8416     \end{BlockClass}%
8417     \warpprintonly{\end{center}}%
8418   }%
8419   \newcommand{\@subtitle}{}%
8420   \newcommand{\subtitle}[1]{\gdef\@subtitle{##1}}%
8421   \renewcommand*\maketitlehookb{\printsubtitle}%
8422   \newcommand*\printsubtitle{%
8423     \warpprintonly{\begin{center}\unskip}%
8424     \begin{BlockClass}{subtitle}%
8425     \warpprintonly{\Large\itshape}%
8426     \@subtitle%
8427     \end{BlockClass}%
8428     \warpprintonly{\end{center}}%
8429   }%
8430 }% yes titling package
8431 {% no titling package

8432   \def\@published{}%
8433   \DeclareDocumentCommand{\published}{m}{\gdef\@published{##1}}%
8434   \DeclareDocumentCommand{\printpublished}{}{}%
8435   \def\@subtitle{}%
8436   \DeclareDocumentCommand{\subtitle}{m}{\gdef\@subtitle{##1}}%
8437   \DeclareDocumentCommand{\printsubtitle}{}{}%
8438 }% no titling package
8439 }% \AddSubtitlePublished

8440 \end{warpall}

```

72 Abstract

The following code replaces the L^AT_EX default, and will itself be replaced later if the abstract package is loaded.

for HTML output: 8441 \begin{warpHTML}

\abstractname User-redefinable title for the abstract.

Also over-written by the babel package.

```
8442 \providecommand*\abstractname{Abstract}
```

Some classes allow an optional name, so it is allowed here.

abstract (*env.*)

```
8443 \DeclareDocumentEnvironment{abstract}{0}{\abstractname}
8444 {
8445     \LWR@forcenewpage
8446     \BlockClass{abstract}
8447     \BlockClassSingle{abstracttitle}{#1}
8448 }
8449 {
8450     \endBlockClass
8451 }

8452 \end{warpHTML}
```

73 Quote and verse

73.1 Attributions

\attribution {<*name*>}

For use with quote, quotation, verse:

Ex: "A quotation." \attribution{\textsc{Author Name}}\textsl{Book Title}}

for HTML & PRINT: 8453 \begin{warpall}
8454 \newcommand{\attribution}[1]{
8455 \begin{flushright}
8456 \unskip
8457 #1
8458 \end{flushright}}%
8459 }
8460 \end{warpall}

for HTML output: 8461 \begin{warpHTML}
8462 \newcommand{\LWR@HTML@attribution}[1]{%
8463 \LWR@stoppars%
8464 \begin{BlockClass}{attribution}
8465 #1

```

8466   \end{BlockClass}
8467   \LWR@startpars%
8468 }
8469 \LWR@formatted{attribution}
8470 \end{warpHTML}

```

73.2 Quotes, quotations

for HTML output: 8471 \begin{warpHTML}

quote (*env.*)

```

8472 \newenvironment*{LWR@HTML@quote}
8473 {
8474   \LWR@forcenewpage
8475   \LWR@htmlblocktag{blockquote}
8476 }
8477 {\LWR@htmlblocktag{/blockquote}}
8478
8479 \LWR@formattedenv{quote}

```

quotation (*env.*)

```

8480 \newenvironment*{LWR@HTML@quotation}
8481 {
8482   \LWR@forcenewpage
8483   \LWR@htmlblocktag{blockquote}
8484 }
8485 {\LWR@htmlblocktag{/blockquote}}
8486
8487 \LWR@formattedenv{quotation}

8488 \end{warpHTML}

```

73.3 Verse

When using verse or memoir, always place a `\\` after each line.

`\attrib` The documentation for the `verse` and `memoir` packages suggest defining an `\attrib` command, which may already exist in current documents, but it will only work for print output. `lwarp` provides `\attribution`, which works for both print and HTML output. To combine the two so that `\attrib` is used for print and `\attribution` is used for HTML:

```

\begin{warpHTML}
\let\attrib\attribution
\end{warpHTML}

```

`\leftskip` (*Len*) These lengths are used by `verse` and `memoir` to control the left margin, and they may already be set by the user for print output. New lengths `\HTMLleftskip` and `\HTMLleftmargini` are provided to control the margins in HTML output. These new lengths may be set by the user before any verse environment, and persist until they are manually changed again. One reason to change `\HTMLleftmargini` is if there is a wide `\flagverse` in use, such as the word “Chorus”, in which case

the value of `\HTMLleftmargini` should be set to a wide enough length to contain “Chorus”. The default is wide enough for a stanza number.

- ⚠ **spacing** Horizontal spacing relies on *pdftotext*'s ability to discern the layout (`-layout` option) of the text in the HTML-tagged PDF output. For some settings of `\HTMLleftmargini` or `\HTMLleftskip` the horizontal alignment may not work out exactly, in which case a label may be shifted by one space. During translation to HTML, the stanza numbers are kept out of the left margin, which would have caused *pdftotext* to shift everything over.
- ⚠ **verse margin**

73.3.1 L^AT_EX core verse environment

for HTML output: 8489 `\begin{warpHTML}`

verse (*env.*)

```

8490 \newenvironment{LWR@HTML@verse}
8491         {\let\\newline% lwarp
8492          \list{}{\itemsep      \z@
8493             \itemindent  -1.5em%
8494             \listparindent\itemindent
8495             \rightmargin \leftmargin
8496             \advance\leftmargin 1.5em}%
8497          \item\relax}
8498         {\endlist}
8499
8500 \LWR@formattedenv{verse}

8501 \end{warpHTML}

```

for HTML & PRINT: 8502 `\begin{warpall}`

73.3.2 verse and memoir

The following lengths are used by `verse` and `memoir`. They may be set in either print or HTML output, but are only used in HTML. This allows the user to set `\vleftskip` and `\leftmargini` for print output, and optionally select different values for HTML.

`\HTMLvleftskip` (*Len*) Sets `\vleftskip` inside a verse environment in HTML.

```

8503 \newlength{\HTMLvleftskip}
8504 \setlength{\HTMLvleftskip}{1em}

```

`\HTMLleftmargini` (*Len*) Sets `\leftmargini` inside a verse environment in HTML.

```

8505 \newlength{\HTMLleftmargini}
8506 \setlength{\HTMLleftmargini}{4.5em}

8507 \end{warpall}

```

74 Verbatim and tabbing

for HTML & PRINT: 8508 `\begin{warpall}`

`\VerbatimHTMLWidth` (*Len*) Width to use in HTML Verbatim environment.

This width is used when placing line numbers to the right. Ignored during print output.

```
8509 \newlength{\VerbatimHTMLWidth}
8510 \setlength{\VerbatimHTMLWidth}{4in}
8511 \end{warpall}
```

for HTML output: 8512 `\begin{warpHTML}`

`\@setupverbvisibleospace` For X_YTEX or LuaTEX, the default visible space was drawn in PDF, but not a text character which could be copied to HTML.

```
8513 \ifxetexorluatex
8514
8515 \newcommand*{\LWR@HTML@@setupverbvisibleospace}{\let\xobeysp\textvisibleospace}
8516
8517 \LWR@formatted{@setupverbvisibleospace}
8518
8519 \fi
```

`LWR@verbtags` (*bool*) Used to temporarily turn off verbatim tags while doing `\verbatiminput` in the HTML head, during `\LWR@filestart`, or during MATHJAX. Verbatim tags are also disabled separately inside an HTML span.

```
8520 \newbool{LWR@verbtags}
8521 \booltrue{LWR@verbtags}
```

`\verb` Patched to encapsulate the verbatim text inside span with a class of verb.

```
8522 \LetLtxMacro\LWR@orig@verb@egroup\verb@egroup
8523
8524 \def\LWR@verb@egroup@endspan{%
8525   \LWR@orig@verb@egroup%
8526   \ifbool{LWR@verbtags}%
8527     {\LWR@htmltag{/span}}%
8528     {}%
8529   \endgroup%
8530 }

8531 \xpretocmd{\verb}
8532   {%
8533     \begingroup%
8534     \ifbool{LWR@verbtags}%
8535       {\LWR@htmltag{span class=\textquotedbl}{\verb\textquotedbl}}%
8536       {}%
8537     \let\verb@egroup\LWR@verb@egroup@endspan%
8538   }
8539 {}
8540 {\LWR@patcherror{LaTeX}{\verb}}
```

```
\LWR@atbeginverbatim [1: style] {2: class}
```

Encloses a verbatim environment with the given CSS class.

The use of `\textquotedbl` instead of `"` improves compatibility with XeCJK.

```
8541 \newcommand*\LWR@atbeginverbatim[2][[]
8542 {%
```

Stop generating HTML paragraph tags:

```
8543 \LWR@stoppars%
```

Avoid excessive space between lines:

```
8544 \setlength{\parskip}{0ex}%
8545 \setlength{\topsep}{0pt}%
8546 \setlength{\partopsep}{0pt}%
```

Inside the verbatim, temporarily prevent underfull `\hbox` warnings.

```
8547          \hbadness=10000\relax%
```

Create a new `pre` of the given class. The tags may temporarily be turned off for internal use, such as loading the MATHJAX script, or inside a ``.

```
8548 \ifbool{\LWR@verbtags}%
8549 {%
8550   \ifnumcomp{\value{\LWR@spandepth}}{=}{0}{%
8551     \LWR@htmltag{pre class=\textquotedbl#2\textquotedbl%
8552       \ifthenelse{\equal{#1}{}}{ style=\textquotedbl#1\textquotedbl}%
8553     }%
8554     \par%
8555   }%
8556   {% in a span
8557     \LWR@spanwarnformat{verbatim}%
8558   }%
8559 }{%
```

Use a mono-spaced font to preserve horizontal positioning. If horizontal alignment is important for the user, use a mono-spaced font in the CSS for the `verse` class.

```
8560 \begingroup%
```

```
8561 \LWR@print@normalfont%
8562 \LWR@origttfamily%
```

If not inside a `lateximage`, use a small font to avoid line overflow.

```
8563 \ifnumcomp{\value{\LWR@lateximagedepth}}{=}{0}%
8564   {\LWR@print@scriptsize}%
8565   }%
```

Since inside a `<pre>`, restore the original list processing:

```
8566 \LWR@restoreoriglists%
```

Turn off babel-french extra space before punctuation:

```
8567 \LWR@hook@processingtags%
```

Do not produce HTML tags for \hspace inside a verse par. Restore plain L^AT_EX \hspace functionality:

```
8568 \let\hspace\LWR@print@hspace%
```

Do not produce HTML tags for \nbsp.

```
8569 \boolfalse{LWR@HTMLsanitize@nobreakspace}%
8570 }
```

`\LWR@afterendverbatim` Finishes enclosing a verbatim environment.

```
8571 \newcommand*{\LWR@afterendverbatim}{%
8572 \endgroup%
8573 \par%
```

At the end of the environment, close the pre:

```
8574 \ifboolexpr{
8575   bool{LWR@verbtags} and
8576   test {\ifnumcomp{\value{LWR@spandepth}}{=}{0}}
8577 }%
8578 {%
8579   \noindent\LWR@htmltag{/pre}\par% pre
8580 }{%
```

Resume regular paragraph handling:

```
8581 \LWR@startpars%
8582 }
```

`\verbatiminput {{filename}}`

Patch `\verbatiminput` to add HTML tags:

```
8583 \newcommand{\LWR@HTML@verbatim@input}[2]{%
8584   \ifbool{LWR@verbtags}{\LWR@forcenewpage}}{%
8585   \LWR@atbeginverbatim{Verbatim}%
8586   \LWR@print@verbatim@input{#1}{#2}%
8587   \LWR@afterendverbatim%
8588 }
8589
8590 \LWR@formatted{verbatim@input}
```

`verbatim (enu)`

```
8591 \AfterEndPreamble{
8592 \LWR@traceinfo{Patching verbatim.}
8593 \AtBeginEnvironment{verbatim}{%
8594   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
8595   }%
8596   {%
```




```

8597         \LWR@forcenewpage%
8598         \LWR@atbeginverbatim{verbatim}%
8599     }%
8600 }
8601 \AfterEndEnvironment{verbatim}{%
8602     \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
8603     }%
8604     {%
8605         \LWR@afterendverbatim%
8606     }%
8607 }
8608 %
8609 \AtBeginEnvironment{verbatim*}{%
8610     \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
8611     }%
8612     {%
8613         \LWR@forcenewpage%
8614         \LWR@atbeginverbatim{verbatim}%
8615     }%
8616 }
8617 \AfterEndEnvironment{verbatim*}{%
8618     \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
8619     }%
8620     {%
8621         \LWR@afterendverbatim%
8622     }%
8623 }
8624 }

```

tabbing (*env.*) The tabbing environment works, except that svg math and lateximages do not yet work inside the environment.

 **math in tabbing** If math is used inside tabbing, place tabbing inside a lateximage environment, which will render the entire environment as a single svg image.

```

8625 \newenvironment*{LWR@HTML@tabbing}
8626 {%
8627     \LWR@forcenewpage%
8628     \LWR@atbeginverbatim{tabbing}%
8629     \let\enskip\LWR@print@enskip%
8630     \let\quad\LWR@print@quad%
8631     \let\qquad\LWR@print@qquad%
8632     \LetLtxMacro~\LWR@origtilde%
8633     \LetLtxMacro\nobreakspace\LWR@orignobreakspace%
8634     \let\,\LWR@origcomma%
8635     \let\thinspace\LWR@print@thinspace%
8636     \let\negthinspace\LWR@print@negthinspace%
8637     \LWR@print@tabbing%
8638 }
8639 {%
8640     \endLWR@print@tabbing%
8641     \LWR@afterendverbatim%
8642 }
8643
8644 \LWR@formattedenv{tabbing}

8645 \end{warpHTML}

```

75 Theorems

`\newtheorem` $\{\langle text \rangle\}$ [$\langle counter \rangle$] — or — [$\langle oldname \rangle$] $\{\langle text \rangle\}$

A few minor changes are made to supply HTML tags.

- The entire theorem is placed into a `<div>` of class `theoremcontents`.
- The label for each theorem is placed inside a `` of class `theoremLabel`.
- The contents are placed inside a `<div>` of class `theoremcontents`.

for HTML output: 8646 `\begin{warpHTML}`

`\@thm` $\{\langle counter name \rangle\}$ $\{\langle text \rangle\}$

Recent L^AT_EX kernels use `\@kernel@refstepcounter` which does not include `cleveref` changes. Revert to `\stepcounter` instead. (Print-mode `hyperref` changes do not matter for HTML.)

```
8647 \VerifyCommand[lwarp][latex]{\@thm}{C35B697D8E37A052BF513D51C8660A87}
8648
8649 \def\@thm#1#2{%
8650 %   \@kernel@refstepcounter{#1}%
8651   \refstepcounter{#1}%       lwarp
8652   \@ifnextchar[{\@ythm{#1}{#2}}{\@xthm{#1}{#2}}%
8653 }
```

`\@begintheorem` $\{\langle name \rangle\}$ $\{\langle number \rangle\}$

```
8654 \renewcommand{\@begintheorem}[2]{%
8655   \LWR@forcenewpage

8656   \LWR@printpendingfootnotes%           lwarp

8657   \BlockClass{theoremcontents}
8658   \trivlist
8659   \item[\InlineClass{theoremLabel}{#1\ #2\ }]\itshape%
8660 }
```

`\@opargbegintheorem` $\{\langle name \rangle\}$ $\{\langle number \rangle\}$ $\{\langle oparg \rangle\}$

L^AT_EX defines this, but `amsthm` `\relaxes` it, so it will not be defined if `amsthm` is loaded before `lwarp`.

```
8661 \ifundef{\@opargbegintheorem}{%
8662   \renewcommand{\@opargbegintheorem}[3]{%
8663     \LWR@forcenewpage
8664     \BlockClass{theoremcontents}
8665     \trivlist
8666     \item[\InlineClass{theoremLabel}{#1\ #2\ (#3)\ }]\itshape%
8667   }
8668 }
```

\@endtheorem

```
8669 \renewcommand*{\@endtheorem}{%
8670 \endtrivlist
```

```
8671 \LWR@printpendingfootnotes% lwarp
```

```
8672 \endBlockClass% theoremcontents
8673 }
```

```
8674 \end{warpHTML}
```

76 Lists

The environments `itemize`, `enumerate`, and `description` are patched when `lwarp` is started. These patches support the standard \LaTeX environments, as well as those of `enumerate`, `enumitem`, and `paralist`, and at least the French version of `babel`. Additional patches are done on a package-specific basis.

The \LaTeX source for `itemize` and `enumerate` are found in `source2e`, but the source for `description` is found in `article.cls`, etc.

empty item To have an empty item, use `\mbox{}` or a trailing backslash. This forces a new line in print output, matching the new line which will appear in HTML output. Ex:

```
begin{itemize}
item \mbox{}
  \begin{itemize}
...
  \end{itemize}
item \
  \begin{itemize}
...
  \end{itemize}
```

76.1 List environment

for HTML output: 8675 \begin{warpHTML}

\LWR@printcloselist May be locally redefined by `enumerate` or `description`.

```
8676 \newcommand*{\LWR@printcloselist}{\LWR@printcloseitemize}
```

\LWR@printopenlist May be locally redefined by `itemize`, `enumerate`, `description`, or `hanginglist` from package `hang`.

```
8677 \newcommand*{\LWR@printopenlist}{%
8678   ul % space
8679   class=\textquotedbl{}list\textquotedbl{} % space
8680   style=\textquotedbl\LWR@print@mbox{list-style-type:none}\textquotedbl{}%
8681 }
```

`\makelabel` While inside a list environment, `lwarp` nullifies a number of T_EX horizontal skip and fill commands, allowing the user to define `\makelabel` for print mode while HTML mode ignores those commands.

⚠ **label font** When defining `\makelabel` in a list environment, use `\textbf` etc. instead of `\bfseries`.

`\@mklab` Removes PDF spacing.

```
8682 \AtBeginDocument{
8683 \def\@mklab#1{%
8684 %   \hfil %
8685   #1}
8686 \let\makelabel\@mklab
8687 }
```

`\@donoparitem` Modified for HTML output by replacing T_EX boxes with plain text. Also removes PDF spacing.

```
8688 \def\@donoparitem{%
8689   \@noparitemfalse
8690 %   \global\setbox\@labels\hbox{\hskip -\leftmargin
8691 %                               \unhbox\@labels
8692 %                               \hskip \leftmargin}%
8693 %   \if@minipage\else
8694 %     \@tempskipa\lastskip
8695 %     \vskip -\lastskip
8696 %     \advance\@tempskipa\outerparskip
8697 %     \advance\@tempskipa -\parskip
8698 %     \vskip\@tempskipa
8699 %     \fi
8700 }
```

`\LWR@makeLabeltag` Used to add `<dt>` for descriptions. Empty for other list types.

```
8701 \newcommand*\LWR@makeLabeltag{}
```

`\@item` Modified for HTML output by replacing T_EX boxes with plain text. Also removes PDF spacing.

```
8702 \def\LWR@HTML@item[#1]{%
8703 \LWR@traceinfo{item}%
8704   \if@noparitem
8705     \@donoparitem
8706   \else
8707 %     \if@inlabel
8708 %       \indent
8709 %     \fi
8710   \ifhmode
8711 %     \unskip\unskip
8712   \fi
8713   \if@newlist
8714     \if@nobreak
8715       \@nbitem
8716     \else
8717 %       \addpenalty\@beginparpenalty
8718 %       \addvspace\@topsep
```

```

8719 %      \addvspace{-\parskip}%
8720      \fi
8721      \else
8722 %      \addpenalty\@itempenalty
8723 %      \addvspace\itemsep
8724      \fi
8725      \global\@inlabeltrue
8726      \fi
8727 %      \everypar{%
8728      \@minipagefalse
8729      \global\@newlistfalse

8730 %      \if@inlabel
8731 %      \global\@inlabelfalse

8732 %      {\setbox\z@\lastbox
8733 %      \ifvoid\z@
8734 %      \kern-\itemindent
8735 %      \fi}%

8736 %      \box\@labels
8737 %      \penalty\z@
8738 %      \fi

8739 %      \if@nobreak
8740 %      \@nobreakfalse
8741 %      \clubpenalty \@M
8742 %      \else
8743 %      \clubpenalty \@clubpenalty
8744 %      \everypar{}%
8745 %      \fi}%

8746 \if@noitemarg
8747 \@noitemargfalse
8748 \if@nمبرlist

8749      \refstepcounter\@listctr
8750      \fi
8751      \fi

      If not empty, print the label with the class listmarker:

8752      \ifboolexpr{
8753          test {\ifblank{#1}} or
8754          (
8755              test {\ifstrequal{#1}{\@itemlabel}} and
8756              test {\ifdefempty{\@itemlabel}}
8757          )
8758      }%
8759      {}%
8760      {%
8761          \ifdefempty{\LWR@makelabeltag}{\LWR@htmltag{\LWR@makelabeltag}}%
8762          \InlineClass{listmarker}{\makeLabel{#1}}%
8763          \ifdefempty{\LWR@makelabeltag}{\LWR@htmltag{\LWR@makelabeltag}} % extra space
8764      }%
8765 %      \sbox\@tempboxa{\makeLabel{#1}}%
8766 %      \global\setbox\@labels\hbox{%
8767 %      \unhbox\@labels

```

```

8768 % \hskip \itemindent
8769 % \hskip -\labelwidth
8770 % \hskip -\labelsep
8771 % \ifdim \wd\@tempboxa >\labelwidth
8772 % \box\@tempboxa

8773 % \else
8774 % \hbox to\labelwidth {\unhbox\@tempboxa}%
8775 % \fi
8776 % \hskip \labelsep}%
8777 \ignorespaces%
8778 }

```

`\@nbitem`

```

8779 \def\@nbitem{%
8780 % \@tempskipa\@outerparskip
8781 % \advance\@tempskipa -\parskip
8782 % \addvspace\@tempskipa
8783 }

```

`\LWR@listitem` [*label*]

Handles `\item` inside a list, `itemize`, or `enumerate`.

See `\LWR@openparagraph` where extra `\hspace` is used to leave room for the label while inside a list during paragraph construction.

```

8784 \newcommand*\LWR@listitem{%
8785 \LWR@stoppars%
8786 \LWR@startnewdepth{listitem}%
8787 \LWR@htmltag{li}%
8788 \LWR@orignewline%
8789 \LWR@startpars%
8790 \LWR@ensuredoingapar%
8791 \LWR@origitem%
8792 }

```

`\LWR@nulllistfills` Nullifies various TeX fill commands, in case they are used inside `\makeLabel`. Problems are caused when these are nullified all the time.

```

8793 \newcommand*\LWR@nulllistfills{%
8794 \renewcommand*\hss{}%
8795 \renewcommand*\llap[1]{##1}%
8796 \renewcommand*\rlap[1]{##1}%
8797 \renewcommand*\hfil{}%
8798 \renewcommand*\hfilneg{}%
8799 \renewcommand*\hfill{}%
8800 }

```

`list (env.)` {*label*} {*commands*}

```

8801 \newcommand*\LWR@liststart{%
8802 \LWR@traceinfo{LWR@liststart}%
8803 \LWR@stoppars%
8804 \LWR@pushoneclose{list}%
8805 \LWR@htmltag{LWR@printopenlist}\LWR@orignewline%

```

```

8806 \LWR@startpars%
8807 \setlength{\topsep}{0pt}%
8808 \setlength{\partopsep}{0pt}%
8809 \setlength{\itemsep}{0pt}%
8810 \setlength{\parsep}{0pt}%
8811 \setlength{\leftmargin}{0pt}%
8812 \setlength{\rightmargin}{0pt}%
8813 \setlength{\listparindent}{0pt}%
8814 \setlength{\itemindent}{0pt}%
8815 \setlength{\labelsep}{1em}%
8816 \LWR@nulllistfills%
8817 }

8818 \newcommand*\LWR@listend}{%
8819 \LWR@traceinfo{LWR@listend}%
8820 \LWR@stoppars%
8821 \LWR@closeprevious{list}%
8822 \LWR@startpars%
8823 }

```

76.2 Itemize

`\LWR@itemizeitem` [*⟨label⟩*]

Handles `\item` inside an `itemize` or `enumerate`.

The optional argument is passed to `\LWR@origitem`.

See `\LWR@openparagraph` where extra `\hspace` is used to leave room for the label while inside a list during paragraph construction.

```

8824 \newcommand*\LWR@itemizeitem}{%
8825 \LWR@stoppars%
8826 \LWR@startnewdepth{listitem}%
8827 \LWR@htmltag{li}%
8828 \LWR@orignewline%
8829 \LWR@startpars%
8830 \LWR@ensuredoingapar%
8831 \LWR@origitem%
8832 }

```

`itemize (env)` [*⟨options⟩*]

```

8833 \newcommand*\LWR@itemizestart}{%
8834 \renewcommand*\LWR@printcloselist}{\LWR@printcloseitemize}%
8835 \renewcommand*\LWR@printopenlist}{%
8836 ul % space
8837 class=\textquotedbl{}itemize\textquotedbl{} % space
8838 style=\textquotedbl\LWR@print@mbx{list-style-type:none}\textquotedbl{}%
8839 }%
8840 \LetLtxMacro\item\LWR@itemizeitem%
8841 \LWR@nulllistfills%
8842 }

```

76.3 Enumerate

An HTML unordered list is used with customized L^AT_EX-generated labels.

`enumerate (env.)` [`<options>`]

```

8843 \newcommand*\LWR@enumeratestart}{%
8844   \renewcommand*\LWR@printcloseitemize}{\LWR@printcloseitemize}%
8845   \renewcommand*\LWR@printopenlist}{%
8846     ul % space
8847     class=\textquotedbl{}enumerate\textquotedbl{} % space
8848     style=\textquotedbl\LWR@print@mbbox{list-style-type:none}\textquotedbl{}%
8849   }%
8850   \LetLtxMacro\item\LWR@itemizeitem%
8851   \LWR@nulllistfills%
8852 }
```

76.4 Description

`\LWR@descitem` [`<label>`] Handles an `\item` inside a description.

```

8853 \newcommand*\LWR@descitem}[1][{}]{%
8854   \LWR@stoppars%
8855   \LWR@setlatestname{#1}%
8856   \LWR@startnewdepth{descitem}%

```

While creating the label, encase it inside tags and disable `\hspace`, which is used by the standard classes to add space to the labels.

```

8857   \begingroup%
8858   \renewcommand*\LWR@makelabeltag}{dt}%
8859   \RenewDocumentCommand{\hspace}{s m}{}%
8860   \LWR@origitem[#1]%
8861   \endgroup%

```

Allow `\item` without an argument:

```

8862   \leavevmode%

8863   \LWR@orignewline%
8864   \LWR@htmltag{dd}%
8865   \LWR@startpars%
8866 }
```

`description (env.)` [`<options>`]

Footnotes are modified to correctly parse optional arguments.

```

8867 \newcommand*\LWR@descriptionstart}{%
8868   \renewcommand*\LWR@printcloselist}{\LWR@printclosedescription}%
8869   \renewcommand*\LWR@printopenlist}{%
8870     dl % space
8871     class=\textquotedbl{}description\textquotedbl{} % space
8872   }%
8873   \LetLtxMacro\item\LWR@descitem%

```



```
8874 \LWR@nulllistfills%
8875 }
```

76.5 Patching the lists

`\LWR@patchlists` Patches list environments.

`\LWR@patchlists` remembers `\item` as defined by whatever packages have been loaded, then patches the `itemize`, `enumerate`, and `description` environments and `\item`. This works with the native L^AT_EX environments, as well as those provided by `enumitem`, `enumerate`, and `paralist`.

```
8876 \newcommand*\LWR@patchlists{%
8877   \LetLtxMacro\item\LWR@listitem%
8878   \LetLtxMacro\@item\LWR@HTML@item%
8879   \renewcommand*\@trivlist{%
8880     \LWR@traceinfo{@trivlist start}%
8881     \LWR@liststart%
8882     \LWR@orig@trivlist%
8883     \LWR@traceinfo{@trivlist done}%
8884   }%
8885   \renewcommand*\trivlist{%
8886     \LWR@traceinfo{trivlist}%
8887     \LWR@origtrivlist%
8888   }%
8889   \renewcommand*\endtrivlist{%
8890     \LWR@traceinfo{endtrivlist start}%
8891     \LWR@origendtrivlist\LWR@listend%
8892     \LWR@traceinfo{endtrivlist done}%
8893   }%
8894   \renewcommand*\itemize{%
8895     \LWR@itemizestart\LWR@origitemize%
8896   }%
8897   \renewcommand*\enumerate{%
8898     \LWR@enumeratestart\LWR@origenumerate%
8899   }%
8900   \renewcommand*\description{%
8901     \LWR@descriptionstart\LWR@origdescription%
8902   }%
8903 }
```

`\LWR@restoreoriglists` Restores the original `trivlist` environment.

```
8904 \newcommand*\LWR@restoreoriglists{%
8905   \LWR@traceinfo{LWR@restoreoriglists}%
8906   \LetLtxMacro\item\LWR@origitem%
8907   \LetLtxMacro\@item\LWR@orig@item%
8908   \let\@trivlist\LWR@orig@trivlist%
8909   \let\trivlist\LWR@origtrivlist%
8910   \let\endtrivlist\LWR@origendtrivlist%
8911   \LetLtxMacro\itemize\LWR@origitemize%
8912   \LetLtxMacro\enditemize\LWR@endorigitemize%
8913   \LetLtxMacro\enumerate\LWR@origenumerate%
8914   \LetLtxMacro\endenumerate\LWR@endorigenenumerate%
8915   \LetLtxMacro\description\LWR@origdescription%
8916   \LetLtxMacro\enddescription\LWR@endorigdescription%
8917   \let\@mklab\LWR@orig@mklab%
```

```

8918 \let\makeLabel\LWR@origmakeLabel%
8919 \let@donoparitem\LWR@orig@donoparitem%
8920 \let@nbitem\LWR@orig@nbitem%
8921 }

8922 \end{warpHTML}

```

77 Tabular

This is arguably the most complicated part of the entire package. Numerous tricks are employed to handle the syntax of the L^AT_EX core and the various tabular-related packages.

77.1 Limitations

Tabular mostly works as expected, but pay special attention to the following, especially if working with environments, macros inside tabulars, multirows, siunitx S columns, or the packages multirow, longtable, supertabular, or xtab.

Defining macros and environments:

- When defining environments or macros which include tabular and instances of the & character, it may be necessary to make & active before the environment or macro is defined, then restore & to its default catcode after, using the following commands. These are ignored in print mode.

```

\StartDefiningTabulars
<define macros or environments using tabular and &
here>
\StopDefiningTabulars

```

This includes before and after defining any macro which used \ttabbox from floatrow.

- When creating a new environment which contains a tabular environment, lwarp's emulation of the tabular does not automatically resume when the containing environment ends, resulting in corrupted HTML rows. To fix this, use \ResumeTabular as follows. This is ignored in print mode.

```

\StartDefiningTabulars % (& is used in a
definition)
\newenvironment{outerenvironment}
{
\tabular{cc}
left & right \\
}
{
\TabularMacro\ResumeTabular
left & right \\
\endtabular
}
\StopDefiningTabulars

```

⚠ Misplaced alignment
tab character &

⚠ floatrow

⚠ tabular inside another
environment

For developers:

- To automate the use of `\StartDefiningTabulars` and `\EndDefiningTabulars`, these macros may be embedded inside an HTML environment definition to automatically change the catcode of `&` before absorbing the arguments. Another environment may be embedded as well.

```
% Does the work after the catcode has been changed:
\newcommand*\LWR@HTML@subsomename}[2]{%
  . . .
  \otherenvironmentname [<args>] {<args>} % for
  example
}
% Change catcode before absorbing arguments:
\newcommand*\LWR@HTML@somename{%
  \StartDefiningTabulars
  \LWR@HTML@subsomename
}
% Change catcode again at the end:
\newcommand*\LWR@HTML@endsomename}{%
  . . .
  \endotherenvironmentname % for example
  \StopDefiningTabulars
}
% Combine with the existing print definition:
\LWR@formattedenv{somename}
```

Cell contents:**⚠ macro in a table**

- Using a custom macro inside a tabular data cell may result in an extra HTML data cell tag, corrupting the HTML table. To avoid this, use `\TabularMacro` just before the macro. This is ignored in print mode.

```
\TabularMacro\somemacro & more row contents \
```

Column specifiers:**⚠ math**

- Due to the way math is gathered for processing, column specifiers such as `>{c}<{$$` do not work with `lwarp`. Instead, each cell must specify math mode individually.

@ and !

- Only one each of `@` and `!` is used at each column, and they are used in that order.

\multirow

- In `\multirow` cells, the print version may have extra instances of `<`, `>`, `@`, and `!` cells on the second and later rows in the `\multirow` which do not appear in the HTML version.

⚠ \newcolumnntype

- If `\newcolumnntype` does not work for HTML, add a simplified column type using `\HTMLnewcolumnntype`.

font and alignment

- `lwarp` detects each of the following, and sets HTML CSS appropriately:

```
>{\centering\arraybackslash}
>{\raggedright\arraybackslash}
>{\raggedleft\arraybackslash}
>{\itshape}
>{\bfseries}
>{\bfseries\itshape}
```

These may be used with `\newcolumnntype`, such as:

```
\newcolumnntype{P}[1]{>{\centering\arraybackslash}p{#1}}
```

Rules:

- Doubled `\hlines`, `\midrules`, and vertical rules are supported.

vertical rules

- Vertical rules next to either side of an @ or ! column are displayed on both sides of the column.

width and trim

- Width options are honored. Trim options are converted to rounded top corners. Trim corners are not rounded with @ or ! columns, and full-width rules ignore trim. When given an optional width, each cell is styled to create the custom border. Without an optional width, the entire row is given a class to assign the standard border.

combined rules

- If you wish to use `\cmidrule` followed by `\bottomrule`, it may be necessary to use:

```
\cmidrule{2-3} \[-2ex]
\bottomrule
```

The optional `-2ex` is ignored in HTML, but improves the visual formatting in the print output.

- For `\toprule` and `\bottomrule`, when combined with a `warpprint` or `warpHTML` environment, if a “Misplaced `\noalign`” error occurs, change

```
This & That \endhead
```

to

```
\warpprintonly{This & That \endhead}
```

and likewise with the other `\end` headings. Keep the `\endfirsthead` row unchanged, as it is still relevant to HTML output.

⚠ `\warpprintonly`

⚠ Misplaced `\noalign`

Other:

- `tabularx` ignores the width, but `X` columns do produce paragraph columns or multicolumns.

longtable headings

- For `longtable`, place headings and footings which do not apply to HTML inside `\warpprintonly{}`.

⚠ `S` columns

- For `S` columns (from the `siunitx` package), while producing print output, anything non-numeric must be placed inside `{}` braces, including commands such as `\multirow`. While producing HTML output, though, anything placed inside braces is not seen by `lwarp`'s `tabular` handling algorithm. To resolve this problem, make a copy of the row, with one version for print output, containing the extra braces, and another version for HTML output, without the extra braces, such as:

```
\warpprintonly{1 & 2 & {\multirow{2}{2cm}{Text}} & 3 \\}
```

```
\warpHTMLonly{1 & 2 & \multirow{2}{2cm}{Text} & 3 \\}
```

- In \LaTeX , a `tabular` may be placed inside a `minipage`, but in HTML a `<table>` may not be inside a ``. If this situation is detected, a warning is printed instructing the user to isolate the `` using `\warpprintonly` or the `warpprint` environment.

⚠ `tabular` inside a ``

for HTML output: `8923 \begin{warpHTML}`

77.2 Temporary package-related macros

These macros are temporary placeholders for macros defined by various packages. If the relevant package is not loaded, these placeholders are used instead.

77.2.1 arydshln

Emulated by the original L^AT_EX non-dashed versions.

```
8924 \LetLtxMacro\hdashline\hline
8925 \LetLtxMacro\cdashline\cline
8926 \LetLtxMacro\firstdashline\hline
8927 \LetLtxMacro\lastdashline\hline
```

77.3 Token lookahead

Used by `\LWR@futurenonspacel` to look at the next token.

`\LWR@mynexttoken`

```
8928 \newcommand\LWR@mynexttoken\relax
```

`\LWR@futurenonspacel` `\futurelet` copies the next token then executes a function to analyze it.

`\LWR@futurenonspacel` does the same, but ignores intervening spaces and paragraphs.

Based on the `booktabs` style:

```
8929 \def\LWR@futurenonspacel#1{\def\LWR@cs{#1}%
8930 \afterassignment\LWR@fns lone\let\nexttoken= }
8931
8932 \def\LWR@fns lone{\expandafter\futurelet\LWR@cs\LWR@fns ltwo}
8933
8934 \def\LWR@fns ltwo{%
8935   \expandafter\ifx\LWR@cs@sptoken%
8936     \let\next=LWR@fns lthree%
8937   \else%
8938     \expandafter\ifx\LWR@cs\par%
8939       \let\next=LWR@fns lthree%
8940     \else%
8941       \let\next=\nexttoken%
8942     \fi%
8943   \fi\next}
8944
8945 \def\LWR@fns lthree{\afterassignment\LWR@fns lone\let\next= }
```

`\LWR@getmynexttoken` Looks ahead and copies the next token into `\LWR@mynexttoken`.

```
8946 \newcommand*\LWR@getmynexttoken){%
8947   \LWR@traceinfo{LWR@getmynexttoken}%
```



Nothing must follow this next line:

```
8948   \LWR@futurenonspacel\LWR@mynexttoken\LWR@tabledatacolumn tag
8949 }
```

77.4 Tabular variables

In order to support nested tabulars, each of these is used locally. For local counters, `etoolbox's \defcounter` and `lwarp's new \defaddtocounter` are used.

`LWR@startedrow` (*bool*) True if should print a row tag before this column.

```
8950 \newbool{LWR@startedrow}
8951 \boolfalse{LWR@startedrow}
```

`LWR@tabularcelladded` (*bool*) True if have added a data cell for this position.

```
8952 \newbool{LWR@tabularcelladded}
8953 \boolfalse{LWR@tabularcelladded}
```

`LWR@hlines` (*Ctr*) Number of `\hlines` or `\midrules` above the next row.

```
8954 \newcounter{LWR@hlines}
```

`LWR@hdashedlines` (*Ctr*) Number of `\arydshln` dashed lines above the next row.

```
8955 \newcounter{LWR@hdashedlines}
```

`LWR@doingtbrule` (*bool*) True if the next row will have a top/bottom rule above it.

```
8956 \newbool{LWR@doingtbrule}
8957 \boolfalse{LWR@doingtbrule}
```

`LWR@doingcmidrule` (*bool*) True if the next row will have a `\cmidrule` above it.

This is used by `\LWR@tabularfinishrow` to force a final empty row to create the border for the `\cmidrule`.

```
8958 \newbool{LWR@doingcmidrule}
8959 \boolfalse{LWR@doingcmidrule}
```

`LWR@tableparcell` (*bool*) True if are handling a paragraph inside a table cell, so must close the paragraph tag before moving on.

```
8960 \newbool{LWR@tableparcell}
```

`LWR@skippingmrowcell` (*bool*) True if are doing an empty `\multirow` cell, and thus there is no data tag to close.

```
8961 \newbool{LWR@skippingmrowcell}
```

`LWR@skippingmcolrowcell` (*bool*) True if are doing an empty `\multicolumnrow` cell, and thus there is no data tag to close, and do not print `@` and `!` columns.

```
8962 \newbool{LWR@skippingmcolrowcell}
```

`LWR@usedmultirow` (*bool*) Used to error if used `\multirow` or `\multicolumnrow` without using `\mrowcell` or `\mcolrowcell`.

```
8963 \newbool{LWR@usedmultirow}
```

`LWR@foundmrowcell` (*bool*) Used to error if used `\multirow` or `\multicolumnrow` without using `\mrowcell` or

`\mcolrowcell`.

8964 `\newbool{LWR@foundmrowcell}`

`LWR@skipatbang` (*bool*) True if just finished a `\multicolumn` so should not create the trailing `@` or `!` columns table data cells.

8965 `\newbool{LWR@skipatbang}`

`LWR@emptyatbang` (*bool*) True if finishing a row and should print empty `@` or `!` column table data cells.

8966 `\newbool{LWR@emptyatbang}`

`LWR@intabularmetadata` (*bool*) True if are in a tabular but not in a data cell. Used to prevent extra HTML breaks if not inside table data.

8967 `\newbool{LWR@intabularmetadata}`

8968 `\boolfalse{LWR@intabularmetadata}`

`LWR@exitingtabular` (*bool*) When `\end` is found, turns off the next opening data tag.

8969 `\newbool{LWR@exitingtabular}`

`LWR@tabularmutemods` (*bool*) Mutes HTML output for `@`, `!`, `<` and `>`.

This is used while printing the final row to generate `\bottomrules`.

8970 `\newbool{LWR@tabularmutemods}`

`LWR@tabularfinalrow` (*bool*) Used to set `aria-hidden` if adding a final row for the purpose of adding the bottom border.

8971 `\newbool{LWR@tabularfinalrow}`

`LWR@validtablecol` (*bool*) True if found a valid table column type.

8972 `\newbool{LWR@validtablecol}`

`LWR@opttablecol` (*bool*) True if found a table column optional argument.

8973 `\newbool{LWR@opttablecol}`

Used to add a style to a table data cell:

8974 `\newbool{LWR@tdhavecellstyle}`

`LWR@tabularDepth` (*Ptr*) Tracks whether `&` is being used inside a tabular.

8975 `\newcounter{LWR@tabulardepth}`

8976 `\setcounter{LWR@tabulardepth}{0}`

`LWR@tabularpardepth` (*Ptr*) Tracks whether should look ahead at the next token when encountering a `\par` while processing tabular contents.

When `LWR@tabularpardepth` is deeper than `LWR@tabulardepth` then `lwarp` has started looking at the contents of the tabular, and thus any `\pars` encountered must be followed by another token lookahead.

```
8977 \newcounter{LWR@tabularpardepth}
8978 \setcounter{LWR@tabularpardepth}{0}
```

```
8979 \newcommand*{\LWR@colsresult}{}%temp storage for column format results
8980 \newcommand*{\LWR@pposition}{}
8981 \newcommand*{\LWR@pleft}{}
8982 \newcommand*{\LWR@pright}{}

```

LWR@tablecolspec Holds the parsed column specification, of total width `LWR@tabletotalLaTeXcols`, not counting @ and ! columns.

Will contain a string such as `llrrccpc`, exactly one letter per L^AT_EX table column, without @, !, >, <, or the vertical bar.

\LWR@strresult Holds the result of Str functions.

```
8983 \providecommand*{\LWR@strresult}{}
8984 \providecommand*{\LWR@strresulttwo}{}

```

\LWR@origcolspec Holds the original column specs given to tabular.

```
8985 \newcommand*{\LWR@origcolspec}{}

```

LWR@tablecolspecwidth (Ctr) Holds the number of tokens in the table columns specification.

This includes one for each @, !, <, > column, and also one for each of the parameters of p, @, !, <, > columns, and three for each D column.

(This is not the total # of L^AT_EX columns in the table.)

```
8986 \newcounter{LWR@tablecolspecwidth}

```

LWR@tablecolspecindex (Ctr) While parsing the L^AT_EX table column specification, starts at 1 and is incremented per token of the specification.

```
8987 \newcounter{LWR@tablecolspecindex}

```

LWR@tableLaTeXcolindex (Ctr) While producing the table, resets to 1 at the start of the table and also at each end of line, and is incremented by 1 by each ampersand.

```
8988 \newcounter{LWR@tableLaTeXcolindex}

```

LWR@tabletotalLaTeXcols (Ctr) While parsing a table column specification, begins at 0 and increments by 1 per L^AT_EX table column. Eventually holds the final number of L^AT_EX table columns in each row, not counting @ and ! columns. (In HTML, @ and ! cells become their own columns, but are not included in `LWR@tabletotalLaTeXcols`.)

```
8989 \newcounter{LWR@tabletotalLaTeXcols}

```

LWR@tabletotalLaTeXcolsnxt (Ctr) Holds the next L^AT_EX table column index while parsing, equal to one more than `LWR@tabletotalLaTeXcols`.

```
8990 \newcounter{LWR@tabletotalLaTeXcolsnxt}

```

LWR@colatspec A data array of specifications for @ columns. The leftmost's index is `leftedge`, the

others are counter values. See section 44.

- LWR@colbangspec A data array of specifications for ! columns. The leftmost's index is leftedge, the others are counter values. See section 44.
- LWR@colbeforespec A data array of specifications for > columns.
- LWR@colafterspec A data array of specifications for < columns.
- LWR@colbarspec A data array of specifications for vertical rules.
- LWR@coladdclass A data array of extra css class, as set by >.
- LWR@cellcolordepth (*Ctr*) Counts how many cell color <div>s were added to the current tabular data cell.

```
8991 \newcounter{LWR@cellcolordepth}
```

77.4.1 Multicolumn variables

```
8992 \newcounter{LWR@tablemulticolwidth}
```

Indexes into the multicolumn specification:

```
8993 \newcounter{LWR@tablemulticolspos}
```

Remembers multicolumn vertical rules if found in the column spec.

```
8994 \newcounter{LWR@mcolvertbarsl}
8995 \newcounter{LWR@mcolvertbarsr}
8996 \newcounter{LWR@mcolvertbarsldash}
8997 \newcounter{LWR@mcolvertbarsrdash}
8998 \newbool{LWR@mcolvertbaronleft}
```

77.4.2 Longtable variables

LWR@starredlongtable (*bool*) Per the caption package, step the counter if longtable*.

```
8999 \newbool{LWR@starredlongtable}
9000 \boolfalse{LWR@starredlongtable}
```

77.4.3 Midrule variables

LWR@midrulecounter (*Ctr*) Indexes across the LWR@midrules and LWR@trim<l/r>rules data arrays.

```
9001 \newcounter{LWR@midrulecounter}
```

77.5 Handling &, @, !, and bar

For technical discussion regarding problems redefining \&, See:

<http://tex.stackexchange.com/questions/11638/>

[where-do-i-find-futurelets-nasty-behaviour-documented/11860#11860](http://tex.stackexchange.com/questions/11638/where-do-i-find-futurelets-nasty-behaviour-documented/11860#11860)

`\LWR@insertatbangcols`

```

9002 \newcommand*{\LWR@insertatbangcols}{%
9003   \ifbool{\LWR@skipatbang}%
9004   {}%
9005   {%
9006     \LWR@printatbang{at}{\arabic{\LWR@tableLaTeXcolindex}}%
9007     \LWR@printatbang{bang}{\arabic{\LWR@tableLaTeXcolindex}}%
9008   }%
9009 }
```

`\LWR@closetabledatcell` If `\LWR@skippingmrowcell` or `\LWR@skippingmcolrowcell` then there is no data tag to close. Otherwise, close any paragraphs, then close the data tag.

```

9010 \newcommand*{\LWR@closetabledatcell}{%
9011   \booltrue{\LWR@intabularmetadata}%
9012   \ifbool{\LWR@exitingtabular}%
9013   {%

9014     \LWR@stoppars%
9015   }%
9016   {% not exiting tabular
9017     \ifboolexpr{bool{\LWR@skippingmrowcell} or bool{\LWR@skippingmcolrowcell}}%
9018     {%

9019     \LWR@stoppars%
```

If not skipping a `\multicolumnrow` cell, insert the @ and ! columns after this non-existent column.

```

9020     \ifbool{\LWR@skippingmcolrowcell}%
9021     {}%
9022     {\LWR@insertatbangcols}%
9023   }%
9024   {% not skippingmrowcell
```

Insert any < then any @ and ! column contents, unless muted for the `\bottomrule` or a `\multicolumn`:

```

9025     \unskip%
9026     \ifboolexpr{%
9027       bool{\LWR@tabularmutemods} or
9028       bool{\LWR@skipatbang} or
9029       bool{\LWR@emptyatbang}
9030     }%
9031     {}%
9032     {%
9033       \LWR@getexparray{\LWR@colafterspec}%
9034       {\arabic{\LWR@tableLaTeXcolindex}}%
9035     }%
```

Close paragraphs:

```

9036     \LWR@stoppars%
9037     \boolfalse{\LWR@tableparcell}%
```

Close the table data cell.

Close any color <div>s.

```
9038     \whileboolexpr{test {\ifnumcomp{\value{LWR@cellcolordepth}}{>}{0}}}{%
9039         \LWR@htmltag{/div}\LWR@orignewline%
9040         \defaddtocounter{LWR@cellcolordepth}{-1}%
9041     }%
```

Skip the @ and ! cells if are closing a multicolumn cell.

```
9042     \leavevmode\unskip\LWR@htmltag{/td}\LWR@orignewline%
9043     \global\booltrue{LWR@tabularcelladded}%
9044     \LWR@insertatbangcols%
9045     }% not skipping mrowcell
9046 }% not exiting tabular
9047 \boolfalse{LWR@skippingmrowcell}%
9048 \boolfalse{LWR@skippingmcolrowcell}%
9049 \boolfalse{LWR@skipatbang}%
```

Color control. Column is set by >{} for each cell, so it must be cleared here.

```
9050     \def\LWR@cellHTMLcolor{}%
9051     \def\LWR@columnHTMLcolor{}%
9052     \defcounter{LWR@cellcolordepth}{0}%
9053 }
```

When not used inside a tabular, & performs its original function as recorded here (with catcode 4).

```
9054 \let\LWR@origampmacro&
9055 \end{warpHTML}
```

77.5.1 Handling &

for HTML output: 9056 \begin{warpHTML}

& Will behave depending on whether it is being used inside tabular.

& is redefined to test whether it is inside a tabular environment, in which case it performs special processing for HTML conversion. If not, it behaves normally.

```
9057 \newcommand*\LWR@tabularampersand}{%
9058     \LWR@traceinfo{LWR@tabularampersand}%
9059     \ifnumcomp{\value{LWR@tabulardepth}}{>}{0}%
9060     {%
```

If not skipping a multirow cell, close the current data cell.

```
9061     \unskip%
9062     \LWR@closetabledatacell%
```

Move to the next column.

```
9063     \defaddtocounter{LWR@tableLaTeXcolindex}{1}%
```

Have not yet added data in this column:

```
9064      \global\boolfalse{LWR@tabularcelladded}%
```

Look at the next token to decide multi or single column data tag.

```
9065      \LWR@getmynexttoken%
9066      }%
```

If not inside a tabular, performs the original action:

```
9067      {%
9068      \LWR@origampmacro%
9069      }%
9070 }
```

& is left with its original catcode for now.

tikz package seems to require & be left alone until after tikz has been loaded. Also, cleveref uses the ampersand in one of its options.

& is made active inside a tabular.

& is left alone when in math alignments.

77.6 Filling an unfinished row

`\LWR@tabularfinishrow` Adds empty table cells if necessary to finish the row.

At the end of the table, if any bottom rules are requested then an empty row must be generated to form the borders which show the rules.

```
9071 \newcommand*{\LWR@tabularfinishrow}{%
```

If not exiting the tabular, or doing a rule, or have already started a row, finish this row:

```
9072      \ifboolexpr{%
9073          not bool {LWR@exitingtabular} or%
9074          bool{LWR@doingtbrule} or%
9075          bool{LWR@doingcmidrule} or%
9076          test{\ifnumcomp{\value{LWR@hlines}}{>}{0}} or%
9077          test{\ifnumcomp{\value{LWR@hdashedlines}}{>}{0}} or%
9078          bool{LWR@startedrow}%
9079      }%
```

Temporarily turn off `LWR@exitingtabular` so that table data tags will still be generated.

If generating a final row for the `\bottomrule` borders, turn off the @, !, <, and > column output:

```
9080      \ifbool{LWR@exitingtabular}{%
9081          \booltrue{LWR@tabularmutemods}%
9082      }{%
9083          \boolfalse{LWR@tabularmutemods}%
9084      }%
```

Locally reenable the table data tags until finished with the final row:

```
9085 \boolfalse{LWR@exitingtabular}%
```

Generate table data tags and ampersands until the right edge:

```
9086 \whileboolexpr{%
9087     test {
9088         \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}
9089             {\value{LWR@tabletotalLaTeXcols}}
9090     } or %
9091     (%
9092         bool{LWR@intabularmetadata} and%
9093         not bool{LWR@tabularcelladded} and%
9094         test {
9095             \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}
9096                 {\value{LWR@tabletotalLaTeXcols}}
9097         }%
9098     )%
9099 }%
9100 {%
9101     \LWR@tabledatasinglecolumn%tag%
```

The following is essentially `\LWR@tabularampersand` with `LWR@emptyatbang` added to empty the following cells:

```
9102 \LWR@closetabledatacell%
9103 \defaddtocounter{LWR@tableLaTeXcolindex}{1}%
9104 \global\boolfalse{LWR@tabularcelladded}%
9105 \booltrue{LWR@emptyatbang}%
```

Starts the next cell:

```
9106 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}
9107     {\value{LWR@tabletotalLaTeXcols}}%
9108     {\LWR@getmynexttoken}%
9109     }%
9110 }%
```

Reenable the original `LWR@exitingtabular` to close the entire table:

```
9111 \ifbool{LWR@tabularmutemods}{%
9112     \booltrue{LWR@exitingtabular}%
9113 }{%
9114     \boolfalse{LWR@exitingtabular}%
9115 }%
9116 \boolfalse{LWR@tabularmutemods}%

9117 \boolfalse{LWR@emptyatbang}%
9118 }{% ifboolexpr
9119 }
```

77.7 Handling `\`

Inside `tabular`, `\` is redefined to `\LWR@tabularendofline`

Throws away options `\\[dim]` or `*`

`\LWR@tabularendofline`

```
9120 \NewDocumentCommand{\LWR@tabularendofline}{s o}{%
```

Finish the row:

```
9121   \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}
9122     {\value{LWR@tabletotalLaTeXcols}}%
9123     {\LWR@tabularfinishrow}%
9124     {\LWR@closetabledatacell}%
9125   \LWR@htmltag{/tr}\LWR@orignewline%
```

xcolor row color support:

```
9126   \@rowcolor%
```

No longer inside a data cell:

```
9127   \booltrue{LWR@intabularmetadata}%
```

Not yet started a table row:

```
9128   \boolfalse{LWR@startedrow}%
```

Additional setup:

```
9129   \defcounter{LWR@hlines}{0}%
9130   \defcounter{LWR@hdashedlines}{0}%
9131   \boolfalse{LWR@doingtbrule}%
9132   \boolfalse{LWR@doingcmidrule}%
9133   \LWR@clearmidrules%
```

```
9134   \def\LWR@rowHTMLcolor{}
```

Start at first column:

```
9135   \defcounter{LWR@tableLaTeXcolindex}{1}%
```

Have not yet added data in this column:

```
9136   \global\boolfalse{LWR@tabularcelladded}%
```

Allow T_EX to flush the pending paragraph. Not doing so causes a slowdown for very large tables.

```
9137   \LWR@stoppars%
9138   \LWR@forceemptyline%
```

Look at the next token to decide between single column data tag or a special case:

```
9139   \LWR@getmynexttoken%
9140 }
```

77.8 Looking ahead in the column specifications

`\LWR@columnspeclookahead {⟨offset⟩}`

Looks offset tokens ahead in the column specification, setting `\LWR@strresulttwo`.

The `w` column alignment will be seen as a single unit such as `{c}`.

```
9141 \newcommand*{\LWR@columnspeclookahead}[1]{%
9142   \setcounter{\LWR@tempcountone}{\value{\LWR@tablecolspecindex}}%
9143   \addtocounter{\LWR@tempcountone}{#1}%
9144   \fullexpandarg%
9145   \StrChar{\LWR@origcolspec}{\arabic{\LWR@tempcountone}}[\LWR@strresulttwo]%

```

Get the contents of the first group in `\LWR@strresulttwo`:

```
9146     \exploregroups%
9147     \StrChar{\LWR@strresulttwo}{1}[\LWR@strresulttwo]%
9148     \noexploregroups%
9149 }

```

77.9 Parsing @, >, <, !, bar columns

Holds the parsed argument for @, >, <, or ! columns:

```
9150 \newcommand*{\LWR@colparameter}{}

```

`\LWR@parseatcolumn` *{<this column type>}*

Handles `@{text}` columns.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

```
9151 \newcommand*{\LWR@parseatcolumn}[1]{%

```

Move to the next token after the '@':

```
9152   \LWR@traceinfo{at column}%
9153   \defaddtocounter{\LWR@tablecolspecindex}{1}%

```

Read the next token into `\LWR@colparameter`, expanding once:

```
9154   \LWR@traceinfo{about to read the next token:}%
9155   \expandarg%
9156   \StrChar{\LWR@origcolspec}%
9157     {\arabic{\LWR@tablecolspecindex}}[\LWR@colparameter]%
9158   \fullexpandarg%

```

Store the result into a data array, expanding once out of `\LWR@colparameter`:

```
9159   \LWR@traceinfo{have now read the next token}%
9160   \ifnumcomp{\value{\LWR@tabletotalLaTeXcols}}{=}{0}%
9161   {% left edge of the table:
9162     \LWR@traceinfo{at the left edge}%
9163     \LWR@setexparray{\LWR@colatspec}%
9164       {leftedge}%
9165       {\expandafter\@firstofone\LWR@colparameter}%
9166     \LWR@traceinfo{at the left edge: %
9167       \LWR@getexparray{\LWR@colatspec}{leftedge}}%
9168   }%

```

```

9169   {% not at the left edge:
9170       \LWR@traceinfo{not at the left edge}%
9171       \LWR@setexparray{\LWR@colatspec}%
9172           {\arabic{\LWR@tabletotalLaTeXcols}}%
9173           {\expandafter\@firstofone\LWR@colparameter}%
9174       \LWR@traceinfo{at \arabic{\LWR@tabletotalLaTeXcols}%
9175           : % space
9176       \LWR@getexparray{\LWR@colatspec}{\arabic{\LWR@tabletotalLaTeXcols}}}%
9177   }%
9178   \let\LWR@colparameter\relax%
9179   \booltrue{\LWR@validtablecol}%
9180 }

```

`\LWR@parsebangcolumn` *{(this column type)}* Handles `!{text}` columns.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

```

9181 \newcommand*{\LWR@parsebangcolumn}[1]{%

```

Move to the next token after the '!':

```

9182   \LWR@traceinfo{bang column}%
9183   \defadddtocounter{\LWR@tablecolspecindex}{1}%

```

Read the next token into `\LWR@colparameter`, expanding once:

```

9184   \LWR@traceinfo{about to read the next token:}%
9185   \expandarg%
9186   \StrChar{\LWR@origcolspec}%
9187       {\arabic{\LWR@tablecolspecindex}}[\LWR@colparameter]%
9188   \fullexpandarg%

```

Store the result into a data array, expanding once out of `\LWR@colparameter`:

```

9189   \LWR@traceinfo{have now read the next token}%
9190   \ifnumcomp{\value{\LWR@tabletotalLaTeXcols}}{=}{0}%
9191   {% left edge of the table:
9192       \LWR@traceinfo{at the left edge}%
9193       \LWR@setexparray{\LWR@colbangspec}%
9194           {leftedge}%
9195           {\expandafter\@firstofone\LWR@colparameter}%
9196   }%
9197   {% not at the left edge:
9198       \LWR@traceinfo{not at the left edge}%
9199       \LWR@setexparray{\LWR@colbangspec}%
9200           {\arabic{\LWR@tabletotalLaTeXcols}}%
9201           {\expandafter\@firstofone\LWR@colparameter}%
9202       \LWR@traceinfo{bang \arabic{\LWR@tabletotalLaTeXcols}: \LWR@colparameter!}%
9203   }%
9204   \let\LWR@colparameter\relax%
9205   \booltrue{\LWR@validtablecol}%
9206 }

```

`\LWR@checkbeforeaddclass` *{(compared csname)}* *{(css class to add)}*

```

9207 \newcommand*{\LWR@checkbeforeaddclass}[2]{%
9208   \ifcsstrequal{\LWR@tempone}{#1}%
9209   {%

```



```

9210         \LWR@setexparray{\LWR@coladdclass}%
9211             {\arabic{\LWR@tabletotalLaTeXcolsnext}}%
9212             { #2}% space is intentional
9213         }{}%
9214 }

```

`\LWR@checkmathcolpar` Error if using math in column parameters.

```

9215 \newcommand*\LWR@checkmathcolpar}{%
9216     \IfSubStr{\detokenize\expandafter{\LWR@colparameter}}{\LWR@dollar}%
9217     {%
9218         \PackageError{lwarp}%
9219         {%
9220             Lwarp does not support `\$' in column specifiers.\MessageBreak
9221             Specify `\$' math for each cell in the column.\MessageBreak
9222             Enter 'h' for more info%
9223         }%
9224         {%
9225             For example, replace `>{\$}c<{\$}' with `c', and then\MessageBreak
9226             use `\$cell contents\$' for each cell in the column.%
9227         }%
9228     }{}%
9229 }

```

`\LWR@parsebeforecolumn` *{<this column type>}*

Handles `>{text}` columns.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

```

9230 \newcommand*\LWR@parsebeforecolumn}[1]{%

```

Move to the next token after the '>':

```

9231     \defadddtocounter{\LWR@tablecolspecindex}{1}%

```

Read the next token, expanding once into `\LWR@colparameter`:

```

9232     \expandarg%
9233     \StrChar{\LWR@origcolspec}%
9234     {\arabic{\LWR@tablecolspecindex}}[\LWR@colparameter]%
9235     \fullexpandarg%

```

Error if using `>{\$}`, which is not supported by `lwarp`.

```

9236     \LWR@checkmathcolpar%

```

Store the result into a data array, expanding once out of `\LWR@colparameter`:

```

9237     \LWR@setexparray{\LWR@colbeforespec}%
9238     {\arabic{\LWR@tabletotalLaTeXcolsnext}}%
9239     {\expandafter\@firstofone\LWR@colparameter}%
9240 %
9241     \edef\LWR@tempone{\expandafter\@firstofone\LWR@colparameter}%

```

If detect `>\centering\arraybackslash` or related, add a css class.

```

9242 \LWR@checkbeforeaddclass{\LWR@detect@centeringarraybackslash}{tdcenter}
9243 \LWR@checkbeforeaddclass{\LWR@detect@raggedrightarraybackslash}{tdleft}
9244 \LWR@checkbeforeaddclass{\LWR@detect@raggedleftarraybackslash}{tdright}
9245 \LWR@checkbeforeaddclass{\LWR@detect@itshape}{tditshape}
9246 \LWR@checkbeforeaddclass{\LWR@detect@bfseries}{tdbfseries}
9247 \LWR@checkbeforeaddclass{\LWR@detect@bfit}{tdbfit}

9248 \let\LWR@colparameter\relax%
9249 \booltrue{\LWR@validtablecol}%
9250 }

```

`\LWR@parseaftercolumn` {<*this column type*>}

Handles <{text}> columns.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

```
9251 \newcommand*{\LWR@parseaftercolumn}[1]{%
```

Move to the next token after the '<':

```
9252 \defaddtocounter{\LWR@tablecolspecindex}{1}%
```

Read the next token, expanding once into `\LWR@colparameter`:

```

9253 \expandarg%
9254 \StrChar{\LWR@origcolspec}%
9255     {\arabic{\LWR@tablecolspecindex}}{\LWR@colparameter}%
9256 \fullexpandarg%

```

Error if using >{<}, which is not supported by lwarp.

```
9257 \LWR@checkmathcolpar%
```

Store the result into a data array, expanding once out of `\LWR@colparameter`:

```

9258 \LWR@setexparray{\LWR@colafterspec}%
9259     {\arabic{\LWR@tabletotalLaTeXcols}}%
9260     {\expandafter\@firstofone\LWR@colparameter}%
9261 \let\LWR@colparameter\relax%
9262 \booltrue{\LWR@validtablecol}%
9263 }

```

`\LWR@parsebarcolumn` {<*this column type*>}

Handles vertical rules.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

```

9264 \newcommand*{\LWR@parsebarcolumn}[1]{%
9265     \LWR@traceinfo{\LWR@parsebarcolumn}%

```

Remember the bar at this position:

```

9266 \ifnumcomp{\value{\LWR@tabletotalLaTeXcols}}{=}{0}%
9267     {% left edge of the table:
9268     \edef\LWR@tempone{\LWR@getexparray{\LWR@colbarspec}{leftedge}}%

```

```

9269     \ifdefstring{\LWR@tempone}{tvertbarl}%
9270     {\LWR@setexparray{\LWR@colbarspec}{leftedge}{tvertbarldouble}}%
9271     {\LWR@setexparray{\LWR@colbarspec}{leftedge}{tvertbarl}}%
9272   }%
9273   {% not at the left edge:
9274     \edef\LWR@tempone{%
9275       \LWR@getexparray{\LWR@colbarspec}{\arabic{\LWR@tabletotalLaTeXcols}}%
9276     }%
9277     \ifdefstring{\LWR@tempone}{tvertbarr}%
9278     {%
9279       \LWR@setexparray{\LWR@colbarspec}%
9280         {\arabic{\LWR@tabletotalLaTeXcols}}{tvertbarrdouble}%
9281     }%
9282     {%
9283       \LWR@setexparray{\LWR@colbarspec}%
9284         {\arabic{\LWR@tabletotalLaTeXcols}}{tvertbarr}%
9285     }%
9286   }%
9287   \booltrue{\LWR@validtablecol}%
9288 }

```

`\LWR@parsecoloncolumn` {<*this column type*>}

Handles vertical rules.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

```

9289 \newcommand*{\LWR@parsecoloncolumn}[1]{%
9290   \LWR@traceinfo{\LWR@parsecoloncolumn}%

```

Remember the bar at this position:

```

9291   \ifnumcomp{\value{\LWR@tabletotalLaTeXcols}}{=}{0}%
9292   {% left edge of the table:
9293     \edef\LWR@tempone{\LWR@getexparray{\LWR@colbarspec}{leftedge}}%
9294     \ifdefstring{\LWR@tempone}{tvertbarldash}%
9295     {\LWR@setexparray{\LWR@colbarspec}{leftedge}{tvertbarldoubledash}}%
9296     {\LWR@setexparray{\LWR@colbarspec}{leftedge}{tvertbarldash}}%
9297   }%
9298   {% not at the left edge:
9299     \edef\LWR@tempone{%
9300       \LWR@getexparray{\LWR@colbarspec}{\arabic{\LWR@tabletotalLaTeXcols}}%
9301     }%
9302     \ifdefstring{\LWR@tempone}{tvertbarrdash}%
9303     {\LWR@setexparray{\LWR@colbarspec}%
9304       {\arabic{\LWR@tabletotalLaTeXcols}}{tvertbarrdoubledash}}%
9305     {\LWR@setexparray{\LWR@colbarspec}%
9306       {\arabic{\LWR@tabletotalLaTeXcols}}{tvertbarrdash}}%
9307   }%
9308   \booltrue{\LWR@validtablecol}%
9309 }

```

`\LWR@parsesemicoloncolumn` {<*this column type*>}

Handles vertical rules.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

The arguments to the column type are absorbed by `\LWR@column@<char>`, defined by `\LWR@modifycolumn@type`.

```
9310 \newcommand*\LWR@parsesemicoloncolumn}[1]{%
```

Treat ; as a : column:

```
9311   \LWR@parsecoloncolumn{}%
9312 }
```

77.10 Parsing common column types

`\LWR@parsenormalcolumn` *{<this column type>}*

Add to the accumulated column specs, advance counters, and pre-clear another column of at, before, and after specs.

`\newcolumn@type` definitions use `\LWR@parsenormalcolumn`, so an HTML and print version are given so that they may work inside a `lateximage`.

The arguments to the column type are absorbed by `\LWR@column@<char>`, defined by `\LWR@modifycolumn@type`.

```
9313 \newcommand*\LWR@HTML@LWR@parsenormalcolumn}[1]{%
9314   \defaddtocounter{LWR@tabletotalLaTeXcols}{1}%
9315   \defaddtocounter{LWR@tabletotalLaTeXcolsnext}{1}%

9316   \LWR@setexparray{LWR@tablecolspec}{\arabic{LWR@tabletotalLaTeXcols}}{#1}%

9317   \LWR@traceinfo{normal column \arabic{LWR@tabletotalLaTeXcols}: #1}%
9318   \LWR@setexparray{LWR@colatspec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}%
9319   \LWR@setexparray{LWR@colbangspec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}%
9320   \LWR@setexparray{LWR@colbeforespec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}%
9321   \LWR@setexparray{LWR@colafterspec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}%
9322   \LWR@setexparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}%
9323   \LWR@setexparray{LWR@coladdclass}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}%
9324   \booltrue{LWR@validtablecol}%
9325 }
9326
9327 \newcommand*\LWR@print@LWR@parsenormalcolumn}[1]{}
9328
9329 \LWR@formatted{LWR@parsenormalcolumn}
```

77.11 Parsing ‘w’ columns

W and w columns are handled via array with `\HTMLnewcolumn@type`.

77.12 Parsing ‘*’ columns

`\LWR@parsestarcolumn` *{<this column type>}* Star columns should already have been expanded, so this should never be used.

Table 13: Tabular baseline

l	p	m	b	r
			bot	
		mid	bot	
l	par	mid	bot	r
	par	mid		
	par			

The arguments to the column type are absorbed by `\LWR@columntype@<char>`, defined by `\LWR@modifycolumnntype`.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

```
9330 \newcommand*\LWR@parsestarcolumn}[1]{}

```

77.13 Expanding the star column specifications

```
\LWR@expandpreamble {<tabular preamble>}

```

From array `\@mkpream`.

The resulting expanded preamble is stored in `\the\@temptokena`. Assign as:

```
\edef\destination{\the\@temptokena}

```

```
9331 \newcommand*\LWR@expandpreamble}[1]{%
9332   \edef\@tempa{\@temptokena=#1}%
9333   \@tempa%
9334   \@tempswatruetrue%
9335   \@whilesw\if@tempswa\fi{%
9336     \@tempswafalse\the\NC@list%
9337   }%
9338 }

```

77.14 Parsing the column specifications

tabular baselines

HTML CSS cannot exactly match the \LaTeX concept of a baseline for a table row. Table 13 shows the \LaTeX results for various vertical-alignment choices, with the baseline of the first column drawn across all the columns for comparison. See the `p` column specification in table 14 for details.

Table 14 describes how each kind of column is converted to HTML.

Table 15 shows the various internal macros generated for each column type.

```
\LWR@modifycolumnntype {<1: column type letter>} {<2: number args to ignore>} {<3: csname of the cell
action>} {<4: csname of the multicolumn print type action>} {<5: csname of the
multicolumn print data action>}

```

Table 14: Tabular HTML column conversions

Each cell is given a css class of `td<columntype>`.

- l, r, c:** Converted to table cells without paragraph tags.
Uses css `vertical-align:middle` so that top or bottom-aligned cells may go above or below this cell.
 - p:** Converted to table cells with paragraph tags. Ref: Table 13, \LaTeX places the top line of a parbox aligned with the rest of the text line, so css `vertical-align:bottom` is used to have the HTML result appear with the paragraph extending below the L, R, C cells at the middle, if possible. This may be confusing as a P cell may not top-align with an L,R,C cell in the HTML conversion, especially in the presence of a B cell, and two P cells side-by-side will be aligned at the bottom instead of the top. Some adjustment of the css may be desired, changing `td.tdp`, `td.tdP`, `td.tdprule`, and `td.tdPrule` to `vertical-align: middle`. Another possibility is to change L,R,C, and P to `vertical-align: top` and not worry about the alignment of B and M cells or trying to approximate \LaTeX baselines.
 - m:** With paragraph tags, css `vertical-align:middle`.
 - b:** With paragraph tags, css `vertical-align: top` so that the bottom of the text is closest to the middle of the text line.
 - w and W:** Converted to `l`, `c`, or `r`. No paragraph tags.
 - P, M, B:** Horizontally-centered versions.
 - S:** Treated as '`c`'. Ignores optional argument. From the `siunitx` package.
 - D:** Treated as '`c`'. From the `dcolumn` package.
 - @, !, >, <:** One each, in that order.
 - |:** Vertical rule.
 - Unknown:** Converted to '`l`'.
 - \newcolumntype:** Expands to its replacement text.
 - \HTMLnewcolumntype:** Provides simplified replacement text for HTML.
-

Table 15: HTML column type internal macros

<coltype>: The single-letter column type, such as c or X.

Created by \LWR@modifycolumn**type**: Used by lwarp to add HTML functionality to each built-in column type.

\LWR@column**type@<coltype>**: Handles tabular columns depending on the type. Calls \LWR@parsenormalcolumn or related, then advances \LWR@tablecolspecindex.

\LWR@column**type@mctype@<coltype>**: Generates the \multicolumn HTML cell css class. Calls \LWR@printmccoltype@normal or related.

\LWR@column**type@mcdat@<coltype>**: Generates the \multicolumn HTML cell data. Calls \LWR@printmccoldata@normal or related.

Created by \newcolumn**type**: From array.

\NC@find@<coltype>: Internally used to parse the column specifier.

\NC@rewrite@<coltype>: Stores the print-mode replacement text.

Created by \HTMLnewcolumn**type**: From lwarp.

\LWR@print@NC@rewrite@<coltype>: Copied from \NC@rewrite@<type>.

\LWR@HTML@NC@rewrite@<coltype>: Stores the HTML-mode replacement text.

\NC@rewrite@<coltype>: Redefined to use the print or HTML version.

Add HTML functionality to an existing print version column type.

```

9339 \newcommand*\LWR@modifycolumn}[5]{%
9340   \LWR@traceinfo{LWR@modifycolumn !#1!#2!#3!#4!#5!}%
9341   \LWR@traceinfo{LWR@modifycolumn #1}%
9342   \edef\@tempa{%
9343     \noexpand\csdef{LWR@column@#1}{%
9344       \noexpand\@nameuse{#3}{#1}%
9345       \noexpand\defaddtocounter{LWR@tablecolspecindex}{#2}%
9346     }%
9347     \noexpand\csdef{LWR@column@mctype@#1}{%
9348       \noexpand\@nameuse{#4}{#1}%
9349     }%
9350     \noexpand\csdef{LWR@column@mcdat@#1}{%
9351       \noexpand\@nameuse{#5}{#2}%
9352     }%
9353   }%
9354   \@tempa%
9355   \LWR@traceinfo{LWR@modifycolumn done}%
9356 }

9357 \LWR@modifycolumn{l}{0}{LWR@parsenormalcolumn}
9358   {LWR@printmccoltype@normal}{LWR@printmccoldata@normal}
9359
9360 \LWR@modifycolumn{c}{0}{LWR@parsenormalcolumn}
9361   {LWR@printmccoltype@normal}{LWR@printmccoldata@normal}
9362
9363 \LWR@modifycolumn{r}{0}{LWR@parsenormalcolumn}

```

```

9364   {LWR@printmccoltype@normal}{LWR@printmccoldata@normal}

9365 \LWR@modifycolumnntype{@}{0}{LWR@parseatcolumn}
9366   {LWR@printmccoltype@ignore}{LWR@printmccoldata@other}
9367
9368 \LWR@modifycolumnntype{!}{0}{LWR@parsebangcolumn}
9369   {LWR@printmccoltype@ignore}{LWR@printmccoldata@other}
9370
9371 \LWR@modifycolumnntype{>}{0}{LWR@parsebeforecolumn}
9372   {LWR@printmccoltype@ignore}{LWR@printmccoldata@other}
9373
9374 \LWR@modifycolumnntype{<}{0}{LWR@parseaftercolumn}
9375   {LWR@printmccoltype@ignore}{LWR@printmccoldata@other}
9376
9377 \LWR@modifycolumnntype{|}{0}{LWR@parsebarcolumn}
9378   {LWR@printmccoltype@vertbar}{LWR@printmccoldata@skip}
9379
9380 \LWR@modifycolumnntype{:}{0}{LWR@parsecoloncolumn}
9381   {LWR@printmccoltype@colon}{LWR@printmccoldata@skip}
9382
9383 \LWR@modifycolumnntype{;}{1}{LWR@parsesemicoloncolumn}
9384   {LWR@printmccoltype@semicolon}{LWR@printmccoldata@skip}

9385 \LWR@modifycolumnntype{p}{1}{LWR@parsenormalcolumn}
9386   {LWR@printmccoltype@normal}{LWR@printmccoldata@paragraph}
9387
9388 \LWR@modifycolumnntype{m}{1}{LWR@parsenormalcolumn}
9389   {LWR@printmccoltype@normal}{LWR@printmccoldata@paragraph}
9390
9391 \LWR@modifycolumnntype{b}{1}{LWR@parsenormalcolumn}
9392   {LWR@printmccoltype@normal}{LWR@printmccoldata@paragraph}

```

A star column:

```

9393 \LWR@modifycolumnntype{*}{2}{LWR@parsestarcolumn}
9394   {LWR@printmccoltype@ignore}{LWR@printmccoldata@skip}

```

`\HTMLnewcolumnntype {<col type>} [<num args>] [<optional arg>] {<replacement text>}`

A user-level macro to creates an HTML version of the replacement text for the column type.

This is the equivalent to:

```

\newcommand*{\LWR@HTML@NC@rewrite@<columnntype>}[<num args>]
  {\NC@find <replacement text>}
\LWR@formatted{NC@rewrite@<columnntype>}

```

```

9395 \NewDocumentCommand{\HTMLnewcolumnntype}{m O{0} o m}{%
9396   \IfValueTF{#3}
9397   {
9398     \expandafter\newcommand\expandafter*%
9399     \csname LWR@HTML@NC@rewrite@#1\endcsname[#2][#3]{\NC@find #4}%
9400     \LWR@formatted{NC@rewrite@#1}%
9401   }
9402   {
9403     \expandafter\newcommand\expandafter*%

```



```

9404         \csname LWR@HTML@NC@rewrite@#1\endcsname[#2]{\NC@find #4}%
9405         \LWR@formatted{NC@rewrite@#1}%
9406     }
9407 }

```

```
9408 \end{warpHTML}
```

for PRINT output: 9409 \begin{warpprint}

```
9410 \NewDocumentCommand{\HTMLnewcolumn}{m O{0} o m}{}

```

```
9411 \end{warpprint}
```

for HTML output: 9412 \begin{warpHTML}

`\LWR@parsetablecols {<colspecs>}`

Scans the column specification left to right.

Builds `\LWR@tablecolspec` with the final specification, one `LATEX` column per entry. The final number of `LATEX` columns in each row is stored in `LWR@tabletotalLaTeXcols`, which is the number of `&` and `\` in each line, but which does not include `@`, `!`, `<`, `>` specifications in the count.

```

9413 \newcommand*\LWR@parsetablecols}[1]{%
9414     \LWR@traceinfo{LWR@parsetablecols}%

```

Remember the original supplied column spec:

```
9415     \renewcommand*\LWR@origcolspec}{#1}%

```

Remove spaces:

```

9416     \expandarg%
9417     \StrSubstitute{\LWR@origcolspec}{ }{ }[\LWR@origcolspec]%

```

Expand any star columns:

```

9418     \LWR@expandpreamble{\LWR@origcolspec}%
9419     \edef\LWR@origcolspec{\the\@temptokena}%

```

The parsed column spec data array, `LWR@tablecolspec`, will be overwritten with new values.

Total number of columns found so far. Also pre-initialize the first several columns of specs:

```

9420     \defcounter{LWR@tabletotalLaTeXcols}{0}%
9421     \defcounter{LWR@tabletotalLaTeXcolsnxt}{1}%
9422     \LWR@setexparray{LWR@colatspec}{leftedge}{}%
9423     \LWR@setexparray{LWR@colatspec}{1}{}%
9424     \LWR@setexparray{LWR@colatspec}{2}{}%
9425     \LWR@setexparray{LWR@colatspec}{3}{}%
9426     \LWR@setexparray{LWR@colbangspec}{leftedge}{}%
9427     \LWR@setexparray{LWR@colbangspec}{1}{}%
9428     \LWR@setexparray{LWR@colbangspec}{2}{}%

```

```

9429 \LWR@setexparray{LWR@colbangspec}{3}{}%
9430 \LWR@setexparray{LWR@colbeforespec}{1}{}%
9431 \LWR@setexparray{LWR@colbeforespec}{2}{}%
9432 \LWR@setexparray{LWR@colbeforespec}{3}{}%
9433 \LWR@setexparray{LWR@colafterspec}{1}{}%
9434 \LWR@setexparray{LWR@colafterspec}{2}{}%
9435 \LWR@setexparray{LWR@colafterspec}{3}{}%
9436 \LWR@setexparray{LWR@colbarspec}{leftedge}{}%
9437 \LWR@setexparray{LWR@colbarspec}{1}{}%
9438 \LWR@setexparray{LWR@colbarspec}{2}{}%
9439 \LWR@setexparray{LWR@colbarspec}{3}{}%
9440 \LWR@setexparray{LWR@coladdclass}{1}{}%
9441 \LWR@setexparray{LWR@coladdclass}{2}{}%
9442 \LWR@setexparray{LWR@coladdclass}{3}{}%

```

Starting at the first column specification:

```
9443 \defcounter{LWR@tablecolspecindex}{1}%
```

Place the colspecs string length into `\LWR@strresult`, and remember the number of characters in the column specification:

```

9444 \expandarg%
9445 \StrLen{LWR@origcolspec}[LWR@strresult]%
9446 \fullexpandarg%
9447 \LWR@traceinfo{original column spec length: LWR@strresult}%
9448 \defcounter{LWR@tablecolspecwidth}{LWR@strresult}%

```

Haven't seen any optional arguments so far

```
9449 \boolfalse{LWR@opttablecol}%
```

Scan through the column specifications:

```

9450 \whileboolexpr{
9451     not test{
9452         \ifnumcomp{\value{LWR@tablecolspecindex}}{>}{
9453             {\value{LWR@tablecolspecwidth}}%
9454         }%
9455     }%
9456 }%

```

Place the next single-character column type into `\LWR@strresult`:

```

9457 \expandarg%
9458 \StrChar{LWR@origcolspec}{\arabic{LWR@tablecolspecindex}}[LWR@strresult]%
9459 \LWR@traceinfo{position \arabic{LWR@tablecolspecindex}: LWR@strresult}%
9460 \fullexpandarg%

```

Not yet found a valid column type:

```
9461 \boolfalse{LWR@validtablecol}%
```

Skip over any optional arguments, such as `siunitx S` column:

```
9462 \IfStrEq{LWR@strresult}[]{\booltrue{LWR@opttablecol}}{}%
```

Throw away anything found inside the optional argument:

```

9463 \ifbool{LWR@opttablecol}%
9464 {}% inside an optional argument
9465 {% not an optional tabular argument

```

Not inside an optional argument, so consider the column type:

```

9466 \ifcstype{LWR@column@LWR@strresult}%
9467 {\csuse{LWR@column@LWR@strresult}}%
9468 {}%

```

If an unknown column type, use l:

```

9469 \ifbool{LWR@validtablecol}{}%
9470 \LWR@traceinfo{invalid column type: \LWR@strresult}%
9471 \LWR@parsenormalcolumn{l}%
9472 }%
9473 }% not an optional column argument

```

If read the closing bracket, no longer inside the optional argument:

```

9474 \IfStrEq{\LWR@strresult}{\boolfalse{LWR@opttablecol}}%

```

Move to the next character:

```

9475 \defaddtocounter{LWR@tablecolspecindex}{1}%
9476 }% whiledo
9477 }%

```

77.15 colortbl and xcolor tabular color support

These macros provide a minimal emulation of some colortbl macros which might appear between table cells. If colortbl is loaded, these macros will be replaced with functional versions.

For each of the HTML colors below, the text for the HTML color is set if requested, but the macro is empty if none has been set.

`\rownum` Reserve a counter register.

```

9478 \@ifundefined{rownum}{\newcount\rownum}{}

```

`\@rowcolors` Emulated in case xcolor is not used.

```

9479 \newcommand*\@rowcolors{}

```

`\@rowcol@lors` Emulated in case xcolor is not used.

```

9480 \newcommand*\@rowcol@lors{}

```

`\LWR@xcolorrowHTMLcolor` Emulated xcolor row color.

```

9481 \newcommand*\LWR@xcolorrowHTMLcolor{}

```

`\LWR@columnHTMLcolor` HTMLstyle code for the column color.

```
9482 \def\LWR@columnHTMLcolor{}
```

`\LWR@rowHTMLcolor` HTMLstyle code for the row color.

```
9483 \def\LWR@rowHTMLcolor{}
```

`\LWR@cellHTMLcolor` HTMLstyle code for the cell color.

```
9484 \def\LWR@cellHTMLcolor{}
```

`\LWR@ruleHTMLcolor` HTMLstyle code for the rule color.

```
9485 \newcommand*\LWR@ruleHTMLcolor{}
```

`\rowcolor` [*model*] {*color*} [*left overhang*] [*right overhang*] Print version. The HTML version is in `lwarp-colortbl`. Used before starting a tabular data cell, thus `\LWR@getmynexttoken`.

```
9486 \newcommand*\rowcolor{\LWR@getmynexttoken}%
```

`\arrayrulecolor` [*model*] {*color*}

`\arrayrulecolornexttoken` [*model*] {*color*}

Print versions for use outside and inside a tabular:

```
9487 \newcommand{\arrayrulecolor}[2][named]{}
```

```
9488 \newcommand{\arrayrulecolornexttoken}[2][named]{\LWR@getmynexttoken}
```

`\doublerulesepcolor` [*model*] {*color*}

`\doublerulesepcolornexttoken` [*model*] {*color*}

Print versions for use inside and outside a tabular:

```
9489 \newcommand{\doublerulesepcolor}[2][named]{}
```

```
9490 \newcommand{\doublerulesepcolornexttoken}[2][named]{\LWR@getmynexttoken}
```

77.16 Starting a new row

`\LWR@maybe newtablerow` If have not yet started a new table row, begin one now. Creates a new row tag, adding a class for `hline` or `tbrule` if necessary.

```
9491 \newcommand*\LWR@maybe newtablerow
```

```
9492 {%
```

```
9493   \ifbool{LWR@startedrow}%
```

```
9494   }% started the row
```

```
9495   {% not started the row
```

Pre-compute the `aria-hidden` attribute, used to hide from screen readers the final row if it is only used to create the bottom border:

```

9496     \ifbool{LWR@tabularfinalrow}%
9497     {%
9498         \renewcommand*\LWR@tempone%
9499         { aria-hidden=\textquotedbl{}true\textquotedbl}%
9500     }%
9501     {%
9502         \renewcommand*\LWR@tempone{}%
9503     }%

```

Start a new row if doing `\hline`:

```

9504     \ifboolexpr{%
9505         test{\ifnumcomp{\value{LWR@hlines}}{>}{0}} or%
9506         test{\ifnumcomp{\value{LWR@hdashedlines}}{>}{0}}%
9507     }%
9508     {%
9509         \LWR@htmltag{%
9510             tr %
9511                 class=\textquotedbl{}hline\textquotedbl%
9512                 \LWR@tempone% aria-hidden
9513         }%
9514         \LWR@orignewline%

```

Remember that now have started the row, and create the row tag, with a class if necessary.

```

9515         \booltrue{LWR@startedrow}%
9516         \booltrue{LWR@intabularmetadata}%
9517     }%

```

If not doing `\hline`, start a row if doing a top or bottom rule:

```

9518     {% not doing hline
9519         \ifbool{LWR@doingtbrule}%
9520         {%
9521             \ifdefvoid{\LWR@ruleHTMLcolor}{%
9522                 \LWR@htmltag{%
9523                     tr %
9524                         class=\textquotedbl{}tbrule\textquotedbl%
9525                         \LWR@tempone% aria-hidden
9526                 }%
9527             }{%
9528                 \LWR@htmltag{%
9529                     tr class=\textquotedbl{}tbrule\textquotedbl\ % space
9530                         style=\textquotedbl{}border-top: 1px solid % space
9531                         \LWR@origpound\LWR@ruleHTMLcolor \textquotedbl{}%
9532                         \LWR@tempone% aria-hidden
9533                 }%
9534             }%
9535         \LWR@orignewline%

```

Remember that now have started the row, and create the row tag, with a class if necessary.

```

9536         \booltrue{LWR@startedrow}%
9537         \booltrue{LWR@intabularmetadata}%

```

```
9538         }%
9539         {%
```

If not the final row, start a new row:

```
9540         \ifbool{LWR@tabularfinalrow}%
9541         {}%
9542         {%
9543         \LWR@htmltag{tr}\LWR@orignewline%
```

Remember that now have started the row, and create the row tag, with a class if necessary.

```
9544         \booltrue{LWR@startedrow}%
9545         \booltrue{LWR@intabularmetadata}%
9546         }%
9547     }%
9548     }% end of not doing hline
9549 }% end of not started the row
9550 }
```

77.17 Printing vertical bar tags

`\LWR@printbartag {<index>}`

Adds to a tabular data cell an HTML class name for a left/right vertical bar.

```
9551 \newcommand*\LWR@printbartag[1]{%
9552   \LWR@traceinfo{LWR@printbartag !#1!}%
9553   \ifboolexpr{bool{LWR@tabularmutemods} or bool{LWR@emptyatbang}}%
9554   {}% muting or empty
9555   {% not muting
9556     \edef\LWR@tempone{\LWR@getexparray{LWR@colbarspec}{#1}}%
9557     \ifdefempty{\LWR@tempone}{{ \LWR@tempone}%
9558   }% not muting
9559   \LWR@traceinfo{LWR@printbartag done}%
9560 }
```

77.18 Printing @ or ! tags

`\LWR@printatbang {<at — or — bang>} {<index>}`

```
9561 \newcommand*\LWR@printatbang[2]{%
```

Fetch the column at or bang spec:

```
9562   \xdef\LWR@atbangspec{\LWR@getexparray{LWR@col#1spec}{#2}}%
9563   \LWR@traceinfo{atbang: #2 !\LWR@atbangspec!}%
```

Only generate if is not empty;

```
9564   \ifdefempty{\LWR@atbangspec}%
9565   {}%
9566   {% not empty
```

```

9567     \LWR@htmltag{%
9568         td class=\textquotedbl{}td#1%
9569         \LWR@subaddcmidruletrim{}{}%
9570         \LWR@printbartag{#2}%
9571         \textquotedbl{}%
9572         \LWR@tdstartstyles%
9573         \LWR@addcmidrulewidth%
9574         \LWR@addcdashline%
9575         \LWR@addtabularrulecolors%
9576         \LWR@tdendstyles%
9577     }%

```

Create an empty cell if muting for the `\bottomrule`:

```

9578     \ifboolexpr{bool{LWR@tabularmutemods} or bool{LWR@emptyatbang}}%
9579         {}%
9580         {\LWR@atbangspec}%
9581 %
9582     \LWR@htmltag{/td}\LWR@orignewline%
9583     \global\booltrue{LWR@tabularcelladded}%
9584 }% not empty
9585 }%

```

`\LWR@addleftmostbartag`

```

9586 \newcommand*{\LWR@addleftmostbartag}{%
9587     \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}{1}{%
9588         \LWR@printbartag{leftedge}%
9589     }{}%
9590 }

```

`\LWR@tabularleftedge`

```

9591 \newcommand*{\LWR@tabularleftedge}{%
9592     \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}{1}%
9593     {%
9594         \LWR@printatbang{at}{leftedge}%
9595         \LWR@printatbang{bang}{leftedge}%
9596     }% left edge
9597     {}% not left edge
9598 }

```

77.19 Cell opening tag

`\LWR@thiscolspec` Temporary storage.

```

9599 \newcommand*{\LWR@thiscolspec}{}

```

`\LWR@tabledatasinglecolumntag` Print a table data opening tag with style for alignment and color.

```

9600 \newcommand*{\LWR@tabledatasinglecolumntag}%
9601 {%
9602     \LWR@traceinfo{LWR@tabledatasinglecolumntag}%
9603     \LWR@maybenewtablerow%

```

Don't start a new paragraph tag if have already started one, or have found the end of the tabular, or if are inside a `\multirow`:

```
9604 \ifboolexpr{
9605     bool{LWR@intabularmetadata}
9606     and not bool{LWR@exitingtabular}
9607     and not bool {LWR@in@multirow@par}
9608 }%
9609 {% making a tabular data cell
```

Print the @ and ! contents before first column:

```
9610 \LWR@tabularleftedge%
```

Fetch the current column's alignment character into `\LWR@strresult`:

```
9611 \xdef\LWR@strresult{%
9612 \LWR@getexpparray{LWR@tablecolspec}{\arabic{LWR@tableLaTeXcolindex}}%
9613 }%
```

Print the start of a new table data cell:

```
9614 \LWR@traceinfo{LWR@tabledatasinglecolumnntag: about to print td tag}%
9615 \LWR@htmltag{%
9616     td class=\textquotedbl{}td%
```

Append this column's spec:

```
9617 \LWR@strresult%
```

If this column has a `cmidrule`, add "rule" to the end of the HTML class tag. Also add vertical bar tags.

```
9618 \LWR@addcmidruletrim%
9619 \LWR@addleftmostbartag%
9620 \LWR@printbartag{\arabic{LWR@tableLaTeXcolindex}}%
```

Add any tabular > column text alignment or font control css:

```
9621 \LWR@getexpparray{LWR@coladdclass}%
9622     {\arabic{LWR@tableLaTeXcolindex}}%
```

Close the class description:

```
9623 \textquotedbl{}%
```

Add styles for rules, alignment:

```
9624 \LWR@tdstartstyles%
9625 \LWR@addcmidrulewidth%
9626 \LWR@addcdashline%

9627 \xdef\LWR@thiscolspec{%
9628     \LWR@getexpparray{LWR@tablecolspec}%
9629     {\arabic{LWR@tableLaTeXcolindex}}%
9630 }%
9631 \LWR@addformatwppalignment{\LWR@thiscolspec}%
```


Add styles for cell and rule colors:

```

9632          \LWR@addtabulararrowcolor%
9633          \LWR@addtabularrulecolors%

9634          \LWR@tdendstyles%
9635      }% HTML td
9636      \LWR@traceinfo{LWR@tabledatasinglecolumnntag: done printing td tag}%

```

If this is a p, m, b, or X column, allow paragraphs:

```

9637          \ifboolexpr{%
9638              test{ \ifdefstring{\LWR@strresult}{p} } or
9639              test{ \ifdefstring{\LWR@strresult}{m} } or
9640              test{ \ifdefstring{\LWR@strresult}{b} }
9641          }%
9642          {% allow pars
9643      \LWR@traceinfo{LWR@tabledatasinglecolumnntag: about to LWR@startpars}%
9644          \booltrue{LWR@tableparcell}%
9645          \LWR@startpars%
9646      \LWR@traceinfo{LWR@tabledatasinglecolumnntag: done with LWR@startpars}%
9647          }% allow pars
9648          }% no pars

```

Print the > contents unless muted for the \bottomrule:

```

9649          \ifboolexpr{bool{LWR@tabularmutemods} or bool{LWR@emptyatbang}}%
9650          }%
9651          {%
9652      \LWR@getexparray{LWR@colbeforeSpec}{\arabic{LWR@tableLaTeXcolindex}}%
9653          }%
9654          \boolfalse{LWR@intabularmetadata}%
9655      }% making a tabular data cell
9656      }% not making a tabular data cell
9657      \LWR@traceinfo{LWR@tabledatasinglecolumnntag: done}%
9658 }%

```

77.20 Midrules

`LWR@midrules` `LWR@midrules` is a data array (section 44) of columns each containing a non-zero width if a midrule should be created for this column.

`LWR@trimlrules` `LWR@trimlrules` is a data array (section 44) of columns containing `l` if a midrule should be left trimmed for each column.

`LWR@trimrrules` `LWR@trimrrules` is a data array (section 44) of columns containing `r` if a midrule should be right trimmed for each column.

`LWR@cdashlines` `LWR@cdashlines` is a data array (section 44) of columns each containing a `Y` if an `arydshln` package "cdashed line" should be created for this column.

`\LWR@heavyrulewidth` (*Len*) The default width of the rule.

```

9659 \newlength{\LWR@heavyrulewidth}
9660 \setlength{\LWR@heavyrulewidth}{.08em}

```

`\LWR@lightrulewidth` (*Len*) The default width of the rule.

```
9661 \newlength{\LWR@lightrulewidth}
9662 \setlength{\LWR@lightrulewidth}{.05em}
```

`\LWR@cmidrulewidth` (*Len*) The default width of the rule.

```
9663 \newlength{\LWR@cmidrulewidth}
9664 \setlength{\LWR@cmidrulewidth}{.03em}
```

`\LWR@thiscmidrulewidth` (*Len*) The width of the next rule, defaulting to `\LWR@cmidrulewidth`.

If not `\LWR@cmidrulewidth`, a style will be used to generate the custom width.

Assigned from the `LWR@midrules` array.

```
9665 \newlength{\LWR@thiscmidrulewidth}
9666 \setlength{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}
```

`\LWR@clearmidrules` Start new midrules. Called at beginning of tabular and also at `\`.

Clears all `LWR@midrules` and `LWR@trimrules` markers for this line.

```
9667 \newcommand*{\LWR@clearmidrules}
9668 {%
9669   \defcounter{LWR@midrulecounter}{1}%
9670   \whileboolexpr{%
9671     not test{%
9672       \ifnumcomp{\value{LWR@midrulecounter}}{>}%
9673         {\value{LWR@tabletotalLaTeXcols}}%
9674     }%
9675   }%
9676   {%
9677     \LWR@setexparray{LWR@midrules}{\arabic{LWR@midrulecounter}}{0pt}%
9678     \setlength{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}%
9679     \LWR@setexparray{LWR@trimrules}{\arabic{LWR@midrulecounter}}{}%
9680     \LWR@setexparray{LWR@trimrrules}{\arabic{LWR@midrulecounter}}{}%
9681     \LWR@setexparray{LWR@cdashlines}{\arabic{LWR@midrulecounter}}{N}%
9682     \defaddtocounter{LWR@midrulecounter}{1}%
9683   }%
9684 }
```

`\LWR@subcmidrule` $\langle width \rangle$ $\langle trim \rangle$ $\langle leftcolumn \rangle$ $\langle rightcolumn \rangle$

Marks `LWR@midrules` data array elements to be non-zero widths from left to right columns. Also marks trimming for the L and/or R columns.

`LWR@doingcmidrule` is set to force an empty row at the end of the tabular to create the rule.

```
9685 \newcommand*{\LWR@subcmidrule}[4]{%
9686   \defcounter{LWR@midrulecounter}{#3}%
9687   \whileboolexpr{%
9688     not test {%
9689       \ifnumcomp{\value{LWR@midrulecounter}}{>}{#4}%
9690     }%
9691   }%
9692   {%
9693     \LWR@setexparray{LWR@midrules}{\arabic{LWR@midrulecounter}}{#1}%
9694     \defaddtocounter{LWR@midrulecounter}{1}%

```

```

9695   }% whiledo
9696   \IfSubStr{#2}{l}{\LWR@setexparray{LWR@trimlrules}{#3}{l}}{}%
9697   \IfSubStr{#2}{r}{\LWR@setexparray{LWR@trimrrules}{#4}{r}}{}%
9698   \booltrue{LWR@doingcmidrule}%
9699 }

```

`\LWR@docmidrule` [*width*] (*trim*) {*leftcolumn-rightcolumn*}

Marks `LWR@midrules` array elements to be a non-zero width from left to right columns. Also marks trimming for the L and/or R columns.

```

9700 \NewDocumentCommand{\LWR@docmidrule}
9701   {O{\LWR@cmidrulewidth} D()} >{\SplitArgument{1}{-}}m}
9702   {\LWR@subcmidrule{#1}{#2}{#3}}

```

`\LWR@subcdashline` {*leftcolumn*} {*rightcolumn*}

Marks `LWR@cdashlines` data array elements to be Y from left to right columns.

`LWR@doingcmidrule` is set to force an empty row at the end of the tabular to create the rule.

```

9703 \newcommand*{\LWR@subcdashline}[2]{%
9704   \defcounter{LWR@midrulecounter}{#1}%
9705   \whileboolexpr{%
9706     not test {%
9707       \ifnumcomp{\value{LWR@midrulecounter}}{>}{#2}%
9708     }%
9709   }%
9710   {%
9711     \LWR@setexparray{LWR@cdashlines}{\arabic{LWR@midrulecounter}}{Y}%
9712     \defaddtocounter{LWR@midrulecounter}{1}%
9713   }% whiledo
9714   \booltrue{LWR@doingcmidrule}%
9715 }

```

`\LWR@docdashline` {*leftcolumn-rightcolumn*}

Marks `LWR@cdashlines` data array elements to be Y from left to right columns.

```

9716 \NewDocumentCommand{\LWR@docdashline}{>{\SplitArgument{1}{-}}m}%
9717 {%
9718   \LWR@subcdashline#1%
9719 }

```

`\LWR@tdstartstyles` Begins possibly adding a table data cell style.

```

9720 \newcommand*{\LWR@tdstartstyles}{\boolfalse{LWR@tdhavecellstyle}}

```

`\LWR@tdaddstyle` Starts adding a table data cell style.

```

9721 \newcommand*{\LWR@tdaddstyle}{%
9722   \ifbool{LWR@tdhavecellstyle}%
9723     {; }%
9724     { style=\textquotedbl}%
9725   \booltrue{LWR@tdhavecellstyle}%
9726 }

```

`\LWR@tdendstyles` Finishes possibly adding a table data cell style. Prints the closing quote.

```

9727 \newcommand*\LWR@tdendstyles}{%
9728   \ifbool{\LWR@tdhavecellstyle}%
9729     {%
9730       \textquotedbl%
9731       \boolfalse{\LWR@tdhavecellstyle}%
9732     }{%
9733 }
```

`\LWR@subaddcmidruletrim` `{\langle lefttrim \rangle}{\langle righttrim \rangle}` Adds a `\cmidrule` with optional trim.

```

9734 \newcommand*\LWR@subaddcmidruletrim}[2]{%
9735   \setlength{\LWR@templengthone}{%
9736     \LWR@getexparray{\LWR@midrules}{\arabic{\LWR@tableLaTeXcolindex}}%
9737   }%
9738   \ifdimcomp{\LWR@templengthone}{>}{0pt}%
9739     {%
```

Print the class with left and right trim letters appended:

```

9740       \space tdrule#1#2%
```

Remember the width of the rule:

```

9741       \setlength{\LWR@thiscmidrulewidth}{\LWR@templengthone}%
9742     }%
9743   {%
9744     \setlength{\LWR@thiscmidrulewidth}{0pt}%
9745   }%
9746 }
```

`\LWR@addcmidruletrim` Adds left or right trim to a `\cmidrule`.

```

9747 \newcommand*\LWR@addcmidruletrim){%
9748   \LWR@subaddcmidruletrim%
9749   {\LWR@getexparray{\LWR@trimlrules}{\arabic{\LWR@tableLaTeXcolindex}}}%
9750   {\LWR@getexparray{\LWR@trimrrules}{\arabic{\LWR@tableLaTeXcolindex}}}%
9751 }
```

`\LWR@addrulewidth` `{\langle thiswidth \rangle}{\langle defaultwidth \rangle}`

If not default width, add a custom style with width and color depending on `thiswidth`.

Must be placed between `\LWR@tdstartstyles` and `\LWR@tdendstyles`.

```

9752 \newcommand{\LWR@addrulewidth}[2]{%
```

Only add a custom width if `thiswidth` is different than the `defaultwidth`, or if a color is being used:

```

9753   \ifboolexpr{%
9754     test{\ifdimcomp{#1}{=}{0pt}} or
9755     (
9756       ( test{\ifdimcomp{#1}{=}{#2}} and not bool{FormatWP} )
```

```

9757         and ( test {\ifdefvoid{\LWR@ruleHTMLcolor}} )
9758     )
9759 }%
9760 {}% default width and color
9761 {% custom width and/or color

```

Ensure that the width is wide enough to display in the browser:

```

9762     \LWR@forceminwidth{#1}%

```

Begin adding another style:

```

9763     \LWR@tdaddstyle%

```

The style itself:

```

9764     border-top:\LWR@printlength{\LWR@atleastonept} solid % space

```

If default gray, the darkness of the color depends on the thickness of the rule:

```

9765     \ifdefvoid{\LWR@ruleHTMLcolor}{%
9766         \ifdimcomp{#1}{<}{\LWR@lightrulewidth}%
9767         {\LWR@origpound{A0A0A0}%
9768         {% lightrule or heavier
9769             \ifdimcomp{#1}{<}{\LWR@heavyrulewidth}%
9770             {\LWR@origpound{808080}%
9771             {black}%
9772             }% lightrule or heavier
9773         }{%
9774             \LWR@origpound\LWR@ruleHTMLcolor%
9775         }%
9776     }% custom width and/or color
9777 }

```

`\LWR@addcmidrulewidth` Adds a style for the rule width.

Must be placed between `\LWR@tdstartstyles` and `\LWR@tdendstyles`.

```

9778 \newcommand{\LWR@addcmidrulewidth}{%
9779     \LWR@addrulewidth{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}%
9780 }

```

`\LWR@addcdashline` Must be placed between `\LWR@tdstartstyles` and `\LWR@tdendstyles`.

```

9781 \newcommand{\LWR@addcdashline}{%
9782     \edef\LWR@tempone{%
9783         \LWR@getexparray{\LWR@cdashlines}{\arabic{\LWR@tableLaTeXcolindex}}%
9784     }%
9785     \ifdefstring{\LWR@tempone}{Y}{%
9786         \LWR@tdaddstyle%
9787         border-top: 1pt dashed %
9788         \ifdefvoid{\LWR@ruleHTMLcolor}%
9789             {black}%
9790             {\LWR@origpound\LWR@ruleHTMLcolor}%
9791     }{%
9792 }

```

`\LWR@WPcell` {<*text-align*>} {<*vertical-align*>}

```
9793 \newcommand*{\LWR@WPcell}[2]{%
9794   \LWR@tdaddstyle%
9795   \LWR@print@mbbox{text-align:#1}; \LWR@print@mbbox{vertical-align:#2}%
9796 }
```

`\LWR@addformatwpalignment` {<*colspec*>}

If `FormatWP`, adds a style for the alignment.

Must be placed between `\LWR@tdstartstyles` and `\LWR@tdendstyles`.

```
9797 \newcommand*{\LWR@addformatwpalignment}[1]{%
9798   \ifbool{FormatWP}{%
9799     \IfSubStr{#1}{L}{\LWR@WPcell{left}{middle}}{%
9800     \IfSubStr{#1}{c}{\LWR@WPcell{center}{middle}}{%
9801     \IfSubStr{#1}{r}{\LWR@WPcell{right}{middle}}{%
9802     \IfSubStr{#1}{p}{\LWR@WPcell{left}{bottom}}{%
9803     \IfSubStr{#1}{m}{\LWR@WPcell{left}{middle}}{%
9804     \IfSubStr{#1}{b}{\LWR@WPcell{left}{top}}{%
9805     }{%
9806 }
```

77.21 Cell colors

`\LWR@addtabularrowcolor` Adds a cell's row color style, if needed.

No color is added for the final row of empty cells which finishes each `tabular`.

```
9807 \newcommand*{\LWR@addtabularrowcolor}{%
9808   \ifbool{LWR@tabularmutemods}{%
9809     \ifdefvoid{\LWR@rowHTMLcolor}{%
9810       \ifdefvoid{\LWR@xcolorrowHTMLcolor}{%
9811         {% explicit row color
9812           \LWR@tdaddstyle%
9813           background:\LWR@origpound\LWR@xcolorrowHTMLcolor%
9814         }%
9815       }%
9816     } explicit row color
9817     \LWR@tdaddstyle%
9818     background:\LWR@origpound\LWR@rowHTMLcolor%
9819   }%
9820 }%
9821 }
```

`\LWR@addtabularhrulecolor` Adds a cell's horizontal rule color style, if needed.

```
9822 \newcommand*{\LWR@addtabularhrulecolor}{%
```

If either form of horizontal rule is requested:

```
9823   \ifboolexpr{%
9824     test{\ifnumcomp{\value{LWR@hlines}}{>}{0}} or%
9825     test{\ifnumcomp{\value{LWR@hdashedlines}}{>}{0}} or%
9826     bool{LWR@doingtbrule}%
9827   }{%
```

If there is a no custom color:

```

9828     \ifdefvoid{\LWR@ruleHTMLcolor}%
9829     {%
9830         \ifnumcomp{\value{LWR@hlines}}{>}{1}%
9831         {%
9832             \LWR@tdaddstyle%
9833             border-top: 4px double%
9834         }{% else
9835         \ifnumcomp{\value{LWR@hdashedlines}}{>}{1}%
9836         {%
9837             \LWR@tdaddstyle%
9838             border-top: 2px dashed%
9839         }{% else
9840         \ifnumcomp{\value{LWR@hdashedlines}}{=}{1}%
9841         {%
9842             \LWR@tdaddstyle%
9843             border-top: 1px dashed%
9844         }}}%

```

If no color and not doubled or dashed, then add nothing, since a simpler rule is the default.

```

9845     }%

```

If there is a custom color:

```

9846     {%
9847         \ifnumcomp{\value{LWR@hlines}}{>}{1}%
9848         {%
9849             \LWR@tdaddstyle%
9850             border-top: 4px double \LWR@origpound\LWR@ruleHTMLcolor%
9851         }{% else
9852         \ifnumcomp{\value{LWR@hdashedlines}}{>}{1}%
9853         {%
9854             \LWR@tdaddstyle%
9855             border-top: 2px dashed \LWR@origpound\LWR@ruleHTMLcolor%
9856         }{% else
9857         \ifnumcomp{\value{LWR@hdashedlines}}{=}{1}%
9858         {%
9859             \LWR@tdaddstyle%
9860             border-top: 1px dashed \LWR@origpound\LWR@ruleHTMLcolor%
9861         }{% else
9862         \LWR@tdaddstyle%
9863         border-top: 1px solid \LWR@origpound\LWR@ruleHTMLcolor%
9864         }}}%
9865     }%
9866     }{%
9867 }

```

`\LWR@addtabularrulecolors` Adds a cell's rule color styles, if needed.

No color is added for the final row of empty cells which finishes each tabular.

```

9868 \newcommand*{\LWR@addtabularrulecolors}{%

```

Custom horizontal rule color:

```

9869     \LWR@addtabularhrulecolor%

```

No vertical rules if finishing the tabular with a row of empty cells:

```
9870 \ifbool{LWR@tabularmutemods}{}{%
```

If at the leftmost cell, possibly add a leftmost vertical rule:

```
9871 \ifnumequal{\value{LWR@tableLaTeXcolindex}}{1}{%
```

Fetch the left edge's vertical bar specification:

```
9872 \edef\LWR@tempone{\LWR@getexparray{LWR@colbarspec}{leftedge}}%
```

Add a custom style if a vertical bar was requested:

```
9873 \ifdefstring{\LWR@tempone}{tvertbarl}{%
9874 \LWR@tdaddstyle%
9875 border-left: 1px solid % space
9876 \LWR@vertruleHTMLcolor%
9877 }{}%
9878 \ifdefstring{\LWR@tempone}{tvertbarldouble}{%
9879 \LWR@tdaddstyle%
9880 border-left: 4px double % space
9881 \LWR@vertruleHTMLcolor%
9882 }{}%
9883 \ifdefstring{\LWR@tempone}{tvertbarldash}{%
9884 \LWR@tdaddstyle%
9885 border-left: 1px dashed % space
9886 \LWR@vertruleHTMLcolor%
9887 }{}%
9888 \ifdefstring{\LWR@tempone}{tvertbarldoubledash}{%
9889 \LWR@tdaddstyle%
9890 border-left: 2px dashed % space
9891 \LWR@vertruleHTMLcolor%
9892 }{}%
9893 }{}%
```

Possibly add a right vertical rule for this cell:

```
9894 \edef\LWR@tempone{%
9895 \LWR@getexparray{LWR@colbarspec}{\arabic{LWR@tableLaTeXcolindex}}%
9896 }%
9897 \ifdefstring{\LWR@tempone}{tvertbarr}{%
```

Add a custom style if a vertical bar was requested:

```
9898 \LWR@tdaddstyle%
9899 border-right: 1px solid \LWR@vertruleHTMLcolor%
9900 }{}%
9901 \ifdefstring{\LWR@tempone}{tvertbarrdouble}{%
9902 \LWR@tdaddstyle%
9903 border-right: 4px double \LWR@vertruleHTMLcolor%
9904 }{}%
9905 \ifdefstring{\LWR@tempone}{tvertbarrdash}{%
9906 \LWR@tdaddstyle%
9907 border-right: 1px dashed \LWR@vertruleHTMLcolor%
9908 }{}%
9909 \ifdefstring{\LWR@tempone}{tvertbarrdoubledash}{%
9910 \LWR@tdaddstyle%
9911 border-right: 2px dashed \LWR@vertruleHTMLcolor%
```



```

9912     }{}%
9913     }%
9914 }

```

`\LWR@subadddtabularcellcolor` {*<html color>*}

```

9915 \newcommand*{\LWR@subadddtabularcellcolor}[1]{%
9916   \LWR@htmltag{div class=\textquotedbl{}cellcolor\textquotedbl\ % space
9917     style=\textquotedbl{}%
9918     background:\LWR@origpound{}}{#1 %
9919     \textquotedbl\ %
9920   }% space
9921   \defaddtocounter{LWR@cellcolordepth}{1}%
9922 }

```

`\LWR@addtabularcellcolor` Adds a cell color style, if needed.

```

9923 \newcommand*{\LWR@addtabularcellcolor}{%
9924   \ifdefvoid{\LWR@cellHTMLcolor}%
9925   {%
9926     \ifdefvoid{\LWR@rowHTMLcolor}%
9927     {%
9928       \ifdefvoid{\LWR@xcolorrowHTMLcolor}%
9929       {%
9930         \ifdefvoid{\LWR@columnHTMLcolor}%
9931         {}%
9932         {\LWR@subadddtabularcellcolor{\LWR@columnHTMLcolor}}%
9933       }%
9934       {\LWR@subadddtabularcellcolor{\LWR@xcolorrowHTMLcolor}}%
9935     }%
9936     {\LWR@subadddtabularcellcolor{\LWR@rowHTMLcolor}}%
9937   }%
9938   {\LWR@subadddtabularcellcolor{\LWR@cellHTMLcolor}}%
9939 }

```

77.22 Multicolumns

77.22.1 Parsing multicolumns

`\LWR@printmccoltype@normal` {*<col type>*}

Prints the column type, and remembers that any vertical bars are no longer on the left edge.

```

9940 \newcommand*{\LWR@printmccoltype@normal}[1]{%
9941   #1%
9942   \boolfalse{LWR@mcolvertbaronleft}%
9943 }

```

`\LWR@printmccoltype@ignore` {*<col type>*}

This type does not print a multi-column data cell.

```

9944 \newcommand*{\LWR@printmccoltype@ignore}[1]{%

```

`\LWR@printmccoltype@vertbar` {<*col type*>}

Adds a left or right vertical bar.

```
9945 \newcommand*{\LWR@printmccoltype@vertbar}[1]{%
9946   \ifbool{\LWR@mcolvertbaronleft}%
9947     {\defaddtocounter{\LWR@mcolvertbarsl}{1}}% left edge
9948     {\defaddtocounter{\LWR@mcolvertbarsr}{1}}% not left edge
9949 }
```

`\LWR@printmccoltype@colon` {<*col type*>}

Adds a left or right vertical bar.

```
9950 \newcommand*{\LWR@printmccoltype@colon}[1]{%
9951   \ifbool{\LWR@mcolvertbaronleft}%
9952     {\defaddtocounter{\LWR@mcolvertbarsldash}{1}}% left edge
9953     {\defaddtocounter{\LWR@mcolvertbarsrdash}{1}}% not left edge
9954 }
```

`\LWR@printmccoltype@semicolon` {<*col type*>}

Adds a left or right vertical bar.

```
9955 \let\LWR@printmccoltype@semicolon\LWR@printmccoltype@colon
```

`\LWR@printmccoltype` {<*colspec*>} Print any valid column type found. Does not print @, !, >, or < columns or their associated tokens.

This is printed as part of the table data tag's class.

`\LWR@columnntype@mctype@<type>` is defined by `\LWR@modifycolumnntype`.

```
9956 \newcommand*{\LWR@printmccoltype}[1]{%
9957   \LWR@traceinfo{\lwr@printmccoltype -#1-}%
```

Get one token of the column spec:

```
9958   \StrChar{#1}{\arabic{\LWR@tablemulticolspos}}[\LWR@strresult]%
```

Detokenize to avoid problems with special characters:

```
9959   \edef\LWR@strresult{\detokenize\expandafter{\LWR@strresult}}%
```

Add to the HTML tag depending on which column type is found:

```
9960   \ifcsdef{\LWR@columnntype@mctype@\LWR@strresult}%
9961     {\csuse{\LWR@columnntype@mctype@\LWR@strresult}}%
9962     {\boolfalse{\LWR@mcolvertbaronleft}}%
9963   \LWR@traceinfo{\lwr@printmccoltype done}%
9964 }
```

`\LWR@printmccoldata@other` {<*num args to skip*>} {<*entire colspec*>}

For @, !, >, <, print the next token without paragraph tags:

```

9965 \newcommand*{\LWR@printmccoldata@other}[2]{%
9966   \defaddtocounter{\LWR@tablemulticolspos}{1}%
9967   \StrChar{#2}{\arabic{\LWR@tablemulticolspos}}[\LWR@strresult]%
9968   \LWR@strresult%

```

A valid column data type was found:

```

9969   \booltrue{\LWR@validtablecol}%
9970 }

```

`\LWR@printmccoldata@skip` {<*num args to skip*>} {<*entire colspec*>}

Nothing to print for this column type.

```

9971 \newcommand*{\LWR@printmccoldata@skip}[2]{%
9972   \defaddtocounter{\LWR@tablemulticolspos}{#1}%

```

A valid column data type was found:

```

9973   \booltrue{\LWR@validtablecol}%
9974 }

```

For `\LWR@printmccoldata@. . .>`, {<*num args to skip*>} is provided by `\LWR@columnntype@mccoldata@<coltype>` when it was defined by `\LWR@modifycolumnntype`. `\entire colspec` is provided by `\LWR@printmccoldata` when it uses `\LWR@columnntype@mccoldata@<coltype>`.

`\LWR@printmccoldata@normal` {<*num args to skip*>} {<*entire colspec*>}

```

9975 \newcommand*{\LWR@printmccoldata@normal}[2]{%
9976   \LWR@multicoltext%
9977   \defaddtocounter{\LWR@tablemulticolspos}{#1}%
9978 }

```

`\LWR@printmccoldata@paragraph` {<*num args to skip*>} {<*entire colspec*>}

```

9979 \newcommand*{\LWR@printmccoldata@paragraph}[2]{%
9980   \LWR@startpars%
9981   \LWR@multicoltext%
9982   \defaddtocounter{\LWR@tablemulticolspos}{#1}%
9983   \LWR@stoppars%
9984 }

```

`\LWR@printmccoldata` {<*entire colspec*>}

Print the data for any valid column type found.

```

9985 \newcommand*{\LWR@printmccoldata}[1]{%
9986   \LWR@traceinfo{\LWR@printmccoldata -#1}%

```

Not yet found a valid column type:

```

9987   \boolfalse{\LWR@validtablecol}%

```

Get one token of the column spec, into a local copy in case nested.

```

9988   \StrChar{#1}{\arabic{LWR@tablemulticolspos}}[\LWR@strresult]%
9989   \edef\LWR@printmccoldatoken{\LWR@strresult}%

```

Print the text depending on which column type is found. Also handles @, >, < as it comes to them.

```

9990   \ifcsdef{LWR@column@mcdata@\LWR@printmccoldatoken}%
9991     {\csuse{LWR@column@mcdata@\LWR@printmccoldatoken}{#1}}%
9992     {}%

```

If an unknown column type, print the text:

```

9993   \ifbool{LWR@validtablecol}{\LWR@multicoltext{}}%

```

Tracing:

```

9994   \LWR@traceinfo{LWR@printmccoldata done}%
9995 }

```

`\parsemulticolumnalignment` $\langle 1: \textit{colspec} \rangle \langle 2: \textit{printresults csname} \rangle$

Scan the multicolumn specification and execute the printfunction for each entry.

Note that the spec for a $p\langle \textit{spec} \rangle$ column, or @, >, <, is a token list which will NOT match l, c, r, or p.

```

9996 \newcommand*\LWR@parsemulticolumnalignment}[2]{%
9997   \defcounter{LWR@tablemulticolspos}{1}%
9998   \StrLen{#1}[\LWR@strresult]%
9999   \defcounter{LWR@tablemulticolwidth}{\LWR@strresult}%

```

Scan across the tokens in the column spec:

```

10000   \whileboolexpr{%
10001     not test {%
10002       \ifnumcomp{\value{LWR@tablemulticolspos}}{>}%
10003       {\value{LWR@tablemulticolwidth}}%
10004     }%
10005   }%
10006   {%

```

Execute the assigned print function for each token in the column spec:

```

10007     \csuse{#2}{#1}%

```

Move to the next token in the column spec:

```

10008     \defaddtocounter{LWR@tablemulticolspos}{1}%
10009   }%
10010 }

```

77.22.2 Multicolumn factored code

`\LWR@addmulticolvertrulecolor`

```

10011 \newcommand*\LWR@addmulticolvertrulecolor{%

```

No vertical rules if finishing the tabular with a row of empty cells:

```
10012 \ifbool{LWR@tabularmutemods}{}{}
```

Left side:

```
10013 \ifnumcomp{\value{LWR@mcolvertbodybarsl}}{=}{1}{%
10014 \LWR@tdaddstyle%
10015 border-left: 1px solid \LWR@vertruleHTMLcolor%
10016 }{}%
10017 \ifnumcomp{\value{LWR@mcolvertbodybarsl}}{>}{1}{%
10018 \LWR@tdaddstyle%
10019 border-left: 4px double \LWR@vertruleHTMLcolor%
10020 }{}%
10021 \ifnumcomp{\value{LWR@mcolvertbodybarsldash}}{=}{1}{%
10022 \LWR@tdaddstyle%
10023 border-left: 1px dashed \LWR@vertruleHTMLcolor%
10024 }{}%
10025 \ifnumcomp{\value{LWR@mcolvertbodybarsldash}}{>}{1}{%
10026 \LWR@tdaddstyle%
10027 border-left: 2px dashed \LWR@vertruleHTMLcolor%
10028 }{}%
```

Right side:

```
10029 \ifnumcomp{\value{LWR@mcolvertbodybarsr}}{=}{1}{%
10030 \LWR@tdaddstyle%
10031 border-right: 1px solid \LWR@vertruleHTMLcolor%
10032 }{}%
10033 \ifnumcomp{\value{LWR@mcolvertbodybarsr}}{>}{1}{%
10034 \LWR@tdaddstyle%
10035 border-right: 4px double \LWR@vertruleHTMLcolor%
10036 }{}%
10037 \ifnumcomp{\value{LWR@mcolvertbodybarsrdash}}{=}{1}{%
10038 \LWR@tdaddstyle%
10039 border-right: 1px dashed \LWR@vertruleHTMLcolor%
10040 }{}%
10041 \ifnumcomp{\value{LWR@mcolvertbodybarsrdash}}{>}{1}{%
10042 \LWR@tdaddstyle%
10043 border-right: 2px dashed \LWR@vertruleHTMLcolor%
10044 }{}%
10045 }%
10046 }
```

```
10047 \newcommand{\LWR@multicoltext}{}{}
```

To find multicolumn right trim:

```
10048 \newcounter{LWR@lastmulticolumn}
```

```
\LWR@domulticolumn [1: vpos] [2: #rows] [3: numLaTeXcols] [4: numHTMLcols] [5: colspec]
  [6: text]
```

```
10049 \NewDocumentCommand{\LWR@domulticolumn}{o o m m +m}{%
```

```
10050 \LWR@traceinfo{LWR@domulticolumn -#1- -#2- -#4- -#5-}%
```

Remember the text to be inserted, and when used remember that a valid column type was found:

```
10051 \renewcommand{\LWR@multicoltext}{%
10052     #6%
10053     \booltrue{\LWR@validtablecol}%
10054 }%
```

Expand the preamble and save it.

```
10055 \LWR@expandpreamble{#5}%
10056 \edef\LWR@origmccolspec{\the\@temptokena}%
```

Compute the rightmost column to be included. This is used to create the right trim.

```
10057 \defcounter{\LWR@lastmulticolumn}{\value{\LWR@tableLaTeXcolindex}}%
10058 \defaddtocounter{\LWR@lastmulticolumn}{#3}%
10059 \defaddtocounter{\LWR@lastmulticolumn}{-1}%
```

Row processing:

```
10060 \LWR@maybenewtablerow%
```

Begin the opening table data tag:

```
10061 \LWR@htmltag{%
10062     td colspan=\textquotedbl#4\textquotedbl\ %
10063     \IfValueT{#2}{ % rows?
10064         rowspan=\textquotedbl#2\textquotedbl\ %
10065     }%
10066     class=\textquotedbl{ }td%
```

Print the column type and vertical bars:

```
10067 \defcounter{\LWR@mcolvertbarsl}{0}%
10068 \defcounter{\LWR@mcolvertbarsr}{0}%
10069 \defcounter{\LWR@mcolvertbarsldash}{0}%
10070 \defcounter{\LWR@mcolvertbarsrdash}{0}%
10071 \booltrue{\LWR@mcolvertbaronleft}%
10072 \LWR@parsemulticolumnalignment{\LWR@origmccolspec}{\LWR@printmccoltype}%
```

If this column has a cmidrule, add “rule” to the end of the HTML class tag.

If this position had a “Y” then add “rule” for a horizontal rule:

```
10073 \LWR@subaddcmidruletrim%
10074     {%
10075         \LWR@getexparray{\LWR@trimlrules}%
10076         {\arabic{\LWR@tableLaTeXcolindex}}%
10077     }%
10078     {%
10079         \LWR@getexparray{\LWR@trimrrules}%
10080         {\arabic{\LWR@lastmulticolumn}}%
10081     }%
```

Also add vertical bar class.

```

10082     \ifnumcomp{\value{LWR@mcolvertbarsl}}{=}{1}{ tvertbarl}{}%
10083     \ifnumcomp{\value{LWR@mcolvertbarsl}}{>}{1}{ tvertbarldouble}{}%
10084     \ifnumcomp{\value{LWR@mcolvertbarsr}}{=}{1}{ tvertbarr}{}%
10085     \ifnumcomp{\value{LWR@mcolvertbarsr}}{>}{1}{ tvertbarrdouble}{}%
10086     \ifnumcomp{\value{LWR@mcolvertbarsldash}}{=}{1}{ tvertbarldash}{}%
10087     \ifnumcomp{\value{LWR@mcolvertbarsldash}}{>}{1}{
10088         { tvertbarldoubledash}{}%
10089     \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{=}{1}{ tvertbarrdash}{}%
10090     \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{>}{1}{
10091         { tvertbarrdoubledash}{}%

```

Close the class tag's opening quote:

```

10092     \textquotedbl{}%
10093     \LWR@tdstartstyles%

```

Style for vertical position:

```

10094     \IfValueT{#1}{% vpos?
10095         \ifstrequal{#1}{b}%
10096         {%
10097             \LWR@tdaddstyle%
10098             \LWR@print@boxed{vertical-align:bottom}%
10099         }{%
10100         \ifstrequal{#1}{t}%
10101         {%
10102             \LWR@tdaddstyle%
10103             \LWR@print@boxed{vertical-align:top}%
10104         }{%
10105     }% vpos?

```

Style for row colors:

```

10106     \LWR@addtabulararrowcolor%

```

Other styles:

```

10107     \LWR@addcmidrulewidth%
10108     \LWR@addcdashline%
10109     \LWR@addtabularhrulecolor%
10110     \LWR@addmulticolvertrulecolor%
10111     \LWR@addformatwppalignment{\LWR@origmccolspec}%
10112     \LWR@tdendstyles%
10113     }% end of the opening table data tag
10114     \boolfalse{LWR@intabularmetadata}%
10115     \LWR@parsemulticolumnalignment{\LWR@origmccolspec}{LWR@printmccoldata}%
10116 }

```

77.22.3 Multicolumn

`\LWR@htmlmulticolumn {<numcols>}{<alignment>}{<text>}`

```

10117 \NewDocumentCommand{\LWR@htmlmulticolumn}{m m +m}%
10118 {%

```

Figure out how many extra HTML columns to add for @ and ! columns:

```
10119 \LWR@tabularhtmlcolumns{\arabic{LWR@tableLaTeXcolindex}}{#1}%
```

Create the multicolumn tag:

```
10120 \LWR@domulticolumn{#1}{\arabic{LWR@tabhtmlcoltotal}}{#2}{#3}%
```

Move to the next L^AT_EX column:

```
10121 \defaddtocounter{LWR@tableLaTeXcolindex}{#1}%
```

```
10122 \defaddtocounter{LWR@tableLaTeXcolindex}{-1}%
```

Skip any trailing @ or ! columns for this cell:

```
10123 \booltrue{LWR@skipatbang}%
```

```
10124 }
```

77.22.4 Longtable captions

longtable captions use \multicolumn.

Per the caption package. User-redefinable float type.

```
10125 \providecommand*{\LTcapttype}{table}
```

```
\LWR@longtabledatacaptiontag * [⟨toc entry⟩] {⟨caption⟩}
```

```
10126 \NewDocumentCommand{\LWR@longtabledatacaptiontag}{s o +m}
```

```
10127 {%
```

Remember the latest name for \nameref:

```
10128 \IfValueTF{#2}{% optional given?
```

```
10129 \ifblank{#2}{% optional empty?
```

```
10130 {\LWR@setlatestname{#3}}{% empty
```

```
10131 {\LWR@setlatestname{#2}}{% given and non-empty
```

```
10132 }% optional given
```

```
10133 {\LWR@setlatestname{#3}}{% no optional
```

Create a multicolumn across all the columns:

Figure out how many extra HTML columns to add for @ and ! columns found between the first and the last column:

```
10134 \LWR@tabularhtmlcolumns{1}{\arabic{LWR@tabletotalLaTeXcols}}%
```

Create the multicolumn tag. The caption will be centered by the css caption class.

```
10135 \LWR@domulticolumn{\arabic{LWR@tabletotalLaTeXcols}}%
```

```
10136 {\arabic{LWR@tabhtmlcoltotal}}%
```

```
10137 {p}%
```

```
10138 {% \LWR@domulticolumn
```

```
10139 \IfBooleanTF{#1}{% star?
```


Star version, show a caption but do not make a LOT entry:

```
10140   {% yes star
10141       \LWR@figcaption%
10142       \LWR@isolate{#3}%
10143       \endLWR@figcaption%
10144   }%
10145   {% No star:
```

Not the star version:

Don't step the counter if \caption[] {A caption. }

```
10146       \ifbool{LWR@starredlongtable}%
10147       {%
10148           \ifblank{#2}% TOC entry
10149           {}%
10150           {%
10151               \refstepcounter{\LTcaption}%
10152               \protected@edef\@currentlabel{%
10153                   \@nameuse{p@\LTcaption}\@nameuse{the\LTcaption}%
10154               }%
10155           }%
10156       }{%}
```

Create an HTML caption. Afterwards, maybe make a LOT entry.

```
10157       \LWR@figcaption%
10158       \LWR@isolate{\@nameuse{fnum@\LTcaption}}%
10159       \CaptionSeparator%
10160       \LWR@isolate{#3}%
10161       \endLWR@figcaption%
```

See if an optional caption was given:

```
10162       \ifblank{#2}% TOC entry empty
```

if the optional caption was given, but empty, do not form a TOC entry

```
10163       {}%
```

If the optional caption was given, but might only be []:

```
10164       {% TOC entry not empty
10165       \IfNoValueTF{#2}% No TOC entry?
```

The optional caption is []:

```
10166       {% No TOC entry
10167           \addcontentsline%
10168           {\@nameuse{ext@\LTcaption}}%
10169           {\LTcaption}%
10170           {%
10171               \protect\numberline%
10172               {\LWR@isolate{\@nameuse{p@\LTcaption}}\@nameuse{the\LTcaption}}%
10173               {\ignorespaces \LWR@isolate{#3}\protect\relax}%
10174           }%
10175       }% end of No TOC entry
```

The optional caption has text enclosed:

```

10176      {% yes TOC entry
10177          \addcontentsline%
10178          {\@nameuse{ext@LTcaption}}%
10179          {LTcaption}%
10180          {%
10181              \protect\numberline%
10182              {\LWR@isolate{\@nameuse{p@LTcaption}}\@nameuse{theLTcaption}}%
10183              {\ignorespaces \LWR@isolate{#2}\protect\relax}%
10184          }%
10185      }% end of yes TOC entry
10186  }% end of TOC entry not empty
10187 }% end of no star

```

Skip any trailing @ or ! columns for this cell:

```

10188 \booltrue{LWR@skipatbang}%
10189 }% end of \LWR@domulticolumn
10190 \defaddtocolcounter{LWR@tableLaTeXcolindex}{\value{LWR@tabletotalLaTeXcols}}%
10191 \defadddtocolcounter{LWR@tableLaTeXcolindex}{-1}
10192
10193 }

```

77.22.5 Counting HTML tabular columns

The \LaTeX specification for a table includes a number of columns separated by the & character. These columns differ in content from line to line. Additional virtual columns may be specified by the special @ and ! columns. These columns are identical from line to line, but may be skipped during a multicolumn cell.

For HTML output, @ and ! columns are placed into their own tabular columns. Thus, a \LaTeX `\multicolumn` command may span several additional @ and ! columns in HTML output. These additional columns must be added to the total number of columns spanned by an HTML multi-column data cell.

```

10194 \newcounter{LWR@tabhtmlcolindex}
10195 \newcounter{LWR@tabhtmlcolend}
10196 \newcounter{LWR@tabhtmlcoltotal}

```

`\LWR@subtabularhtmlcolumns` $\{<index>\}$

Factored from `\LWR@tabularhtmlcolumns`, which follows.

```

10197 \newcommand*{\LWR@subtabularhtmlcolumns}[1]{%

```

Temporarily define a macro equal to the @ specification for this column:

```

10198 \edef\LWR@atbangspec{\LWR@getexparray{LWR@colatspec}{#1}}%

```

If the @ specification is not empty, add to the count:

```

10199 \ifdefempty{\LWR@atbangspec}%
10200     {}%
10201     {\defaddtocolcounter{LWR@tabhtmlcoltotal}{1}}%

```

Likewise for the ! columns:

```

10202   \edef\LWR@atbangspec{\LWR@getexparray{\LWR@colbangspec}{#1}}%
10203   \ifdefempty{\LWR@atbangspec}%
10204     {}%
10205     {\defaddtocounter{\LWR@tabhtmlcoltotal}{1}}%
10206 }

```

`\LWR@tabularhtmlcolumns` {<starting L^AT_EX column>} {<number L^AT_EX columns>}

Compute the total number of HTML columns being spanned, considering the starting L^AT_EX table column and the number of L^AT_EX tabular columns being spanned. Any @ and ! columns within this span are included in the total count. The resulting number of HTML columns is returned in the counter `LWR@tabhtmlcoltotal`.

```

10207 \newcommand*{\LWR@tabularhtmlcolumns}[2]{%

```

Count the starting index, compute ending index, and begin with the count being the L^AT_EX span, to which additional @ and ! columns may be added:

```

10208   \defcounter{\LWR@tabhtmlcolindex}{#1}%
10209   \defcounter{\LWR@tabhtmlcoltotal}{#2}%
10210   \defcounter{\LWR@tabhtmlcolend}{#1}%
10211   \defaddtocounter{\LWR@tabhtmlcolend}{#2}%

```

If at the left edge, add the at/bang columns for the left edge:

```

10212   \ifnumcomp{\value{\LWR@tabhtmlcolindex}}{=}{1}{%
10213     \LWR@subtabularhtmlcolumns{leftedge}%
10214   }{%

```

Walk across the L^AT_EX columns looking for @ and ! columns:

```

10215   \whileboolexpr{%
10216     test {%
10217       \ifnumcomp{\value{\LWR@tabhtmlcolindex}}{<}{\value{\LWR@tabhtmlcolend}}%
10218     }%
10219   }%
10220   {%
10221     \LWR@subtabularhtmlcolumns{\arabic{\LWR@tabhtmlcolindex}}%
10222     \defaddtocounter{\LWR@tabhtmlcolindex}{1}%
10223   }% whiledo
10224 }

```

```

10225 \end{warpHTML}

```

77.23 Multirow if not loaded

A default definition in case `multirow` is not loaded. This is used during table parsing.

```

10226 \begin{warpHTML}
10227 \newcommand{\multirow}[2][c]{%
10228 \end{warpHTML}

```

77.24 Multicolumnrow

A print-mode version is defined here, and is also used during HTML output while inside a `lateximage`.

See section 436 for the HTML versions.

for HTML & PRINT: 10229 `\begin{warpall}`

```
\multicolumnrow {<1:cols>} {<2:halign>} [<3:vpos>] {<4:numrows>} [<5:bigstruts>] {<6:width>} [<7:fixup>]
{<8:text>}
```

For discussion of the use of `\DeclareExpandableDocumentCommand`, see:
<https://tex.stackexchange.com/questions/168434/problem-with-abbreviation-of-multirow-and-multicolumn-latex>

`\AtBeginDocument` to adjust after the user may have loaded `multirow`, which requires several tests to determine which version is loaded and thus which options are available.

```
10230 \AtBeginDocument{
```

`\ifundefined{@xmultirow}` determines if `multirow` was never loaded.

Null action if not loaded:

```
10231 \ifundefined{@xmultirow}
10232 {
10233 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}%
10234   {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
10235   {}%
10236 }% no version of multirow was loaded
10237 {% \xmultirow defined, so some version of multirow was loaded
```

`\IfPackageLoadedTF{multirow}` determines if v2.0 or later of `multirow` was used, which included the `\ProvidesPackage` macro.

The print version:

```
10238 \IfPackageLoadedTF{multirow}{% v2.0 or newer
10239 \IfPackageAtLeastTF{multirow}{2016/09/01}% 2016/09/27 for v2.0
10240 {% v2.0+:
10241 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}%
10242   {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
10243   {\multicolumn{#1}{#2}{\xmultirow[#3][#4][#5][#6][#7][#8]}}%
10244 }
10245 {% loaded but older, probably not executed:
10246 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}%
10247   {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
10248   {\multicolumn{#1}{#2}{\xmultirow{#4}[#5][#6][#7][#8]}}%
10249 }
10250 }% packagedloaded{multirow}
```

If not `\IfPackageLoadedTF{multirow}` but `\xmultirow` is defined, then this must be v1.6 or earlier, which did not `\ProvidesPackage{multirow}`, and did not have the `vposn` option.

```
10251 {% v1.6 or older did not \ProvidePackage
```

```

10252 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}%
10253   {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
10254   {\multicolumn{#1}{#2}{\@xmultirow{#4}[#5][#6][#7]{#8}}}%
10255 }
10256
10257 }% \@ifundefined{@xmultirow}
10258
10259 \providecommand*\multicolumnrow{\LWR@print@multicolumnrow}
10260
10261 }% AtBeginDocument

10262 \end{warpall}

```

77.25 Utility macros inside a table

for HTML output: 10263 \begin{warpHTML}

Used to prevent opening a tabular data cell if the following token is one which does not create tabular data:

```
10264 \newcommand*\LWR@doanything{}
```

In case `array` is not loaded:

```

10265 \let\firstline\relax
10266 \let\lastline\relax
10267 \newcommand*\firstline{}
10268 \newcommand*\lastline{}

```

In case `bigdelim` is not loaded:

```

10269 \newcommand*\ldelim{}
10270 \newcommand*\rdelim{}

```

```
10271 \end{warpHTML}
```

77.26 Special-case tabular markers


for HTML & PRINT: 10272 \begin{warpall}

`\TabularMacro` Place this just before inserting a custom macro in a table data cell. Doing so tells `lwarp` not to automatically start a new HTML table data cell yet. See section [8.10.1](#).

```
10273 \newcommand*\TabularMacro{}
```

```
10274 \end{warpall}
```

`\ResumeTabular` Used to resume tabular entries after resuming an environment.

 **tabular inside another environment** When creating a new environment which contains a tabular environment, `lwarp`'s emulation of the tabular does not automatically resume when the containing environment ends, resulting in corrupted HTML rows. To fix this, use `\ResumeTabular` as follows. This is ignored in print mode.

```

\StartDefiningTabulars % (& is used in a definition)
\newenvironment{outerenvironment}
{
  \tabular{cc}
  left & right \\
}
{
  \TabularMacro\ResumeTabular
  left & right \\
  \endtabular
}
\StopDefiningTabulars

```

for HTML output: 10275 \begin{warppHTML}

```

10276 \newcommand*\ResumeTabular}{%
10277   \boolfalse{LWR@exitingtabular}%
10278   \boolfalse{LWR@tabularmutemods}%
10279   \boolfalse{LWR@tabularfinalrow}%
10280   \LWR@getmynexttoken%
10281 }

10282 \end{warppHTML}

```

for PRINT output: 10283 \begin{warpprint}

```

10284 \newcommand*\ResumeTabular}{%}

10285 \end{warpprint}

```

77.27 Checking for a new table cell

for HTML output: 10286 \begin{warppHTML}

`\LWR@tabledatacolumnntag` Open a new HTML table cell unless the next token is for a macro which does not create data, such as `\hline`, `\toprule`, etc:

```

10287 \newcommand*\LWR@tabledatacolumnntag}{%
10288 {%
10289   \LWR@traceinfo{LWR@tabledatacolumnntag}%

```

`\show\LWR@mynexttoken` to see what tokens to look for

If not any of the below, start a new table cell:

```

10290   \global\let\LWR@mynextaction\LWR@tabledatasinglecolumnntag%

```

If find `\end`, exit the tabular:

```

10291   \ifdefequal{\LWR@mynexttoken}{\end}%
10292     {%
10293       \booltrue{LWR@tabularfinalrow}%
10294       \booltrue{LWR@exitingtabular}%
10295     }{%}

```

longtable can have a caption in a cell

```
10296 \ifdefequal{\LWR@mynexttoken}{\caption}%
10297   {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

Look for other things which would not start a table cell:

```
10298 \ifdefequal{\LWR@mynexttoken}{\multicolumn}%
10299   {\global\let\LWR@mynextaction\LWR@donothing}{}%
10300 \ifdefequal{\LWR@mynexttoken}{\multirow}%
10301   {\global\let\LWR@mynextaction\LWR@donothing}{}%
10302 \ifdefequal{\LWR@mynexttoken}{\multicolumnrow}%
10303   {\global\let\LWR@mynextaction\LWR@donothing}{}%
10304 \ifdefequal{\LWR@mynexttoken}{\noalign}%
10305   {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

If an `\mrowcell`, this is a cell to be skipped over:

```
10306 \ifdefequal{\LWR@mynexttoken}{\mrowcell}%
10307   {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

If an `\mcolrowcell`, this is a cell to be skipped over:

```
10308 \ifdefequal{\LWR@mynexttoken}{\mcolrowcell}%
10309   {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

```
10310 \ifdefequal{\LWR@mynexttoken}{\TabularMacro}%
10311   {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

```
10312 \ifdefequal{\LWR@mynexttoken}{\hline}%
10313   {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

```
10314 \ifdefequal{\LWR@mynexttoken}{\firsthline}%
10315   {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

```
10316 \ifdefequal{\LWR@mynexttoken}{\lasthline}%
10317   {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

```
10318 \ifdefequal{\LWR@mynexttoken}{\toprule}%
10319   {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

```
10320 \ifdefequal{\LWR@mynexttoken}{\midrule}%
10321   {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

```
10322 \ifdefequal{\LWR@mynexttoken}{\cmidrule}%
10323   {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

```
10324 \ifdefequal{\LWR@mynexttoken}{\morecmidrules}%
10325   {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

```
10326 \ifdefequal{\LWR@mynexttoken}{\specialrule}%
10327   {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

```
10328 \ifdefequal{\LWR@mynexttoken}{\cline}%
10329   {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

```

10330 \ifdefequal{\LWR@mynexttoken}{\bottomrule}%
10331     {\global\let\LWR@mynextaction\LWR@donothing}{}%

10332 \ifdefequal{\LWR@mynexttoken}{\hhline}%
10333     {\global\let\LWR@mynextaction\LWR@donothing}{}%

10334 \ifdefequal{\LWR@mynexttoken}{\rowcolor}%
10335     {\global\let\LWR@mynextaction\LWR@donothing}{}%

10336 \ifdefequal{\LWR@mynexttoken}{\arrayrulecolor}%
10337     {\global\let\LWR@mynextaction\LWR@donothing}{}%

10338 \ifdefequal{\LWR@mynexttoken}{\doublerulesepcolor}%
10339     {\global\let\LWR@mynextaction\LWR@donothing}{}%

10340 \ifdefequal{\LWR@mynexttoken}{\warpprintonly}%
10341     {\global\let\LWR@mynextaction\LWR@donothing}{}%

10342 \ifdefequal{\LWR@mynexttoken}{\warpHTMLonly}%
10343     {\global\let\LWR@mynextaction\LWR@donothing}{}%

10344 \ifdefequal{\LWR@mynexttoken}{\ldelim}%
10345     {\global\let\LWR@mynextaction\LWR@donothing}{}%

10346 \ifdefequal{\LWR@mynexttoken}{\rdelim}%
10347     {\global\let\LWR@mynextaction\LWR@donothing}{}%

```

For arydshln:

```

10348 \ifdefequal{\LWR@mynexttoken}{\hdashline}%
10349     {\global\let\LWR@mynextaction\LWR@donothing}{}%

10350 \ifdefequal{\LWR@mynexttoken}{\cdashline}%
10351     {\global\let\LWR@mynextaction\LWR@donothing}{}%

10352 \ifdefequal{\LWR@mynexttoken}{\firsthdashline}%
10353     {\global\let\LWR@mynextaction\LWR@donothing}{}%

10354 \ifdefequal{\LWR@mynexttoken}{\lasthdashline}%
10355     {\global\let\LWR@mynextaction\LWR@donothing}{}%

```

Ignore an empty line between rows:

```

10356 \ifdefequal{\LWR@mynexttoken}{\par}%
10357     {%
10358     \global\let\LWR@mynextaction\LWR@donothing%
10359     }%

```

No action for an \end token.

Add similar to the above for any other non-data tokens which might appear in the table.

Start the new table cell if was not any of the above:

```

10360 \LWR@traceinfo{\LWR@tabledatacolumnntag: done, about to do \LWR@mynextaction}%
10361 \LWR@mynextaction%
10362 }


```



```
10363 \end{warpHTML}
```

77.28 \mrowcell

for HTML & PRINT: 10364 \begin{warpall}


 **multirow cells** `\mrowcell` The user must insert `\mrowcell` into any `\multirow` cells which must be skipped. This command has no action during print output.

```
10365 \newcommand*\mrowcell{}
```

```
10366 \end{warpall}
```

77.29 \mcolrowcell

for HTML & PRINT: 10367 \begin{warpall}

 **multirow cells** `\mcolrowcell` The user must insert `\mcolrowcell` into any `\multicolumnrow` cells which must be skipped. This command has no action during print output.

```
10368 \newcommand*\mcolrowcell{}
```

```
10369 \end{warpall}
```

77.30 HTML tabular environment

for HTML output: 10370 \begin{warpHTML}

These are default definitions in case `booktabs` is not loaded, and are not expected to be used, but must exist as placeholders. `memoir` may have already loaded `booktabs`.

```
10371 \providecommand*\toprule[1][\hline]
10372 \providecommand*\midrule[1][\hline]
10373 \providecommand*\cmidrule{\cline}
10374 \providecommand*\bottomrule[1][\hline]
10375 \providecommand*\addlinespace[1][\hline]
10376 \providecommand*\morecmidrules{}
10377 \providecommand*\specialrule[3][\hline]
```

`\noalign` $\langle text \rangle$ Redefined for use inside `tabular`.

```
10378 \LetLtxMacro\LWR@orignoalign\noalign
10379
10380 \newcommand{\LWR@tabularnoalign}[1]{%
10381   \advance\rownum\m@ne%
10382   \LetLtxMacro\LWR@save@xcolorrowHTMLcolor\LWR@xcolorrowHTMLcolor%
10383   \renewcommand*\LWR@xcolorrowHTMLcolor{}%
10384   \multicolumn{value{\LWR@tabletotalLaTeXcols}}{l}{#1} \\\
10385   \LetLtxMacro\LWR@xcolorrowHTMLcolor\LWR@save@xcolorrowHTMLcolor%
10386   % \@rowc@lors%
10387   \LWR@getmynexttoken%
10388 }
```

`\LWR@HTMLhline` The definition of `\hline` depends on whether `tabls` has been loaded. If so, optional space below the line may be specified, but will be ignored.

```

10389 \AtBeginDocument{
10390
10391 \IfPackageLoadedTF{lwarp-tabls}
10392 {
10393   \newcommand*\LWR@HTMLhline}[1][{}]{%
10394     \ifbool{FormatWP}%
10395       {\LWR@docmidrule{1-\arabic{LWR@tabletotalLaTeXcols}}}%
10396       {\defaddtocounter{LWR@hlines}{1}}}%
10397   \LWR@getmynexttoken}%
10398 }
10399 {
10400   \newcommand*\LWR@HTMLhline}{%
10401     \ifbool{FormatWP}%
10402       {\LWR@docmidrule{1-\arabic{LWR@tabletotalLaTeXcols}}}%
10403       {\defaddtocounter{LWR@hlines}{1}}}%
10404     \LWR@getmynexttoken}%
10405 }
10406
10407 }% AtBeginDocument

```

`\LWR@HTMLcline` `{\langle columns \rangle}`

```

10408 \NewDocumentCommand{\LWR@HTMLcline}{m}%
10409 {%
10410   \LWR@docmidrule{#1}%
10411   \LWR@maybenewtablerow%
10412   \LWR@getmynexttoken%
10413 }%

```

`\LWR@tabular@warpprintonly` `{\langle contents \rangle}`

Only process the contents if producing printed output. Modified inside a `tabular` to grab the next token.

```

10414 \newcommand{\LWR@tabular@warpprintonly}[1]{%
10415   \ifbool{warpingprint}{#1}{}%
10416   \LWR@getmynexttoken%
10417 }

```

`\LWR@nullifyNoAutoSpacing` For `babel-french`, turn off auto spacing at the start of the `tabular`, then nullify the autospacing commands inside the `tabular`, since they were not compatible with the `tabular` parsing code for each cell, which uses `xstring`.

```

10418 \AtBeginDocument{
10419 \@ifundefined{NoAutoSpacing}%
10420 {% no babel-french
10421   \newcommand*\LWR@nullifyNoAutoSpacing{}%
10422 }% no babel-french
10423 {% yes babel-french
10424   \newcommand*\LWR@nullifyNoAutoSpacing}{%
10425     \NoAutoSpacing%
10426     \renewcommand*\NoAutoSpacing{}%
10427     \renewcommand*\LWR@FBcancel{}%
10428   }


```

```
10429 }% yes babel-french
10430 }% AtBeginDocument
```

`tabular (enu) <direction> [(<verticalposition>)] {(<colspecs>)}`

The `<direction>` is from `plex` for Japanese documents, and is ignored.

```
10431 \StartDefiningTabulars
10432
10433 \NewDocumentCommand{\LWR@HTML@tabular}{d<> o m}
10434 {%
10435   \LWR@traceinfo{\LWR@HTML@tabular started}%
```

 **<table> inside ** In `LATEX`, a `tabular` may be placed inside a `minipage`, but in `HTML` a `<table>` may not be inside a ``. Since there may be several nested ``s, with an unknown number of other objects between, it is hard to undo all these ``s before the `<table>` then redo them after. The browser probably compensates for this situation, but formatting may be lost inside the `<table>` because several things are neutralized inside a ``. Furthermore, in the `HTML` output, the entire `<table>` is placed on a single line of `HTML` code, since the line breaking commands are neutralized inside a ``. Since this is such a sloppy situation, a warning is issued here instructing the user to please isolate the `` to print-only.

```
10436   \LWR@spanwarnformat{tabular}%
10437   \addtocounter{\LWR@tabulardepth}{1}%
```

Not yet started a table row:

```
10438   \boolfalse{\LWR@startedrow}%
```

Not yet doing any rules:

```
10439   \defcounter{\LWR@hlines}{0}%
10440   \defcounter{\LWR@hdashedlines}{0}%
10441   \boolfalse{\LWR@doingtbrule}%
10442   \boolfalse{\LWR@doingcmidrule}%
```

For `babel-french`, turn off auto spacing one time, then nullify the autospacing commands since were not compatible with the `tabular` parsing code.

```
10443   \LWR@nullifyNoAutoSpacing%
```

Have not yet found the end of `tabular` command. Unmute the `@` and `!` columns.

```
10444   \boolfalse{\LWR@exitingtabular}%
10445   \boolfalse{\LWR@tabularmutemods}%
```

Not adding final row for the lower border:

```
10446   \boolfalse{\LWR@tabularfinalrow}%
```

Error if failed to use `\mrowcell` or `\mcolrowcell` when needed.

```
10447   \boolfalse{\LWR@usedmultirow}%
10448   \boolfalse{\LWR@foundmrowcell}%
```

In case of nesting:

```
10449 \renewcommand*\LWR@multicoltext{}%
10450 \booltrue{LWR@intabularmetadata}%
```

New PDF page, unless in a `\multirow`:

```
10451 \ifbool{LWR@in@multirow@par}%
10452   {\leavevmode\LWR@orignewline}%
10453   {\LWR@forcenewpage}%
```

In case of nesting, locally no longer in a `\multirow`:

```
10454 \boolfalse{LWR@in@multirow@par}%
```

Create the table tag:

```
10455 \LWR@htmlblocktag{table}%
```

Parse the table columns:

```
10456 \LWR@parsetablecols{#3}%
```

Table col spec is: `\LWR@tablecolspec` which is a string of `llccrr`, etc.

Do not place the table inside a paragraph:

```
10457 \LWR@stoppars%
```

Without at least one header cell, some screen readers think that the table is just for page layout, and do not read it as data. Add a hidden row with a single non-empty header cell to tell the screen readers that this is a table of data for the user.

```
10458 \LWR@htmltag{tr style=\textquotedbl{}display:none\textquotedbl}%
10459 \LWR@htmltag{th}.\LWR@htmltag{/th}%
10460 \LWR@htmltag{/tr}%
10461 \LWR@orignewline%
10462 \LWR@forceemptyline%
```

Track column #:

```
10463 \defcounter{LWR@tableLaTeXcolindex}{1}%
```

Have not yet added data in this column:

```
10464 \global\boolfalse{LWR@tabularcelladded}%
```

Start looking for midrules:

```
10465 \LWR@clearmidrules%
```

`\` becomes a macro to end the table row:

```
10466 \LetLtxMacro{\}\LWR@tabularendofline%
```

`\warpprintonly` inside a tabular must grab the next token.

```
10467 \LetLtxMacro\warpprintonly\LWR@tabular@warpprintonly%
```

The following adjust for colortbl.

```

10468 \LetLtxMacro\arrayrulecolor\arrayrulecolornexttoken%
10469 \LetLtxMacro\doublerulesepcolor\doublerulesepcolornexttoken%
10470 \def\LWR@columnHTMLcolor{}%
10471 \def\LWR@rowHTMLcolor{}%
10472 \def\LWR@cellHTMLcolor{}%
10473 \@rowcolors%

```

The vertical rules are set to the color active at the start of the tabular. `\arrayrulecolor` will then affect horizontal rules inside the tabular, but not the vertical rules.

```

10474 \ifdefined\LWR@ruleHTMLcolor%
10475     {\edef\LWR@vertruleHTMLcolor{black}}%
10476     {\edef\LWR@vertruleHTMLcolor{\LWR@origpound\LWR@ruleHTMLcolor}}%

```

Tracking the depth of cell color `<div>`:

```

10477 \defcounter{LWR@cellcolordepth}{0}%

```

The following may appear before a data cell is created, so after doing their actions, we look ahead with `\LWR@getmynexttoken` to see if the next token might create a new data cell:

The optional parameter for `\hline` supports the `tabls` package.

```

10478 \LWR@traceinfo{LWR@HTML@tabular: redefining macros}%
10479 \LetLtxMacro\noalign\LWR@tabularnoalign%
10480 \LetLtxMacro\hline\LWR@HTMLhline%
10481 \LetLtxMacro\cline\LWR@HTMLcline%

10482 \DeclareDocumentCommand{\hdashline}{o}{%
10483     \ifbool{FormatWP}%
10484         {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}%
10485         {\defaddtocounter{LWR@hdashedlines}{1}}%
10486     \LWR@getmynexttoken%
10487 }%

10488 \DeclareDocumentCommand{\cdashline}{m}{%
10489     \LWR@docdashline{##1}\LWR@getmynexttoken%
10490 }%

10491 \DeclareDocumentCommand{\firsthdashline}{o}{%
10492     \ifbool{FormatWP}%
10493         {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}%
10494         {\defaddtocounter{LWR@hdashedlines}{1}}%
10495     \LWR@getmynexttoken%
10496 }%

10497 \DeclareDocumentCommand{\lasthdashline}{o}{%
10498     \ifbool{FormatWP}%
10499         {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}%
10500         {\defaddtocounter{LWR@hdashedlines}{1}}%
10501     \LWR@getmynexttoken%
10502 }%

```

The following create data cells and will have no more data in this cell, so we do not want to look ahead for a possible data cell, so do not want to use `\LWR@getmynexttoken`.

```

10503 \renewcommand{\multicolumn}{\LWR@htmlmulticolumn}%
10504 \renewcommand*\mrowcell{%
10505     \LWR@maybenewtablerow%
10506     \LWR@tabularleftedge%
10507     \booltrue{LWR@skippingmrowcell}%
10508     \booltrue{LWR@foundmrowcell}%
10509 }%
10510 \renewcommand*\mcolrowcell{%
10511     \LWR@maybenewtablerow%
10512     \booltrue{LWR@skippingmcolrowcell}%
10513     \booltrue{LWR@foundmrowcell}%
10514 }%
10515 \LetLtxMacro\caption\LWR@longtabledatacaptiontag%
```

Reset for new processing:

```

10516 \boolfalse{LWR@tableparcell}%
10517 \boolfalse{LWR@skippingmrowcell}%
10518 \boolfalse{LWR@skippingmcolrowcell}%
10519 \boolfalse{LWR@skipatbang}%
10520 \boolfalse{LWR@emptyatbang}%
```

Set & for its special meaning inside the tabular:

```

10521 \StartDefiningTabulars%
10522 \protected\gdef&{\LWR@tabularampersand}%
```

Locally force any minipages to be fullwidth, until the end of the tabular:

```

10523 \booltrue{LWR@forceminipagefullwidth}%
```

Nest one level deeper of tabular paragraph handling:

```

10524 \addtocounter{LWR@tabularpardepth}{1}%
```

Look ahead for a possible table data cell:

```

10525 \LWR@traceinfo{LWR@HTML@tabular: about to LWR@getmynexttoken}%
10526 \LWR@getmynexttoken%
10527 }%
```

Ending the environment:

```

10528 \newcommand*\LWR@HTML@endtabular}
10529 {%
10530     \LWR@traceinfo{LWR@HTML@endtabular}%
```

Unnest one level of tabular paragraph handling:

```

10531 \addtocounter{LWR@tabularpardepth}{-1}%
```

Finish a row which is not yet done:

```

10532 \ifboolexpr{%
```

```

10533     test {%
10534         \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}%
10535             {\value{LWR@tabletotalLaTeXcols}}
10536     } or %
10537     (%
10538         bool{LWR@intabularmetadata} and%
10539         not bool{LWR@tabularcelladded} and%
10540         test {%
10541             \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}%
10542                 {\value{LWR@tabletotalLaTeXcols}}%
10543         }%
10544     )%
10545 }%
10546 {%

10547     \booltrue{LWR@tabularfinalrow}%
10548     \LWR@tabularfinishrow%
10549     \boolfalse{LWR@tabularfinalrow}%
10550 }%
10551 {%
10552     \LWR@closetabledatacell%
10553 }%
10554 \ifbool{LWR@startedrow}%
10555     {\LWR@htmltag{/tr}\LWR@orignewline}%
10556     {}%

```

xcolor row color support:

```

10557     \@rowc@lors%

10558     \LWR@htmlblocktag{/table}%
10559     \boolfalse{LWR@intabularmetadata}%

```

Unnest one level of tabular:

```

10560     \addtocounter{LWR@tabulardepth}{-1}%

```

Restore & to its usual meaning:

```

10561     \ifnumequal{\value{LWR@tabulardepth}}{0}{%
10562         \protected\gdef&\LWR@origampmacro}%
10563         \StopDefiningTabulars%
10564     }{%

```

Error if used `\multirow` or `\multicolumnrow` without using `\mrowcell` or `\mcolrowcell`.

```

10565     \ifbool{LWR@usedmultirow}{%
10566         \ifbool{LWR@foundmrowcell}%
10567             {\relax}%
10568         {%
10569             \PackageError{lwarp}%
10570             {%
10571                 When using \protect\multirow, \protect\multicolumnrow, \MessageBreak
10572                 or the bigdelim package, \MessageBreak
10573                 place \protect\mrowcell\space or \protect\mcolrowcell\MessageBreak
10574                 in empty cells which are to be skipped. \MessageBreak
10575                 See the Lwarp package documentation: \MessageBreak

```

```

10576             "Special cases and limitations" -> "Tabular"
10577             }%
10578             {%
10579             See the Lwarp package documentation:\MessageBreak
10580             "Special cases and limitations" -> "Tabular".
10581             }%
10582             }%
10583     }{}%

10584     \LWR@traceinfo{LWR@HTML@endtabular finished}%
10585 }
10586
10587 \csletcs{LWR@HTML@endtabular*}{LWR@HTML@endtabular}
10588
10589 \StopDefiningTabulars

```

siunitx may redefine tabular, so set the following later:

```

10590 \AtBeginDocument{
10591     \LetLtxMacro\LWR@origendtabular\endtabular
10592     \csletcs{LWR@origendtabular*}{endtabular*}
10593     \LWR@formatted{@tabular}
10594     \LWR@formatted{endtabular}
10595     \LWR@formatted{endtabular*}
10596 }

10597 \end{warpHTML}

```

78 Cross-references

Sectioning commands have been emulated from scratch, so the cross-referencing commands are custom-written for them. Emulating both avoids several layers of patches.

*_html.aux (*file*) A new entry in *_html.aux is used to remember section name, file, and lateximage depth and number for each label:

```

\newlabel{<labelname>@lwarp}{<section name>}{<filename>
    {<limagedepth>}{<limagenumber>}}

```

Table 16 shows the data structures related to cross-referencing.

for HTML output: 10598 \begin{warpHTML}

78.1 Setup

\@currentlabelname To remember the most recently defined section name, description, or caption, for \nameref.

```
10599 \def\@currentlabelname{\linkhomename}%
```

```
\LWR@stripperperiod {<text>} [⟨.⟩]
```


Table 16: Cross-referencing data structures

Original L^AT_EX:	(print and HTML)
<p>\refstepcounter: Steps the counter, sets <code>\@currentcounter</code>, <code>\@currentlabel</code>.</p> <p>\@currentcounter: Counter type <code><ctr></code>, such as “section”.</p> <p>\@currentlabel: <code>\p@<ctr>\the<ctr></code> Updated by <code>\refstepcounter</code>.</p> <p>\label: Writes to the .aux file: <code>\newlabel{<label>}{\@currentlabel}{\thepage}{name}{Href}{}</code></p> <p>\newlabel: When the .aux file is read, sets <code>\r@<label></code>.</p> <p>\r@<label>: Set to: <code>{\@currentlabel}{\thepage}{name}{Href}{}</code></p> <p>\ref: Returns the first part of <code>\r@<label></code>.</p> <p>\pageref: Returns the second part of <code>\r@<label></code>.</p>	
Added by lwarp:	(HTML only)
<p>\label: Adds HTML tags (section 78.3), and two more .aux entries (section 78.2), for <code>\r@<label>@lwarp</code> and <code>\r@<label>@lwarp@image</code>. (<code>\nameref</code> changes to <code>\ref</code>, etc. are undone <code>\AtBeginDocument</code>.)</p> <p>\newlabel: <code>{Href}</code> is changed to <code><{jobname}>-autopage-#</code>, or the label entered by the user. When the .aux file is read, used to set <code>\r@<label></code>, and then <code>\r@<label>@lwarp</code>, and <code>\r@<label>@lwarp@image</code>.</p> <p>\r@<label>@lwarp: Set to <code>{{\nameref}{\pageref}{\fileref}}{}}{}</code>:</p> <p style="margin-left: 2em;">\LWR@nameref: The section or object name for this label.</p> <p style="margin-left: 2em;">\LWR@currentautosecpageref: The <code>LWR@currentautosecpage</code> for this label.</p> <p style="margin-left: 2em;">\LWR@htmlfileref: The filename or name for this label.</p> <p>\r@<label>@lwarp@image: Set to <code>{{depth}{number}}{}}{}</code>:</p> <p style="margin-left: 2em;">\LWR@lateximagedepthref: The <code>lateximagedepth</code> for this label.</p> <p style="margin-left: 2em;">\LWR@lateximagenumberref: The <code>lateximagenumber</code> for this label.</p> <p>\nameref: Emulated from <code>hyperref</code> for <code>lwarp</code>. See section 78.4.</p> <p>\ref and \nameref: Adds HTML tags. See section 78.4.</p>	
Added by amsmath:	(print and HTML)
<p>\label: Execution is delayed until the math environment is completed.</p> <p>\ltx@label: L^AT_EX <code>\label</code>, (HTML: patched by <code>lwarp</code>), later patched by <code>cleveref</code>.</p>	
Added by cleveref:	(print and HTML)
<p>\refstepcounter: Added: sets <code>\cref@currentlabel</code>.</p> <p>\cref@currentlabel: (<code><type>=<ctr></code> unless an alias is used): <code>[<type>][\arabic{<ctr>}][<parent ctrs>]{\p@<ctr>\the<ctr>}</code> Also see section 62.4 for use with footnotes.</p> <p>\label: Also writes to the .aux file: <code>\newlabel{<label>@cref}{\cref@currentlabel}{\thepage}}{}}{}</code></p> <p>\newlabel: Unchanged. When the .aux file is read, sets <code>\r@<label>@cref</code>.</p> <p>\r@<label>@cref: Set to: <code>{{\cref@currentlabel}{\thepage}}{}}{}</code></p> <p>Utility functions: See <code>\cref@getlabel</code>, <code>\cref@gettype</code>, <code>\cref@getcounter</code>, <code>\cref@getprefix</code>.</p> <p>Cross-referencing names: <code>\crefname</code> and <code>\Crefname</code> assign human-readable names for references to this counter type.</p>	
Additionally patched by lwarp:	(HTML only)
<p>\cref, etc.: Modified for <code>lwarp</code>. See section 206.</p> <p>\label inside math: See section 85.7.1.</p>	
Footnotes: See <code>\noteentry</code> in section 62.4.	

Removes a trailing period.

```
10600 \def\LWR@stripperperiod#1.\ltx@empty#2\@nil{#1}%
```

`\LWR@setlatestname` $\langle object\ name \rangle$

Removes `\label`, strips any final period, and remembers the result.

```
10601 \newcommand*\LWR@setlatestname}[1]{%
```

Remove `\label` and other commands from the name, the strip any final period. See `getttitlestring`.

```
10602   \GetTitleStringExpand{#1}%
10603   \edef\@currentlabelname{\detokenize\expandafter\GetTitleStringResult}%
10604   \edef\@currentlabelname{%
10605     \expandafter\LWR@stripperperiod\@currentlabelname%
10606     \ltx@empty.\ltx@empty\@nil%
10607   }%
10608 }
```

78.2 New lwarp labels.

`*_html.aux` (*file*) New entries in `*_html.aux` are used to remember section name, file, and lateximage depth and number for each label:

```
\newlabel{<labelname>@lwarp}{<<section name>}{<auto page ref>}{<file name>}{}}
\newlabel{<labelname>@lwarp@image}{<<limagedepth>}{<limagenumber>}{}}}}
```

The L^AT_EX kernel reserves the fifth argument of `\r@<label>` for future use. Therefore, `lwarp` adds two `*_html.aux` entries, one with three and another with two arguments, to write a total of five argument without colliding with the reserved argument.

See:

<http://tex.stackexchange.com/questions/57194/extract-section-number-from-equation-reference>

`\LWR@setref` $\langle args\ list \rangle$ $\langle selector \rangle$ $\langle label \rangle$

`\@setref` without the `\null` (`\hbox`), and without the warning messages. Each caused problems with `lwarp` references. The regular reference will still cause the warning.

```
10609 \def\LWR@setref#1#2#3{%
10610   \ifx#1\relax%
10611     ??%
10612   \else%
10613     \expandafter#2#1%
10614   \fi}
```

`\LWR@nameref` $\langle label \rangle$ Returns the section name for this label:

```
10615 \newcommand*\LWR@nameref}[1]{%
```

```

10616 \begingroup%
10617 \LWR@nullifyfootnotes%
10618 \expandafter\LWR@setref\csname r@#1@lwarp\endcsname\LWR@firstoffive{#1}%
10619 \endgroup%
10620 }

```

`\LWR@currentautosecpageref` $\langle label \rangle$ Returns the `LWR@currentautosecpage` for this label:

```

10621 \newcommand*\LWR@currentautosecpageref}[1]{%
10622 \expandafter\LWR@setref\csname r@#1@lwarp\endcsname\LWR@secondoffive{#1}%
10623 }

```

`\LWR@htmlfileref` $\langle label \rangle$ Returns the file number or name for this label:

```

10624 \newcommand*\LWR@htmlfileref}[1]{%
10625 \expandafter\LWR@setref\csname r@#1@lwarp\endcsname\LWR@thirdoffive{#1}%
10626 }

```

`\LWR@lateximagedepthref` $\langle label \rangle$ Returns the `lateximagedepth` for this label. This determines if the HTML link will be to a `lateximage` or just a text link.

```

10627 \newcommand*\LWR@lateximagedepthref}[1]{%
10628 \expandafter\LWR@setref\csname r@#1@lwarp@image\endcsname\LWR@firstoffive{#1}%
10629 }

```

`\LWR@lateximagenumberref` $\langle label \rangle$ Returns the `lateximagenumber` for this label:

```

10630 \newcommand*\LWR@lateximagenumberref}[1]{%
10631 \expandafter\LWR@setref\csname r@#1@lwarp@image\endcsname\LWR@secondoffive{#1}%
10632 }

```

`\LWR@write@lwarplabel` $\langle label \rangle$ Sanitize the name and then creates the label:

```

10633 \newcommand*\LWR@write@lwarplabel}[1]{%
10634 \LWR@traceinfo{LWR@write@lwarplabel !#1!}%
10635 \LWR@setlatestname{\@currentlabelname}%
10636 \@bsphack%
10637 \protected@write\@auxout{%
10638   {%
10639     \string\newlabel{#1@lwarp}{%
10640       {\@currentlabelname}%
10641       {\theLWR@currentautosecpage}%
10642       {%
10643         \ifbool{FileSectionNames}%
10644           {\LWR@thisfilename}%
10645           {\arabic{LWR@htmlfilenumber}}}%
10646       }%
10647     }%
10648   }%
10649 }%
10650 }%
10651 \protected@write\@auxout{%
10652   {%
10653     \string\newlabel{#1@lwarp@image}{%
10654       {\arabic{LWR@lateximagedepth}}%
10655       {\arabic{LWR@lateximagenumber}}%

```

```

10656             {}%
10657             {}%
10658             {}%
10659             }%
10660             }%
10661             \@esphack%
10662 }

```

78.3 Labels

`\LWR@label@subcreatetag` Creates the tag from `\LWR@sanitized`.

```

10663 \newcommand*\LWR@label@subcreatetag{%
10664   \LWR@htmltag{a \LWR@print@mbx{id=\textquotedbl\LWR@sanitized\textquotedbl}}%
10665   \LWR@htmltag{/a}%
10666 }

```

`\LWR@label@inmathcomment`

```

10667 \newcommand*\LWR@label@inmathcomment{%
10668   \ifbool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) %
10669   {%

```

The combined L^AT_EX & HTML label is printed in a `\mbox` field:

```

10670   \mbox{%

```

Shift the label over to the right side of the environment to avoid over-printing the math:

```

10671   \ifdef{\totwidth@}{\ifbool{LWR@amsmultline}{\hspace*{\totwidth@}}}{}%

```

Temporarily end the HTML comment, insert the L^AT_EX & HTML label, then resume the HTML comment. `\@firstofone` is required to remove extra braces introduced by the `amsmath` package.)

```

10672   \LWR@htmlclosecomment%
10673   \LWR@label@subcreatetag%
10674   \LWR@htmlopencomment%
10675   }% \mbox
10676 }% mathjax
10677 {%
10678   \LWR@label@subcreatetag%
10679 }%
10680 }

```

`\LWR@label@createtag` `{\langle label \rangle}` Creates an HTML id tag.

Used by `\LWR@new@label` and `\hyperdef`.

`\detokenize` is used to allow underscores in the labels.

```

10681 \newcommand*\LWR@label@createtag[1]{%
10682   \LWR@traceinfo{LWR@label@createtag !#1!}%

```

Create an HTML id tag unless are inside a lateximage, since it would appear in the image:

```
10683   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
10684   }%
10685   {% not lateximage
```

If not doing a lateximage, create an HTML ID tag.

```
10686   \LWR@sanitize{#1}%
10687   \ifbool{LWR@insidemathcomment}%
10688   {% inside HTML math comment
10689     \LWR@label@inmathcomment%
10690   }% inside HTML math comment
10691   {% not inside HTML math comment
10692     \ifbool{LWR@doingstartpars}%
10693     {% pars allowed
10694       \ifbool{LWR@doingapar}%
10695       {% par started
10696         \LWR@label@subcreatetag%
10697       }% par started
10698     }% par not started
10699     \LWR@stoppars%
10700     \LWR@label@subcreatetag%
10701     \LWR@startpars%
10702   }% par not started
10703   }% pars allowed
10704   {% pars not allowed
10705     \LWR@label@subcreatetag%
10706   }% pars not allowed
10707   }% not inside HTML math comment
10708 }% not lateximage
10709 }
```

`\LWR@new@Label {<label>}`

`\label` during HTML output when not in SVG math mode, removing extra spaces around the label, as done by a regular L^AT_EX `\label`.

This is also used during a lateximage, including SVG math, since the special label handling is required, but `\LWR@label@createtag` does not generate HTML tags inside a lateximage.

`cleveref` later encases this to add its own cross-referencing.

`nameref` patches are undone `\AtBeginDocument`.

```
10710 \newcommand*{\LWR@new@Label}[1]{%
10711   \LWR@traceinfo{LWR@new@label: starting}%
10712   \LWR@traceinfo{LWR@new@label: !#!}%
10713 % \@bsphack%
```

Create a traditional L^AT_EX label, as modified by `cleveref`:

```
10714   \LWR@orig@Label{#1}%
```

Create a special label which holds the section number, section name, LWR@htmlfilenumber, LWR@lateximagedepth, and LWR@lateximagenumber:

```

10715 \LWR@traceinfo{%
10716     LWR@new@label: filesectionnames is %
10717     \ifbool{FileSectionNames}{true}{false}%
10718 }%
10719 \LWR@traceinfo{%
10720     LWR@new@label: LWR@thisfilename is !\LWR@thisfilename!%
10721 }%
10722 \LWR@traceinfo{%
10723     LWR@new@label: LWR@htmlfilenumber is \arabic{LWR@htmlfilenumber}%
10724 }%
10725 \LWR@write@lwarplabel{#1}%
10726 \LWR@label@createtag{#1}%
10727 % \esphack%
10728 \LWR@traceinfo{LWR@new@label: done}%
10729 }

```

78.4 References

`\LWR@addlinktitle`

```

10730 \newcommand*\LWR@addlinktitle{%
10731     \ifdefvoid{\LWR@ThisAltText}{ }{ % space
10732         title=\textquotedbl\LWR@ThisAltText\textquotedbl\ % space
10733         \gdef\LWR@ThisAltText{}}%
10734     }%
10735 }

```

`\LWR@startref <{label}>` (Common code for `\ref` and `\nameref`.)

Open an HTML tag reference to a filename, # character, and a label.

```

10736 \newcommand*\LWR@startref[1]
10737 {%
10738     \LWR@sanitize{#1}%
10739     \LWR@traceinfo{LWR@startref A: !#1!}%

```

Create the filename part of the link:

```

10740     \LWR@htmltag{a href=\textquotedbl%
10741     \LWR@traceinfo{LWR@startref B}%
10742     \LWR@print@embox{\LWR@htmlrefsectionfilename{#1}}%
10743     \LWR@traceinfo{LWR@startref C}%
10744     \LWR@origpound%

```

Create the destination id:

See if LWR@lateximagedepth is unknown:

```

10745     \LWR@traceinfo{LWR@startref D: !#1!}%
10746     \ifcsundef{r@#1@lwarp}%

```

“??” if LWR@lateximagedepth is unknown, so create a link with an unknown destination:

```

10747   {%
10748       \LWR@traceinfo{LWR@startref D0: ??}%
10749       ??%
10750   }%

```

If `LWR@lateximagedepth` is known. Use a `lateximage` if the depth is greater than zero, or a regular link otherwise:

(Using `xifthen \ifthenelse` here failed in some cases, but `etoolbox \ifnumgreater` works.)

```

10751   {%
10752       \ifnumgreater{LWR@lateximagedepthref{#1}}{0}%
10753       {%
10754           lateximage-\BaseJobname-\LWR@lateximagenumberref{#1}%
10755       }%
10756       {%
10757           \LWR@traceinfo{LWR@startref D3}%

```

`\detokenize` is used to allow underscores in the labels:

```

10758           \LWR@print@embox{LWR@sanitized}%
10759       }%
10760   }%
10761   \LWR@traceinfo{LWR@startref E}%

```

Closing quote:

```

10762   \textquotedbl%

```

Maybe add a title:

```

10763   \LWR@addlinktitle%
10764   }%
10765   \LWR@traceinfo{LWR@startref F}%
10766 }

```

`\LWR@subnewref {<label>} {<label or sub@label>}`

Factored for the `subfig` package. Uses the original label for the hyper-reference, but prints its own text, such as “1(b)”.

```

10767 \NewDocumentCommand{LWR@subnewref}{m m}{%
10768   \LWR@traceinfo{LWR@subnewref #1 #2}%
10769   \LWR@startref{#1}%
10770   \LWR@print@ref{#2}%
10771   \LWR@htmltag{/a}%
10772 }

```

`\ref * {<label>}`

`\ref` is redefined to `\LWR@HTML@ref`, except inside the text part of a `\hyperref`, where it is redefined to `\LWR@ref@ignorestar`.

`\LWR@HTML@ref * {<label>}` Create an internal document reference link, or without a link if starred per `hyperref`.

The HTML version:

```

10773 \NewDocumentCommand{\LWR@HTML@ref}{s m}{%
10774   \LWR@traceinfo{\LWR@HTML@ref !#2!}%
10775   \IfBooleanTF{#1}%
10776     {\LWR@print@ref{#2}}%
10777     {\LWR@subnewref{#2}{#2}}%
10778 }
10779
10780 \AtBeginDocument{% **8*
10781 \LWR@formatted{ref}
10782 }
10783
10784 \NewDocumentCommand{\LWR@HTML@Ref}{s m}{%
10785   \LWR@traceinfo{\LWR@HTML@Ref !#2!}%
10786   \IfBooleanTF{#1}%
10787     {\LWR@print@Ref{#2}}%
10788     {\LWR@subnewref{#2}{#2}}%
10789 }
10790
10791 \AtBeginDocument{% **8*
10792 \LWR@formatted{Ref}
10793 }

```

`\LWR@refwithsection * {<label>}`

Creates a reference, printing the section number as the text. Used for back references.

```

10794 \NewDocumentCommand{\LWR@refwithsection}{s m}{%
10795   \LWR@traceinfo{\LWR@refwithsection !#2!}%

```

If starred, just use the text without a hyperlink:

```

10796   \IfBooleanTF{#1}%
10797     {\LWR@print@ref{\BaseJobname-autopage-\LWR@currentautosecpageref{#2}}}%

```

If not starred: Check for a reference to the start of the document. (Generated by **backref**.)

```

10798     {% not starred
10799       \ifstrequal{#2}{Doc-Start}%
10800       {%
10801         \LWR@startref{\BaseJobname-autopage-1}%
10802         *%
10803         \LWR@htmltag{/a}%
10804       }%
10805       {% not Doc-Start

```

Open the reference:

```

10806         \LWR@startref{#2}%

```

Add the text of the link.

Check for and handle an undefined reference:


```

10807          \edef\@tempa{\LWR@currentautosecpageref{#2}}%
10808          \ifdefstring{\@tempa}{??}%
10809             {??}%

```

For a defined reference:

```

10810             {% not ??

```

Set \@tempa to \r@<label>, which is {section number}{page number}{name}{Href}{}

```

10811          \edef\@tempa{\csexpandonce{r@\BaseJobname-autopage-\@tempa}}%
10812             \expandafter\LWR@edeffirstoffive\@tempa%

```

Check the section number alone:

If the reference has no section number print an asterisk:

```

10813             \expandafter\ifblank\expandafter{\@tempa}%
10814             {*}

```

If there is a section number, print it:

```

10815             {%
10816                 \LWR@print@ref{%
10817                 \BaseJobname-autopage-\LWR@currentautosecpageref{#2}%
10818                 }%
10819             }%
10820             }% not ??

```

Close the reference:

```

10821             \LWR@htmltag{/a}%
10822             }% not Doc-Start
10823             }% not starred
10824 }

```

For MATHJAX:

```

10825 \CustomizeMathJax{\let\LWRref\ref}
10826 \CustomizeMathJax{\renewcommand{\ref}{\ifstar\LWRref\LWRref}}

```

\pagerefPageFor Text for page references.

```

10827 \newcommand*\pagerefPageFor{see }

```

\pageref * {<label>} Create an internal document reference, or just the unlinked number if starred, per hyperref.

```

10828 \NewDocumentCommand{\LWR@new@pageref}{s m}{%
10829     \IfBooleanTF{#1}%
10830     {(\pagerefPageFor\LWR@print@ref{#2})}%
10831     {(\cpageref{#2})}%
10832 }

```

`\nameref {<label>}`

`nameref` may have already defined `\nameref`. Redefine it here.

```
10833 \providecommand{\nameref}[1]{}%
10834
10835 \renewrobustcmd*{\nameref}[1]{%
10836   \LWR@traceinfo{nameref}%
10837   \LWR@startref{#1}%
10838   \LWR@traceinfo{nameref B}%
10839   \LWR@nameref{#1}%
10840   \LWR@traceinfo{nameref C}%
10841   \LWR@htmltag{/a}%
10842   \LWR@traceinfo{nameref: done}%
10843 }
```

`\Nameref {<label>}` In print, adds the page number. In HTML, does not.

Overwrites `nameref` definition if already defined.

```
10844 \LetLtxMacro\Nameref\nameref
```

`\NR@getttitle {<text>}` From `nameref`, used by `caption`.

```
10845 \def\NR@getttitle#1{%
10846   \GetTitleString{#1}%
10847   \let\@currentlabelname\GetTitleStringResult%
10848 }
```

78.5 Hyper-references



Note that the code currently only sanitizes the underscore character. Additional characters should be rendered inert as well. See the `hyperref.sty` definition of `\gdef\hyper@normalise` for an example.

`hyperref (Pkg)`



Do not tell other packages that `hyperref` is emulated. Some packages patch various commands if `hyperref` is present, which will probably break something, and the emulation already handles whatever may be emulated anyhow.

```
10849 % DO NOT TELL OTHER PACKAGES TO ASSUME HYPERREF, lest they attempt to patch it:
10850 % \EmulatesPackage{hyperref}[2015/08/01]% Disabled. Do not do this.
```

Emulates `hyperref`:

`\@currentHref` Added to support `backref`.

```
10851 \AtBeginDocument{
10852   \def\@currentHref{\BaseJobname-autopage-\theLWR@previousautopagelabel}%
10853 }
```

`\LWR@linkcatcodes` Sets `catcodes` before processing macros which have hyperlinks as arguments.

```

10854 \newcommand*{\LWR@linkcatcodes}{%
10855   \catcode`\#=12%
10856   \catcode`\%=12%
10857   \catcode`\&=12%
10858   \catcode`\~=12%
10859   \catcode`\_ =12%

```

For babel-french:

```

10860   \LWR@hook@processingtags%
10861 }

```

`\LWR@linkmediacatcodes` Sets catcodes before processing macros which have hyperlinks as arguments. Modified for multimedia links.

```

10862 \newcommand*{\LWR@linkmediacatcodes}{%
10863   \catcode`\#=12%
10864   \catcode`\%=12%
10865 %   \catcode`\&=12% left alone for splitting flash variables
10866   \catcode`\~=12%
10867   \catcode`\_ =12%

```

For babel-french:

```

10868   \LWR@hook@processingtags%
10869 }

```

`\LWR@subhyperref` $\{\langle URL \rangle\}$

Starts a link for `\LWR@hrefb`. A group must have been opened first, with nullified catcodes. The text name is printed afterwards, after the group is closed and catcodes restored.

```

10870 \NewDocumentCommand{\LWR@subhyperref}{m}{%
10871   \LWR@traceinfo{\LWR@subhyperref !#1!}%
10872   \edef\tmpb{\detokenize\expandafter{#1}}%
10873   \LWR@HTMLsanitize@tmpb%
10874   \LWR@htmltag{%
10875     a href=\textquotedbl\tmpb\textquotedbl\ % space
10876     \LWR@addlinktitle % space
10877     target=\textquotedbl\_{}blank\textquotedbl\ % space
10878   }%
10879 }

```

`\LWR@subhyperreftext@sanitized` $\{\langle text \rangle\}$

Finishes the hyperref for `\LWR@hrefb`. Catcodes must have been restored already. To be used after `\LWR@subhyperref`, and after its group has been closed.

```

10880 \newcommand{\LWR@subhyperreftext@sanitized}[1]{%
10881   \edef\tmpb{#1}%
10882   \LWR@HTMLsanitize@tmpb%
10883   \tmpb%
10884   \LWR@htmltag{/a}%
10885   \LWR@ensuredoingapar%
10886 }

```

`\LWR@subhyperref@text@unsanitized` {<*text*>}

Finishes the hyperref for `\LWR@hrefb`. Catcodes must have been restored already. To be used after `\LWR@subhyperref`, and after its group has been closed.

```
10887 \newcommand{\LWR@subhyperref@text@unsanitized}[1]{%
10888   #1%
10889   \LWR@htmltag{/a}%
10890   \LWR@ensuredoingapar%
10891 }
```

`\LWR@subhyperrefclass` {<*URL*>} {<*text*>} {<*htmlclass*>}

```
10892 \NewDocumentCommand{\LWR@subhyperrefclass}{m +m m}{%
10893   \LWR@htmltag{%
10894     a % space
10895     href=\textquotedbl\beginngroup\@sanitize#1\endgroup\textquotedbl\ % space
10896     class=\textquotedbl#3\textquotedbl\ % space
10897     \LWR@addlinktitle % space
10898   }\LWR@orignewline%
10899   #2%
10900   \LWR@htmltag{/a}%
10901   \LWR@ensuredoingapar%
10902 }
```

`\LWR@href` [*<options>*] {<*URL*>} {<*text*>}

Create a link with accompanying text. The accompanying text is sanitized for HTML.

```
10903 \DeclareDocumentCommand{\LWR@hrefb}{O{} m}{%
10904   \LWR@ensuredoingapar%
10905   \LWR@subhyperref{#2}%
10906   \endgroup% restore catcodes
```

If use `\LWR@subhyperref@text@sanitized` here, some forms of text may not expand correctly, and thus break.

```
10907   \LWR@subhyperref@text@unsanitized% takes the following text as an argument
10908 }
10909
10910 \newrobustcmd*{\LWR@href}{%
10911   \beginngroup%
10912   \LWR@linkcatcodes%
10913   \LWR@hrefb%
10914 }
```

A version which sanitizes both the URL and the text. Used by `\LWR@url`.

```
10915 \DeclareDocumentCommand{\LWR@hrefb@sanitized}{O{} m}{%
10916   \LWR@ensuredoingapar%
10917   \LWR@subhyperref{#2}%
10918   \endgroup% restore catcodes
```

Used by `\LWR@url` to sanitize the text argument before printing.

```
10919   \LWR@subhyperref@text@sanitized% takes the following text as an argument
```

```

10920 }
10921
10922 \newrobustcmd*{\LWR@href@sanitized}{%
10923   \begingroup%
10924   \LWR@linkcatcodes%
10925   \LWR@hrefb@sanitized%
10926 }

```

`\LWR@href@partsanitized` [*options*] {*URL*} {*text*}

Create a link with accompanying text. The accompanying text is not sanitized, for use internally with algorithmically derived tags.

```

10927 \DeclareDocumentCommand{\LWR@hrefb@partsanitized}{0{ } m}{%
10928   \LWR@ensuredoingapar%
10929   \LWR@subhyperref{#2}%
10930   \endgroup% restore catcodes
10931   \LWR@subhyperref@text@unsanitized% takes the following text as an argument
10932 }
10933
10934 \newrobustcmd*{\LWR@href@partsanitized}{%
10935   \begingroup%
10936   \LWR@linkcatcodes%
10937   \LWR@hrefb@partsanitized%
10938 }

```

`\LWR@nolinkurl` {*URL*}

Print the name of the link without creating the link:

```

10939 \newcommand*{\LWR@nolinkurlb}[1]{%
10940   \LWR@ensuredoingapar%
10941   \edef\tmpb{#1}%
10942   \LWR@HTMLsanitize@tmpb%
10943   \tmpb%
10944   \endgroup%
10945 }
10946
10947 \newrobustcmd*{\LWR@nolinkurl}{%
10948   \begingroup%
10949   \LWR@linkcatcodes%
10950   \LWR@nolinkurlb%
10951 }

```

`\LWR@url` {*URL*}

Create a link whose text name is the address of the link.

The `url` package may redefine `\url`, so it is `\let` to `\LWR@url` here and also redefined by `lwarp-url`.

```

10952 \DeclareDocumentCommand{\LWR@urlb}{m}{%
10953   \LWR@ensuredoingapar%
10954   \LWR@href@sanitized{#1}{#1}%
10955   \endgroup%
10956 }
10957
10958 \newrobustcmd*{\LWR@url}{%

```

```

10959 \begingroup%
10960 \LWR@linkcatcodes%
10961 \LWR@urlb%
10962 }

```

```

\LWR@subinlineimage {<1: <alt> tag>} {<2: class>} {<3: filename>} {<4: extension>} {<5: css style>} {<6:
aria role>}

```

Creates the HTML tag for the image. Factored from lateximage.

To allow sanitization of the alt tag, if the alt tag is detokenized then it must also be expanded before being used here.

```

10963 \newcommand*\LWR@subinlineimage}[6]{%
10964 \begingroup%
10965 \boolfalse\LWR@HTMLsanitize@tmpb@removebackslash}%
10966 \ifblank{#6}% ARIA role
10967 {\renewcommand*\LWR@tempone}{}}%
10968 {\renewcommand*\LWR@tempone}{role=\textquotedbl#6\textquotedbl\LWR@indentHTML}}%
10969 \ifblank{#1}% alt text
10970 {% alt is file name
10971 \LWR@htmltag{img \LWR@indentHTML
10972 src=\textquotedbl#3.#4\textquotedbl \LWR@indentHTML
10973 alt=\textquotedbl#3\textquotedbl \LWR@indentHTML
10974 \LWR@tempone
10975 style=\textquotedbl#5\textquotedbl \LWR@indentHTML
10976 class=\textquotedbl#2\textquotedbl \LWR@orignewLine
10977 }%
10978 }%
10979 {% alt is as given
10980 \def\tmpb{#1}%
10981 \LWR@HTMLsanitize@tmpb%
10982 \LWR@htmltag{img \LWR@indentHTML
10983 src=\textquotedbl#3.#4\textquotedbl \LWR@indentHTML
10984 alt=\textquotedbl\tmpb\textquotedbl \LWR@indentHTML
10985 \LWR@tempone
10986 style=\textquotedbl#5\textquotedbl \LWR@indentHTML
10987 class=\textquotedbl#2\textquotedbl \LWR@orignewLine
10988 }%
10989 }%
10990 \endgroup%
10991 }

10992 \end{warpHTML}

```

Table 17: Float data structures

For each `<type>` of float (figure, table, etc.) there exists the following:

- counter `<type>`:** A counter called `<type>`, such as figure, table.
 - `\<type>name`:** Name. `\figurename` prints “Figure”, etc.
 - `\ext@<type>`:** File extension. `\ext@figure` prints “lof”, etc.
 - `\fps@<type>`:** Placement.
 - `\the<type>`:** Number. `\thetable` prints the number of the table, etc.
 - `\p@<type>`:** Parent’s number. Prints the number of the [within] figure, etc.
 - `\fnum@<type>`:** Prints the figure number for the caption.
`\<type>name \the<type>`, “Figure 123”.
 - `\<type>`:** Starts the float environment. `\figure` or `\begin{figure}`
 - `\end<type>`:** Ends the float environment. `\endfigure` or `\end{figure}`
 - `\tf@<ext>`:** The L^AT_EX file identifier for the output file.
 - `LWR@have<type>`:** A boolean remembering whether a `\listof` was requested for a float of this type.
 - File with extension `lo<f, t, a-z>`:** An output file containing the commands to build the `\listof<type>` “table-of-contents” structure.
 - Cross-referencing names:** For `cleveref`’s `\cref` and related, `\crefname` and `\Crefname` assign human-readable names for references to this float type.
-

79 Floats

Floats are supported, although partially through emulation.

Table 17 shows the data structure associated with each `<type>` of float.

79.1 Float environment

for HTML output: 10993 `\begin{warpHTML}`

`\LWR@floatbegin {<type>} [<placement>]` Begins a `\newfloat` environment.

10994 `\NewDocumentCommand{\LWR@floatbegin}{m o}{%`

Warn if starting a float inside a ``:

10995 `\LWR@spanwarninvalid{float}%`

10996 `\ifbool{FormatWP}{\newline}}{%`

10997 `\LWR@stoppars%`

There is a new float, so increment the unique float counter:

```
10998 \addtocounter{LWR@thisautoid}{1}%
10999 \booltrue{LWR@freezethisautoid}%

11000 \begingroup%
```

Settings while inside the environment:

```
11001 \LWR@print@raggedright%
```

Open an HTML figure tag. The figure is assigned a class equal to its type, and another class according to the float package style, if used. Note that `\csuse` returns an empty string if `\LWR@floatstyle@<type>` is not defined.

```
11002 \LWR@htmltag{%
11003     figure id=\textquotedbl%
11004         \LWR@print@ebox{autoid-\arabic{LWR@thisautoid}}%
11005     \textquotedbl\ % space
11006     class=\textquotedbl#1 \@nameuse{LWR@floatstyle@#1}\textquotedbl%
11007 }%
11008 \ifbool{FormatWP}{%
11009     \LWR@orignewline%
11010     \LWR@BlockClassWP}{\wp#1}%
11011 }{%}
```

Update the caption type:

```
11012 \renewcommand*\@capttype{#1}%
```

Mark the float for a word processor conversion:

```
11013 \LWR@startpars%
11014 \ifboolexpr{bool{FormatWP} and bool{WPMarkFloats}}{%
11015
11016     === begin #1 ===
11017
11018     }{%}
```

After each `\LWR@floatbegin`, look for `\centering`, etc next, using `\LWR@floatalignment`.

```
11019 }
```

For koma-script. The following does not work for tables.

```
11020 \AtBeginDocument{
11021
11022 \IfPackageLoadedTF{tocbasic}{
11023
11024 \appto\figure@atbegin{%
11025     \LWR@futurenonspacel\@LWR@mynexttoken\LWR@floatalignment%
11026 }
11027
11028 }{%} tocbasic
11029
11030 }% AtBeginDocument
```


`\@xfloat` Support packages which create floats directly.
`\@xdblfloat` Look for `\centering`, etc using `\LWR@floatalignment`.

```

11031 \@AtBeginDocument{
11032   \def\@xfloat #1[#2]{%
11033     \LWR@floatbegin{#1}[#2]
11034     \LWR@futurenonspacel\WR@mynexttoken\LWR@floatalignment%
11035   }
11036   \def\@xdblfloat #1[#2]{%
11037     \LWR@floatbegin{#1}[#2]
11038     \LWR@futurenonspacel\WR@mynexttoken\LWR@floatalignment%
11039   }
11040 }

```

`\LWR@floatend` Ends a `\newfloat` environment.

```

11041 \newcommand*{\LWR@floatend}{%

```

If saw a `\centering`, finish the center environment:

```

11042   \LWR@endfloatalignment%

```

Mark the float end for a word processor conversion:

```

11043   \ifboolexpr{bool{FormatWP} and bool{WPMarkFloats}}{%
11044     \ifboolexpr{bool{FormatWP} and bool{WPMarkFloats}}{%
11045       === end ===
11046     }
11047   }{%
11048     \LWR@stoppars%

```

Close an HTML figure tag:

```

11049   \ifbool{FormatWP}{\endLWR@BlockClassWP}{}%
11050   \LWR@htmlElementend{figure}%
11051   \endgroup%
11052   \boolfalse{LWR@freezethisautoid}%
11053   \LWR@startpars%
11054   \ifbool{FormatWP}{\newline}{}%
11055 }

```

`\end@float` Support packages which create floats directly.
`\end@dblfloat`

```

11056 \@AtBeginDocument{
11057   \let\end@float\LWR@floatend
11058   \let\end@dblfloat\LWR@floatend
11059 }

```

79.2 Float tracking

`LWR@thisautoid` (*Ctr*) A sequential counter for all floats and theorems. This is used to identify the float or theorem then reference it from the List of Figures and List of Tables.

```

11060 \newcounter{LWR@thisautoid}

```

`LWR@thisautoidWP` (*Ctrl*) A sequential counter for all word processor conversion `<div>`s. This is used to convince LIBREOFFICE to form a frame around this element.

```
11061 \newcounter{LWR@thisautoidWP}
```

`LWR@freezethisautoid` (*bool*) Prevents multiple increments of `\LWR@thisautoid` inside a float.

```
11062 \newbool{LWR@freezethisautoid}
11063 \boolfalse{LWR@freezethisautoid}
```

`\LWR@forcenewautoidanchor` Adds a new `<autoid>` anchor.

```
11064 \newcommand*{\LWR@forcenewautoidanchor}{%
11065   \addtocounter{LWR@thisautoid}{1}%
11066   \ifbool{LWR@doingapar}%
11067   {%
11068     \LWR@htmltag{a id=\textquotedbl\
11069       \LWR@print@embox{autoid-\arabic{LWR@thisautoid}}}%
11070     \textquotedbl\ }% space
11071     \LWR@htmltag{/a }%
11072   }%
11073   {%
11074     \LWR@stoppars%
11075     \LWR@htmltag{a id=\textquotedbl\
11076       \LWR@print@embox{autoid-\arabic{LWR@thisautoid}}}%
11077     \textquotedbl\ }% space
11078     \LWR@htmltag{/a }%
11079     \LWR@startpars%
11080   }%
11081 }
```

`\LWR@newautoidanchor` Sometimes adds a new `<autoid>` anchor.

```
11082 \newcommand*{\LWR@newautoidanchor}{%
11083   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
11084   }%
11085   {\ifbool{LWR@freezethisautoid}}{\LWR@forcenewautoidanchor}}%
11086 }
```

`\@capttype` Remembers which float type is in use.

```
11087 \newcommand*{\@capttype}{}%
```

`\LWR@floatalignmentname` Set to center, flushleft, or flushright if saw `\centering`, `\raggedright`, or `\raggedleft`.

```
11088 \newcommand*{\LWR@floatalignmentname}{}%
```

`\LWR@floatalignment` If sees a `\centering`, `\raggedleft`, or `\raggedright`, creates a center, flushright, or flushleft environment.

```
11089 \newcommand*{\LWR@floatalignment}{%
11090   \ifdefstrequal{\LWR@mynexttoken}{\centering}{%
11091     \center%
11092     \renewcommand*{\LWR@floatalignmentname}{center}%
11093   }%}
```

```

11094 \ifdefstrequal{\LWR@mynexttoken}{\raggedright}{%
11095     \flushleft%
11096     \renewcommand*\LWR@floatalignmentname}{flushleft}%
11097 }{%
11098 \ifdefstrequal{\LWR@mynexttoken}{\raggedleft}{%
11099     \flushright%
11100     \renewcommand*\LWR@floatalignmentname}{flushright}%
11101 }{%
11102 }

```

`\LWR@endfloatalignment` Closes an environment from `\LWR@floatalignment`.

```

11103 \newcommand*\LWR@endfloatalignment{%
11104     \ifdefvoid{\LWR@floatalignmentname}%
11105     {}%
11106     {\@nameuse{end\LWR@floatalignmentname}}%
11107     \renewcommand*\LWR@floatalignmentname}{}%
11108 }

```

79.3 Caption inside a float environment

`\CaptionSeparator` How to separate the float number and the caption text, if not defined by the user. In most cases, `caption`'s settings are used instead.

```

11109 \AtBeginDocument{\providecommand*\CaptionSeparator}{:~}}

```

`\@caption` $\langle posn \rangle$ [$\langle name \rangle$] [$\langle long name \rangle$]

`\@makecaption` [$\langle name and num \rangle$] [$\langle text \rangle$]

Prints the float type and number, the caption separator, and the caption text.

`\@caption` is provided here in case `caption` is not loaded, and is based on the `nameref` package.

```

11110 \AtBeginDocument{
11111     \IfPackageLoadedTF{caption}{}{
11112         \let\LWR@orig@caption\@caption%
11113         \long\def\@caption#1[#2]{%

```

Warn if using a caption inside a ``:

```

11114         \LWR@spanwarnformat{caption}%
11115         \LWR@setlatestname{#2}%
11116         \LWR@orig@caption{#1}[#2]}% also takes third argument
11117     }%
11118
11119     \renewcommand{\@makecaption}[2]{%
11120         \LWR@traceinfo{\@makecaption}%
11121         \caption@begin{\@captype}%
11122         \LWR@isolate{#1}%
11123         \edef\LWR@tempone{#1}%
11124         \ifdefvoid{\LWR@tempone}{}{\CaptionSeparator}%
11125         \LWR@isolate{#2}%

```

```

11126         \caption@end%
11127         \LWR@traceinfo{@makecaption: done}%
11128     }%
11129 }
11130 }

```

79.4 Caption and LOF linking and tracking

When a new HTML file is marked in the L^AT_EX PDF file, or at the start of a new section, the L^AT_EX PDF page number at that point is stored in LWR@currentautosecfloatpage, (and the associated filename is remembered by the special L^AT_EX labels). This page number is used to generate an autpage HTML <id> in the HTML output at the start of the new HTML file or section. Meanwhile, there is a float counter used to generate an HTML autoid <id> at the start of the float itself in the HTML file. The autpage and autoid values to use for each float are written to the .lof, etc. files just before each float's entry. These values are used by \l@figure, etc. to create the HTML links in the List of Figures, etc.

LWR@nextautoid (*Ctr*) Tracks autoid for floats. Tracks autpage for floats.
LWR@nextautopage (*Ctr*) These are updated per float as the .lof, .lot file is read.

```

11131 \newcounter{LWR@nextautoid}
11132 \newcounter{LWR@nextautopage}

```

```
\LWRsetnextfloat {<autopage>} {<float autoid>}
```

*_html.lof (*file*) This is written to the *_html.lof or *_html.lot file just before each float's usual entry. The autpage and the float's autoid are remembered for \l@figure to use when creating the HTML links.
*_html.lot (*file*)

```

11133 \newcommand*\LWRsetnextfloat}[2]{%
11134     \setcounter{LWR@nextautopage}{#1}%
11135     \setcounter{LWR@nextautoid}{#2}%
11136 }

```

LWR@figcaption (*env*) An HTML <figcaption> is not allowed in places where L^AT_EX does allow a figure caption, such as inside a longtable where the tabular has already started, or inside a center environment. Therefore, a <div> of class figurecaption is used instead.

```

11137 \newenvironment*LWR@figcaption}
11138     {%
11139         \ifbool{FormatWP}{%
11140             \BlockClass[font-style:italic]{figurecaption}%
11141         }{%
11142             \BlockClass{figurecaption}%
11143         }%

```

Inside the caption, temporarily prevent underfull \hbox warnings, such as when the caption contains a math SVG image.

```

11144         \hbadness=10000\relax%
11145     }%
11146     {\endBlockClass}

```

```
\LWR@HTML@caption@begin {<type>}
```

Low-level code to create HTML tags for captions.

The print versions are from the caption package, if loaded.

```
11147 \newcommand*\LWR@HTML@caption@begin[1]
11148 {%
11149   \LWR@traceinfo{LWR@HTML@caption@begin}%
```

Keep par and minipage changes local:

```
11150   \begingroup%
```

No need for a minipage or \parbox inside the caption:

```
11151   \RenewDocumentEnvironment{minipage}{O{t} o O{t} m}{\}{}%
11152   \RenewDocumentCommand{\parbox}{O{t} O{} O{t} m +m}{##5}%
```

Enclose the original caption code inside an HTML tag:

```
11153   \LWR@figcaption%
11154   \LWR@traceinfo{LWR@HTML@caption@begin: about to LWR@origcaption@begin}%
11155   \LWR@print@caption@begin{#1}%
11156   \LWR@traceinfo{LWR@HTML@caption@begin: done}%
11157 }
```

`\LWR@HTML@caption@end` Low-level patches to create HTML tags for captions.

```
11158 \newcommand*\LWR@HTML@caption@end}
11159 {%
11160   \LWR@traceinfo{LWR@HTML@caption@end}%
11161   \LWR@print@caption@end%
```

Closing tag:

```
11162   \endLWR@figcaption%
11163   \endgroup%
11164   % \leavevmode% avoid bad space factor (0) error
11165   \LWR@traceinfo{LWR@HTML@caption@end: done}%
11166 }
```

`\caption@begin` Low-level patches to create HTML tags for captions. These are assigned `\AtBeginDocument` `\caption@end` so that other packages which modify captions will have already been loaded before saving the print-mode version.

Print versions are provided here in case caption is not loaded.

```
11167 \AtBeginDocument{
11168   \providecommand{\caption@begin}[1]{}
11169   \LWR@formatted{caption@begin}
11170
11171   \providecommand{\caption@end}{}
11172   \LWR@formatted{caption@end}
11173 }
```

`\captionlistentry` Tracks the float number for this caption used outside a float. Patched to create an HTML anchor.

```

11174 \AtBeginDocument{%
11175 \IfPackageLoadedTF{caption}{
11176   \let\LWR@origcaptionlistentry\captionlistentry
11177
11178   \renewcommand*\captionlistentry{%
11179     \LWR@ensuredoingapar%
11180     \LWR@origcaptionlistentry%
11181   }

11182   \def\LWR@LTcaptionlistentry{%
11183     \LWR@ensuredoingapar%
11184     \LWR@forcenewautoidanchor%
11185     \bgroup%
11186     \ifstar{\egroup\LWR@LT@captionlistentry}% gobble *
11187     {\egroup\LWR@LT@captionlistentry}%
11188   }%
11189
11190   \def\LWR@LT@captionlistentry#1{%
11191     \caption@listentry@firstoftwo[LTcaption]{#1}%
11192   }%
11193 }% caption loaded
11194 {% caption not loaded
11195   \newcommand{\captionlistentry}[2][{}]{%
11196     \newcommand{\LWR@LT@captionlistentry}[2][{}]{%
11197   }
11198 }% AtBeginDocument

```

`\addcontentsline` Patched to write the autopage and autoid before each float's entry. No changes if writing .toc For a theorem, automatically defines `\ext@<type>` as needed, to mimic and reuse the float mechanism.

f

```

11199 \let\LWR@origaddcontentsline\addcontentsline
11200
11201 \renewcommand*\addcontentsline}[3]{%
11202   \ifstrequal{#1}{toc}{% not TOC

11203     \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
11204     }%
11205     {\LWR@newautoidanchor}%

11206     \ifcvoid{ext@#2}{\csdef{ext@#2}{#1}}{%

11207       \addtocontents{\@nameuse{ext@#2}}{%
11208         \protect\LWRsetnextfloat%
11209         {\arabic{LWR@currentautosecfloatpage}}%
11210         {\arabic{LWR@thisautoid}}%
11211       }%
11212     }% not TOC
11213     \LWR@origaddcontentsline{#1}{#2}{#3}%
11214 }

```

`capt-of (Pkg)` Either package provides `\captionof`, which is later patched at the beginning of `caption (Pkg)`

the document.

`\captionof` Patched to handle paragraph tags.

```

11215 \RequirePackage{capt-of}
11216
11217 \AtBeginDocument{
11218   \let\LWR@origcaptionof\captionof
11219
11220   \renewcommand*\captionof}{%
11221     \LWR@stoppars%
11222     \LWR@origcaptionof%
11223   }
11224 }% AtBeginDocument

11225 \end{warpHTML}

```

80 Table of Contents, LOF, LOT

This section controls the generation of the TOC, LOF, and LOT.

The `.toc`, `.lof`, and `.lot` files are named by the source code `\jobname`.

In HTML, the printed tables are placed inside a `<div>` of class `toc`, `lof`, or `lot`.

A “`sidetoc`” is provided which prints a subset of the TOC on the side of each page other than the homepage.

The regular L^AT_EX infrastructure is used for TOC, along with some patches to generate HTML output.

for HTML output: `11226 \begin{warpHTML}`

80.1 Reading and printing the toc

`\LWR@myshorttoc` `{\langle toc/lof/lot/sidetoc \rangle}`

Reads in and prints the TOC/LOF/LOT at the current position. While doing so, makes the @ character into a normal letter to allow formatting commands in the section names.

Unlike in regular L^AT_EX, the file is not reset after being read, since the `sidetoc` may be referred to again in each HTML page.

```

11227 \newcommand*\LWR@myshorttoc}[1]{%
11228   \LWR@traceinfo{LWR@myshorttoc: #1}%

```

Only if the file exists:

```

11229   \IfFileExists{\jobname.#1}{%
11230     \LWR@traceinfo{LWR@myshorttoc: loading}%

```



Many of the commands in the file will have @ characters in them, so @ must be

made a regular letter.

```
11231     \begingroup%
11232     \makeatletter%
```

Disable \ref to avoid nested HTML references.

```
11233     \LetLtxMacro\ref\LWR@print@ref%
11234     \LWR@disablepinyin%
```

Read in the toc file:

```
11235     \@input{\jobname.#1}%
11236     \endgroup%
11237     }%
11238     {%
11239     \LWR@traceinfo{LWR@myshorttoc: done}%
11240 }
```

```
\LWR@subtableofcontents {<toc/lof/lot>} {<sectionstarname>}
```

Places a TOC/LOF/LOT at the current position.

```
11241 \NewDocumentCommand{\LWR@subtableofcontents}{m m}{%
```

Closes previous levels:

```
11242     \@ifundefined{chapter}%
11243     {\LWR@closeprevious{section}}%
11244     {\LWR@closeprevious{chapter}}%
```

Prints any pending footnotes so that they appear above the potentially large toc:

```
11245     \LWR@printpendingfootnotes%
```

Place the list into its own chapter (if defined) or section:

```
11246     \@ifundefined{chapter}{\section*{#2}}{\chapter*{#2}}%
```

Create a new HTML nav containing the TOC/LOF/LOT:

```
11247     \LWR@htmlclass{nav}{#1}%
```

Create the actual list:

```
11248     \LWR@myshorttoc{#1}%
```

Close the nav:

```
11249     \LWR@htmlclassend{nav}{#1}%
11250 }
```

```
\@starttoc {<ext>}
```

Patch \@starttoc to encapsulate the TOC inside HTML tags:


```

11251 \let\LWR@orig@starttoc\@starttoc
11252
11253 \renewcommand{\@starttoc}[1]{
11254     \LWR@htmlclass{nav}{#1}%
11255     \LWR@orig@starttoc{#1}%
11256     \LWR@htmlclassend{nav}{#1}%
11257 }

```

`LWR@copiedsidetoc` (*bool*) Used to only copy the toc file to the sidetoc a single time.

(listings and perhaps other packages would re-use `\tableofcontents` for their own purposes, causing the sidetoc to be copied more than once, and thus end up empty.)

```

11258 \newbool{LWR@copiedsidetoc}
11259 \boolfalse{LWR@copiedsidetoc}

```

`\tableofcontents` Patch `\tableofcontents`, etc. to print footnotes first. `newfloat` uses `\listoffigures` for all future float types.

```

11260 \AtBeginDocument{
11261
11262 \let\ltxmacro\LWR@origtableofcontents\tableofcontents
11263
11264 \renewcommand*\tableofcontents{%

```

Do not print the table of contents if formatting for a word processor, which will presumably auto-generate its own updated table of contents:

```

11265     \ifboolexpr{bool{FormatWP} and bool{WPMarkTOC}}{
11266
11267     === table of contents ===
11268
11269     }
11270     {

```

Copy the `.toc` file to `.sidetoc` for printing the sidetoc. The original `.toc` file is renewed when `\tableofcontents` is finished.

```

11271         \ifbool{LWR@copiedsidetoc}{}%
11272             \LWR@copyfile{\jobname.toc}{\jobname.sidetoc}%
11273             \booltrue{LWR@copiedsidetoc}%
11274         }%
11275         \LWR@printpendingfootnotes

```

Disable `\ref` to avoid nested HTML references.

```

11276         \begingroup%
11277         \let\ltxmacro\ref\LWR@print@ref%
11278         \LWR@disablepinyin%
11279         \LWR@origtableofcontents%
11280         \endgroup%
11281     }
11282 }% \tableofcontents
11283
11284 }% AtBeginDocument

```

`\listoffigures`

```

11285 \let\LWR@origlistoffigures\listoffigures
11286
11287 \renewcommand*{\listoffigures}{
11288   \ifboolexpr{bool{FormatWP} and bool{WPMarkLOFT}}{
11289     === list of figures ===
11290   }
11291   {
11292     \LWR@printpendingfootnotes

```

Disable `\ref` to avoid nested HTML references.

```

11295     \begingroup%
11296     \LetLtxMacro\ref\LWR@print@ref%
11297     \LWR@disablepinyin%
11298     \LWR@origlistoffigures%
11299     \endgroup%
11300   }
11301 }

```

`\listoftables`

```

11302 \let\LWR@origlistoftables\listoftables
11303
11304 \renewcommand*{\listoftables}{
11305   \ifboolexpr{bool{FormatWP} and bool{WPMarkLOFT}}{
11306     === list of tables ===
11307   }
11308   {
11309     \LWR@printpendingfootnotes

```

Disable `\ref` to avoid nested HTML references.

```

11312     \begingroup%
11313     \LetLtxMacro\ref\LWR@print@ref%
11314     \LWR@disablepinyin%
11315     \LWR@origlistoftables%
11316     \endgroup%
11317   }
11318 }

```

80.2 toc commands

`\LWR@listof {<type>} {<title>}`

Emulate the `\listof` command from the `float` package (section 281). Used to create lists of custom float types. Also used to redefine the standard L^AT_EX `\listoffigures` and `\listoftables` commands, and in `tocloft` and `memoir`.

```

11319 \NewDocumentCommand{\LWR@listof}{m +m}{%
11320   \ifundefined{L@#1}{%

```

```

11321     \csdef{l@#1}##1##2{\hypertocfloat{1}{#1}{\@nameuse{ext@#1}}{##1}{##2}}%
11322     }{}%
11323     \LWR@subtableofcontents{\@nameuse{ext@#1}}{#2}%
11324     \expandafter\newwrite\csname tf@\csname ext@#1\endcsname\endcsname%
11325     \immediate\openout \csname tf@\csname ext@#1\endcsname\endcsname%
11326         \jobname.\@nameuse{ext@#1}\relax%
11327 }

```

80.3 Side toc

The “side toc” is a table-of-contents positioned to the side.

It may be renamed by redefining `\sitetocname`, and may contain paragraphs.

Per table 18, CSS may be used to format the sideroc.

Table 18: CSS related to the sideroc

`div.sidetoccontainer`: The entire sideroc.

`div.sidetoctitle`: The title.

`div.sidetoccontents`: The table of contents.

```
11328 \end{warpHTML}
```

for HTML & PRINT: 11329 `\begin{warpall}`

`SideTOCDepth (Ctr)` Controls how deep the side-TOC gets. Use a standard L^AT_EX section level similar to `tocdepth`. Warn if parts of the website may be inaccessible.

```

11330 \newcounter{SideTOCDepth}
11331 \setcounter{SideTOCDepth}{1}
11332
11333 \AtEndDocument{%
11334     \ifnumcomp{\value{SideTOCDepth}}{<}{\value{FileDepth}}{
11335         \PackageWarningNoLine{lwarp}
11336         {%
11337             SideTOCDepth is less than FileDepth,\MessageBreak
11338             so some website pages may be inaccessible%
11339         }
11340     }{}
11341 }

```

`\sitetocname` Holds the default name for the sideroc.

```
11342 \newcommand{\sitetocname}{Contents}
```

```
11343 \end{warpall}
```

for HTML output: 11344 `\begin{warpHTML}`

`\LWR@sitetoc` Creates the actual side-TOC.

```
11345 \newcommand*{\LWR@sitetoc}{%
```

```

11346 \LWR@forcenewpage
11347 \LWR@stoppars
11348

```

The entire sidetoc is placed into a nav of class sidetoc.

```

11349 \LWR@htmlElementclass{div}{sidetoccontainer}
11350 \LWR@htmlElementclass{nav}{sidetoc}
11351
11352 \setcounter{tocdepth}{\value{SideTOCDepth}}

```

The title is placed into a <div> of class sidetocTitle, and may contain paragraphs.

```

11353 \begin{BlockClass}{sidetocTitle}
11354 \ifcvoid{thetitle}{\InlineClass{sidetocTitle}{\thetitle}\par}
11355 \sidetocname
11356 \end{BlockClass}

```

The table of contents is placed into a <div> of class sidetoccontents.

```

11357 \begin{BlockClass}{sidetoccontents}
11358 \LinkHome
11359
11360 \LWR@myshorttoc{sidetoc}
11361 \end{BlockClass}
11362 \LWR@htmlElementclassend{nav}{sidetoc}
11363 \LWR@htmlElementclassend{div}{sidetoccontainer}
11364 }

```

80.4 Low-level TOC line formatting

`\numberline {<number>}`

(Called from each line in the .aux, .lof files.)

Record this section number for further use:

```

11365 \newcommand*{\LWR@numberline}[1]{%
11366 \LWR@sectionnumber{#1}\quad%
11367 }
11368
11369 \LetLtxMacro\numberline\LWR@numberline

```

`\LWR@maybetocdata` Replaced by `tocdata`. Adds author name.

```

11370 \newcommand*{\LWR@maybetocdata}{}

```

`\hypertoc {<1: depth>} {<2: type>} {<3: name>} {<4: page>}`

Called by `\l@section`, etc. to create a hyperlink to a section.

The autopage label is always created just after the section opens.

#1: Depth.

#2: section, subsection, etc.

#3: The text of the caption.

#4: Page number, which for HTML is the LWR@currentautosecpage when the section was created.

```
11371 \NewDocumentCommand{\hypertoc}{m m +m m}{%
11372   \LWR@traceinfo{hypertoc !#1!#2!#3!#4!}%
```

Respond to tocdepth:

```
11373   \ifnumcomp{#1}{>}{\value{tocdepth}}%
11374     {}%
11375     {%
11376     \LWR@startpars%
```

Create an HTML link to <filename>#autosec-(page), with the name, of the given HTML class.

\BaseJobname is added to the label in case xr or xr-hyper are used.

```
11377   \LWR@subhyperrefclass{%
11378     \LWR@htmlrefsectionfilename{\BaseJobname-autopage-#4}%
11379     \LWR@origpound\LWR@print@mbbox{autosec-#4}%
11380     }{#3}{toc#2}%

11381   \LWR@maybetocdata%

11382   \LWR@stoppars%
11383   }%
11384   \LWR@traceinfo{hypertoc done}%
11385 }
```

lofdepth (*Ctr*) TOC depth for figures.

```
11386 \IfClassLoadedTF{memoir}{}{
11387   \newcounter{lofdepth}
11388   \setcounter{lofdepth}{1}
11389 }
```

lotdepth (*Ctr*) TOC depth for tables.

```
11390 \IfClassLoadedTF{memoir}{}{
11391   \newcounter{lotdepth}
11392   \setcounter{lotdepth}{1}
11393 }
```

\hypertocfloat {<1: depth>} {<2: type>} {<3: ext of parent>} {<4: caption>} {<5: page>}

#1 is depth

#2 is figure, table, etc.

#3 is lof, lot, of the parent.

#4 the text of the caption

#5 page number

```
11394 \newcommand{\hypertocfloat}[5]{%
```

If some float-creation package has not yet defined the float type's lofdepth counter, etc, define it here:

```
11395     \ifundefined{c@#3depth}{%
11396         \newcounter{#3depth}%
11397         \setcounter{#3depth}{1}%
11398     }{%
```

Respond to lofdepth, etc.:

```
11399     \LWR@traceinfo{hypertocfloat depth is #1 #3depth is \arabic{#3depth}}%
11400     \ifthenelse{\cnttest{#1}{<=}}{\arabic{#3depth}}}%
11401     {%
11402         \LWR@startpars%
```

Create an HTML link to filename#autoid-(float number), with text of the caption, of the given HTML class.

\BaseJobname is added to the label in case xr or xr-hyper are used.

```
11403         \LWR@subhyperrefclass{%
11404         \LWR@htmlrefsectionfilename{%
11405             \BaseJobname-autopage-\arabic{LWR@nextautopage}%
11406         }%
11407         \LWR@origpound\LWR@print@mbx{autoid-\arabic{LWR@nextautoid}}}%
11408         {#4}{toc#2}%

11409         \LWR@maybetocdata%

11410         \LWR@stoppars%
11411     }%
11412     }%
11413 }
```

Automatically called by \contentsline:

```
\l@book {<name>} {<page>}
```

Uses \DeclareDocumentCommand in case the class does not happen to have a \book.

```
11414 \DeclareDocumentCommand{\l@book}{m m}{\hypertoc{-2}{book}{#1}{#2}}
```

```
\l@part {<name>} {<page>}
```

Uses \DeclareDocumentCommand in case the class does not happen to have a \part.

```
11415 \DeclareDocumentCommand{\l@part}{m m}{\hypertoc{-1}{part}{#1}{#2}}
```

`\l@chapter {<name>} {<page>}`

Uses `\DeclareDocumentCommand` in case the class does not happen to have a `\chapter`.

```
11416 \@ifundefined{chapter}
11417 {}
11418 {
11419 \DeclareDocumentCommand{\l@chapter}{m m}
11420   {\hypertoc{0}{chapter}{#1}{#2}}
11421 }
```

`\l@section {<name>} {<page>}`

```
11422 \renewcommand{\l@section}[2]{\hypertoc{1}{section}{#1}{#2}}
```

`\l@subsection {<name>} {<page>}`

```
11423 \renewcommand{\l@subsection}[2]{\hypertoc{2}{subsection}{#1}{#2}}
```

`\l@subsubsection {<name>} {<page>}`

```
11424 \renewcommand{\l@subsubsection}[2]{\hypertoc{3}{subsubsection}{#1}{#2}}
```

`\l@paragraph {<name>} {<page>}`

```
11425 \renewcommand{\l@paragraph}[2]{\hypertoc{4}{paragraph}{#1}{#2}}
```

`\l@subparagraph {<name>} {<page>}`

```
11426 \renewcommand{\l@subparagraph}[2]{\hypertoc{5}{subparagraph}{#1}{#2}}
```

`\l@figure {<name>} {<page>}`

```
11427 \renewcommand{\l@figure}[2]{\hypertocfloat{1}{figure}{lof}{#1}{#2}}
```

`\l@table {<name>} {<page>}`

```
11428 \renewcommand{\l@table}[2]{\hypertocfloat{1}{table}{lot}{#1}{#2}}
```

```
11429 \end{warpHTML}
```

81 Index and glossary

See:

<http://tex.stackexchange.com/questions/187038/>

[how-to-mention-section-number-in-index-created-by-imakeidx](#)

Index links are tracked by the counter `LWR@autoindex`. This counter is used to create a label for each index entry, and a reference to this label for each entry in

the index listing. This method allows each index entry to link directly to its exact position in the document.

for HTML output: 11430 `\begin{warphTML}`

```
11431 \newcounter{LWR@autoindex}
11432 \setcounter{LWR@autoindex}{0}
11433
11434 \newcounter{LWR@autoglossary}
11435 \setcounter{LWR@autoglossary}{0}
```

`\IndexPageSeparator` User-adjustable delimiters for page and range separators in the *.ind files.
`\IndexRangeSeparator`

```
11436 \newcommand*\IndexPageSeparator}{, }
11437 \newcommand*\IndexRangeSeparator}{--}
```

`theindex (enu.)`

```
11438 \@ifundefined{chapter}
11439   {\newcommand*\LWR@indexsection}[1]{\section*{#1}}
11440   {\newcommand*\LWR@indexsection}[1]{\chapter*{#1}}
11441
11442
11443 \AtBeginDocument{
11444
11445 \renewenvironment*{theindex}{%
11446   \LWR@indexsection{\indexname}%
11447   \LetLtxMacro\item\LWR@indexitem%
11448   \LetLtxMacro\subitem\LWR@indexsubitem%
11449   \LetLtxMacro\subsubitem\LWR@indexsubsubitem%
11450 }{}
11451
11452 }% AtBeginDocument
```

`\LWR@indexitem` [*<index key>*] The optional argument is added to support `repeatindex`.

```
11453 \newcommand{\LWR@indexitem}[1][\@empty]{
11454
11455   \InlineClass{indexitem}{\LWR@htmlcomment{}}#1%
11456 }
```

`\LWR@indexsubitem`

```
11457 \newcommand{\LWR@indexsubitem}{
11458
11459   \InlineClass{indexsubitem}{\LWR@htmlcomment{}}%
11460 }
```

`\LWR@indexsubsubitem`

```
11461 \newcommand{\LWR@indexsubsubitem}{
11462
11463   \InlineClass{indexsubsubitem}{\LWR@htmlcomment{}}%
11464 }
```


`\LWR@index@modifyentry {<indexing term>}`

If using *xindex*, modifies the pipe character to become `\hyperindexformat`. The indexing term is split into two argument at the pipe, then fed to `\LWR@index@modifyentrysub`.

```
11465 \NewDocumentCommand{\LWR@index@modifyentry}{>\SplitArgument{1}{|}}m}
11466   {\LWR@index@modifyentrysub#1}
```

Handle left and right parenthesis range argument, or add a `\hyperindexformat` clause.

```
11467 \newcommand*{\LWR@index@modifyentrysub}[2]{%
11468   \edef\LWR@tempone{#1}%
11469   \edef\LWR@temptwo{#2}%
11470   \IfValueTF{#2}{%
11471     \ifx#2(%
11472       \appto\LWR@tempone{|}%
11473     \else%
11474       \ifx#2)%
11475         \appto\LWR@tempone{|}%
11476       \else%
11477         \appto\LWR@tempone{%
11478           |hyperindexformat\LWRleftbrace%
11479           \LWRbackslash#2%
11480           \LWRrightbrace%
11481         }%
11482       \fi%
11483     \fi%
11484   }%
11485   }%
11486 }
```

`LWR@index@tricked (bool)` Used to track *xindex* creation. See next.

```
11487 \newbool{LWR@index@tricked}
11488 \boolfalse{LWR@index@tricked}
```

`\@wrindex {<indexing term>}` Redefined to write the `LWR@autoindex` counter instead of page.

If using *xindex*, the first line is a comment including a special phrase which tricks *xindex* into thinking that `\hyperref` was used.

```
11489 \def\LWR@wrindex#1{%
11490   \ifbool{LWR@index}{%
11491     \ifbool{LWR@index@tricked}{%
11492       \protected@write\@indexfile{%
11493         {%
11494           \LWRpercent\space hyperpage\LWRrightbrace%
11495           \LWRpercent\space trick xindex to assume hyperref%
11496         }%
11497         \global\booltrue{LWR@index@tricked}%
11498       }%
11499     \LWR@index@modifyentry{#1}%
11500   }{%
11501     \def\LWR@tempone{#1}%
11502   }%
11503   \addtocounter{LWR@autoindex}{1}%
}
```

```

11504 \protected@write@indexfile{}%
11505 {\string\indexentry{\LWR@tempone}{\arabic{\LWR@autoindex}}}%

```

The label is assigned after the file write to avoid conflict with `cleveref`.

```

11506 \label{\LWRindex-\arabic{\LWR@autoindex}}%
11507 \endgroup%
11508 \@esphack%
11509 }
11510
11511 \AtBeginDocument{
11512 \let\@wrindex\LWR@wrindex
11513 }

```

`\@wrglossary {<term>}` Redefined to write the `LWR@autoglossary` counter instead of page.

```

11514 \def\@wrglossary#1{%
11515 \addtocounter{\LWR@autoglossary}{1}%
11516 \LWR@new@label{\LWRglossary-\the\LWR@autoglossary}%
11517 \protected@write@glossaryfile{}%
11518 {\string@glossaryentry{#1}{\the\LWR@autoglossary}}%
11519 \endgroup%
11520 \@esphack%
11521 }

```

`\LWR@indexnameref@anonref {<LWR@autoindex>}`

Displays a reference link where there no `\ref` available.

```

11522 \newcommand*\LWR@indexnameref@anonref[1]{%
11523 \LWR@startref{\LWRindex-#1}%
11524 (*)%
11525 \LWR@htmltag{/a}%
11526 }

```

`\LWR@indexnameref@ref {<LWR@autoindex>}`

Creates `\ref`-style index references. To avoid an unwanted space if there is nothing to reference, the reference is checked first.

```

11527 \newcommand*\LWR@indexnameref@ref[1]{%
11528 \edef\LWR@thisref{\csuse{r@\LWRindex-#1}}%
11529 \ifdefvoid{\LWR@thisref}{}%
11530 \edef\LWR@thisref{\expandafter\@firstoffive\LWR@thisref}%
11531 \ifdefvoid{\LWR@thisref}%
11532 {\LWR@indexnameref@anonref{#1}}%
11533 {\ref{\LWRindex-#1}}%
11534 }%
11535 }

```

`\LWR@indexnameref@refnameref {<LWR@autoindex>}`

Creates `\ref`-style index references. To avoid an unwanted space if there is nothing to reference, the reference is checked first. For links to starred or `??` objects, only the name is used.

```

11536 \newcommand*\LWR@indexnameref@refnameref[1]{%

```

```

11537 \edef\LWR@thisref{\csuse{r@LWRindex-#1}}%
11538 \ifdefvoid{\LWR@thisref}{}{%
11539     \edef\LWR@thisref{\expandafter\@firstoffive\LWR@thisref}%
11540     \ifdefvoid{\LWR@thisref}{}{%
11541         \ifdefstring{\LWR@thisref}{(*)}%
11542         {}%
11543         {\ref{LWRindex-#1} }% space
11544     }%
11545 }%
11546 \nameref{LWRindex-#1}%
11547 }

```

`\LWR@indexnameref@cref` $\langle LWR@autoindex \rangle$

Creates `\cref`-style index references. If no numbered reference is available, a `\nameref` is used instead. If the reference is `??`, which will be changed by `\LWR@indexnameref` to become `(*)`, then the link is changed to show `(*)`.

```

11548 \newcommand*{\LWR@indexnameref@cref}[1]{%
11549     \edef\LWR@thisref{\csuse{r@LWRindex-#1}}%
11550     \ifdefvoid{\LWR@thisref}{}%
11551     \nameref{LWRindex-#1}%
11552 }{%
11553     \edef\LWR@thisref{\expandafter\@firstoffive\LWR@thisref}%
11554     \ifdefvoid{\LWR@thisref}{}%
11555     \nameref{LWRindex-#1}%
11556 }{%
11557     \ifdefstring{\LWR@thisref}{(*)}{%
11558         \LWR@indexnameref@anonref{#1}%
11559     }{%
11560         \cref{LWRindex-#1}%
11561     }%
11562 }%
11563 }%
11564 }

```

`\LWR@indexnameref@crefnameref` $\langle LWR@autoindex \rangle$

Creates `\cref`-style index references. If no numbered reference is available, a `\nameref` is used instead. If the reference is `??`, which will be changed by `\LWR@indexnameref` to become `(*)`, then the link is changed to show only the name.

```

11565 \newcommand*{\LWR@indexnameref@crefnameref}[1]{%
11566     \edef\LWR@thisref{\csuse{r@LWRindex-#1}}%
11567     \ifdefvoid{\LWR@thisref}{}%
11568     {}%
11569     {%
11570         \edef\LWR@thisref{\expandafter\@firstoffive\LWR@thisref}%
11571         \ifdefvoid{\LWR@thisref}{}%
11572         {}%
11573         {%
11574             \ifdefstring{\LWR@thisref}{(*)}%
11575             {}%
11576             {\cref{LWRindex-#1} }% space
11577         }%
11578     }%
11579     \nameref{LWRindex-#1}%
11580 }

```

`\LWR@indexnameref` $\langle LWR@autoindex \rangle$

Creates a hyperlink based on the given entry's autoindex.

```
11581 \newcommand*\LWR@indexnameref[1]{%
11582   {% group
```

Temporarily redefine `\caption@xref` because it was printing ?? in the indexes, and also causing error on expansion:

```
11583     \ifdef{\caption@xref}{%
11584       \renewcommand*\caption@xref[2]{(*)}%
11585     }{%

11586     \ifdefstring{\LWR@IndexRef}{ref}{%
11587       \LWR@indexnameref@ref{#1}%
11588     }{%
11589     \ifdefstring{\LWR@IndexRef}{nameref}{%
11590       \nameref{LWRindex-#1}%
11591     }{%
11592     \ifdefstring{\LWR@IndexRef}{refnameref}{%
11593       \LWR@indexnameref@refnameref{#1}%
11594     }{%
11595     \ifdefstring{\LWR@IndexRef}{cref}{%
11596       \LWR@indexnameref@cref{#1}%
11597     }{%
11598     \ifdefstring{\LWR@IndexRef}{crefnameref}{%
11599       \LWR@indexnameref@crefnameref{#1}%
11600     }{%
11601     \ifdefstring{\LWR@IndexRef}{autoref}{%
11602       \LWR@indexnameref@cref{#1}%
11603     }{% text string
11604       \LWR@startref{LWRindex-#1}%
11605       \LWR@IndexRef%
11606       \LWR@htmltag{/a}%
11607     }}}}]}%
11608   }% group
11609 }
```

`\LWR@doindexentrysubsub` $\langle \text{range start: } LWR@autoindex, \text{ or macros.} \rangle \langle \text{range end or blank} \rangle$

Creates a hyperlink, or handles `\see`, `\textbf`, etc.

```
11610 \newrobustcmd{\LWR@doindexentrysubsub}[2]{%
11611   \IfInteger{#1}%
11612     {\LWR@indexnameref{#1}}%
11613     {#1}%
11614   \IfValueT{#2}{%
11615     \IndexRangeSeparator%
11616     \IfInteger{#2}%
11617       {\LWR@indexnameref{#2}}%
11618       {#2}%
11619   }%
11620 }
```

`\LWR@doindexentrysub` $\langle \text{range delimiter} \rangle \langle LWR@autoindex \text{ or macros, possible a range} \rangle$


```
11621 \NewDocumentCommand{\LWR@doindexentrysub}{m >\SplitArgument{1}{#1}}m}
```

```
11622     {\LWR@doindexentrysubsub#2}
```

`\LWR@doindexentry` \langle *LWR@autoindex or macros, possible a range* \rangle

```
11623 \newcommand*{\LWR@doindexentry}[1]{%
11624     \relax% required
11625     \expandafter\LWR@doindexentrysub\expandafter{\IndexRangeSeparator}{#1}%
11626 }
```

`\LWR@hyperindexrefnullified` Handles macros commonly seen inside an `\index` entry. Each macro is redefined to create and format a link to its entry.

 **index formatting** To handle additional macros:

```
\appto\LWR@hyperindexrefnullified{. . . }
```

```
11627 \newcommand{\LWR@hyperindexrefnullified}{%
11628     \renewrobustcmd{\emph}[1]{\LWR@HTML@emph{\LWR@doindexentry{##1}}}%
11629     \renewrobustcmd{\textbf}[1]{\LWR@HTML@textbf{\LWR@doindexentry{##1}}}%
11630     \renewrobustcmd{\texteb}[1]{\LWR@HTML@texteb{\LWR@doindexentry{##1}}}%
11631     \renewrobustcmd{\textlg}[1]{\LWR@HTML@textlg{\LWR@doindexentry{##1}}}%
11632     \renewrobustcmd{\textrm}[1]{\LWR@HTML@textrm{\LWR@doindexentry{##1}}}%
11633     \renewrobustcmd{\textsf}[1]{\LWR@HTML@textsf{\LWR@doindexentry{##1}}}%
11634     \renewrobustcmd{\texttt}[1]{\LWR@HTML@texttt{\LWR@doindexentry{##1}}}%
11635     \renewrobustcmd{\textup}[1]{\LWR@HTML@textup{\LWR@doindexentry{##1}}}%
11636     \renewrobustcmd{\textsc}[1]{\LWR@HTML@textsc{\LWR@doindexentry{##1}}}%
11637     \renewrobustcmd{\textulc}[1]{\LWR@HTML@textulc{\LWR@doindexentry{##1}}}%
11638     \renewrobustcmd{\textsi}[1]{\LWR@HTML@textsi{\LWR@doindexentry{##1}}}%
11639     \renewrobustcmd{\textit}[1]{\LWR@HTML@textit{\LWR@doindexentry{##1}}}%
11640     \renewrobustcmd{\textsl}[1]{\LWR@HTML@textsl{\LWR@doindexentry{##1}}}%
11641 }
```

`\hyperindexref` \langle *list of LWR@autoindex, commas, and ranges* \rangle

`\hyperindexref{LWR@autoindex}` is inserted into `*.ind` by the *makeindex* style file `lwarp.ist` or the *xindy* style file `lwarp.xdy`. For *xindex*, `\hyperpage` is inserted, which is `\let` to `\hyperindexref`. For *gindex*, `\addindexitem` and related are inserted, which are defined to use `\hyperindexref`.

The argument is split at commas, and also for ranges, then passed to `\LWR@hyperindexrefsub`.

```
11642 \newcommand*{\hyperindexref}[1]{%
11643     \relax% required
11644     \expandafter\LWR@hyperindexref@comma\expandafter{\IndexPageSeparator}{#1}%
11645 }
```

`\LWR@hyperindexref@comma` \langle *separator* \rangle \langle *list of args* \rangle

The list is split at commas, and passed to `\LWR@hyperindexref@@comma`.

```
11646 \NewDocumentCommand{\LWR@hyperindexref@comma}
11647     {m >\SplitList{#1}} m}
11648     {%
```

Used to place the separator between each entry, but not before the first.

```
11649      \def\LWR@hyperindexref@thiscomma{ }%
11650      \def\LWR@hyperindexref@nextcomma{#1}%
```

Each comma-delimited entry is now passed individually to \LWR@hyperindexref@comma.

```
11651      \ProcessList{#2}\LWR@hyperindexref@comma%
11652    }
```

\LWR@hyperindexref@comma {<*arg, perhaps with a range*>}

A comma separator is placed if not the first item, then the range is parsed.

```
11653 \newcommand*\LWR@hyperindexref@comma[1]{%
11654   \LWR@hyperindexref@thiscomma%
11655   \renewcommand{\LWR@hyperindexref@thiscomma}{\LWR@hyperindexref@nextcomma}%
11656   \expandafter\LWR@hyperindexref@range\expandafter{\IndexRangeSeparator}{#1}%
11657 }
```

\LWR@hyperindexref@range {<*range delimiter*>} {<*arg*>}

```
11658 \NewDocumentCommand{\LWR@hyperindexref@range}
11659   {m >{\SplitArgument{1}{#1}} m}
11660   {\LWR@hyperindexrefsub#2}
```

\LWR@hyperindexrefsub {<*range start: LWR@autoindex*>} {<*range end, or -NoValue-*>}

Handles the start and end of a range, if applicable.

```
11661 \newcommand*\LWR@hyperindexrefsub[2]{%
11662   \LWR@hyperindexrefsubtwo{#1}%
11663   \IfValueT{#2}{%
11664     \IndexRangeSeparator%
11665     \LWR@hyperindexrefsubtwo{#2}%
11666   }%
11667 }
```

\LWR@hyperindexrefsubtwo {<*LWR@autoindex*>}

```
11668 \newcommand*\LWR@hyperindexrefsubtwo[1]{%
```

In long index lines with numerous entries, *makeindex* can insert a newline before the page number, resulting in an extra space before the first digit. If the first character is a space, remove it first.

```
11669   \edef\LWR@tempone{#1}%
11670   \IfBeginWith{\LWR@tempone}{ }{%
11671     \StrGobbleLeft{\LWR@tempone}{1}[\LWR@tempone]%
11672   }{%}
```

If a numeric entry, create a link. If not numeric, such as \see, use the entry as-is. \emph, \textit, etc. have been redefined above to create and format the entry.

```
11673   \IfInteger{\LWR@tempone}%
11674     {\LWR@indexnameref{\LWR@tempone}}%
11675     {%
11676     \begingroup%
```

```

11677         \LWR@hyperindexrefnullified%
11678         #1%
11679         \endgroup%
11680     }%
11681 }

```

`\hyperpage` Emulate `hyperref`.

```
11682 \LetLtxMacro\hyperpage\hyperindexref
```

`\nohyperpage` Emulate `hyperref`.

```
11683 \def\nohyperpage#1{}
```

`\hyperindexformat` Emulate `hyperref`.

```

11684 \def\hyperindexformat#1#2{%
11685     #1{\hyperpage{#2}}%
11686 }%

11687 \end{warpHTML}

```

for PRINT output: A null command for print mode, in case `hyperref` was not used:

```

11688 \begin{warpprint}
11689 \newcommand{\hyperindexref}[1]{#1}
11690 \end{warpprint}

```

for HTML & PRINT: For the `glossaries` package, try to prevent an error where `\glo@name` was not found:

```

11691 \begin{warpall}
11692 \providecommand{\glo@name}{}
11693 \end{warpall}

```

82 Bibliography presentation

for HTML output: `11694 \begin{warpHTML}`

`\bibliography` `{\filenames}` At one time this was modified to read `\BaseJobname.bbl`, which meant the HTML version could not resolve until the print version was also present. This also confused `multibib`. It has been reverted to the original to use `\jobname.bbl`.

`\@biblabel` `{\text-refnumber}`

```
11695 \renewcommand{\@biblabel}[1][\quad]
```

`thebibliography` (*enu*) To emphasize document titles in the bibliography, the following redefines `\em` inside `thebibliography` to gather everything until the next closing brace, then display these tokens with `\textit`.

Adapted from embracedef.sty, *which is by* TAKAYUKI YATO:

<https://gist.github.com/zr-tex8r/b72555e3e7ad2f0a37f1>

```

11696 \AtBeginDocument{
11697
11698 \AtBeginEnvironment{thebibliography}{
11699
11700 \providecommand*\LWR@newem}[1]{\textit{#1}}
11701
11702 \renewrobustcmd{\em}{%
11703   \begingroup
11704     \gdef\LWR@em@after{\LWR@em@finish\LWR@newem}%
11705     \afterassignment\LWR@em@after
11706     \toks@\bgroup
11707 }
11708
11709 \def\LWR@em@finish#1{%
11710   \xdef\LWR@em@after{\noexpand#1{\the\toks@}}%
11711   \endgroup
11712   \LWR@em@after\egroup
11713 }
11714
11715 }% \AtBeginEnvironment{thebibliography}
11716
11717 }% \AtBeginDocument

11718 \end{warpHTML}

```

83 Restoring original formatting

for HTML output: 11719 \begin{warpHTML}

`\LWR@restoreMathJaxformatting` A few macros (ref: tcolorbox) must be treated separately while printing the HTML comment for a MATHJAX expression. These are set here, to which other functions may be appended.

```
11720 \newcommand*\LWR@restoreMathJaxformatting}{}
```

`\LWR@restoreorigformatting` Used to temporarily restore the print-mode meaning of a number of formatting, graphics, and symbols-related macros while generating SVG math or a lateximage.

Must be used inside a group.

Sets `\LWR@formatting` to print until the end of the group.

A number of packages will `\appto` additional actions to this macro.

Various packages add to this macro using `\appto`.

```

11721 \newcommand*\LWR@restoreorigformatting}{%
11722   \LWR@traceinfo{\LWR@restoreorigformatting}%

```

Numerous macros change their print/HTML meaning depending on `\LWR@formatting`:

```

11723   \renewcommand*\LWR@formatting}{print}%
11724   \linespread{1}%

```



```

11725   \setbool{LWR@doingparhooks}{false}%

11726   \def\color@endgroup{\endgraf\endgroup}%

11727   \LetLtxMacro\hfil\LWR@origfil%
11728   \let\hss\LWR@orighss%
11729   \let\llap\LWR@origllap%
11730   \let\rlap\LWR@origrlap%
11731   \let\hfilneg\LWR@origfilneg%

11732   \let\,LWR@origcomma% disable HTML short unbreakable space
11733   \let\textless\LWR@origtextless%
11734   \let\textgreater\LWR@origtextgreater%

11735   \let&LWR@origampersand%
11736   \let%LWR@origpercent%

11737   \LetLtxMacro\em\LWR@origem%
11738   \LetLtxMacro\normalfont\LWR@orignormalfont%
11739   \let\sp\LWR@origsp%
11740   \let\sb\LWR@origsb%
11741   \LetLtxMacro\underline\LWR@origunderline%
11742   \LetLtxMacro~\LWR@origtilde%
11743   \LetLtxMacro\nobreakspace\LWR@orignobreakspace%

```

`\endtabular` must be restored to its original, instead of relying on `lwarp`'s `\LWR@formatted` mechanism:

```

11744   \LetLtxMacro\endtabular\LWR@origendtabular%
11745   \csletcs{endtabular*}{LWR@origendtabular*}%

11746   \LetLtxMacro\noalign\LWR@orignoalign%
11747   \LetLtxMacro\hline\LWR@orighline%

11748   \let\newline\LWR@orignewline%
11749   \LetLtxMacro\includegraphics\LWR@origincludegraphics%

11750   \LetLtxMacro\@ensuredmath\LWR@origensuredmath%

11751   \let\math\LWR@orig@math%
11752   \let\endmath\LWR@orig@endmath%
11753   \let\displaymath\LWR@orig@displaymath%
11754   \let\enddisplaymath\LWR@orig@enddisplaymath%
11755 %
11756   \LWR@restoreorigaccents%
11757   \LWR@restoreoriglists%

11758   \let\@mpfootnotetext\LWR@orig@mpfootnotetext%

11759   \LWR@hook@processingtags%

```

To enable MATHJAX-specific nullification, used for `tcolorbox`:

```

11760   \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
11761       {\LWR@restoreMathJaxformatting}%
11762       {}%
11763   }

11764 \end{warpHTML}

```

84 Nullifying filename formatting

The following are used to nullify certain macros and environments while converting section names to file names.

for HTML output: 11765 \begin{warpHTML}

Also commonly used are \@empty, \@gobble, and \@firstofone.

```
11766 \newcommand*{\LWR@dash}{-}
```

`\LWR@nullfonts` Removes formatting during filename operations, file references, and HTML comments.

 **Use only inside a group.**

The following are *not* made robust, since they must be expanded to their nullified versions.

```

11767 \catcode`\$=\active% redefining $ below
11768 \catcode`\_=12% redefining \_ below
11769 \newcommand*{\LWR@nullfonts}{%

```

Various built-in symbols.

```

11770   \renewcommand*{\$}{-}%
11771   \renewcommand*{\%}{-}%
11772   \renewcommand*{\_}{-}%
11773   \renewcommand*{\}}{-}%
11774   \renewcommand*{\}{-}%
11775   \renewcommand*{\&}{-}% used to be 'and'
11776   \renewcommand*{\#}{-}%
11777   \renewcommand*{\,}{-}%
11778   \renewcommand*{\~}{-}%
11779 %
11780 % accents:
11781   \renewcommand*{\`}[1]{##1}%
11782   \renewcommand*{\'}[1]{##1}%
11783   \renewcommand*{\^}[1]{##1}%
11784   \renewcommand*{\~}[1]{##1}%
11785   \renewcommand*{\=}[1]{##1}%
11786   \renewcommand*{\u}[1]{##1}%
11787   \renewcommand*{\.}[1]{##1}%
11788   \renewcommand*{\"}[1]{##1}%
11789   \renewcommand*{\H}[1]{##1}%
11790   \renewcommand*{\v}[1]{##1}%
11791   \renewcommand*{\d}[1]{##1}%
11792   \renewcommand*{\c}[1]{##1}%

```

```

11793 \renewcommand*{\b}[1]{##1}%
11794 \renewcommand*{\t}[1]{##1}%
11795 %
11796 \let\newline\LWR@dash%
11797 \let\textasciicircum\LWR@dash%
11798 \let\textasciitilde\LWR@dash%
11799 \let\textasteriskcentered\LWR@dash%
11800 \let\textbackslash\LWR@dash%
11801 \let\textbar\LWR@dash%
11802 \let\textbardbl\LWR@dash%
11803 \let\textbigcircle\LWR@dash%
11804 \let\textbraceleft\LWR@dash%
11805 \let\textbraceright\LWR@dash%
11806 \let\textbullet\LWR@dash%
11807 \let\textcopyright\LWR@dash%
11808 \let\textdagger\LWR@dash%
11809 \let\textdaggerdbl\LWR@dash%
11810 \let\textdollar\LWR@dash%
11811 \let\textellipsis\LWR@dash%
11812 \let\textemdash\LWR@dash%
11813 \let\textendash\LWR@dash%
11814 \let\textexclamdown\LWR@dash%
11815 \let\textgreater\LWR@dash%
11816 \let\textless\LWR@dash%
11817 \let\textordfeminine\LWR@dash%
11818 \let\textordmasculine\LWR@dash%
11819 \let\textparagraph\LWR@dash%
11820 \let\textperiodcentered\LWR@dash%
11821 \let\textpertenthousand\LWR@dash%
11822 \let\textperthousand\LWR@dash%
11823 \let\textquestiondown\LWR@dash%
11824 \let\textquotedblleft\LWR@dash%
11825 \let\textquotedblright\LWR@dash%
11826 \let\textquoteleft\LWR@dash%
11827 \let\textquoteright\LWR@dash%
11828 \let\textregistered\LWR@dash%
11829 \let\textsection\LWR@dash%
11830 \let\textsterling\LWR@dash%
11831 \let\texttrademark\LWR@dash%
11832 \let\textunderscore\LWR@dash%
11833 \let\textvisiblespace\LWR@dash%
11834 \let\copyright\LWR@dash%
11835 \let\dag\LWR@dash%
11836 \let\ddag\LWR@dash%
11837 \let\dots\LWR@dash%
11838 \let\P\LWR@dash%
11839 \let\pounds\LWR@dash%
11840 \let\S\LWR@dash%
11841 %
11842 \renewcommand*{\aa}{a}%
11843 \renewcommand*{\AA}{A}%
11844 \renewcommand*{\AE}{AE}%
11845 \renewcommand*{\ae}{ae}%
11846 \renewcommand*{\dh}{d}%
11847 \renewcommand*{\DH}{D}%
11848 \renewcommand*{\DJ}{D}%
11849 \renewcommand*{\dj}{d}%
11850 \renewcommand*{\IJ}{IJ}%
11851 \renewcommand*{\ij}{ij}%
11852 \renewcommand*{\L}{L}%

```

```

11853 \renewcommand*\l{l}%
11854 \renewcommand*\NG{NG}%
11855 \renewcommand*\ng{ng}%
11856 \renewcommand*\O{O}%
11857 \renewcommand*\o{o}%
11858 \renewcommand*\oe{oe}%
11859 \renewcommand*\OE{OE}%
11860 \renewcommand*\ss{ss}%
11861 \renewcommand*\SS{SS}%
11862 \renewcommand*\th{th}%
11863 \renewcommand*\TH{TH}%
11864 %
11865 \let\guillemotleft\@empty%
11866 \let\guilsinglleft\@empty%
11867 \let\quotedblbase\@empty%
11868 \let\textquotedbl\@empty%
11869 \let\guillemotright\@empty%
11870 \let\guilsinglright\@empty%
11871 \let\quotesinglbase\@empty%

11872 \renewcommand*\HTMLUnicode}[1]{%
11873 \renewcommand*\HTMLentity}[1]{%

11874 \renewcommand{\textsuperscript}[1]{##1}%
11875 \renewcommand{\textsubscript}[1]{##1}%

11876 \renewcommand{\underline}[1]{##1}%

11877 \RenewDocumentCommand{\hspace}{s m}{}%

11878 \RenewDocumentCommand{\LWR@htmlspanclass}{o D(){} m +m}{##4}%
11879 \DeclareExpandableDocumentCommand{\InlineClass}{D({}){} o m +m}{##4}%

```

Nullify math macros.

```

11880 \def\{##1\}{}%
11881 \def\[##1\]{}%
11882 \RenewDocumentCommand{\LWR@subsingledollar}{s m m m}{}%

```

Nullify logos:

```

11883 \renewcommand*\TeX{TeX}%
11884 \renewcommand*\LaTeX{LaTeX}%
11885 \renewcommand*\LaTeXe{LaTeX2e}%
11886 \renewcommand*\LuaTeX{LuaTeX}%
11887 \renewcommand*\LuaLaTeX{LuaLaTeX}%
11888 \renewcommand*\XeTeX{XeTeX}%
11889 \renewcommand*\XeLaTeX{XeLaTeX}%
11890 \renewcommand*\ConTeXt{ConTeXt}%
11891 \renewcommand*\BibTeX{BibTeX}%
11892 \renewcommand*\MakeIndex{MakeIndex}%
11893 \renewcommand*\AmS{AmS}%
11894 \renewcommand*\MiKTeX{MiKTeX}%
11895 \renewcommand*\LyX{LyX}%

```

Use the simpler form with `\texorpdfstring`:

```

11896 \def\texorpdfstring{\expandafter\@secondoftwo}%
11897 }
11898 \catcode`\$=3%
11899 \catcode`\_=8%

```

`\FilenameNullify` {<*redefinitions*>}

Adds more nullifying definitions for filename generation.

```

11900 \newcommand*\FilenameNullify[1]{%
11901 \appto{\LWR@nullfonts}{#1}%
11902 }

11903 \end{warpHTML}

```

85 Math

85.1 Limitations

See [Math](#), section 8.7.

85.2 HTML alt tag names

Redefinable names for the HTML alt tags, for translation according to the reader's native language.

for HTML & PRINT: 11904 \begin{warpall}

`\AltTextOpen` The opening part of HTML alt tag for an image. The default is a left parenthesis.

Default: (

```
11905 \newcommand*\AltTextOpen}{(}
```

`\AltTextClose` The closing part of HTML alt tag for an image. The default is a right parenthesis.

Default:)

```
11906 \newcommand*\AltTextClose}{)}
```

`\ImageAltText` The HTML alt tag for an image.

Default: image

```
11907 \newcommand*\ImageAltText}{image}
```

`\MathImageAltText` The HTML alt tag for an SVG math image.

Default: "math image"

```
11908 \newcommand*\MathImageAltText}{math image}
```

`\LWR@ThisAltText` The HTML alt tag for the next image. Cleared after use, and also after each `lateximage`, `\LWR@subsingledollar`, and each use of `MATHJAX`.

```
11909 \newcommand*\LWR@ThisAltText{}
```

`\ThisAltText` $\langle text \rangle$

Assigns the HTML alt tag for the next image generated by `lwarp`, such as a `lateximage`, `picture`, or `SVG math`.

```
11910 \newcommand*\ThisAltText[1]{%
11911   \renewcommand{\LWR@ThisAltText}{#1}%
11912 }
```

`\PackageDiagramAltText` Appended to the `lateximage` HTML alt tag for the images generated by many `Diagram` packages.
Default: `"diagram"`

```
11913 \newcommand*\PackageDiagramAltText{diagram}
```

```
11914 \end{warppall}
```

85.3 Inline and display math

for HTML output: `11915 \begin{warppHTML}`

`LWR@externalfilecnt` (*Ctr*) Counter for the external files which are generated and then referenced from the HTML:

```
11916 \newcounter{LWR@externalfilecnt}
```

`LWR@indisplaymathimage` (*bool*) True if processing display math for `SVG` output. Inside a `lateximage`, display math is only set to print-mode output if `LWR@indisplaymathimage` is false. Used to avoid nullifying display math before it has been completed.

```
11917 \newbool{LWR@indisplaymathimage}
```

`LWR@insidemathcomment` (*bool*) True while inside an HTML comment which is displaying a math environment. Used to undo the comment for a moment while creating a `\label`, so that the label's HTML tags will be seen by HTML.

```
11918 \newbool{LWR@insidemathcomment}
11919 \boolfalse{LWR@insidemathcomment}
```

`LWR@xfakebold` (*bool*) True if `xfakebold \setBold` is in use.

```
11920 \newbool{LWR@xfakebold}
11921 \boolfalse{LWR@xfakebold}
```

`\LWR@orig@setBold` Redefined by `lwarp-xfakebold`.

```
11922 \newcommand*\LWR@orig@setBold{}
```

`\LWR@orig@unsetBold` Redefined by `lwarp-xfakebold`.

```
11923 \newcommand*\LWR@orig@unsetBold{}
```

`\LWR@applyxfakebold` Redefined by `lwarp-xfakebold`.

```
11924 \newcommand*\LWR@applyxfakebold{}
```

`\LWR@setcurrentfont` Sets the actual L^AT_EX font to that which was selected for HTML output. Ex: In HTML mode, `\bfseries` sets `\LWR@f@series` to “bf”. This sets the PDF output here for use inside a `lateximage`.

```
11925 \newcommand*\LWR@setcurrentfont}{%
11926   \LWR@traceinfo{Using font family \LWR@f@family}%
11927   \@nameuse{\LWR@print@\LWR@f@family family}%
11928   \LWR@traceinfo{Using font series \LWR@f@series}%
11929   \@nameuse{\LWR@print@\LWR@f@series series}%
11930   \LWR@traceinfo{Using font shape \LWR@f@shape}%
11931   \@nameuse{\LWR@print@\LWR@f@shape shape}%
11932   \LWR@traceinfo{Using font caps shape \LWR@f@shapecaps}%
11933   \@nameuse{\LWR@print@\LWR@f@shapecaps shape}%
11934 }
```

`\$` Plain dollar signs appearing in the HTML output may be interpreted by MATHJAX to be math shifts. For a plain text dollar `\$`, use an HTML entity to avoid it being interpreted by MATHJAX, unless are inside a `lateximage`, in which case it will not be seen by MATHJAX.

```
11935 \let\LWR@origtextdollar\$
11936
11937 \renewcommand*\$}{%
11938   \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
11939     {\LWR@origtextdollar}%
11940     {\HTMLUnicode{00024}}%
11941 }
```

`lwarp_baseline_marker.png` A marker to be used to help *pdfcrop* identify the inline math baseline and width.
(file) If either `graphicx` or `graphics` is loaded, this marker is placed at the lower left and

`lwarp_baseline_marker.eps` lower right corners of the inline math. *pdfcrop* is then able to identify the width of the image, and also the height of an image such as a horizontal dash which does not otherwise touch the baseline.
(file)

A marker with alpha or opacity of 0% is not registered by *pdfcrop*, so the marker is a small square block of 1% alpha, which seems to work while still being effectively invisible in the final svg image.

If `graphicx` is loaded, this marker is sized as a tiny 1 sp square. If `graphics` is loaded, this marker is used at its default size of around .25 pt. If neither `graphics` package is loaded, the marker is replaced by a 10 sp horizontal space, and there is no assistance for determining baseline or width of the inline math image. The best results are obtained when using `graphicx`.

`\LWR@addbaselinemarker` Places a small marker in an svg inline image. If `graphics` or `graphicx` are loaded, the marker is a mostly transparent image. If neither is loaded, no marker is used.

```

11942 \AtBeginDocument{
11943
11944 \ifpdf
11945   \newcommand*\LWR@baselinename}{lwarp_baseline_marker.png}
11946 \else
11947   \ifXeTeX
11948     \newcommand*\LWR@baselinename}{lwarp_baseline_marker.png}
11949   \else
11950     \newcommand*\LWR@baselinename}{lwarp_baseline_marker.eps}
11951   \fi
11952 \fi
11953
11954 \IfFileExists{\LWR@baselinename}%
11955 {
11956   \IfPackageLoadedTF{graphicx}{
11957     \newcommand*\LWR@addbaselinemarker}{%
11958       \LWR@originincludegraphics{\LWR@baselinename}%
11959     }
11960   }{
11961     \IfPackageLoadedTF{graphics}{
11962       \newcommand*\LWR@addbaselinemarker}{%
11963         \LWR@originincludegraphics{\LWR@baselinename}%
11964       }
11965     }{
11966       \newcommand*\LWR@addbaselinemarker}{%
11967         \global\booltrue{LWR@warnbaselinemarker}%
11968       }
11969     \AtEndDocument{
11970       \ifbool{LWR@warnbaselinemarker}{
11971         \PackageNoteNoLine{lwarp}{%
11972           Load graphicx or graphics for improved\MessageBreak
11973           SVG math sizing and baselines%
11974         }
11975       }{}
11976     }
11977   }
11978 }
11979 }{% lwarp_baseline_marker.png or .eps is not present
11980   \newcommand*\LWR@addbaselinemarker}{%
11981     \global\booltrue{LWR@warnbaselinemarker}%
11982   }
11983   \AtEndDocument{
11984     \ifbool{LWR@warnbaselinemarker}{
11985       \PackageWarningNoLine{lwarp}{%
11986         File \LWR@baselinename\space is not installed\MessageBreak
11987         alongside the lwarp-*.sty files, so\MessageBreak
11988         SVG math sizing and baselines may not be accurate}
11989     }{}
11990   }
11991 }
11992
11993 }% AtBeginDocument

```

`LWR@warnbaselinemarker` (*bool*) True if the math baseline marker was ever called for, but `graphics` or `graphicx` were not loaded.

```

11994 \newbool{LWR@warnbaselinemarker}
11995 \boolfalse{LWR@warnbaselinemarker}

```


`LWR@unknownmathsize` (*bool*) If `TikZ` or other objects are used inside math mode, the resulting image may exceed the `TEX` box, resulting in an incorrect measurement of the size of the resulting image. If this is so, the `HTML` styles for image size and depth will be neutralized.

```
11996 \newbool{LWR@unknownmathsize}
```

```
\LWR@singledollarmeasure {<math expression>}
```

Measures the size of the image of the math expression.

(In some circumstances `SVG` math is used even if `MATHJAX` is preferred.)

SVG math: `\LWR@origensuredmath` is part of argument #4.

SVG math \ensuremath: `\LWR@origensuredmath` is part of argument #4.

SVG dynamic math: `\LWR@origensuredmath` is part of argument #4.

MATHJAX: Argument #4 is the contents of the math expression without `\LWR@origensuredmath`. This case is handled above.

MATHJAX \ensuremath: `\LWR@origensuredmath` is part of argument #4.

MATHJAX dynamic math: Argument #4 is the contents of the math expression without `\LWR@origensuredmath`, so `\LWR@origensuredmath` is added below.

\ifmmode: Included “just in case”.

Factored from `\LWR@subsingledollarsvg`.

```
11997 \newcommand*{\LWR@singledollarmeasure}[1]{%
11998   \begingroup%
```

Temporarily disable formatting while measuring the image parameters:

```
11999   \LWR@restoreorigformatting%
12000   \RenewDocumentEnvironment{lateximage}{s o s t? o o d()}{}{}% inside group
12001   \LWR@print@normalsize%
```

Temporarily set font for the `HTML PDF` output:

```
12002   \LWR@setcurrentfont%
```

`lateximagedepth` must be nested to avoid generating paragraph tags. \mathcal{AMS} math modifies the `\text` macro such that `\addtocounter` does not always occur as expected. Lower-level code is used instead.

```
12003   \global\advance\c@LWR@lateximagedepth 1\relax%
```

Typeset the math in a box. While doing so, some macros or environments may set `LWR@unknownmathsize`, in which case this will be used to cancel the `HTML` styles being generated here.

```
12004   \boolfalse{LWR@unknownmathsize}%
12005   \ifmmode%
12006     \global\sbox{\LWR@singledollarbox}{#1}%
12007   \else%
```

```

12008     \ifbool{LWR@dynamicmath}{%
12009         \ifbool{mathjax}{%
12010             \global\abox{\LWR@singledollarbox}%
12011                 {\LWR@originsuredmath{#1}}%
12012         }{%
12013             \global\abox{\LWR@singledollarbox}{#1}%
12014         }%
12015     }{%
12016         \global\abox{\LWR@singledollarbox}{#1}%
12017     }%
12018     \fi%

```

Add a small and almost transparent marker at the depth of the image.

A math minus sign has the same depth as a plus, even though it does not draw anything below the baseline. This means that *pdfcrop* would crop the image without depth. The marker below the baseline is seen by *pdfcrop* and preserves the depth.

```

12019     \global\abox{\LWR@singledollarbox}{%
12020         \usebox{\LWR@singledollarbox}%
12021         \raisebox{-\dp\LWR@singledollarbox}{%
12022             \LWR@addbaselinemarker%
12023         }%
12024     }%

```

More low-level code to undo the counter change.

```

12025     \global\advance\c@LWR@lateximagedepth -1\relax% Due to AmS \text macro.

```

Measure the depth:

```

12026     \setlength{\LWR@singledollardepth}{%
12027         \LateximageFontScale\dp\LWR@singledollarbox%
12028     }%

```

Make the length a global change:

```

12029     \global\LWR@singledollardepth=\LWR@singledollardepth%

```

Likewise for width:

```

12030     \setlength{\LWR@singledollarwidth}{%
12031         \LateximageFontScale\wd\LWR@singledollarbox%
12032     }%
12033     \global\LWR@singledollarwidth=\LWR@singledollarwidth%

```

Likewise for total height:

```

12034     \setlength{\LWR@singledollarheight}{%
12035         \LateximageFontScale\ht\LWR@singledollarbox%
12036     }%
12037     \addtolength{\LWR@singledollarheight}{%
12038         \LateximageFontScale\dp\LWR@singledollarbox%
12039     }%
12040     \global\LWR@singledollarheight=\LWR@singledollarheight%

```

```

12041     \endgroup%
12042 }

```

```
\LWR@subsingledollarsvg * {\<2: alt text\} {\<3: add'l hashing\} {\<4: math expression\}}
```

For inline math. Uses SVG math. The image is measured and adjusted to the baseline of the HTML output, and placed inside a `lateximage`.

(In some circumstances SVG math is used even if `MATHJAX` is preferred.)

Factored from `\LWR@subsingledollar`.

```
12043 \newcommand*\LWR@subsingledollarsvg}[4]{%
12044   \LWR@traceinfo{LWR@subsingledollarsvg}%
```

Measure the depth, width, and height of the math image:

```
12045   \LWR@singledollarmeasure{#4}%
```

Set a style for the the height or width. The em unit is used so that the math scales according to the user's selected font size.

Start with the greater of the width or the height, biased towards the width:

```
12046   \ifdimgreater{\LWR@singledollarwidth}{.7\LWR@singledollarheight}{%
12047     \def\LWR@singledollarstyle{%
12048       width:\LWR@convertto{em}{\the\LWR@singledollarwidth} em%
12049     }%
12050   }{%
12051     \def\LWR@singledollarstyle{%
12052       height:\LWR@convertto{em}{\the\LWR@singledollarheight} em%
12053     }%
12054   }%
```

If a very narrow width, use the height.

```
12055   \ifdimless{\LWR@singledollarwidth}{.2em}%
12056   {%
12057     \def\LWR@singledollarstyle{%
12058       height:\LWR@convertto{em}{\the\LWR@singledollarheight} em%
12059     }%
12060   }%
12061   }%
```

If very wide and short, use the width:

```
12062   \ifdimless{\LWR@singledollarheight}{.2em}%
12063   {%
12064     \def\LWR@singledollarstyle{%
12065       width:\LWR@convertto{em}{\the\LWR@singledollarwidth} em%
12066     }%
12067   }%
12068   }%
```

If there is significant text depth, add the depth to the style.

```
12069   \ifdimgreater{\LWR@singledollardepth}{0.05ex}{%
12070     \def\LWR@singledollardepthstyle{%
12071       \ ; % extra space
12072       \LWR@print@box{%
12073         vertical-align:-\LWR@convertto{em}{\the\LWR@singledollardepth} em%
12074       } % extra space
```

```

12075     }%
12076   }{%
12077     \def\LWR@singledollardepthstyle{%
12078   }%

```

If using certain TikZ actions inside math, the resulting image may exceed the T_EX boundaries, so the HTML size styles may be incorrect, and must be neutralized.

```

12079   \ifbool{LWR@unknownmathsize}{%
12080     \def\LWR@singledollarstyle{%
12081     \def\LWR@singledollardepthstyle{%
12082   }{%

```

Create the lateximage using the alternate tag and the computed size and depth. The star causes lateximage to use an MD5 hash as the filename. When hashing, also include the current font and color in the hash.

```

12083   \ifbool{LWR@dynamicmath}{%
12084     \LWR@traceinfo{subsingledollarsvg: dynamic}%
12085     \begin{lateximage}% no hashing
12086       [\MathImageAltText]% alt tag
12087       ?% Do not detokenize the alt tag
12088       []% no add'l hashing
12089       [\LWR@singledollarstyle \LWR@singledollardepthstyle]% CSS
12090       (math)% ARIA
12091   }{% not dynamic math
12092     \LWR@traceinfo{subsingledollarsvg: static}%
12093     \IfValueTF{#1}{% #1 True
12094       \LWR@findcurrenttextcolor% sets \LWR@tempcolor

```

Support for xfakebold:

```

12095     \ifbool{LWR@xfakebold}%
12096       {\def\LWR@tempone{Y}}%
12097       {\def\LWR@tempone{N}}%

12098     \LWR@traceinfo{subsingledollarsvg about to lateximage}%
12099     \begin{lateximage}*% use hashing
12100       [#2]% alt
12101       *% do not add open/closing braces
12102       ?% Do not detokenize the alt tag
12103       [% addL' hashing
12104         #3%
12105         FM\LWR@f@family%
12106         SR\LWR@f@series%
12107         SH\LWR@f@shape%
12108         SHC\LWR@f@shapecaps%
12109         CL\LWR@tempcolor%
12110         FB\LWR@tempone% xfakebold
12111       ]%
12112       [\LWR@singledollarstyle \LWR@singledollardepthstyle]% CSS
12113       (math)% ARIA
12114       \LWR@traceinfo{subsingledollar did lateximage}%
12115   }{% #1 False
12116     \begin{lateximage}% no hashing
12117       [#2]% alt
12118       ?% Do not detokenize the alt tag
12119       []% no add'l hashing
12120       [\LWR@singledollarstyle \LWR@singledollardepthstyle]% CSS

```

```

12121          (math)% ARIA
12122      }%
12123  }% not dynamic math

```

Place small and almost transparent markers on the baseline at the left and right edges of the image. These markers are seen by *pdfcrop*, and force vertically-centered objects such as a dash to be raised off the baseline in the cropped image, and also force the total width and left/right margins to be correct. (Except that in some fonts a character may exceed the bounding box, and thus may appear wider than expected when converted to an image.)

```
12124  \LWR@addbaselinemarker%
```

Support for *xfakebold*:

```
12125  \LWR@applyxfakebold%
```

Typeset the contents:

```
12126  \usebox{\LWR@singledollarbox}%
```

The closing baseline marker:

```
12127  \LWR@addbaselinemarker%
```

```
12128  \end{lateximage}%
```

```
12129 %
```

```
12130 }
```

```
\LWR@subsingledollar * {\langle 2: alt text \rangle} {\langle 3: add'l hashing \rangle} {\langle 4: math expression \rangle}
```

For inline math. Uses *MATHJAX*, or for *SVG* math the image is measured and adjusted to the baseline of the *HTML* output, and placed inside a `lateximage`.

SVG math: `\LWR@origensuredmath` is part of argument #4.

SVG math \ensuremath: `\LWR@origensuredmath` is part of argument #4.

SVG dynamic math: `\LWR@origensuredmath` is part of argument #4.

MATHJAX: Argument #4 is the contents of the math expression without `\LWR@origensuredmath`. This case is handled above.

MATHJAX \ensuremath: `\LWR@origensuredmath` is part of argument #4.

MATHJAX dynamic math: Argument #4 is the contents of the math expression without `\LWR@origensuredmath`, so `\LWR@origensuredmath` is added below.

[image filename hashing](#) If starred, a hashed filename is used. If so, the hash is based on the `alt` tag and also the additional hashing argument.

This may be used to provide an expression with a simple `alt` tag but also enough additional information to provide a unique hash.

An example is when the expression is a complicated *TEX* expression, which would not copy/paste well. A simplified tag may be used, while the complicated expression is used in the additional hashing argument to ensure a unique image.

Another example is when the expression is simple, but the image depends on options. These options may be decoded into text form and included in the additional hashing argument in order to make the hash unique according to the set of options, even if the simple alt tag is still the same.

```

12131 \newlength{\LWR@singledollarwidth}
12132 \newlength{\LWR@singledollarheight}
12133 \newlength{\LWR@singledollardepth}
12134
12135 \newsavebox{\LWR@singledollarbox}
12136
12137 \NewDocumentCommand{\LWR@subsingledollar}{s m m m}{%
12138   \LWR@traceinfo{\LWR@subsingledollar !#2!}%

12139   \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
12140     {%
12141       \LWR@traceinfo{\LWR@subsingledollar: already in a lateximage}%
12142       #4% contents
12143     }%
12144     {% not in a lateximage
12145     \begingroup%

```

Support for xfakebold:

```

12146   \LWR@applyxfakebold%

```

MATHJAX cannot parse the often complicated T_EX expressions which appear in the various uses of `\ensuredmath`. `\ensuremath` forces the alt tag to “(math image)”, as translated according to `\MathImageAltText`. If this is the case, force the use of a lateximage even if MATHJAX. Likewise for siunitx if `parse-numbers=false`.

If MATHJAX, or if formatting math for a word processor, and not `\ensuredmath`, and not a dynamic math expression, print the math expression:

```

12147   \ifboolexpr{%
12148     (
12149       bool{mathjax} or
12150       ( bool{FormatWP} and bool{WPMarkMath} )
12151     ) and
12152     ( not test {
12153       \ifstrequal {#2}% from \ensuredmath
12154       {\AltTextOpen\MathImageAltText\AltTextClose}
12155     }
12156     ) and
12157     ( not bool{\LWR@dynamicmath} )
12158   }%

```

For MATHJAX, print the math between `\(` and `\)`:

```

12159   {% mathjax
12160   \LWR@traceinfo{\LWR@subsingledollar: Mathjax}%
12161   {%
12162     \boolfalse{\LWR@HTMLsanitize@tmpb@removebackslash}%
12163     \textbackslash%
12164     {%

```

`\ifmmode` to avoid error about `\ttfamily` inside math mode in the case of nested math, ex. equation with `tcolorbox` with math.

```

12165             \ifmmode\else\LWR@print@ttfamily\fi%
12166             \LWR@HTMLsanitizedetokenized{\detokenize{#4}}%
12167             }%
12168             \textbackslash)%
12169             }%
12170     }% mathjax

```

For svg, print the math inside a `lateximage`, with an `<alt>` tag of the L^AT_EX code, and a css style to control the baseline adjustment.

```

12171     {% not mathjax
12172         \LWR@traceinfo{%
12173         LWR@subsingledollar: NOT mathjax, or is ensuremath, or is dynamic%
12174         }%
12175         \LWR@subsingledollarsvg{#1}{#2}{#3}{#4}%
12176     }% not mathjax
12177     \endgroup%
12178 }% not in a lateximage

```

Clear the single-use alt text:

```

12179     \gdef\LWR@ThisAltText{%
12180     \LWR@traceinfo{LWR@subsingledollar: done}%
12181 }

12182 \LetLtxMacro\LWR@origdollar$
12183 \LetLtxMacro\LWR@secondorigdollar% balance for editor syntax highlighting

12184 \LetLtxMacro\LWR@origopenparen\ (
12185 \LetLtxMacro\LWR@origcloseparen\ )
12186 \LetLtxMacro\LWR@origopenbracket\[
12187 \LetLtxMacro\LWR@origclosebracket\]

```

\$ Redefine the dollar sign to place math inside a `lateximage`, or use `MATHJAX`:

```

$$
12188 \begingroup
12189 \catcode`\$=\active%
12190 \protected\gdef$\@ifnextchar$\LWR@doubledollar\LWR@singledollar}%

```

Used by `chemformula` to escape single-dollar math:

```

12191 \protected\gdef\LWR@newsingledollar{\@ifnextchar$\LWR@doubledollar\LWR@singledollar}%

```

`\LWR@doubledollar` Redefine the double dollar sign to place math inside a `lateximage`, or use `MATHJAX`:

```

12192 \protected\gdef\LWR@doubledollar$#1$${%

```

If `MATHJAX` or formatting for a word processor, print the L^AT_EX expression:

```

12193     \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%

```

For `MATHJAX`, print the math between `\[` and `\]`. If there is a footnote, endnote, or other kind of note ('note' is present), sync the note numbers.

```

12194   {% mathjax: intentional blank line:
12195
12196       \begingroup%
12197       \IfSubStr{\detokenize\expandafter{#1}}{\detokenize{note}}{%

```

The equation is printed to the PDF output inside HTML comment tags. This allows labels and footnotes to be accepted and processed. The math environment is selected here, and `\LWR@hidelatexequation` will use the original print-mode meaning of math.

```

12198       \LWR@hidelatexequation{math}{#1}%

12199       \InlineClass{hidden}{\LWR@syncnotenumbers}%
12200       \boolfalse[LWR@HTMLsanitize@tmpb@removebackslash]%
12201       \textbackslash[%
12202       {%
12203           \LWR@print@ttfamily%
12204           \LWR@HTMLsanitizedetokenized{\detokenize{#1}}%
12205       }%
12206       \textbackslash]
12207       \InlineClass{hidden}{\LWR@syncnotenames}%
12208   }% yes note
12209   {% no note
12210       \boolfalse[LWR@HTMLsanitize@tmpb@removebackslash]%
12211       \textbackslash[%
12212       {%
12213           \LWR@print@ttfamily%
12214           \LWR@HTMLsanitizedetokenized{\detokenize{#1}}%
12215       }%
12216       \textbackslash]
12217   }% no note
12218   \endgroup%
12219
12220   }% mathjax

```

For svg, print the math inside a `lateximage`, with an `<alt>` tag of the L^AT_EX code:

```

12221   {% not mathjax
12222       \begin{BlockClass}{displaymath}%
12223       \LWR@newautoidanchor%
12224       \booltrue[LWR@indisplaymathimage]%
12225       \begin{lateximage}%
12226       [% alt text
12227           \textbackslash{[] % extra space
12228           \LWR@HTMLsanitizedetokenized{\detokenize{#1}} % extra space
12229           \textbackslash{]}%
12230       ]%
12231       *% do not add open/closing braces
12232       ?% Do not detokenize the alt tag
12233       (math)% ARIA

```

Support for `xfakebold`:

```

12234       \LWR@applyxfakebold%

12235       \LWR@origdollar\LWR@origdollar#1\LWR@origdollar\LWR@origdollar%
12236       \end{lateximage}%

```



```
12237     \end{BlockClass}%
12238   }% not mathjax
```

Clear the single-use alt text:

```
12239   \gdef\LWR@ThisAltText{%
12240 }
```

$\LWR@singledollar$ $\langle\mathit{expression}\rangle$

```
12241 \protected\gdef\LWR@singledollar#1${%
12242   \LWR@traceinfo{LWR@singledollar}%
12243   \ifbool{mathjax}{%
12244     \begingroup%
12245     \boolfalse{LWR@HTMLsanitize@tmpb@removebackslash}%
12246     \LWR@subsingledollar*%
12247     {% alt tag
12248       \textbackslash( %
12249       \LWR@HTMLsanitizedetokenized{\detokenize{#1}} % extra space
12250       \textbackslash)%
12251     }%
12252     {singledollar}% add'l hashing
12253     {#1}% contents
12254     \endgroup%
12255   }{% not mathjax
12256     \LWR@subsingledollar*%
12257     {% alt tag
12258       \textbackslash( %
12259       \LWR@HTMLsanitizedetokenized{\detokenize{#1}} % extra space
12260       \textbackslash)%
12261     }%
12262     {singledollar}% add'l hashing
12263     {\LWR@origensuredmath{#1}}% contents
12264   }% not mathjax
```

Clear the single-use alt text:

```
12265   \gdef\LWR@ThisAltText{%
12266 }
```

\langle Redefine to the above dollar macros.

```
\[
12267 \AtBeginDocument{
12268   \protected\gdef\langle#1\rangle{\$#1\$}
12269   \protected\gdef\lbracket[#1\lbracket{\$#1\$}
12270 }
12271
12272 \endgroup% active $
```

```
12273 \AtBeginDocument{
12274   \LetLtxMacro\LWR@openbracketnormal\lbracket
12275   \LetLtxMacro\LWR@closebracketnormal\rbracket
12276 }
```

$\LWR@ensuredmath$ $\langle\mathit{expression}\rangle$

If MATHJAX, a `lateximage` is used, since `\ensuremath` is often used for complex TEX expressions which MATHJAX may not render. If `svg math`, a hashed file is used with a simple `alt` tag, but additional hashing provided by the contents.

```

12277 \let\ltxMacro\LWR@origensuredmath\@ensuredmath
12278
12279 \renewcommand{\@ensuredmath}[1]{%
12280   \ifbool{mathjax}{%
12281     \begingroup%
12282     \boolfalse{LWR@HTMLsanitize@tmpb@removebackslash}%
12283     \LWR@subsingledollar*{\AltTextOpen\MathImageAltText\AltTextClose}%
12284     {%
12285       \protect\LWR@HTMLsanitizedetokenized{\detokenize\expandafter{#1}}%
12286     }%
12287     {%
12288       \relax%
12289       \LWR@origensuredmath{#1}%
12290     }%
12291   \endgroup%
12292 }{% SVG math

```

If already inside a `lateximage` in `math` mode, continue as-is.

```

12293   \ifmmode%
12294     \LWR@origensuredmath{#1}%
12295   \else%

```

Create an inline `math lateximage` with a simple `alt` tag and additional hashing according to the contents.

```

12296   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}{%
12297     {\LWR@origensuredmath{#1}}%
12298     {%
12299       \LWR@subsingledollar*
12300       {\AltTextOpen\MathImageAltText\AltTextClose}%
12301       {%
12302         \protect\LWR@HTMLsanitizedetokenized{%
12303           \detokenize\expandafter{#1}%
12304         }%
12305       }%
12306       {\LWR@origensuredmath{#1}}%
12307     }%
12308   \fi%
12309 }%

```

Clear the single-use `alt` text:

```

12310   \gdef\LWR@ThisAltText{}%
12311 }

```

Remember then remove the old `math` and `displaymath` environments:

```

12312 \let\LWR@orig@math\math
12313 \let\LWR@orig@endmath\endmath
12314
12315 \let\LWR@orig@displaymath\displaymath
12316 \let\LWR@orig@enddisplaymath\enddisplaymath
12317

```

```

12318 \let\math\relax
12319 \let\endmath\relax
12320
12321 \let\displaymath\relax
12322 \let\enddisplaymath\relax

```

`math` (*env.*) Set math mode then typeset the body of what was between the begin/end. See the `environ` package for `\BODY`.

```
12323 \NewEnviron{math}{\expandafter\(\BODY\)}
```

`LWR@displaymathnormal` (*env.*) Set math mode then typeset the body of what was between the begin/end. See the `environ` package for `\BODY`.

```
12324 \NewEnviron{LWR@displaymathnormal}{\expandafter[\BODY\]\@ignoretrue}
```

Set the default `displaymath` to the normal version:

```

12325 \LetLtxMacro\displaymath\LWR@displaymathnormal%
12326 \LetLtxMacro\enddisplaymath\endLWR@displaymathnormal%

```

`LWR@displaymathother` (*env.*) A version of `displaymath` which can handle complicated objects, but does not supply `MATHJAX` or `HTML alt` tags.

```

12327 \newenvironment{LWR@displaymathother}
12328 {%
12329   \begin{BlockClass}{displaymath}%
12330   \LWR@newautoidanchor%
12331   \booltrue{LWR@indisplaymathimage}%
12332   \begin{lateximage}[\MathImageAltText]?(math)% [alt](ARIA)
12333   \LWR@origdollar\LWR@origdollar%
12334 }
12335 {%
12336   \LWR@origdollar\LWR@origdollar%
12337   \end{lateximage}%
12338   \end{BlockClass}%
12339 }

```

`LWR@equationother` (*env.*) A version of `displaymath` which can handle complicated objects, but does not supply `MATHJAX` or `HTML alt` tags.

```

12340 \newenvironment{LWR@equationother}
12341 {%
12342   \begin{BlockClass}{displaymathnumbered}%
12343   \LWR@newautoidanchor%
12344   \booltrue{LWR@indisplaymathimage}%
12345   \begin{lateximage}[\MathImageAltText]?(math)% [alt](ARIA)
12346   \LWR@orig@equation%
12347 }
12348 {%
12349   \LWR@orig@endequation%
12350   \end{lateximage}%
12351   \end{BlockClass}%
12352 }

```

85.4 MATHJAX support

`LWR@nextequation (Ctr)` Used to add one to compute the next equation number.

```
12353 \newcounter{LWR@nextequation}
```

Determining how to set MATHJAX section and equation numbers. Adjusts for various kinds of `\theequation` to determine `\theMathJaxsection` and `\theMathJaxequation`.

```
12354 \newcommand\LWR@article@theequation{\@arabic\c@equation}
12355
12356 \newcommand\LWR@book@theequation
12357   {\ifnum \c@chapter>\z@ \thechapter.\fi \@arabic\c@equation}
12358
12359
12360 \newcommand\LWR@chapter@theequation{\thechapter.\arabic{equation}}
12361 \newcommand\LWR@section@theequation{\thesection.\arabic{equation}}
12362 \newcommand\LWR@subsection@theequation{\thesubsection.\arabic{equation}}
12363
12364 \AtBeginDocument{
12365   % default per article class:
12366   \newcommand*\theMathJaxsubequations{}{0}
12367   \newcommand*\theMathJaxsection{}{}
12368   \newcommand*\theMathJaxequation{\arabic{equation}}
12369
12370   \ifdefstrequal{\theequation}{\LWR@article@theequation}
12371   {}{
12372     \ifdefstrequal{\theequation}{\LWR@book@theequation}{
12373       \renewcommand*\theMathJaxsection{\ifnum \c@chapter>\z@ \thechapter.\fi}
12374     }{
12375       \ifdefstrequal{\theequation}{\LWR@subsection@theequation}{
12376         \renewcommand*\theMathJaxsection{\thesubsection{.}}
12377       }{
12378         \ifdefstrequal{\theequation}{\LWR@section@theequation}{
12379           \renewcommand*\theMathJaxsection{\thesection{.}}
12380         }{
12381           \ifdefstrequal{\theequation}{\LWR@chapter@theequation}{
12382             \renewcommand*\theMathJaxsection{\thechapter{.}}
12383           }{% unknown format
12384             \PackageWarningNoLine{lwarp}
12385               {%
12386                 Unknown equation tag format for \protect\theequation.\MessageBreak
12387                 Article-style equation numbering will be used%
12388               }
12389             }}}}
12390 }
```

`\LWR@syncmathjax` Sets the MATHJAX equation format and number for the following equations.

These MATHJAX commands are printed inside “\ (“ and “\)” characters. They are printed to HTML output, not interpreted by \LaTeX .

```
12391 \newcommand*\LWR@syncmathjax{%
```

Tell MATHJAX that the next equation number is the current \LaTeX equation number.

Before each equation, `lwarp` inserts into the HTML code:

```
\setequation{subequations?}{section}{number}
```

subequations? is 0 usually, 1 if inside amsmath subequations.

section is a string printed as-is, or empty.

number is auto-incremented by MATHJAX between equations.

Place the MATHJAX command inside “\(" and “\)” characters, to be printed to HTML, not interpreted by L^AT_EX.

```

12392     \LWR@stoppars%
12393     \InlineClass{hidden}{
12394         \textbackslash(%
12395         \textbackslash{)seteqnumber%
12396         \{\theMathJaxsubequations\}%
12397         \{\theMathJaxsection\}%
12398         \{\theMathJaxequation\}%
12399         \textbackslash)%
12400     }
12401     \LWR@startpars%
12402 }
```

```
\LWR@hidelatexequation {<environment>} {<contents>}
```

Creates the L^AT_EX version of the equation inside an HTML comment.

```
12403 \NewDocumentCommand{\LWR@hidelatexequation}{m +m}{%
```

Stop HTML paragraph handling and open an HTML comment:

```

12404     \LWR@stoppars
12405     \LWR@htmlopencomment
12406
```

Start the L^AT_EX math environment inside the HTML comment:

```

12407     \begingroup
12408     \@nameuse{LWR@orig@#1}
```

While in the math environment, restore various commands to their L^AT_EX meanings.

```

12409     \LWR@restoreorigformatting
12410     \booltrue{LWR@insidemathcomment}
```

Temporarily prevent underfull \hbox warnings.

```
12411     \hbadness=10000\relax%
```

See \LWR@htmlmathlabel in section [85.7.1](#).

Print the contents of the equation:

```
12412     #2
```

End the L^AT_EX math environment inside the HTML comment:

```

12413     \@nameuse{LWR@orig@end#1}
12414     \endgroup
12415
```

Close the HTML comment and resume HTML paragraph handling:

```
12416 \LWR@htmlclosecomment
12417 \boolfalse{LWR@insidemathcomment}
12418 \LWR@startpars
12419 }
```

```
\LWR@addmathjax {<environment name>} {<contents>}
```

Given the name of a math environment and its contents, create a MATHJAX instance. The contents are printed to HTML output, not interpreted by L^AT_EX.

```
12420 \NewDocumentCommand{\LWR@addmathjax}{m +m}{%
12421 \LWR@orignobreakspace\LWR@orignewline
```

Enclose the MATHJAX environment inside printed “\(" and “\)” characters. Print the environment name and contents, sanitizing for HTML special characters.

```
12422 {%
12423 \LWR@print@ttfamily%
12424 \textbackslash{#1}
```

The alignat environment takes a mandatory argument, which must be replicated here.

```
12425 \ifboolexpr{
12426 test {\ifstrequal{#1}{alignat}} or
12427 test {\ifstrequal{#1}{alignat*}} or
12428 test {\ifstrequal{#1}{alignat+}}
12429 }%
12430 {\{\arabic{LWR@maxfields@}\}}%
12431 }%
```

The environment contents and \end:

```
12432 \LWR@orignewline%
12433 \boolfalse{LWR@HTMLsanitize@tmpb@removebackslash}%
12434 \LWR@HTMLsanitizeexpanded{\detokenize\expandafter{#2}}%
12435 \LWR@orignewline%
12436 \textbackslash{#1}
12437 }%
12438 \LWR@orignewline
12439 }
```

85.5 Equation environment

Remember existing equation environment, after redefined by amsmath, if loaded.

```
12440 \AtBeginDocument{
12441 \let\LWR@orig@equation\equation
12442 \let\LWR@orig@endequation\endequation
12443 \csletcs{LWR@orig@equation*}{equation*}
12444 \csletcs{LWR@orig@endequation*}{endequation*}
12445 }
```

```
\LWR@doequation {<env contents>} {<env name>}
```

For SVG math output, the contents are typeset using the original equation inside a `lateximage`, along with an `<alt>` tag containing a detokenized copy of the `LATEX` source for the math.

For `MATHJAX` output, the contents are typeset in an original equation environment placed inside a `HTML` comment, with special processing for `\labels`. The contents are also printed to the `HTML` output for processing by the `MATHJAX` script.

```
12446 \newcommand*{\LWR@doequation}[2]{%
12447
```

If `mathjax` or `FormatWP`, print the `LATEX` expression:

```
12448 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
```

`MATHJAX` output:

```
12449 {
```

Print commands to synchronize `MATHJAX`'s equation number and format to the current `LATEX` chapter/section and equation number:

```
12450 \LWR@syncmathjax%
```

Print the `LATEX` math inside an `HTML` comment:

```
12451 \LWR@hidelatexequation{#2}{#1}
12452 }
```

SVG output: Create the `lateximage` along with an `HTML <alt>` tag having an equation number, the `LATEX` equation environment commands, and the contents of the environment's `\BODY`.

```
12453 {% not mathjax
```

Begin the `lateximage` with an `<alt>` tag containing the math source:

```
12454 \ifstrequal{#2}{equation*}{%
12455 \begin{BlockClass}{displaymath}%
12456 }{%
12457 \begin{BlockClass}{displaymathnumbered}%
12458 }%
12459 \LWR@newautoidanchor%
12460 \booltrue{\LWR@indisplaymathimage}%
12461 \begin{lateximage}{%
12462 \ifstrequal{#2}{equation*}{%
12463 \ifdefequal{\LWR@equationtag}{\theequation}{%
12464 % no tag was given
12465 }{%
12466 (\LWR@equationtag) % tag was given
12467 }%
12468 }{%
12469 (\LWR@equationtag) % automatic numbering
12470 }%
12471 \textbackslash{begin\{#2\}} % extra space
12472 \LWR@HTMLsanitizeexpanded{\detokenize\expandafter{#1}} % extra space
```

```
12473     \textbackslash{end\{#2\}}%
12474     ]*(math)% alt tag, ARIA
```

Support for xfakebold:

```
12475     \LWR@applyxfakebold%
```

Create the actual L^AT_EX-formatted equation inside the `lateximage` using the contents of the environment.

```
12476     \@nameuse{LWR@orig@#2}%
12477     #1% contents collected by \collect@body
12478     \@nameuse{LWR@orig@end#2}%
12479     \end{lateximage}%
12480     \end{BlockClass}%
12481     }% not mathjax
```

Clear the single-use alt text:

```
12482     \gdef\LWR@ThisAltText{}%
12483 }
```

After the environment, if `MATHJAX`, print the math to the HTML output for `MATHJAX` processing. If a footnote is used, sync the footnote counter before, then unsync after for non-equation environments, as defined next.

```
12484 \newcommand*\LWR@doendequation}[1]{%
12485     \ifbool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) %
12486     {%
12487         \IfSubStr{\detokenize\expandafter{\BODY}}{\detokenize{note}}{%
12488             \InlineClass{hidden}{\LWR@syncnotenumbers}%
12489             \LWR@addmathjax{#1}{\BODY}%
12490             \InlineClass{hidden}{\LWR@syncnotenames}%
12491         }{%
12492             \LWR@addmathjax{#1}{\BODY}%
12493         }%
12494     }{%
12495 }
```

Clear the single-use alt text:

```
12496     \gdef\LWR@ThisAltText{}%
12497 }
```

The following are used to synchronize footnote marks and related to `MATHJAX` if `*note*` is used inside the `MATHJAX` expression. The counter is read from L^AT_EX then defined into `MATHJAX` for use during the following equation. After the equation, the `MATHJAX` value is returned to the text from `\footnotename`. Other notes may be added by appending to `\LWR@syncnotenumbers` and `\LWR@syncnotenames`.

```
\LWR@synconenotenumner {<MathJax variable>} {<mark>}
```

```
12498 \newcommand*\LWR@synconenotenumner}[2]{%
12499     \textbackslash(
12500     \textbackslash{def\textbackslash{#1}\{#2\}
12501     \textbackslash)
12502 }
```


`\LWR@syncnotenumbers` Assignments to make.

```
12503 \newcommand*\LWR@syncnotenumbers{\LWR@synconenotenummer{\LWRfootnote}{\thefootnote}}
```

`\LWR@synconenotename` $\langle \textit{MathJax variable} \rangle$ $\langle \textit{text} \rangle$

```
12504 \newcommand*\LWR@synconenotename}[2]{%
12505   \textbackslashash(
12506   \textbackslashash{ }def\textbackslashash{ }#1name\{#2\}
12507   \textbackslashash)
12508 }
```

`\LWR@syncnotenames` Assignments to make.

```
12509 \newcommand*\LWR@syncnotenames{\LWR@synconenotename{\LWRfootnote}{\footnotename}}
```

Remove existing equation environment:

```
12510 \AtBeginDocument{
12511   \let\equation\relax
12512   \let\endequation\relax
12513   \csletcs{equation*}{relax}
12514   \csletcs{endequation*}{relax}
12515 }
```

`equation` (*env.*) The new equation environment is created with `\NewEnviron` (from the `environ` package), which stores the contents of its environment in a macro called `\BODY`.

```
12516 \AtBeginDocument{
12517   \NewEnviron{equation}%
12518     {\LWR@doequation{\BODY}{equation}}}%
12519     [\LWR@doendequation{equation}]
12520
12521   \LetLtxMacro\LWR@equationnormal\equation
12522   \LetLtxMacro\endLWR@equationnormal\endequation
12523 }% AtBeginDocument
```

`equation*` (*env.*)

```
12524 \AtBeginDocument{
12525   \NewEnviron{equation*}%
12526     {\LWR@doequation{\BODY}{equation*}}}%
12527     [\LWR@doendequation{equation*}]
12528
12529   \csletcs{LWR@equationnormalstar}{equation*}
12530   \csletcs{LWR@endequationnormalstar}{endequation*}
12531 }% AtBeginDocument
```

Remember the “less” version of `equation`, which uses `MATHJAX` and `alt` tags, but does not support complicated contents such as some `TikZ` expressions.

```
12532 \AtBeginDocument{
12533   \LetLtxMacro\LWR@equationless\equation
12534   \LetLtxMacro\endLWR@equationless\endequation
12535   \csletcs{LWR@equationlessstar}{equation*}
12536   \csletcs{LWR@endequationlessstar}{endequation*}
12537 }
```

85.6 `\displaymathnormal` and `\displaymathother`

`\displaymathnormal` By default, or when selecting `\displaymathnormal`, MATHJAX math display environments print their contents as text into HTML for MATHJAX to interpret, and SVG display math environments render their contents as SVG images and use their contents as the `alt` tag of HTML output. To do so, the contents are loaded into a macro for reuse. In some cases, such as complicated TikZ pictures, compilation will fail.

`\displaymathother` When selecting `\displaymathother`, it is assumed that the contents are more complicated than “pure” math. An example is an elaborate TikZ picture, which will not render in MATHJAX and will not make sense as an HTML `alt` tag. In this mode, MATHJAX is turned off, math display environments become SVG images, even if MATHJAX is selected, and the HTML `alt` tags become simple messages. The contents are internally processed as an environment instead of a macro argument, so complicated objects such as TikZ pictures are more likely to compile successfully.

`\displaymathnormal` Use when display math environments have simple math which is to sent to MATHJAX or included in HTML `alt` tags.

```
12538 \newcommand*\displaymathnormal}{%
12539     \ifbool{LWR@origmathjax}{\booltrue{mathjax}}{\boolfalse{mathjax}}%
12540     \LetLtxMacro\[\LWR@openbracketnormal%
12541     \LetLtxMacro\]\LWR@closebracketnormal%
12542     \LetLtxMacro\displaymath\LWR@displaymathnormal%
12543     \LetLtxMacro\enddisplaymath\endLWR@displaymathnormal%
12544     \LetLtxMacro\equation\LWR@equationnormal%
12545     \LetLtxMacro\endequation\endLWR@equationnormal%
12546     \csletcs{equation*}{LWR@equationnormalstar}%
12547     \csletcs{endequation*}{LWR@endequationnormalstar}%
12548 }
```

`\displaymathother` Use when display math environments have complicated objects which will not work with MATHJAX or should not be included in HTML `alt` tags. Complicated contents are more likely to compile correctly.

```
12549 \newcommand*\displaymathother}{%
12550     \boolfalse{mathjax}%
12551     \LetLtxMacro\displaymath\LWR@displaymathother%
12552     \LetLtxMacro\enddisplaymath\endLWR@displaymathother%
12553     \LetLtxMacro\[\LWR@displaymathother%
12554     \LetLtxMacro\]\endLWR@displaymathother%
12555     \LetLtxMacro\equation\LWR@equationother%
12556     \LetLtxMacro\endequation\endLWR@equationother%
12557     \csletcs{equation*}{displaymath}%
12558     \csletcs{endequation*}{enddisplaymath}%
12559 }
```

```
12560 \end{warppHTML}
```

for PRINT output: 12561 `\begin{warpprint}`

Print-mode versions:

```
12562 \newcommand*\displaymathnormal}{%
12563 \newcommand*\displaymathother}{%}
```

```

12564 \newcommand*\theMathJaxsubequations}{0}
12565 \newcommand*\theMathJaxsection}{}
12566 \newcommand*\theMathJaxequation}{\arabic{equation}}

12567 \end{warpprint}

```

for HTML output: 12568 \begin{warpHTML}

85.7 AMS Math environments

85.7.1 Support macros

`LWR@amsmultline` (*bool*) True if processing a multiline environment.

To compensate for multiline-specific code, `LWR@amsmultline` is used to add extra horizontal space in `\LWR@htmlmathlabel` if is used in an `amsmath` environment which is not a multiline environment and not an equation.

```

12569 \newbool{LWR@amsmultline}
12570 \boolfalse{LWR@amsmultline}

```

`\LWR@beginhideamsmath` Starts hiding L^AT_EX math inside an HTML comment.

```

12571 \newcommand*\LWR@beginhideamsmath}{
12572   \LWR@stoppars
12573   \LWR@orignobreakspace\LWR@orignewline
12574   \LWR@htmlopencomment
12575
12576   \begingroup
12577   \LWR@restoreorigformatting

```

Temporarily prevent underfull `\hbox` warnings.

```

12578   \hbadness=10000\relax%

12579   \booltrue{LWR@insidemathcomment}
12580 }

```

`\LWR@endhideamsmath` Ends hiding L^AT_EX math inside an HTML comment.

```

12581 \newcommand*\LWR@endhideamsmath}{
12582   \endgroup
12583
12584   \LWR@htmlclosecomment
12585   \boolfalse{LWR@insidemathcomment}
12586   \LWR@orignewline
12587   \LWR@startpars
12588 }

```

85.7.2 Environment patches

The `amsmath` environments already collect their contents in `\@envbody` for further processing. `eqnarray` is not an $\mathcal{A}\mathcal{M}\mathcal{S}$ package, and thus requires special handling.

For `svg math`: Each environment is encapsulated inside a `lateximage` environment, along with a special optional argument of `\LWR@amsmathbody` or `\LWR@amsmathbodynumbered` telling `lateximage` to use as the `HTML <alt>` tag the environment's contents which were automatically captured by the `AMS` environment.

For `MATHJAX`: Each environment is synched with `LATEX`'s equation numbers, typeset with `LATEX` inside an `HTML` comment, then printed to `HTML` output for `MATHJAX` to process.

`eqnarray` (*env.*) This environment is not an `AMS` environment and thus its body is not automatically captured, so the `environ` package is used to capture the environment into `\BODY`.

```
12589 \let\LWR@origeqnarray\eqnarray
12590 \let\LWR@origendeqnarray\endeqnarray
```

To remember whether the starred environment was used, and thus whether to number the equations:

```
12591 \newbool{LWR@numbereqnarray}
12592 \booltrue{LWR@numbereqnarray}
```

Common code used by `eqnarray` and `Beqnarray` (from `fancybox`):

```
12593 \newcommand{\LWR@eqnarrayfactor}{%
```

If `mathjax` or `FormatWP`, print the `LATEX` expression:

```
12594 \ifbool{mathjax} or ( \bool{FormatWP} and \bool{WPMarkMath} ) }%
12595 {%
```

If `MATHJAX`, the environment contents (the `\BODY`) are executed in a `HTML` comment to trigger the correct equation number increment (if not starred), then are included verbatim in the output for `MATHJAX` to interpret:

```
12596 \LWR@syncmathjax%
12597 \boolfalse{LWR@amsmultline}%
12598 \boolfalse{LWR@HTMLsanitize@tmpb@removebackslash}%
12599 \ifbool{LWR@numbereqnarray}%
12600 {%
```

If numbering the equations, execute a copy inside an `HTML` comment block:

```
12601 \LWR@beginhideamsmath%
12602 \LWR@origeqnarray%
12603 \BODY%
12604 \LWR@origendeqnarray%
12605 \LWR@endhideamsmath%
```

Then print the (sanitized) contents to the output for `MATHJAX` to interpret:

```
12606 \LWR@addmathjax{eqnarray}{\BODY}%
12607 }%
12608 {% not LWR@numbereqnarray
```

If not numbering equations, just create the contents for `MATHJAX`:

```

12609         \LWR@addmathjax{eqnarray*}{\BODY}%
12610     }% LWR@numbreqnarray
12611 }% mathjax
12612 {% not mathjax
12613     \ifbool{LWR@numbreqnarray}%
12614     {%

```

For numbered svg equations, first create a lateximage with an alt attribute containing sanitized copy of the source code:

```

12615         \begin{BlockClass}{displaymathnumbered}%
12616         \LWR@newautoidanchor%
12617         \booltrue{LWR@indisplaymathimage}%
12618         \begin{lateximage}[%
12619             (\LWR@startingequationtag\textendash\LWR@equationtag)%
12620             \LWR@addmathjax{eqnarray}{\BODY}%
12621         ]%
12622         *?(math)%

```

Support for xfakebold:

```

12623         \LWR@applyxfakebold%

```

Create the image contents using an actual eqnarray:

```

12624         \LWR@origeqnarray%
12625         \BODY%
12626         \LWR@origendeqnarray%
12627         \end{lateximage}%
12628         \end{BlockClass}%
12629     }%
12630     {% not LWR@numbreqnarray

```

If not numbered, do the same, but an extra \nonumber seems to be required:

```

12631         \begin{BlockClass}{displaymath}%
12632         \LWR@newautoidanchor%
12633         \booltrue{LWR@indisplaymathimage}%
12634         \begin{lateximage}[%
12635             \LWR@addmathjax{eqnarray*}{\BODY}%
12636         ]*?(math)%

```

Support for xfakebold:

```

12637         \LWR@applyxfakebold%

12638         \def\@eqnocr{\nonumber\@seqnocr}%
12639         \csuse{LWR@origeqnarray}%
12640         \BODY%
12641         \nonumber\csuse{LWR@origendeqnarray}%
12642         \end{lateximage}%
12643         \end{BlockClass}%
12644     }% LWR@numbreqnarray
12645 }% not mathjax

```

Default to number equations in the future:

```

12646     \booltrue{LWR@numbreqnarray}%

```

Clear the single-use `alt` text:

```
12647 \gdef\LWR@ThisAltText{%
12648 }
```

`eqnarray` itself is made with a blank line before and after to force it to be on its own line:

```
12649 \RenewEnviron{eqnarray}
12650 {%
12651
12652 \LWR@eqnarrayfactor
12653
12654 }
```

The starred version is patched to turn off the numbering:

```
12655 \csgpreto{eqnarray*}{\boolfalse{LWR@numbereqnarray}}
12656 \end{warpHTML}
```

86 Lateximages

86.1 Description

`lateximage` (*env.*) A `lateximage` is a piece of the document which is typeset in \LaTeX then included in the `HTML` output as an image. This is used for math if `svg math` is chosen, and also for the `picture`, `tikzpicture`, and other environments.

Before typesetting the `lateximage` a large number of formatting, graphics, and symbols-related macros are temporarily restored to their print-mode meaning by `\LWR@restoreorigformatting`. (See section 83.)

A `lateximage` is typeset on its own `PDF` page inside an `HTML` comment which starts on the preceding page and ends on following page, and instructions are written to `lateximage.txt` for `lwarpmk` to extract the `lateximage` from the page of the `PDF` file then generate an accompanying `.svg` file image file. Meanwhile, instructions to show this image are placed into the `HTML` file after the comment.

An `HTML` `` is created to hold both the `HTML` comment, which will have the `pdftotext` conversion, and also the link to the final `.svg` image.

A \LaTeX label is used to remember which `PDF` page has the image. A label is used because footnotes, endnotes, and pagenotes may cause the image to appear at a later time. The label is declared along with the image, and so it correctly remembers where the image finally ended up.

HTML alt tag The `HTML alt` tag is set to the \LaTeX source for `svg math`, some chemistry expressions, and perhaps some other expressions which make sense for text copy/paste. In some other cases, the `alt` tag is set according to the package name.

When creating an `svg math` image, its `HTML alt` tag may be set to the math expression, which may be hashed for image reuse. In the case of `\ensuremath` or

after `\inlinemathother`, where the contents require a unique image for each instance of the same expression, the `alt` tag is set to `\MathImageAltText`, along with `\AltTextOpen` and `\AltTextClose`, and the image is not reused.

This `alt` expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “math image”, and it may be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following SVG math images.

For many packages, the output is placed inside a `lateximage` with an HTML `alt` tag set to the package name followed by `\PackageDiagramAltText`. For example:

```
(-xy- diagram)
```

This expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “diagram”, and may it be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following package diagrams.

svg image font size For SVG display math and the `lateximage` environment, the size of the math and text used in the SVG image may be adjusted by setting `\LateximageFontSizeName` to a font size name — *without the backslash*, which defaults to:

```
\renewcommand{\LateximageFontSizeName}{normalsize}
```

For inline SVG math, font size is instead controlled by `\LateximageFontScale`, which defaults to:

```
\newcommand*{\LateximageFontScale}{.75}
```

86.2 Support counters and macros

for HTML output: 12657 `\begin{warpHTML}`

`LWR@lateximagenumber` (*Ctr*) Sequence the images.

```
12658 \newcounter{LWR@lateximagenumber}
12659 \setcounter{LWR@lateximagenumber}{0}
```

`LWR@lateximagedepth` (*Ctr*) Do not create `\lateximage` inside of `\lateximage`.

```
12660 \newcounter{LWR@lateximagedepth}
12661 \setcounter{LWR@lateximagedepth}{0}
```

A few utility macros to write special characters:

```
12662 \edef\LWR@hashmark{\string#} % for use in \write
12663 \edef\LWR@percent{\@percentchar} % for use in \write
```

`LWR@LIpage` (*Ctr*) Used to reference the PDF page number of a `lateximage` to be written into `<project>-images.txt`.


```
12664 \newcounter{LWR@LIpage}
```

```
12665 \end{warpHTML}
```

86.3 Font size

for HTML & PRINT: 12666 `\begin{warpall}`

`\LateximageFontSizeName` Declares how large to write text in `\lateximages`. The `.svg` file text size should blend well with the surrounding HTML text size.

 **no backslash** *Do not include the leading backslash in the name.*

```
12667 \newcommand*{\LateximageFontSizeName}{normalsize}
```

`\LateximageFontScale` Declares how large to scale inline SVG math images. The `.svg` file text size should blend well with the surrounding HTML text size. The default is 1, but it may be redefined as needed depending on the HTML font.

```
12668 \newcommand*{\LateximageFontScale}{1}
```

```
12669 \end{warpall}
```

86.4 Equation numbers

for HTML output: 12670 `\begin{warpHTML}`

`LWR@startingequation (Ctr)` For use with `lateximage` and multi-line numbered equations. Remembers the next equation number so that it may be printed in the alt tag.

```
12671 \newcounter{LWR@startingequation}
12672
12673 \@ifundefined{chapter}
12674 {
12675 \renewcommand{\theLWR@startingequation}{%
12676   \arabic{LWR@startingequation}%
12677 }
12678 }
12679 {% chapter defined
12680 \renewcommand{\theLWR@startingequation}{%
12681   \ifnumcomp{\value{chapter}}{>}{0}{\arabic{chapter}.}{}%
12682   \arabic{LWR@startingequation}%
12683 }
12684 }
```

`LWR@isstartingequation (bool)` True for the first equation tag, false for later tags in the same environment.

```
12685 \newbool{LWR@isstartingequation}
```

`\LWR@startingequationtag` Prints the starting equation number or tag.

```
12686 \let\LWR@startingequationtag\theLWR@startingequation
```

`\LWR@equationtag` Prints the ending equation number or tag.

This is reset by `lateximage`, may be temporarily overwritten by `\tag` calling `\LWR@remembertag`.

```
12687 \newcommand*{\LWR@equationtag}{}
```


Only if `svg math`, patch `\tag` after packages have loaded, in case someone else modified `\tag`.

```
12688 \AtBeginDocument{
12689
12690 \ifbool{mathjax}{}{% not mathjax
```

`\LWR@remembertag` $\langle tag \rangle$

For use inside the math environments while using `svg math`. Sets `\theLWR@startingequation` and `\theequation` to the given tag.

```
12691 \NewDocumentCommand{\LWR@remembertag}{m}{%
12692   \ifbool{LWR@isstartingequation}%
12693   {%
12694     \global\boolfalse{LWR@isstartingequation}%
12695     \xdef\LWR@startingequationtag{#1}%
12696   }{%
12697     \xdef\LWR@equationtag{#1}%
12698 }%

12699 }% not mathjax
12700 }% AtBeginDocument
```

86.5 HTML alt tags

`\LWR@amsmathbody` $\langle envname \rangle$ For use inside the optional argument to a `lateximage` to add the contents of a AMS math environment to the `<alt>` tag.

```
12701 \newcommand*{\LWR@amsmathbody}[1]
12702 {%
12703   \textbackslash\{begin\}\{#1\} % extra space
12704   \LWR@HTMLsanitizeexpanded{\detokenize\expandafter{\the\envbody}}%
12705   \textbackslash\{end\}\{#1\}%
12706 }
```

`\LWR@amsmathbodynumbered` $\langle envname \rangle$ For use inside the optional argument to a `lateximage` to add the contents of a AMS math environment to the `alt` tag, prefixed by the equation numbers.

```
12707 \newcommand*{\LWR@amsmathbodynumbered}[1]
12708 {%
12709   \ifnumcomp{\value{LWR@startingequation}}{=}{\value{equation}}%
12710     {(\LWR@equationtag)}%
12711     {(\LWR@startingequationtag\textendash\LWR@equationtag)} % extra space
12712   \LWR@amsmathbody{#1} % extra space
12713 }
```

86.6 lateximage environment

`\LWR@lateximage@oneimageb` $\langle 1: alt text \rangle$ $\langle 2: filename \rangle$ $\langle 3: css style \rangle$ $\langle 4: aria role \rangle$ Creates the HTML image tag for the `lateximage`.

To allow sanitization of the `alt` tag, if the `alt` tag is detokenized then it must also be expanded before being used here.

```

12714 \newcommand{\LWR@lateximage@oneimageb}[4]{%
12715   \LWR@subinlineimage{#1}{\lateximage}%
12716   {%
12717     \LWR@print@box{%
12718       \LWR@ImagesDirectory\OSPathSymbol%
12719       #2%
12720     }%
12721   }{svg}{#3}{#4}%
12722 }

```

`\LWR@lateximage@oneimage` $\langle 1: alt\ text \rangle \langle 2: filename \rangle \langle 3: css\ style \rangle \langle 4: delimit? \rangle \langle 5: aria\ role \rangle$

Creates an image for the `lateximage`, whose `alt` text depends on the circumstances.

To allow sanitization of the `alt` tag, if the `alt` tag is detokenized then it must also be expanded before being used here.

```

12723 \newcommand{\LWR@lateximage@oneimage}[5]{%
12724   \LWR@traceinfo{\LWR@lateximage@oneimage !#1!#2!#3!#4!#5!}%
12725   \ifdefvoid{\LWR@ThisAltText}{%
12726     \IfBooleanTF{#4}{%
12727       \LWR@lateximage@oneimageb{#1}{#2}{#3}{#5}%
12728     }{%
12729       \LWR@lateximage@oneimageb%
12730       {\AltTextOpen#1\AltTextClose}%
12731       {#2}{#3}{#5}%
12732     }%
12733   }{%
12734     \LWR@lateximage@oneimageb%
12735     {\AltTextOpen\LWR@ThisAltText\AltTextClose}%
12736     {#2}{#3}{#5}%
12737   }%
12738 }

```

`lateximage (env)` $* \langle 2: <alt> tag \rangle * ? \langle 5: add'l\ hashing \rangle \langle 6: css\ style \rangle \langle 7: aria\ role \rangle$

Typesets the contents and then renders the result as an SVG file. Star #1 causes the image to be hashed for reuse. Star #3 causes the `alt` tag to not include `\AltTextOpen` and `\AltTextClose`, for use with math expressions. Question mark #4 does not detokenize the `alt` tag (for internal use). This allows the use of macros inside the `alt` tag.

The optional `<alt>` tag is included in the HTML code for use with copy/paste.

[image filename hashing](#) If starred, a hashed filename is used. If so, the hash is based on the `alt` tag and also the additional hashing argument.

This may be used to provide an expression with a simple `alt` tag but also enough additional information to provide a unique hash.

An example is when the expression is a complicated T_EX expression, which would not copy/paste well. A simplified tag may be used, while the complicated expression is used in the additional hashing argument to ensure a unique image.

Another example is when the expression is simple, but the image depends on options. These options may be decoded into text form and included in the additional hashing argument in order to make the hash unique according to the set of options, even if the simple `alt` tag is still the same.

*_html.aux (*file*) A new label is placed into the file *_html.aux:

```
\newlabel{LWRlateximage-<BaseJobname>-<number>}{<x>}{<y>}}
```

This is used to find the image in the PDF file, according to its name.

*-images.txt (*file*) A list of images to generate is created in <jobname>-images.txt. Each line has three pipe-delimited fields, containing the PDF page number from <jobname>_html.pdf, where the image is located, a boolean indicating whether the image is hashed, and the filename of the image. The last line has “end” in each field, and is used to detect an incomplete compile.

```
12739 \catcode`\$=\active%
12740
12741 \NewDocumentEnvironment{lateximage}{s o s t? O{} O{} D(){}%
12742 {%
12743 \LWR@traceinfo{lateximage !#1!#2!#3!#4!#5!#6!}%
12744 \LWR@traceinfo{lateximage: starting on \jobname.pdf page \arabic{page}}%
12745 \LWR@traceinfo{lateximage: entering depth is \arabic{LWR@lateximagedepth}}%
```

Nested lateximages remain one large lateximage:

```
12746 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
```

If nesting inside an already-existing lateximage, simply record one more level. $\mathcal{A}\mathcal{M}\mathcal{S}$ packages redefine `\addtocounter` to do nothing if inside a `\text`, so lower-level \TeX macros are used for tracking nested lateximages.

```
12747 {%
12748 % \addtocounter{LWR@lateximagedepth}{1}%
12749 \global\advance\c@LWR@lateximagedepth 1\relax% Due to AmS \text macro.
12750 }%
```

Otherwise, this is the outer-most lateximage:

```
12751 {% start of outer-most lateximage
```

Remember the next equation number to be allocated, in case it must be printed in a multi-equation environment:

```
12752 \LWR@traceinfo{lateximage: starting outer-most lateximage}%
12753 \setcounter{LWR@startingequation}{\value{equation}}%
12754 \addtocounter{LWR@startingequation}{1}%
12755 \booltrue{LWR@isstartingequation}%
12756 \let\LWR@startingequationtag\theLWR@startingequation%
```

The default equation tag, unless overwritten by `\tag`:

```
12757 \let\LWR@equationtag\theequation%
```

Starting a new lateximage:

```
12758 \addtocounter{LWR@lateximagenumber}{1}%
12759 \LWR@traceinfo{lateximage: LWR@lateximagenumber is \arabic{LWR@lateximagenumber}}%
```

While inside a lateximage, locally do not use mathjax:

```
12760 \boolfalse{mathjax}%
```

Be sure that are doing a paragraph:

```
12761 \LWR@ensuredoingapar%
```

Inside the lateximage, temporarily prevent underfull hbox warnings.

```
12762 \hbadness=10000\relax%
```

Next file:

```
12763 \addtocounter{LWR@externalfilecnt}{1}%
12764 \LWR@traceinfo{lateximage: LWR@externalfilecnt is \arabic{LWR@externalfilecnt}}%
```

Figure out what the next page number will be. \setcounterpageref assigns LWR@Lpage to the page number for the reference LWR@lateximage-BaseJobname-XXX:

```
12765 \setcounterpageref{LWR@Lpage}{%
12766   LWR@lateximage-\BaseJobname-\arabic{LWR@lateximagenumber}%
12767 }%
12768 \LWR@traceinfo{lateximage: LWR@Lpage is \arabic{LWR@Lpage}}%
```

Create an HTML span which will hold the comment which contains the *pdftotext* translation of the image's page, and also will hold the link to the .svg file:

```
12769 \LWR@htmltag{span\LWR@indentHTML%
12770   id=\textquotedbl{}%
12771   lateximage-\BaseJobname-\arabic{LWR@lateximagenumber}%
12772   \textquotedbl\LWR@indentHTML
12773   class=\textquotedbl{}lateximagesource\textquotedbl\LWR@orignewline
12774 }%
```

Write instructions to the <ImagesDirectory>.txt file:

```
12775 \LWR@traceinfo{lateximage: about to write to \BaseJobname-images.txt}%
12776 \IfBooleanTF{#1}% starred
12777   {% hash
```

Compute and save the hashed file name for later use:

```
12778 \ifdefvoid{\LWR@ThisAltText}{%
12779   \IfBooleanTF{#3}{% no open/close tags?
12780     \IfBooleanTF{#4}{% '?': don't detokenize
12781       {% don't detokenize
12782         \edef\LWR@hashedname{%
12783           \LWR@mdfive{#2-!-#5}%
12784         }%
12785       }%
12786     }% do detokenize
12787     \edef\LWR@hashedname{%
12788       \LWR@mdfive{\detokenize\expandafter{#2-!-#5}%
12789     }%
```

```

12790         }%
12791     }{%
12792         \IfBooleanTF{#4}% '?' : don't detokenize
12793         {% don't detokenize
12794             \edef\LWR@hashedname{%
12795                 \LWR@mdfive{\AltTextOpen#2\AltTextClose-!-#5}%
12796             }%
12797         }%
12798         {% do detokenize
12799             \edef\LWR@hashedname{%
12800                 \LWR@mdfive{\detokenize\expandafter{\AltTextOpen#2\AltTextClose}-!-#5}%
12801             }%
12802         }%
12803     }%
12804 }{%
12805     \edef\LWR@hashedname{%
12806         \LWR@mdfive{\detokenize\expandafter{\AltTextOpen\LWR@ThisAltText\AltTextClose}-!-#5}%
12807     }%
12808 }%
12809 \LWR@traceinfo{lateximage: hash is \LWR@hashedname}%

```

Write the page, hashing, and hashed name:

```

12810     \immediate\write\LWR@lateximagesfile{%
12811         |\arabic{LWR@Lpage}|true|\LWR@hashedname|%
12812     }%
12813 }% hash
12814 {% no hash

```

No hash, so write the page, no hashing, and the image number:

```

12815     \LWR@traceinfo{lateximage: hash false}%
12816     \immediate\write\LWR@lateximagesfile{%
12817         |\arabic{LWR@Lpage}|false|\LWR@ImagesName\arabic{LWR@externalfilecnt}|%
12818     }%
12819 }% no hash

```

Place an open comment tag. This will hide any traces of the lateximage PDF page which were picked up by *pdftotext*.

```

12820     \LWR@traceinfo{lateximage: about to create open comment}%
12821     \LWR@htmlopencomment%

```

One level deeper. At this outer-most lateximage, it is known that this is not being used inside an $\mathcal{A}\mathcal{M}\mathcal{S}$ $\text{\textbackslash text}$, since the outer-most level will never be in math mode.

```

12822     \addtocounter{LWR@lateximagedepth}{1}%

```

Start the new PDF page:

```

12823     \LWR@traceinfo{lateximage: about to create a new page}%
12824     \LWR@maybeoriginnewpage%

```

If the current page is larger, typeset the image in a “standard” width page and font size:

```

12825     \LWR@traceinfo{lateximage: about to create minipage}%
12826     \setcounter{LWR@mpfootnote@store}{\value{mpfootnote}}

```

```

12827 \ifdimless{\linewidth}{6in}{%
12828   \LWR@print@minipage{\linewidth}%
12829 }{%
12830   \LWR@print@minipage{6in}%
12831 }%

12832 \ifnumgreater{\value{LWR@minipage@depth}}{0}%
12833   {\setcounter{mpfootnote}{\value{LWR@mpfootnote@store}}}%
12834   {%
12835   \@nameuse{LWR@print@LateximageFontSizeName}%

```

Temporarily restore formatting to its PDF definitions: Do not produce HTML tags for `\hspace`, etc. inside a `lateximage`.

```

12836 \LWR@traceinfo{lateximage: about to temporarily restore formatting}%
12837 \LWR@restoreorigformatting%

```

If not inside a `minipage`, use full-page footnotes instead of `minipage` footnotes. These become HTML footnotes.

```

12838 \ifnumgreater{\value{LWR@minipage@depth}}{0}%
12839   {%
12840   {%
12841     \def\@mpfn{footnote}%
12842     \def\thempfn{\thefootnote}%
12843     \LetLtxMacro\@footnotetext\LWR@footnotetext%
12844   }%

```

Create the `LWRlateximage-jobname-<number>` label:

```

12845 \LWR@traceinfo{lateximage: about to create label
12846   LWRlateximage-\BaseJobname-\arabic{LWR@lateximagenumber}}%
12847 \LWR@orig@Label{LWRlateximage-\BaseJobname-\arabic{LWR@lateximagenumber}}%
12848 \LWR@traceinfo{lateximage: finished creating the label}%

```

Adjust the rule color to match HTML:

```

12849 \ifdefvoid{\LWR@ruleHTMLcolor}{}%
12850   \LWR@print@arrayrulecolor[HTML]{\LWR@ruleHTMLcolor}%
12851 }%

```

Enable print-mode math functions:

```

12852 \LetLtxMacro$\LWR@origdollar%
12853 \catcode`\$=3% math shift
12854 \LetLtxMacro\(\LWR@origopenparen%
12855 \LetLtxMacro\)\LWR@origcloseparen%

```

Only enable print-mode display math if are not already inside display math:

```

12856 \ifbool{LWR@indisplaymathimage}{}% not in display math
12857   \LetLtxMacro[\LWR@origopenbracket%
12858   \LetLtxMacro\]\LWR@origclosebracket%
12859   \let\equation\LWR@orig@equation%
12860   \let\endequation\LWR@orig@endequation%
12861   \csletcs{equation*}{LWR@orig@equation*}%
12862   \csletcs{endequation*}{LWR@orig@endequation*}%
12863 }% not in display math

```

For chemformula:

```
12864 \LetLtxMacro\LWR@newsingledollar$%
12865 \LetLtxMacro\LWR@newsingledollar$% syntax highlighting
```

While inside a lateximage, do not use HTML tags for verbatim content, and do not sanitize HTML tags for <, >, &, etc.

```
12866 \boolfalse{LWR@verbtags}%
12867 \boolfalse{LWR@HTMLsanitize@tmpb@enable}%

12868 }% end of outer-most lateximage
12869 \LWR@traceinfo{lateximage: finished start of environment}%
12870 }% end of \begin{lateximage}
```

`\endlateximage` When the lateximage environment closes:

```
12871 {% start of \end{lateximage}
12872 \LWR@traceinfo{lateximage: starting end of lateximage}%
```

Nested more than one deep?

```
12873 \LWR@traceinfo{lateximage: internal depth was \arabic{LWR@lateximagedepth}}%
12874 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{1}%
```

If nesting inside an already existing lateximage, simply record one less level. Uses a lower-level TeX macro due to $\mathcal{M}\mathcal{S}$ `\text` change of `\addtocounter`.

```
12875 {%
12876 \LWR@traceinfo{lateximage: unnesting}%
12877 \global\advance\c@LWR@lateximagedepth -1\relax%
12878 }%
```

If this is the outer-most lateximage:

```
12879 {% end of outer-most lateximage
```

Finish the lateximage minipage and start a new PDF page:

```
12880 \LWR@traceinfo{lateximage: ending outer-most lateximage}%
12881 \endLWR@print@minipage%
12882 \LWR@maybe@orignewpage%
```

Close the HTML comment which encapsulated any traces of the lateximage picked up by *pdftotext*:

```
12883 \LWR@print@vspace*{.5\baselineskip}%
12884 \LWR@htmlclosecomment%
12885 \LWR@traceinfo{lateximage: The page after the image is \arabic{page}}%
```

Create a link to the lateximage, allowing its natural height:

```
12886 \LWR@traceinfo{about to LWR@lateximage@oneimage !#2!}%
```

Generate the HTML link. Due to the need to correctly expand the alt tag, choose which of eight methods to use depending on whether to hash, whether an alt tag

was passed, and whether to detokenize the alt tag. If detokenizing the alt tag, it must be expanded now so it can be sanitized later.

```

12887 \IfBooleanTF{#1}% starred?
12888 {% starred, hash
12889 \IfValueTF{#2}% alt argument
12890 {% alt argument given
12891 \IfBooleanTF{#4}% '?': don't detokenize
12892 {% don't detokenize
12893 \LWR@lateximage@oneimage{#2}%
12894 {\LWR@hashedname}{#6}{#3}{#7}%
12895 }% don't detokenize
12896 {% detokenize
12897 \expandafter\LWR@lateximage@oneimage\expandafter{\detokenize{#2}}%
12898 {\LWR@hashedname}{#6}{#3}{#7}%
12899 }% detokenize
12900 }% alt argument given
12901 {% alt argument not given
12902 \IfBooleanTF{#4}% '?': don't detokenize
12903 {% don't detokenize
12904 \LWR@lateximage@oneimage{\ImageAltText}%
12905 {\LWR@hashedname}{#6}{#3}{#7}%
12906 }% don't detokenize
12907 {% detokenize
12908 \expandafter\LWR@lateximage@oneimage\expandafter{\detokenize\expandafter{\ImageAltText}}%
12909 {\LWR@hashedname}{#6}{#3}{#7}%
12910 }% detokenize
12911 }% alt argument not given
12912 }% starred, hash
12913 {% not starred, no hash
12914 \IfValueTF{#2}% alt argument
12915 {% alt argument given
12916 \IfBooleanTF{#4}% '?': don't detokenize
12917 {% don't detokenize
12918 \LWR@lateximage@oneimage{#2}%
12919 {\LWR@ImagesName\theLWR@externalfilecnt}{#6}{#3}{#7}%
12920 }% don't detokenize
12921 {% detokenize
12922 \expandafter\LWR@lateximage@oneimage\expandafter{\detokenize{#2}}%
12923 {\LWR@ImagesName\theLWR@externalfilecnt}{#6}{#3}{#7}%
12924 }% detokenize
12925 }% alt argument given
12926 {% alt argument not given
12927 \IfBooleanTF{#4}% '?': don't detokenize
12928 {% don't detokenize
12929 \LWR@lateximage@oneimage{\ImageAltText}%
12930 {\LWR@ImagesName\theLWR@externalfilecnt}{#6}{#3}{#7}%
12931 }% don't detokenize
12932 {% detokenize
12933 \expandafter\LWR@lateximage@oneimage\expandafter{\detokenize\expandafter{\ImageAltText}}%
12934 {\LWR@ImagesName\theLWR@externalfilecnt}{#6}{#3}{#7}%
12935 }% detokenize
12936 }% alt argument not given
12937 }% not starred, no hash

```

Be sure that are doing a paragraph:

```

12938 \LWR@ensuredoingapar%

```


Close the HTML span which has the *pdftotext* comment and also the link to the .svg image:

```
12939 \LWR@htmltag{/span}%
12940 \ifbool{HTMLDebugComments}{%
12941     \LWR@htmlcomment{End of lateximage}%
12942 }{}
```

Undo one lateximage level. This is not inside an \mathcal{AMS} \text, so regular \addtocounter may be used here.

```
12943 \addtocounter{LWR@lateximagedepth}{-1}%
```

Clear the single-use alt text:

```
12944 \gdef\LWR@ThisAltText{%
12945 }% end of outer-most lateximage
12946 \LWR@traceinfo{lateximage: exiting depth is \arabic{LWR@lateximagedepth}}%
12947 \LWR@traceinfo{lateximage: done}%
12948 }%
12949 \catcode`\$=3% math shift
12950 \end{warpHTML}
```

for PRINT output: 12951 \begin{warpprint}

lateximage (*env.*) * [\langle alt tag \rangle] * [\langle add'l hashing \rangle] [\langle css style \rangle]

Ignored in print mode.

```
12952 \NewDocumentEnvironment{lateximage}{s o s t? o o d()}
12953     {}{}
12954 \end{warpprint}
```

87 center, flushleft, flushright

for HTML output: 12955 \begin{warpHTML}

center (*env.*) Replace center functionality with css tags. In a \langle span \rangle , these macros are nullified, but extra % are used to remove spurious spaces here as well.

```
12956 \newenvironment*{LWR@HTML@center}
12957 {%
12958     \LWR@forcenewpage%
12959     \ifbool{FormatWP}%
12960         {\BlockClass[LWR@print@mbox{text-align:center}]{center}}%
12961         {\BlockClass{center}}%
12962 }
12963 {\endBlockClass}
12964
12965 \LWR@formattedenv{center}
```

flushright (*env.*)

```

12966 \newenvironment*{LWR@HTML@flushright}
12967 {%
12968     \LWR@forcenewpage%
12969     \ifbool{FormatWP}%
12970         {\BlockClass[\LWR@print@mbbox{text-align:right}]{flushright}}%
12971         {\BlockClass{flushright}}%
12972 }
12973 {\endBlockClass}
12974
12975 \LWR@formattedenv{flushright}

```

flushleft (*env.*)

```

12976 \newenvironment*{LWR@HTML@flushleft}
12977 {%
12978     \LWR@forcenewpage%
12979     \ifbool{FormatWP}%
12980         {\BlockClass[\LWR@print@mbbox{text-align:left}]{flushleft}}%
12981         {\BlockClass{flushleft}}%
12982 }
12983 {\endBlockClass}
12984
12985 \LWR@formattedenv{flushleft}

```

`\centering`, `\raggedleft`, and `\raggedright` usually have no effect on the HTML output, but they may be used to compare with the next token to identify their use at the start of a float. See `\LWR@floatalignment`.

`\centering`

```

12986 \newcommand*{\LWR@HTML@centering}{%
12987     \ifbool{HTMLDebugComments}{%
12988         \LWR@htmlcomment{centering}%
12989     }{}%
12990 }
12991 \LWR@formatted{centering}

```

`\raggedleft`

```

12992 \newcommand*{\LWR@HTML@raggedleft}{%
12993     \ifbool{HTMLDebugComments}{%
12994         \LWR@htmlcomment{raggedleft}%
12995     }{}%
12996 }
12997 \LWR@formatted{raggedleft}

```

`\raggedright`

```

12998 \newcommand*{\LWR@HTML@raggedright}{%
12999     \ifbool{HTMLDebugComments}{%
13000         \LWR@htmlcomment{raggedright}%
13001     }{}%
13002 }
13003 \LWR@formatted{raggedright}

```

`\leftline {<text>}`

```

13004 \renewcommand{\leftline}[1]{\begin{flushleft}#1\end{flushleft}}

\centerline {<text>}

13005 \renewcommand{\centerline}[1]{\begin{center}#1\end{center}}

\rightline {<text>}

13006 \renewcommand{\rightline}[1]{\begin{flushright}#1\end{flushright}}

13007 \end{warpHTML}

```

88 Preloaded packages

for HTML output: 13008 \begin{warpHTML}

If the given package was loaded before or by `lwarp`, load the `lwarp` version as well.

```

\LWR@PreloadedPackage {<packagename>}

13009 \newcommand*\LWR@PreloadedPackage[1]{%
13010   \IfPackageLoadedTF{#1}%
13011     {%
13012       \AtBeginDocument{
13013         \LWR@origRequirePackage{lwarp-#1}%
13014       }
13015     }%
13016   }%
13017 }

```

Undo `nameref` if already loaded, such as by `memoir`:

```
13018 \LWR@PreloadedPackage{nameref}
```

If `inputtrc` was loaded before `lwarp`, as is usually done, explicitly load the `lwarp` patches now:

```
13019 \LWR@PreloadedPackage{inputtrc}
```

If `textcomp` was loaded before `lwarp`, perhaps as part of the font-related packages, explicitly load the `lwarp` patches now:

```
13020 \LWR@PreloadedPackage{textcomp}
```

If `xunicode` was loaded before `lwarp`, perhaps as part of the font-related packages, explicitly load the `lwarp` patches now:

```
13021 \LWR@PreloadedPackage{xunicode}
```

If `graphics` or `graphicx` were loaded before `lwarp`, perhaps by `xunicode`, explicitly load the `lwarp` patches now:

```
13022 \LWR@PreloadedPackage{graphics}
13023 \LWR@PreloadedPackage{graphicx}
```

tagpdf-base may have been preloaded by pdfmanagement-testphase

```
13024 \LWR@PreloadedPackage{tagpdf-base}
```

scalegnt may have been preloaded by babel

```
13025 \LWR@PreloadedPackage{scalegnt}
```

fontaxes must be preloaded so that lwarp may patch it for HTML.

```
13026 \LWR@PreloadedPackage{fontaxes}
```

Various font packages which may be loaded before lwarp:

```
13027 \LWR@PreloadedPackage{cmbright}
13028 \LWR@PreloadedPackage{fourier}
13029 \LWR@PreloadedPackage{kpfonts}
13030 \LWR@PreloadedPackage{kpfonts-otf}
13031 \LWR@PreloadedPackage{libertinust1math}
13032 \LWR@PreloadedPackage{pxfonts}
13033 \LWR@PreloadedPackage{txfonts}
13034 \LWR@PreloadedPackage{txgreek}
13035 \LWR@PreloadedPackage{newpxmath}
13036 \LWR@PreloadedPackage{newtxmath}
13037 \LWR@PreloadedPackage{newtxsf}
13038 \LWR@PreloadedPackage{mathalpha}
13039 \LWR@PreloadedPackage{unicode-math}
```

```
13040 \LWR@PreloadedPackage{realscripts}
```

nfssex-cfr may be preloaded by cfm-lm or related font packages.

```
13041 \LWR@PreloadedPackage{nfssex-cfr}
```

ulem may be preloaded by ctex, ctexart, and related classes.

```
13042 \LWR@PreloadedPackage{ulem}
```

```
13043 \LWR@PreloadedPackage{xetexko}
```

geometry is preloaded by lwarp, and perhaps by various classes.

```
13044 \LWR@PreloadedPackage{geometry}
```

plext is preloaded by some CJK classes.

```
13045 \LWR@PreloadedPackage{plext}
```

stfloats is preloaded by ltj* classes.

```
13046 \LWR@PreloadedPackage{stfloats}
```

lltjtext is preloaded by ltj* classes.

```
13047 \LWR@PreloadedPackage{lltjtext}
```

luatexko must be loaded before lwarp.

```
13048 \LWR@PreloadedPackage{luatexko}
```

```
13049 \end{warpHTML}
```

89 siunitx

siunitx (*Pkg*)

A few HTML unit equivalents are defined here.

siunitx is well supported by lwarp.

Limitations Some general limitations:

fractions Due to *pdftotext* limitations, fraction output is replaced by symbol output for per-mode and quotient-mode.

`\cancel` is not currently supported for siunitx v3.

Negative values are not automatically colored.

⚠ **tabular**

Tabular S and s columns are rendered as simple c columns, although key settings will be set. If using scientific notation, `table-format`, `table-align-uncertainty`, `drop-exponent`, etc.. use `\tablenum` for each cell. This is especially required for `drop-exponent`, without which the value will be shown incorrectly.

⚠ **drop-exponent**

⚠ **table-auto-round**

`table-auto-round` is ignored.

Math rendering Math may be rendered in several ways in the same document:

For math mode with svg display: The original siunitx code is used while generating the svg image.

For HTML text mode: lwarp uses siunitx code patched for HTML, and simplified units.

For math expressions while using MATHJAX: A limited emulation is used. Most functions work reasonably well, but many options cannot be emulated. The result usually looks fine, and otherwise is enough to get the meaning across.

Custom units siunitx allows customized units:

```
\DeclareSIUnit {<name>} {<definition>}
```

`\DeclareSIUnit` declares a version of the unit for the print version. This is also used when the unit is printed in `svg math` or a `lateximage`. It is also used for HTML if an HTML-specific version is not defined with `\HTMLDeclareSIUnit`.

```
\DeclareSIUnit\myunit{\ensuremath{\text{m}_y}}
```

```
\HTMLDeclareSIUnit {<name>} {<definition>}
```

- ⚠ **v3 only!** Use this after the print unit has been defined. For `siunitx v3`, `\HTMLDeclareSIUnit` declares a simplified version of the unit for HTML, for example if the print-mode unit uses `TEX` boxes or `\ensuremath`:

```
\HTMLDeclareSIUnit\myunit{\text{m}\textsubscript{\textit{y}}}
```

It is also possible to provide a custom unit for `MATHJAX`:

```
\CustomizeMathJax{\newcommand{\myunit}{\text{m}_y}}
```

Predefined units Most units work as-is with HTML. For the following units, `lwarp` has already set `\HTMLDeclareSIUnit`: `\celsius`, `\arcminute`, `\arcsecond`, `\elementarycharge`, `\clight`, `\bohr`, `\electronmass`, `\hartree`, `\planckbar`.

⚠ **MathJax**

Document modifications required for `MATHJAX`

- ⚠ `\sisetup`
- Place `\sisetup` in the preamble before `\begin{document}`. Changes made later may be ignored, especially with `MATHJAX`. The `MATHJAX` emulation also ignores most macro options.
- ⚠ **complex numbers**
- Complex numbers are displayed as entered, ignoring `output-complex-root`.
- custom units
- Custom units may be added with `\CustomizeMathJax`. For example, from `lwarp-common-mathjax-siunitx`:


```
\CustomizeMathJax{\newcommand{\hartree}{\mathit{E}_-\{\mathrm{h}\}}}
\CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\unicode{x212B}}}}
```
- ⚠ **unit spacing**
- Units work better using `~` between units instead of using periods.
- ⚠ `\square`, `\cubic`
- To square or cube compound units, enclose the following compound units in braces:


```
\cubic{\centi\meter}
```

 Single units do not require braces.
 - For `\numlist`, the argument is printed as text as-is, so use space between semicolons for improved readability.
- ⚠ **Missing \$ inserted**
- If using `parse-numbers = false`, also use `\num` or `\qty`. `siunitx=siunitx>Missing $ inserted`.

Also see **`MATHJAX` option**, section 8.7.5.

for HTML output: `13050 \begin{warpHTML}`

Options for `siunitx`:

```
13051 \newrobustcmd{\LWR@siunitx@textcelsius}{\HTMLentity{deg}C}
13052 \newrobustcmd{\LWR@siunitx@textdegree}{\HTMLentity{deg}}
13053 \newrobustcmd{\LWR@siunitx@textprime}{\HTMLunicode{2032}}
13054 \newrobustcmd{\LWR@siunitx@textdblprime}{\HTMLunicode{2033}}
13055 \newrobustcmd{\LWR@siunitx@textplanckbar}{\text{\textit{\HTMLunicode{210F}}}}
13056
13057 \appto\LWR@restoreorigformatting{%
13058 \renewrobustcmd{\LWR@siunitx@textcelsius}{\text{\ensuremath{^\circ}C}}%
13059 \renewrobustcmd{\LWR@siunitx@textdegree}{\text{\ensuremath{^\circ}}}%
13060 \renewrobustcmd{\LWR@siunitx@textprime}{\text{\ensuremath{^\prime}}}%

```

```

13061 \renewrobustcmd{\LWR@siunitx@textdblprime}{\text{\ensuremath{^{\prime}\prime}}}%
13062 \renewrobustcmd{\LWR@siunitx@textplanckbar}{\text{\ensuremath{\hbar}}}%
13063 }

13064 \end{warpHTML}

```

for PRINT output: The print version of `\HTMLDeclareSIUnit`.

```

13065 \begin{warpprint}
13066 \NewDocumentCommand{\HTMLDeclareSIUnit}{o +m m}{}
13067 \end{warpprint}

```

90 Graphics print-mode modifications

90.1 General limitations

file extensions

⚠ case sensitive

Per table 9, image filenames may be specified either with or without an extension. If an extension is given it will be used as-is, for either print or HTML output. If no extension is given, a list of possible extensions is tried, which depends on whether print or HTML is being generated. This allows a PDF file for print and a SVG file for HTML, for example. If no extension is given, the automatic search will only return lowercase extensions, even if the filename actually has an uppercase extension, and `lwarp` cannot get around this problem, so image file extensions must be lowercase to be seen by the HTML browser with `lwarp`. For example, name the image file `image.pdf` instead of `image.PDF`, but refer to it in the source as `image`, without an extension. For images which may be used as-is with either print or HTML, such as `JPG` or `PNG`, you may use a capitalized extension if it is specified in the source, such as `image.JPG`.

`\includegraphics` file formats

For `\includegraphics` with `.pdf` or `.eps` files, the user must provide a `.pdf` or `.eps` image file for use in print mode, and also a `.svg`, `.png`, or `.jpg` version of the same image for use in HTML.

```
\includegraphics{filename} % print:.pdf/.eps HTML:.svg, etc.
```

For print output, `lwarp` will automatically choose the `.pdf` or `.eps` format if available, or some other format otherwise. For HTML, one of the other formats is used instead.

If a `.pdf` or `.eps` image is referred to with its file extension, the extension will be changed to `.svg` for HTML:

```

\includegraphics{filename.pdf} % uses .svg in html
\includegraphics{filename.eps} % uses .svg in html

```

`pdftocairo` (*Prog*) To convert a PDF image to SVG, use the utility *pdftocairo*:

PDF to SVG

```
Enter ⇒ pdftocairo -svg filename.pdf
```

`lwarpmk pdftosvg` (*Prog*) For a large number of images, use *lwarpmk*:

```
Enter ⇒ lwarpmk pdftosvg *.pdf (or a list of filenames)
```

`lwarpmk epstopdf` (*Prog*) For EPS images converted to PDF using the package `epstopdf`, use

`epstopdf` (*Prog*)

`epstopdf` package

Enter ⇒ `lwarpmk pdftosvg *.PDF`

to convert to SVG images.

DVI L^AT_EX When using DVI *latex*, it is necessary to convert EPS to PDF and then to SVG:

Enter ⇒ `lwarpmk epstopdf *.eps` (or a list of filenames)

Enter ⇒ `lwarpmk pdftosvg *.pdf` (or a list of filenames)

PNG and JPG For PNG or JPG while using *pdf_latex*, *lualatex*, or *xelatex*, the same file may be used in both print or HTML versions, and may be used with a file extension, but will also be used without the file extension if it is the only file of its base name.

GIF GIF files may be used for HTML, but another format must also be provided for print output.

file extension priorities If a file extension is not used, for HTML the file extension priorities are: SVG, GIF, PNG, then JPG.

duplicate files A complication occurs if a file of the same name exists elsewhere in the T_EX tree, such as a test image from some L^AT_EX package. T_EX looks in the local document directory before considering the directories specified by `\graphicspath`, but the T_EX tree is found as “local”, so any file in the tree is found before the directories in `\graphicspath`. To use such an image, it must be copied to the document’s directory to be used for HTML, and furthermore must be in the document’s base directory instead of an images subdirectory.

⚠ **image not displayed**

⚠ **graphics vs. graphicx** If using the older `graphics` syntax, use both optional arguments for `\includegraphics`. A single optional parameter is interpreted as the newer `graphicx` syntax. Note that

⚠ **viewport** viewports are not supported by `lwarp` — the entire image will be shown.

units For `\includegraphics`, avoid `px` and `%` units for width and height, or enclose them inside `warpHTML` environments. For font-proportional image sizes, use `ex` or `em`. For fixed-sized images, use `cm`, `mm`, `in`, `pt`, or `pc`. Use the keys `width=.5\linewidth`, or similar for `\textwidth` or `\textheight` to give fixed-sized images proportional to a 6 by 9 inch text area. Do not use the `scale` option, since it is not well supported by HTML browsers.

options `\includegraphics` accepts `width` and `height`, `origin`, `rotate` and `scale`, plus new `class` and `alt` keys. (`alt` has recently been incorporated into `graphicx` itself.)

HTML class With HTML output, `\includegraphics` accepts an optional `class=xyz` keyval combination, and if this is given then the HTML output will include that class for the image. The class is ignored for print output.

HTML alt tags Likewise, the `\includegraphics alt` key adds an HTML `alt` tag to an image, and is ignored for print output. If not assigned, each image is given an `alt` tag according to `\ImageAltText`.

⚠ **scale** Avoid using the `\includegraphics scale` option. Change:

```
\includegraphics[scale=<xx>]{...}
```

to:

```
\includegraphics[width=<yy>\linewidth]{...}
```

\rotatebox `\rotatebox` accepts the optional `origin` key.

- ⚠ **browser support** `\rotatebox`, `\scalebox`, and `\reflectbox` depend on modern browser support. The CSS3 standard declares that when an object is transformed the whitespace which they occupied is preserved, unlike L^AT_EX, so expect some ugly results for scaling and rotating.

90.2 Print-mode modifications

for PRINT output: For print output, accept and then discard the new class key:

```
13068 \begin{warpprint}
13069 \define@key{Gin}{class}{}

```

Print-mode additions for the `overpic` package. See section 467 for the HTML version.

```
13070 \AtBeginDocument{
13071 \IfPackageLoadedTF{overpic}{
13072 \newcommand*{\overpicfontsize}{12}
13073 \newcommand*{\overpicfontskip}{14}
13074 }{}
13075 }
13076 \end{warpprint}

```

91 xcolor boxes

`xcolor (Pkg)` A few new definitions are provided for enhanced HTML colored boxes, and `\fcolorbox` is slightly modified. Print-mode versions are also provided.

Print-mode versions of new `xcolor` definitions. These are defined inside `warpall` because they are also used for HTML while inside a `lateximage`. They are defined `\AtBeginDocument` so that the `xcolor` originals may first be loaded and saved for reuse.

The framed versions are modified to allow a background color of none, in which case only the frame is drawn, allowing the background page color to show.

for HTML & PRINT: `13077 \begin{warpall}`

After `xparse` may have been loaded ...

```
13078 \AtBeginDocument{

```

... and *only* if `xcolor` was loaded:

```
13079 \IfPackageLoadedTF{xcolor}{
13080 \LWR@traceinfo{patching xcolor}

```

The print version:

`\colorboxBlock` `\colorboxBlock` is the same as `\colorbox`:

```
13081 \LetLtxMacro\colorboxBlock\colorbox

```

The original definition is reused by the new versions:

```
13082 \LetLtxMacro\LWR@orig@print@fcolorbox\fcolorbox
```

```
\fcolorbox [<framemodel>] [<framecolor>] [<boxmodel>] [<boxcolor>] [<text>]
```

In print mode, `\fcolorbox` is modified to accept a background color of none.

(`\fcolorbox` is particular about its optional arguments, thus the elaborate combinations of `\ifthenelse`.)

```
13083 \newsavebox{\LWR@colorminipagebox}
```

```
13084
```

```
13085 \NewDocumentCommand{\LWR@print@fcolorbox}{o m o m +m}{%
```

```
13086   \LWR@traceinfo{\LWR@print@fcolorbox #2 #4}%
```

Pre-load the contents into an LR box so that they can be used inside a `\fcolorbox`:

```
13087   \begin{lrbox}{\LWR@colorminipagebox}%
```

```
13088   #5%
```

```
13089   \end{lrbox}%
```

Sort out the various optional arguments and the background color of none. In each case, the LRbox is placed inside a `\fcolorbox`.

The current color is remembered, then set to the frame, then the current color is used for the contents.

```
13090   \ifstrequal{#4}{none}%
```

```
13091   {% #4 none
```

```
13092     \LWR@traceinfo{background is none}%
```

```
13093     {% scope the \colorlet
```

```
13094       \colorlet{\LWR@currentcolor}{.}%
```

```
13095       \color{#2}%
```

```
13096       \fbox{%
```

```
13097         \color{\LWR@currentcolor}%
```

```
13098         \usebox{\LWR@colorminipagebox}%
```

```
13099       }% fbox
```

```
13100     }% colorlet
```

```
13101   }% #4 none
```

```
13102   {% #4 not none
```

```
13103     \LWR@traceinfo{background not none}%
```

```
13104     \IfValueTF{#1}%
```

```
13105     {%
```

```
13106       \IfValueTF{#3}%
```

```
13107       {\LWR@orig@print@fcolorbox[#1]{#2}[#3]{#4}{\usebox{\LWR@colorminipagebox}}}%
```

```
13108       {\LWR@orig@print@fcolorbox[#1]{#2}[#4]{\usebox{\LWR@colorminipagebox}}}%
```

```
13109     }%
```

```
13110     {% no value #1
```

```
13111       \IfValueTF{#3}%
```

```
13112       {\LWR@orig@print@fcolorbox[#2][#3]{#4}{\usebox{\LWR@colorminipagebox}}}%
```

```
13113       {\LWR@orig@print@fcolorbox[#2]{#4}{\usebox{\LWR@colorminipagebox}}}%
```

```
13114     }% no value #1
```

```
13115     }% #4 not none
```

```
13116     \LWR@traceinfo{\LWR@print@fcolorbox done}%
```

```
13117 }
```

```
13118 \renewrobustcmd*{\fcolorbox}{\LWR@print@fcolorbox}%
```

```
\fcolorboxBlock [<framemodel>] [<framecolor>] [<boxmodel>] [<boxcolor>] [<text>]
```

In print mode, \fcolorboxBlock is the same as \fcolorbox.

```
13119 \newcommand*\LWR@print@fcolorboxBlock{\LWR@print@fcolorbox}
```

```
13120 \newrobustcmd*\fcolorboxBlock{\LWR@print@fcolorboxBlock}
```

```
fcolorminipage (env.) [<1:framemodel>] [<2:framecolor>] [<3:boxmodel>] [<4:boxcolor>] [<5:align>]
[<6:height>] [<7:inner-align>] [<8:width>]
```

In print mode, becomes a \fcolorbox containing a minipage:

```
13121 \NewDocumentEnvironment{fcolorminipage}{o m o m O{c} O{ } o m}
```

```
13122 {%
```

```
13123   \LWR@traceinfo{*** fcolorminipage: #2 #4 #8}%
```

Pre-load the contents into an LR box so that they can be used inside a \fcolorbox:

```
13124   \begin{lrbox}{\LWR@colorminipagebox}%
```

If inner alignment is not given, use the outer alignment instead:

```
13125   \IfValueTF{#7}%
```

```
13126     {\begin{minipage}[#5][#6][#7]{#8}}%
```

```
13127     {\begin{minipage}[#5][#6][#5]{#8}}%
```

```
13128 }%
```

```
13129 {%
```

```
13130   \end{minipage}%
```

```
13131   \end{lrbox}%
```

```
13132   \LWR@traceinfo{*** starting end fcolorminipage #1 #2 #3 #4 #8}%
```

Sort out the various optional arguments and the background color of none. In each case, the LRbox is placed inside a \fcolorbox.

The current color is remembered, then set to the frame, then the current color is used for the contents.

```
13133   \ifstrequal{#4}{none}%
```

```
13134     {% #4 none
```

```
13135         {% scope the \colorlet
```

```
13136           \colorlet{\LWR@currentcolor}{.}%
```

```
13137           \color{#2}%
```

```
13138           \fbox{%
```

```
13139             \color{\LWR@currentcolor}%
```

```
13140             \usebox{\LWR@colorminipagebox}%
```

```
13141           }% fbox
```

```
13142         }% colorlet
```

```
13143     }% #4 none
```

```
13144     {% #4 not none
```

```
13145       \IfValueTF{#1}%
```

```
13146         {%
```

```
13147         \IfValueTF{#3}%
```

```
13148         {\LWR@orig@print@fcolorbox[#1]{#2}{#3}{#4}{\usebox{\LWR@colorminipagebox}}}%
```

```
13149         {\LWR@orig@print@fcolorbox[#1]{#2}{#4}{\usebox{\LWR@colorminipagebox}}}%
```

```
13150       }%
```

```
13151     {% no value #1
```

```
13152     \IfValueTF{#3}%
```

```

13153     {\LWR@orig@print@fcolorbox{#2}[#3]{#4}{\usebox{\LWR@colorminipagebox}}}%
13154     {\LWR@orig@print@fcolorbox{#2}{#4}{\usebox{\LWR@colorminipagebox}}}%
13155     }% no value #1
13156     }% #4 not none
13157     \LWR@traceinfo{*** finished end fcolorminipage}%
13158 }

```

`xcolor` is known to have been loaded, and provided HTML versions of the following, and the print versions are provide above, so now they may be `\LW@formatted`.

```

13159 \LWR@formatted{colorbox}
13160 \LWR@formatted{colorboxBlock}
13161 \LWR@formatted{fcolorbox}
13162 \LWR@formatted{fcolorboxBlock}
13163 \LWR@formattedenv{fcolorminipage}

13164 \LWR@traceinfo{xcolor patches done}
13165 }{}% xcolor loaded
13166 }% AtBeginDocument

13167 \end{warppall}

```

92 chemmacros environments

`\makepolymerdelims` and redox reactions must be enclosed in a `lateximage` during HTML output. These environments are provided here in print mode, and in the `chemmacros` code in HTML mode, as a high-level semantic syntax which automatically embeds the contents in a `lateximage` with an appropriate `alt` tag.

for PRINT output: 13168 `\begin{warpprint}`

```

13169 \AtBeginDocument{
13170 \IfPackageLoadedTF{chemmacros}{

```

Env `polymerdelims`

```

13171 \DeclareDocumentEnvironment{polymerdelims}{}
13172     {}{}

```

Env `redoxreaction`

`{\langle space above \rangle} {\langle space below \rangle}`

For print output, extra space is include above and below the image, and a `lateximage` is not necessary. This extra space must be enforced, even inside a float, so zero-width rules are used.

For the HTML version, see section [197.5](#).

```

13173 \DeclareDocumentEnvironment{redoxreaction}{m m}
13174     {\rule{0pt}{#1}}{\rule[-#2]{0pt}{#2}}

```

```

13175 }{}% chemmacros
13176 }% AtBeginDocument

```

```

13177 \end{warpprint}

```

93 cleveref

loading order `cleveref` and `lwarp-cleveref` with its associated macro patches are automatically preloaded at the end of the preamble via `\AtEndPreamble` and `\AfterEndPreamble`. This is done because the HTML conversion requires `cleveref`. The user's document may not require `cleveref`, thus the user may never explicitly load it, so during HTML output `lwarp` loads it last. If the user's document preamble uses `cleveref` options, or functions such as `\crefname`, then `cleveref` may be loaded in the user's preamble near the end, and `lwarp`'s additional loading of `cleveref` will have no effect.

`\AtEndPreamble` forces `cleveref` to be loaded last, if it has not yet been loaded by the user.

for HTML output:

```
13178 \begin{warpHTML}
13179
13180 \AtEndPreamble{
13181   \RequirePackage{cleveref}
13182 }
13183
13184 \end{warpHTML}
```

94 Preexisting label and reference definitions

Remember and patch some label-related definitions. These will be further encased and patched by other packages later.

`\label` and `\pageref` do NOT change their behavior according to print or HTML output, and thus do not use the `\LWR@formatted` system.

for HTML output: Not using `\VerifyCommand` for `\label` because various packages change `\label`.

```
13185 \begin{warpHTML}
13186
13187 \VerifyCommand[lwarp][latex]{\label}
13188   {3FB4D89D15FDC24A8AA3A2C581E3C48D}
13189
13190 \LetLtxMacro\LWR@orig@label\label
13191 \LetLtxMacro\label\LWR@new@label
13192
13193 \AtBeginDocument{%
13194 \LetLtxMacro\LWR@orig@pageref\pageref%
13195 \LetLtxMacro\pageref\LWR@new@pageref%
13196 }
```

`\label` `\Detokenize \@currentname\label` to avoid bug if math is in the name. Uses `lwarp` labels instead of `\@currentHref`.

```
13197 \xpatchcmd{\LWR@orig@label}
13198   {{\@currentlabelname}}
13199   {{\detokenize\expandafter{\@currentlabelname}}}
13200   {}
13201   {
13202     \PackageWarning{lwarp}{%
13203       Could not patch \string\label:\string\@currentlabelname.\MessageBreak
13204       This may cause an error with section names or float captions}\MessageBreak
```

```

13205             containing math, for example.\MessageBreak
13206             (Recent updates in the LaTeX kernel may make things work again%
13207             }
13208         }

13209 \end{warpHTML}

```

95 picture environment

`picture (env)` The `picture` environment is enclosed inside a `\lateximage`.

for HTML output: `13210 \begin{warpHTML}`

`picture (env)`

```


13211 \BeforeBeginEnvironment{picture}{\begin{lateximage}[picture]}
13212
13213 \AfterEndEnvironment{picture}{\end{lateximage}}

13214 \end{warpHTML}

```


96 Minipages and Boxes


A CSS flexbox is used for minipages and parboxes, allowing external and internal vertical positioning.

 **inline** A line of text with an inline minipage or `\parbox` will have the minipage or `\parbox` placed onto its own line, because a paragraph is a block element and cannot be made inline-block.

placement minipages and `\parboxes` will be placed side-by-side in HTML unless you place a `\newline` between them.

side-by-side Side-by-side minipages may be separated by `\quad`, `\qquad`, `\enskip`, `\hspace`, `\hfill`, or a `\rule`. When inside a `center` environment, the result is similar in print and HTML. Paragraph tags are suppressed between side-by-side minipages and these spacing commands, but not at the start or end of the paragraph.

 **minipage in a span** There is limited support for minipages inside an HTML ``. An HTML `<div>` cannot appear inside a ``. While in a ``, minipages, and `\parboxes`, and any enclosed lists have limited HTML tags, resulting in an “inline” format, without markup except for HTML breaks. Use `\newline` or `\par` for an HTML break.

 **minipage size** When using `minipage`, `\parbox`, and `fminipage`, a virtual 6×9 inch text area is used for `\linewidth`, `\textwidth`, and `\textheight`, both for sizing the minipage, and also for its contents.

if width is `\linewidth` If a minipage or `\parbox` is assigned a width of exactly `\linewidth`, in HTML it is automatically given no HTML width, thus allowed to fill the line as needed, similar to how it appears in print output.

full-width if HTML A new macro `\minipagefullwidth` requests that, during HTML output, the next

single minipage or `\parbox` be generated without an HTML width attribute, allowing it to be the full width of the display rather than the declared print-output width. This may be useful where the printed version's width makes no sense in HTML.

⚠ **tabular, multicols** Inside a `tabular` or `multicols` environment, where the width depends on the browser window, `\minipagefullwidth` is effectively used by default for every minipage or `\parbox` inside the environment. `\UseMinipageWidths` may be used to tell `lwarp` to honor the specified widths of all following minipages and `\parboxes` until the end of the local scope, and `\IgnoreMinipageWidths` may be used to tell `lwarp` to ignore the specified widths.

⚠ **multicol** Inside a `multicols`, `\linewidth` is divided by the specified number of columns.

⚠ **text alignment** Nested minipages adopt their parent's text alignment in HTML, whereas in regular L^AT_EX PDF output they do not. Use a `flushleft` or similar environment in the child minipage to force a text alignment.

for HTML output: 13215 `\begin{warpHTML}`

96.1 Computed lengths

`\LWR@minipagewidth (Len)` Used to convert the width into printable units.

```
13216 \newlength{\LWR@minipagewidth}
```

`\LWR@minipageheight (Len)` Used to convert the height into printable units.

```
13217 \newlength{\LWR@minipageheight}
```

96.2 Virtual page size

`LWR@virtualpagedepth (Ctr)` Used to only reset the line width at the outermost minipage.

```
13218 \newcounter{LWR@virtualpagedepth}
13219 \setcounter{LWR@virtualpagedepth}{0}
```

`LWR@setvirtualpage (env)` * [`<columns>`]

If not nesting a minipage, adjust `\linewidth`, `\textwidth`, and `\textheight` for a virtual 6×9 page, and start on a new PDF page to help prevent page overflows.

If starred, force a new page in the PDF before generating more HTML. This may be done to reduce the chance of page overflow when starting a new minipage.

The optional number of columns defaults to 1.

```
13220 \NewDocumentEnvironment{LWR@setvirtualpage}{s O{1}}{%
13221   \ifnumequal{\value{LWR@virtualpagedepth}}{0}{%
13222     \IfBooleanT{#1}{\LWR@maybeorignewpage}%
13223     \setlength{\linewidth}{6in/#2}%
13224     \setlength{\textwidth}{6in}%
13225     \setlength{\textheight}{9in}%
13226   }{%
13227     \addtocounter{LWR@virtualpagedepth}{1}%
```

```
13228 }
13229 {\addtocounter{LWR@virtualpagedePTH}{-1}}
```

96.3 Footnote handling

Also see section 62 for other forms of footnotes. Minipage footnotes are gathered in section 62.5, and then placed into the document in section 96.4.

96.4 Minipage handling

LWR@minipagefullwidth (*bool*) Should the next minipage have no HTML width?

```
13230 \newbool{LWR@minipagefullwidth}
13231 \boolfalse{LWR@minipagefullwidth}
```

LWR@forceminipagefullwidth (*bool*) Should the next minipage have no HTML width? Used to force full width for all minipages in an environment such as tabular or multicols, where the actual width depends on the browser width. Controlled by \useminipagewidths and \ignoreminipagewidths.

```
13232 \newbool{LWR@forceminipagefullwidth}
13233 \boolfalse{LWR@forceminipagefullwidth}
```

\minipagefullwidth Requests that the next minipage have no width tag in HTML:

for HTML output: 13234 \newcommand*{\minipagefullwidth}{\global\booltrue{LWR@minipagefullwidth}}

\UseMinipageWidths Locally requests that minipage widths be honored.

```
13235 \newcommand*{\UseMinipageWidths}{\boolfalse{LWR@forceminipagefullwidth}}
```

\IgnoreMinipageWidths Locally requests that minipage widths be ignored.

```
13236 \newcommand*{\IgnoreMinipageWidths}{\booltrue{LWR@forceminipagefullwidth}}
13237 \end{warpHTML}
```

for PRINT output: 13238 \begin{warpprint}
13239 \newcommand*{\minipagefullwidth}{}
13240 \newcommand*{\UseMinipageWidths}{}
13241 \newcommand*{\IgnoreMinipageWidths}{}
13242 \end{warpprint}

for HTML output: 13243 \begin{warpHTML}

LWR@minipagethispar (*bool*) Has a minipage been seen this paragraph? If true, prevents paragraph tags around horizontal space between minipages.

```
13244 \newbool{LWR@minipagethispar}
13245 \boolfalse{LWR@minipagethispar}
```


LWR@minipage@depth (*Ctrl*) Used to track whether to change footnote styles in a lateximage inside an HTML minipage.

```
13246 \newcounter{LWR@minipage@depth}
13247 \setcounter{LWR@minipage@depth}{0}
```

LWR@mpfootnote@store (*Ctrl*) Used to maintain minipage footnote number while nesting inside a lateximage.

```
13248 \newcounter{LWR@mpfootnote@store}
```

minipage (*env.*) [\langle vert position \rangle] [\langle height \rangle] [\langle inner vert position \rangle] [\langle width \rangle]

The vertical positions may be 'c', 't', or 'b'. The inner position may also be 's'.

When using \langle linewidth \rangle , \langle textwidth \rangle , or \langle textheight \rangle , these are scaled proportionally to a 6×9 inch text area.

```
13249 \NewDocumentEnvironment{LWR@HTML@sub@minipage}{m m m m}
13250 {%
13251 \LWR@traceinfo{minipage}%
```

Start an environment, in which width and height is computed based on a virtual page size instead of the extra-large PDF page used during HTML tag generation.

```
13252 \begin{LWR@setvirtualpage}*%
```

Save the requested width now that \langle linewidth \rangle , etc. are adjusted to virtual size.

```
13253 \setlength{\LWR@minipagewidth}{#4}%
13254 \ifnumequal{\value{LWR@virtualpagedepth}}{1}{%
13255   \addtolength{\LWR@minipagewidth}{3em}% room for frames
13256 }{%
13257 \LWR@traceinfo{computed width is \LWR@printlength{\LWR@minipagewidth}}%
```

Compute height:

```
13258 \setlength{\LWR@minipageheight}{\textheight}% default unless specified
13259 \ifblank{#2}{\setlength{\LWR@minipageheight}{#2}}%
```

L^AT_EX wants to start a paragraph for the virtual minipage, then start a paragraph again for the contents of the minipage, so cancel the paragraph tag handling until the minipage has begun.

```
13260 \ifbool{FormatWP}{\newline}{}%
13261 \LWR@stoppars%
```

If FormatWP, add a text frame:

```
13262 \ifbool{FormatWP}{%
13263
13264 \addtocounter{LWR@thisautoidWP}{1}%
13265 \LWR@htmltag%
13266   div id=\textquotedbl%
13267     \LWR@print@embox{autoidWP-\arabic{LWR@thisautoidWP}}%
13268   \textquotedbl\ % space
13269   class=\textquotedbl{}wminipage\textquotedbl%
13270 }%
```

13271
13272 }{}%

Create the <div> tag with optional alignment style:

```
13273 \LWR@traceinfo{minipage: creating div class}%
13274 \LWR@htmltag{div class=\textquotedbl{}minipage\textquotedbl\ style=\textquotedbl%
13275 \ifthenelse{\equal{#1}{t}}{\LWR@print@mbbox{vertical-align:bottom} ; }{}%
13276 \ifthenelse{\equal{#1}{c}}{\LWR@print@mbbox{vertical-align:middle} ; }{}%
13277 \ifthenelse{\equal{#1}{b}}{\LWR@print@mbbox{vertical-align:top} ; }{}%
13278 \ifthenelse{\equal{#3}{t}}{\LWR@print@mbbox{justify-content:flex-start} ; }{}%
13279 \ifthenelse{\equal{#3}{c}}{\LWR@print@mbbox{justify-content:center} ; }{}%
13280 \ifthenelse{\equal{#3}{b}}{\LWR@print@mbbox{justify-content:flex-end} ; }{}%
13281 \ifthenelse{\equal{#3}{s}}{\LWR@print@mbbox{justify-content:space-between} ; }{}%
```

Print the width and optional height styles:

```
13282 \LWR@traceinfo{minipage: about to print the width of \LWR@printlength{\LWR@minipagewidth}}%
13283 \ifbool{LWR@minipagefullwidth}%
13284 {\global\boolfalse{LWR@minipagefullwidth}}%
13285 {%
13286   \ifbool{LWR@forceminipagefullwidth}%
13287     {}%
13288     {%
13289       \ifdimequal{#4}{\linewidth}%
13290         {}%
13291         {width:\LWR@printlength{\LWR@minipagewidth} ; }%
13292     }%
13293 }%
13294 \LWR@traceinfo{minipage: about to print the height}%
13295 \ifblank{#2}{}{height:\LWR@printlength{\LWR@minipageheight} ; }%
13296 \textquotedbl%
13297 }%
```

Finish with an empty line to start the contents on a new line.

13298
13299 % The preceding empty line is required.

Set the user-accessible line and text width and height values inside the virtual minipage. These do not affect the actual size of the PDF output, but are used by any reference to `\linewidth`, etc. inside the virtual minipage being created here. `\LWR@minipagewidth` was the original then padded by 3em, which is restored here. This is done instead of settings back to #4, in case #4 was `\linewidth`, which was changed to 6in above.

```
13300 \ifnumequal{\value{LWR@virtualpagedepth}}{1}{}%
13301   \addtolength{\LWR@minipagewidth}{-3em}% undo frame padding
13302 }{}%
13303 \setlength{\linewidth}{\LWR@minipagewidth}%
```

`\raggedright` cancels hyphenation, which will be done by HTML instead.

13304 \LWR@print@raggedright%

13305 \LWR@newautopagelabel{page}%

Set minipage footnotes:

```

13306 \def\@mpfn{mpfootnote}%
13307 \def\thempfn{\thempfootnote}\c@mpfootnote\z@%
13308 \let\@footnotetext\@mpfootnotetext%

```

Track depth for lateximage footnote type:

```

13309 \addtocounter{LWR@minipage@depth}{1}%

```

Resume paragraph tag handling for the contents of the minipage:

```

13310 \LWR@startpars%
13311 \ifboolexpr{bool{FormatWP} and bool{WPMarkMinipages}}{%
13312
13313 === begin minipage ===
13314
13315 }{%
13316 \LWR@traceinfo{minipage: finished starting the minipage}%
13317 }% finished \minipage
13318 {% \endminipage

```

Print pending minipage footnotes:

```

13319 \LWR@printpendingmpfootnotes%

```

End the environment with closing tag:

```

13320 \ifboolexpr{bool{FormatWP} and bool{WPMarkMinipages}}{%
13321
13322 === end minipage ===
13323
13324 }{%
13325 \LWR@stoppars%
13326
13327 \ifbool{FormatWP}{%
13328
13329 \LWR@htmlElementend{div}%
13330
13331 }{%

```

Wrapup:

```

13332 \addtocounter{LWR@minipage@depth}{-1}%

13333 \LWR@htmlDivclassend{minipage}%
13334
13335 \end{LWR@setvirtualpage}%
13336 \LWR@startpars%
13337 \ifbool{FormatWP}{\newline}{%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

13338 \global\booltrue{LWR@minipagethispar}%
13339 \LWR@traceinfo{LWR@minipage: done}%
13340 }
13341

```

```

13342 \NewDocumentEnvironment{LWR@HTML@minipage}{O{t} O{} O{t} m}
13343   {\LWR@HTML@sub@minipage{#1}{#2}{#3}{#4}}
13344   {\endLWR@HTML@sub@minipage}
13345
13346 \LWR@formattedenv{minipage}

```

96.5 \parbox, \mbox, \makebox, \framebox, \fbox, \raisebox

for HTML output:

```
\parbox [pos] [height] [inner-pos] {width} {text}
```

A parbox uses the minipage code:

```

13347 \NewDocumentCommand{\LWR@HTML@parbox}{O{t} O{} O{t} m +m}
13348 {
13349 \LWR@traceinfo{parbox of width #4}%
13350 \begin{minipage}[#1][#2][#3]{#4}%
13351 #5
13352 \end{minipage}%
13353 }
13354
13355 \LWR@formatted{parbox}

```

\mbox {*text*} Nullified for HTML.

```

13356 \newcommand*{\LWR@HTML@mbox}[1]{#1}
13357
13358 \LWR@formatted{mbox}

```

\LWR@makebox@paren {*width*}, {*height*}

Adds to the style in \LWR@temptwo.

```

13359 \NewDocumentCommand{\LWR@makebox@paren}{m m}{%
13360 \IfValueTF{#2}{%
13361   \setlength{\LWR@tempwidth}{#1\unitlength}%
13362   \setlength{\LWR@tempheight}{#2\unitlength}%
13363   \appto{\LWR@temptwo}{%
13364     \LWR@print@mbox{width:\LWR@printlength{\LWR@tempwidth}} ; % space
13365     \LWR@print@mbox{height:\LWR@printlength{\LWR@tempheight}} ; % space
13366   }%
13367 }{%
13368   \PackageError{lwarp}%
13369     {(width,height) is missing a comma ',' character}%
13370     {\protect\makebox\space and \protect\framebox\space accept
13371       a size in the format (width,height).}%
13372 }%
13373 }

```

\LWR@makebox@align {*alignment character*}

Adds to the style in \LWR@temptwo.

```

13374 \newcommand*{\LWR@makebox@align}[1]{%
13375   \def\LWR@align{center}%

```

```

13376 \ifstrequal{#1}{l}{\def\LWR@align{left}}{}%
13377 \ifstrequal{#1}{r}{\def\LWR@align{right}}{}%
13378 \ifstrequal{#1}{s}{\def\LWR@align{justify}}{}%
13379 \appto{\LWR@temptwo}{%
13380 \LWR@print@embox{text-align:\LWR@align} ; %
13381 }%
13382 }

```

`\makebox (<width,height>) [<width>] [<pos>] {<text>}`

```
13383 \NewDocumentCommand{\LWR@HTML@makebox}{>\SplitArgument{1}{,}}d() o o +m}{%
```

Build the style depending on arguments:

```

13384 \begin{LWR@setvirtualpage}%
13385 \def\LWR@temptwo{}%
13386 \IfValueTF{#1}%
13387 {% (width,height) ..
13388 \LWR@makebox@paren #1%
13389 \IfValueT{#2}%
13390 {% (width,height) [posn]
13391 \LWR@makebox@align{#2}%
13392 }%
13393 }%
13394 {% [width]
13395 \IfValueT{#2}% [width]
13396 {%
13397 \setlength{\LWR@tempwidth}{#2}%
13398 \ifdimgreater{\LWR@tempwidth}{0pt}{%
13399 \appto{\LWR@temptwo}{%
13400 width:\LWR@printlength{\LWR@tempwidth} ; % space
13401 }%
13402 }{}%
13403 }%
13404 }%
13405 \IfValueT{#3}%
13406 {% [width] [posn]
13407 \LWR@makebox@align{#3}%
13408 }%
13409 \InlineClass[%
13410 \LWR@print@embox{display:inline-block} ; %
13411 \LWR@temptwo%
13412 ]%
13413 {makebox}%
13414 {#4}%
13415 \end{LWR@setvirtualpage}%
13416 }
13417 \LWR@formatted{makebox}

```

`\framebox (<width,height>) [<width>] [<pos>] {<text>}`

```

13418 \NewDocumentCommand{\LWR@HTML@framebox}{d() o o +m}{%
13419 \fbox{\makebox(#1)[#2][#3]{#4}}%
13420 }
13421
13422 \LWR@formatted{framebox}

```

`\LWR@forceminwidth {<legth>}`

Sets `\LWR@atleastonept` to be at least 1pt.

```

13423 \newlength{\LWR@atleastonept}
13424
13425 \newcommand*\LWR@forceminwidth}[1]{%
13426 \setlength{\LWR@atleastonept}{#1}%
13427 \ifthenelse{%
13428   \lengthtest{\LWR@atleastonept>0pt}\AND%
13429   \lengthtest{\LWR@atleastonept<1pt}%
13430 }%
13431   {\setlength{\LWR@atleastonept}{1pt}}%
13432   {}%
13433 }

```

`\LWR@fboxstyle` Prints the HTML attributes for a black border and padding.

`\LWR@forceminwidth` must be used first in order to set the border width.

```

13434 \newcommand*\LWR@fboxstyle}{%
13435   \LWR@findcurrenttextcolor%
13436   border:\LWR@printlength{\LWR@atleastonept} solid \LWR@origpound\LWR@tempcolor ; %
13437   padding:\LWR@printlength{\fboxsep} ; %
13438   color:\LWR@origpound\LWR@tempcolor%
13439 }

```

`\fbox` $\langle text \rangle$

Creates a framed inline span enclosing the text.

Create a new HTML version, but don't use it until after `xcolor` may have loaded:

```

13440 \newcommand{\LWR@HTML@fbox}[1]{%
13441   \LWR@traceinfo{HTML fbox}%
13442   \LWR@forceminwidth{\fboxrule}%
13443   \LWR@traceinfo{HTML fbox B}%
13444   \InlineClass[%
13445     \LWR@print@ebox{display:inline-block} ; %
13446     \LWR@fboxstyle%
13447   ]{fbox}{#1}%
13448   \LWR@traceinfo{HTML fbox: done}%
13449 }

```

`xcolor` \lets things to `\fbox` when it is loaded, and this must remain even for HTML output while in a `lateximage`, so `\fbox` is not modified until `\AtBeginDocument`:

```

13450 \AtBeginDocument{\LWR@formatted{fbox}}

```

`\fboxBlock` $\langle text \rangle$ Creates a framed HTML `<div>` of the text.

First, a print-mode version. This is newly defined for print mode, so it is defined inside `warpall`.

```

for HTML & PRINT: 13451 \end{warpHTML}
13452
13453 \begin{warpall}
13454 \let\fboxBlock\fbox
13455 \end{warpall}
13456

```

```
13457 \begin{warpHTML}
```

for HTML output: Next, an HTML version:

```
13458 \newcommand{\LWR@HTML@fboxBlock}[1]{%
13459 \LWR@forceminwidth{\fboxrule}%
13460 \LWR@stoppars%
13461 \begin{BlockClass}[\LWR@fboxstyle]{fboxBlock}
13462 #1
13463 \end{BlockClass}
13464 \LWR@startpars%
13465 }
13466
13467 \LWR@formatted{fboxBlock}
13468
13469 \end{warpHTML}
```

`fminipage (enu)` [*<align>*] [*<height>*] [*<align>*] {*<width>*}

Creates a framed HTML <div> around its contents.

for HTML & PRINT: Print version:

```
13470 \begin{warpall}
13471
13472 \newsavebox{\LWR@fminipagebox}
13473
13474 \NewDocumentEnvironment{fminipage}{0{t} o 0{t} m}
13475 {%
```

An outer minipage will be used for vertical alignment. An inner minipage will be framed with `\fbox`.

If the optional inner alignment is not given, use the outer instead:

```
13476 \IfValueTF{#3}%
13477 {\def\LWR@thisalign{#3}}
13478 {\def\LWR@thisalign{#1}}%
```

Form the outer minipage depending on whether a height was given. Make the outer minipage larger to compensate for the frame.

```
13479 \IfValueTF{#2}%
13480 {\minipage[#1][#2+2\fboxsep+2\fboxrule][\LWR@thisalign]{#4+2\fboxsep+2\fboxrule}}%
13481 {\minipage[#1]{#4+2\fboxsep+2\fboxrule}}%
```

Capture the contents of the environment:

```
13482 \begin{lrbox}{\LWR@fminipagebox}%
```

Nest the contents inside an inner minipage of the desired size:

```
13483 \IfValueTF{#2}%
13484 {\minipage[#1][#2][\LWR@thisalign]{#4}}%
13485 {\minipage[#1]{#4}}%
13486 }
13487 {%
```

Close the inner minipage and the LR box with the contents:

```
13488 \endminipage%
13489 \end{lrbox}%
```

Create a frame around the contents of the environment:

```
13490 \fbox{\usebox{\LWR@fminipagebox}}%
```

The entire thing is placed inside the outer minipage:

```
13491 \endminipage%
13492 }
13493 \end{warpall}
```

HTML version:

for HTML output:

```
13494 \begin{warpHTML}
13495
13496 \NewDocumentEnvironment{LWR@HTML@fminipage}{0{t} o 0{t} m}
13497 {%
13498 \LWR@traceinfo{fminipage #1 #2 #3 #4}%
```

Locally change to the virtual page size before processing the requested sizes:

```
13499 \begin{LWR@setvirtualpage}*%
13500 \setlength{\LWR@tempwidth}{#4}%
13501 \IfValueT{#2}{\setlength{\LWR@tempheight}{#2}}%
```

Use a rule of at least one pixel in width:

```
13502 \LWR@forceminwidth{\fboxrule}%

13503 \LWR@stoppars%

13504 \begin{BlockClass}[%
13505 \LWR@fboxstyle ; %
13506 \IfValueT{#2}{height:\LWR@printlength{\LWR@tempheight} ; }%
13507 \ifbool{LWR@minipagefullwidth}%
13508 {\global\boolfalse{LWR@minipagefullwidth}}%
13509 {%
13510     \ifbool{LWR@forceminipagefullwidth}%
13511         {}%
13512         {%
13513             \ifdimequal{\LWR@tempwidth}{\linewidth}%
13514                 {}%
13515                 {width:\LWR@printlength{\LWR@tempwidth} ; }%
13516         }%
13517 }%
13518 ]{fminipage}%
13519 }
13520 {%
13521 \end{BlockClass}%
13522 \end{LWR@setvirtualpage}%
```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```
13523 \global\booltrue{LWR@minipagethispar}%
13524 \LWR@traceinfo{fminipage done}%
```



```

13525 }
13526
13527 \LWR@formattedenv{fminipage}

```

`\raisebox` $\langle\textit{raiselen}\rangle$ $[\langle\textit{height}\rangle]$ $[\langle\textit{depth}\rangle]$ $\langle\textit{text}\rangle$


```


13528 \NewDocumentCommand{\LWR@HTML@raisebox}{m o o m}{%
13529 #4%
13530 }
13531
13532 \LWR@formatted{raisebox}

13533 \end{warpHTML}

```


97 Direct formatting


 **\bfseries, etc.** `\textbf`, etc. are supported, but `\bfseries`, etc. work only in some situations.

 **HTML special chars** `&`, `<`, and `>` have special meanings in HTML. If `\&`, `\textless`, and `\textgreater` are used, proper HTML entities will be used, but there may be HTML parsing problems if these special characters occur unescaped in program listings or other verbatim text.

program listings For program listings, the `listings` package is supported, and its `literate` option is used to automatically convert `&`, `<`, and `>` to proper HTML entities.

`minted` sanitizes HTML automatically by its `colorizing`, which splits the special characters from the rest of the tag.

 **verbatim** The `fancyvrb` and `fvextra` packages automatically sanitize HTML entities, but the core L^AT_EX `verbatim`-related environments do not, nor does the `verbatim` package, so care must be taken to avoid accidentally including valid HTML code inside these environments. It may be sufficient to add a space on either side of `&`, `<`, and `>`.

 **gobble** `fancyvrb` does not sanitize HTML when using the `gobble` option.

For high-level block and inline custom CSS classes, see section 54.10.

for HTML & PRINT: 13534 `\begin{warpall}`

`FixSmallCaps` (*bool*) User may set `FixSmallCaps` to `true` if small caps are being incorrectly rendered as all caps.

```

13535 \newbool{FixSmallCaps}
13536 \boolfalse{FixSmallCaps}

13537 \end{warpall}

```

for HTML output: 13538 `\begin{warpHTML}`

`\emph` $\langle\textit{text}\rangle$

```

13539 \DeclareRobustCommand{\LWR@HTML@emph}[1]{%
13540   {%

```

```

13541      \LWR@HTML@itshape%
13542      \LWR@htmlspan{em}{#1}%
13543    }%
13544  }
13545
13546 \LWR@formatted{emph}

```

`\textmd {<text>}`

```

13547 \DeclareRobustCommand{\LWR@HTML@textmd}[1]{%
13548   {%
13549     \LWR@HTML@mdseries%
13550     \InlineClass(font-weight:normal){textmd}{#1}%
13551   }%
13552 }
13553
13554 \LWR@formatted{textmd}

```

`\textbf {<text>}`

```

13555 \DeclareRobustCommand{\LWR@HTML@textbf}[1]{%
13556   {%
13557     \LWR@HTML@bfseries%
13558     \LWR@htmlspan{b}{#1}%
13559   }%
13560 }
13561
13562 \LWR@formatted{textbf}

```

`\texteb {<text>}` From `nfssect-cfr`.

```

13563 \AtBeginDocument{
13564 \IfPackageLoadedTF{nfssect-cfr}{
13565 \providerobustcmd{\texteb}[1]{
13566 \DeclareRobustCommand{\LWR@HTML@texteb}[1]{%
13567   {%
13568     \LWR@HTML@ebweight%
13569     \InlineClass{texteb}{#1}%
13570   }%
13571 }
13572 \LWR@formatted{texteb}
13573 }
13574 {% if not loaded
13575   \providerobustcmd{\texteb}[1]{
13576 }
13577 }

```

`\textlg {<text>}` From `nfssect-cfr`.

```

13578 \AtBeginDocument{
13579 \IfPackageLoadedTF{nfssect-cfr}{
13580 \providerobustcmd{\textlg}[1]{
13581 \DeclareRobustCommand{\LWR@HTML@textlg}[1]{%
13582   {%
13583     \LWR@HTML@lgweight%
13584     \InlineClass{textlg}{#1}%
13585   }%

```

```
13586 }
13587
13588 \LWR@formatted{textlg}
13589 }{% if not loaded
13590   \providerobustcmd{\textlg}[1]{ }
13591 }
13592 }
```

`\textrm {<text>}`

```
13593 \DeclareRobustCommand{\LWR@HTML@textrm}[1]{%
13594   {%
13595     \LWR@HTML@rmfamily%
13596     \InlineClass(font-family:serif){textrm}{#1}%
13597   }%
13598 }
13599
13600 \LWR@formatted{textrm}
```

`\textsf {<text>}`

```
13601 \DeclareRobustCommand{\LWR@HTML@textsf}[1]{%
13602   {%
13603     \LWR@HTML@sffamily%
13604     \InlineClass(font-family:sans){textsf}{#1}%
13605   }%
13606 }
13607
13608 \LWR@formatted{textsf}
```

`\texttt {<text>}`

```
13609 \DeclareRobustCommand{\LWR@HTML@texttt}[1]{%
13610   {%
13611     \LWR@HTML@ttfamily%
13612     \LWR@htmlspan{kbd}{#1}%
13613   }%
13614 }
13615
13616 \LWR@formatted{texttt}
```

`\textup {<text>}`

```
13617 \DeclareRobustCommand{\LWR@HTML@textup}[1]{%
13618   {%
13619     \LWR@HTML@upshape%
13620     \InlineClass(font-style:normal){textup}{#1}%
13621   }%
13622 }
13623
13624 \LWR@formatted{textup}
```

`\textit {<text>}`

```
13625 \DeclareRobustCommand{\LWR@HTML@textit}[1]{%
13626   {%
```

```

13627      \LWR@HTML@itshape%
13628      \LWR@htmlspan{i}{#1}%
13629      }%
13630    }
13631
13632 \LWR@formatted{textit}

```

`\textsc {<text>}`

```

13633 \DeclareRobustCommand{\LWR@HTML@textsc}[1]{%
13634   {%
13635     \LWR@HTML@scshape%
13636     \InlineClass{textsc}{#1}%
13637   }%
13638 }
13639
13640 \LWR@formatted{textsc}

```

`\textulc {<text>}` From fontaxes.

```

13641 \DeclareRobustCommand{\LWR@HTML@textulc}[1]{%
13642   {%
13643     \LWR@HTML@ulcshape%
13644     \InlineClass{textulc}{#1}%
13645   }%
13646 }
13647
13648 \LWR@formatted{textulc}

```

`\textsi {<text>}`

```

13649 \AtBeginDocument{
13650 \ifundefined{textsi}{
13651   \LetLtxMacro\LWR@print@textsi\LWR@print@textsc
13652 }{ }
13653
13654 \DeclareRobustCommand{\LWR@HTML@textsi}[1]{%
13655   {%
13656     \LWR@HTML@sishape%
13657     \textsc{\textit{#1}}%
13658     \InlineClass(
13659       font-style: italic;
13660       font-variant: small-caps ;
13661       font-variant-numeric: oldstyle-nums ;
13662     ){textsi}{#1}%
13663   }%
13664 }
13665
13666 \LWR@formatted{textsi}
13667 }

```

`\textsl {<text>}`

```

13668 \DeclareRobustCommand{\LWR@HTML@textsl}[1]{%
13669   {%
13670     \slshape%
13671     \InlineClass(font-style:oblique){textsl}{#1}%

```

```

13672   }%
13673 }
13674
13675 \LWR@formatted{textsl}

```

`\textssc {<text>}`

```

13676 \newrobustcmd{\LWR@HTML@textssc}[1]{\textsc{#1}}
13677 \LWR@formatted{textssc}

```

`\textnormal {<text>}`

```

13678 \DeclareRobustCommand{\LWR@HTML@textnormal}[1]{%
13679     \LWR@HTML@mdseries%
13680     \LWR@HTML@rmfamily%
13681     \LWR@HTML@upshape%
13682     \LWR@HTML@ulcshape%
13683     \InlineClass(%
13684         font-weight: normal;
13685         font-family: serif;
13686         font-style: normal;
13687         font-variant: normal;
13688         font-variant-numeric: normal ;
13689     ){textnormal}{#1}%
13690 }
13691
13692 \LWR@formatted{textnormal}

```

```

13693 \FilenameNullify{%
13694     \LetLtxMacro\emph\@firstofone%
13695     \LetLtxMacro\textmd\@firstofone%
13696     \LetLtxMacro\textbf\@firstofone%
13697     \LetLtxMacro\texteb\@firstofone%
13698     \LetLtxMacro\textlg\@firstofone%
13699     \LetLtxMacro\textrm\@firstofone%
13700     \LetLtxMacro\textsf\@firstofone%
13701     \LetLtxMacro\texttt\@firstofone%
13702     \LetLtxMacro\textup\@firstofone%
13703     \LetLtxMacro\textit\@firstofone%
13704     \LetLtxMacro\textsc\@firstofone%
13705     \LetLtxMacro\textulc\@firstofone%
13706     \LetLtxMacro\textsi\@firstofone%
13707     \LetLtxMacro\textsl\@firstofone%
13708     \LetLtxMacro\textssc\@firstofone%
13709     \LetLtxMacro\textnormal\@firstofone%
13710 }

```

Remembers the current font family, series, and shape. fontaxes support is integrated here.

```

13711 \newcommand*{\LWR@f@family}{rm}
13712 \newcommand*{\LWR@f@series}{md}
13713 \newcommand*{\LWR@f@shape}{up}
13714 \newcommand*{\LWR@f@shapecaps}{ulc}

```

`\LWR@textcurrentfont {<text>}`

Prints the text with the current font choices. Avoids nesting repeated font selections.

```

13715 \newcounter{LWR@textcurrentfontdepth}
13716 \setcounter{LWR@textcurrentfontdepth}{0}
13717
13718 \newcommand*{\LWR@textcurrentfont}[1]{%
13719     \ifnumcomp{\value{LWR@textcurrentfontdepth}}{>}{0}%
13720         {%
13721             \addtocounter{LWR@textcurrentfontdepth}{1}%
13722             #1%
13723             \addtocounter{LWR@textcurrentfontdepth}{-1}%
13724         }%
13725     {%
13726         \addtocounter{LWR@textcurrentfontdepth}{1}%
13727         \ifboolexpr{%
13728             test {\ifdefstring{\LWR@f@family}{rm}} and
13729             test {\ifdefstring{\LWR@f@series}{md}} and
13730             test {\ifdefstring{\LWR@f@shape}{up}} and
13731             test {\ifdefstring{\LWR@f@shapecaps}{ulc}}
13732         }%
13733         {\InlineClass{textnormal}{#1}}%
13734         {%
13735             \InlineClass{%
13736                 text\LWR@f@family\LWR@orignobreakspace{%
13737                 text\LWR@f@series\LWR@orignobreakspace{%
13738                 text\LWR@f@shape\LWR@orignobreakspace{%
13739                 text\LWR@f@shapecaps%
13740                 }%
13741                 {#1}%
13742             }%
13743             \addtocounter{LWR@textcurrentfontdepth}{-1}%
13744         }%
13745 }

```

`LWR@blocktextcurrentfont` (*env.*) Prints the contents with the current font choices.

```

13746 \newenvironment*{LWR@blocktextcurrentfont}{%
13747 \LWR@stoppars%
13748 \BlockClass{%
13749     text\LWR@f@family\LWR@orignobreakspace{%
13750     text\LWR@f@series\LWR@orignobreakspace{%
13751     text\LWR@f@shape\LWR@orignobreakspace{%
13752     text\LWR@f@shapecaps%
13753     }%
13754 }{\endBlockClass\LWR@startpars}

```

`\mdseries`

```

13755 \newrobustcmd*{\LWR@HTML@mdseries}{%
13756     \LWR@print@mdseries%
13757     \renewcommand*{\LWR@f@series}{md}%
13758 }
13759 \LWR@formatted{mdseries}

```

`\bfseries`

```
13760 \newrobustcmd*{\LWR@HTML@bfseries}{%
13761   \LWR@print@bfseries%
13762   \renewcommand*{\LWR@f@series}{bf}%
13763 }
13764 \LWR@formatted{bfseries}
```

\ebweight From nfssect-cfr.

```
13765 \AtBeginDocument{
13766 \IfPackageLoadedTF{nfssect-cfr}{
13767 \providerobustcmd{\ebweight}{}
13768 \newrobustcmd*{\LWR@HTML@ebweight}{%
13769   \LWR@print@ebweight%
13770   \renewcommand*{\LWR@f@series}{eb}%
13771 }
13772 \LWR@formatted{ebweight}
13773 }{}
13774 }
```

\lgweight From nfssect-cfr.

```
13775 \AtBeginDocument{
13776 \IfPackageLoadedTF{nfssect-cfr}{
13777 \providerobustcmd{\lgweight}{}
13778 \newrobustcmd*{\LWR@HTML@lgweight}{%
13779   \LWR@print@lgweight%
13780   \renewcommand*{\LWR@f@series}{lg}%
13781 }
13782 \LWR@formatted{lgweight}
13783 }{}
13784 }
```

\rmfamily

```
13785 \newrobustcmd*{\LWR@HTML@rmfamily}{%
13786   \LWR@print@rmfamily%
13787   \renewcommand*{\LWR@f@family}{rm}%
13788 }
13789 \LWR@formatted{rmfamily}
```

\sffamily

```
13790 \newrobustcmd*{\LWR@HTML@sffamily}{%
13791   \LWR@print@sffamily%
13792   \renewcommand*{\LWR@f@family}{sf}%
13793 }
13794 \LWR@formatted{sffamily}
```

\ttfamily

```
13795 \newrobustcmd*{\LWR@HTML@ttfamily}{%
13796   \LWR@print@ttfamily%
13797   \renewcommand*{\LWR@f@family}{tt}%
13798 }
13799 \LWR@formatted{ttfamily}
```

The following use `\AtBeginDocument` due to the L^AT_EX core `\reinstall@nfss@defs`, which redefines these `\AtBeginDocument`. See **texdoc source2e**.

`\upshape`

```
13800 \newrobustcmd*{\LWR@HTML@upshape}{%
13801   \LWR@print@upshape%
13802   \renewcommand*{\LWR@f@shape}{up}%
13803 }
13804 \AtBeginDocument{\LWR@formatted{upshape}}
```

`\itshape`

```
13805 \newrobustcmd*{\LWR@HTML@itshape}{%
13806   \LWR@print@itshape%
13807   \renewcommand*{\LWR@f@shape}{it}%
13808 }
13809 \AtBeginDocument{\LWR@formatted{itshape}}
```

`\scshape` Note: `\LWR@print@scshape` is not used here since some fonts, such as `erewhon`, copy/paste as all-caps.

```
13810 \newrobustcmd*{\LWR@HTML@scshape}{%
13811   \ifbool{FixSmallCaps}{%
13812     \LWR@print@scshape%
13813   }%
13814   \renewcommand*{\LWR@f@shapecaps}{sc}%
13815 }
13816 \AtBeginDocument{\LWR@formatted{scshape}}
```

`\ulcshape` From `fontaxes`.

```
13817 \@ifundefined{ulcshape}{
13818   \LetLtxMacro\ulcshape\upshape
13819 }{}
13820 \newrobustcmd*{\LWR@HTML@ulcshape}{%
13821   \LWR@print@ulcshape%
13822   \renewcommand*{\LWR@f@shapecaps}{ulc}%
13823 }
13824 \AtBeginDocument{\LWR@formatted{ulcshape}}
```

`\sishape`

```
13825 \@ifundefined{sishape}{
13826   \LetLtxMacro\sishape\scshape
13827 }{}
13828 \newrobustcmd*{\LWR@HTML@sishape}{%
13829   \ifbool{FixSmallCaps}{%
13830     \LWR@print@sishape%
13831   }%
13832   \renewcommand*{\LWR@f@shape}{it}
13833   \renewcommand*{\LWR@f@shapecaps}{sc}%
13834 }
13835 \AtBeginDocument{\LWR@formatted{sishape}}
```


`\slshape`

```

13836 \newrobustcmd*{\LWR@HTML@slshape}{%
13837   \LWR@print@slshape%
13838   \renewcommand*{\LWR@f@shape}{sl}%
13839 }
13840 \AtBeginDocument{\LWR@formatted{slshape}}

```

`\sscshape`

```

13841 \newrobustcmd{\LWR@HTML@sscshape}{\LWR@HTML@scshape}
13842 \AtBeginDocument{\LWR@formatted{sscshape}}

```

`\normalfont`

```

13843 \newrobustcmd*{\LWR@HTML@normalfont}{\rmfamily\mdseries\upshape\ulcshape}
13844 \LWR@formatted{normalfont}

```

```

13845 \FilenameNullify{%
13846   \LetLtxMacro\rmfamily\@empty%
13847   \LetLtxMacro\sffamily\@empty%
13848   \LetLtxMacro\ttfamily\@empty%
13849   \LetLtxMacro\bfseries\@empty%
13850   \LetLtxMacro\ebweight\@empty%
13851   \LetLtxMacro\lgweight\@empty%
13852   \LetLtxMacro\mdseries\@empty%
13853   \LetLtxMacro\upshape\@empty%
13854   \LetLtxMacro\slshape\@empty%
13855   \LetLtxMacro\sishape\@empty%
13856   \LetLtxMacro\scshape\@empty%
13857   \LetLtxMacro\itshape\@empty%
13858   \LetLtxMacro\ulcshape\@empty%
13859   \LetLtxMacro\sscshape\@empty%
13860   \LetLtxMacro\normalfont\@empty%
13861 }

```

`\sp {<text>}`

For siunitx-v2. Must work in math mode.

```
13862 \renewcommand{\sp}[1]{\text{<sup>#1</sup>}}
```

`\sb {<text>}`

For siunitx-v2. Must work in math mode.

```
13863 \renewcommand{\sb}[1]{\text{<sub>#1</sub>}}
```

`\textsuperscript {<text>}`

```

13864 \newrobustcmd{\LWR@HTML@textsuperscript}[1]{\LWR@htmlspan{sup}{#1}}
13865 \LWR@formatted{textsuperscript}

```

`\@textsuperscript {<text>}`

```

13866 \newcommand{\LWR@HTML@textsuperscript}[1]{\LWR@htmlspan{sup}{#1}}
13867 \LWR@formatted{@textsuperscript}

```

`\textsubscript` $\langle text \rangle$

```
13868 \newrobustcmd{\LWR@HTML@textsubscript}[1]{\LWR@htmlspan{sub}{#1}}
13869 \LWR@formatted{textsubscript}
```

`\@textsubscript` $\langle text \rangle$

```
13870 \newcommand{\LWR@HTML@@textsubscript}[1]{\LWR@htmlspan{sub}{#1}}
13871 \LWR@formatted{@textsubscript}
```

`\up` $\langle text \rangle$ Prints superscript.

This is `\let` at the beginning of the document in case some other package has changed the definition.

```
13872 \AtBeginDocument{\let\up\textsuperscript}
```

`\fup` $\langle text \rangle$ Prints superscript.

Supports `fntcount` package.

This is `\let` at the beginning of the document in case some other package has changed the definition.

```
13873 \AtBeginDocument{\let\fup\textsuperscript}
```

`\underline` $\langle text \rangle$

```
13874 \renewcommand{\underline}[1]{%
13875   \InlineClass%
13876   (text-decoration:underline; text-decoration-skip: auto)%
13877   {underline}{#1}%
13878 }
```

`\LWR@overline` $\langle text \rangle$

```
13879 \newcommand{\LWR@overline}[1]{%
13880   \InlineClass%
13881   (text-decoration:overline; text-decoration-skip: auto)%
13882   {overline}{#1}%
13883 }
```

`\LWR@currenttextcolor` The color to use for text and `\rule`, defaulting to black:

```
13884 \newcommand*{\LWR@currenttextcolor}{black}
```

`\LWR@tempcolor` The color converted to HTML colorspace.

`\LWR@tempcolortwo`

```
13885 \newcommand*{\LWR@tempcolor}{}
13886 \newcommand*{\LWR@tempcolortwo}{}

```

`\LWR@findcurrenttextcolor` Sets `\LWR@tempcolor` to the current color.

```

13887 \newcommand*\LWR@findcurrenttextcolor{%
13888   \renewcommand{\LWR@tempcolor}{000000}%
13889 }

```

`\LWR@textcurrentcolor` $\langle text \rangle$ Like `\textcolor` but uses the current `\color` instead.

```

13890 \NewDocumentCommand{\LWR@textcurrentcolor}{m}{%
13891   \renewcommand*\LWR@currenttextcolor}{black}%
13892   #1%
13893 }

```

```
13894 \end{warppHTML}
```

for PRINT output: 13895 `\begin{warpprint}`

`\LWR@textcurrentfont` $\langle text \rangle$

Prints the text with the current font choices.

```
13896 \newcommand*\LWR@textcurrentfont[1]{#1}
```

`LWR@blocktextcurrentfont` (*env*) Prints the contents with the current font choices.

```
13897 \newenvironment*\LWR@blocktextcurrentfont{}{}
```

`\FilenameNullify` $\langle macros\ to\ nullify \rangle$

```
13898 \newcommand*\FilenameNullify[1]{}

```

```
13899 \end{warpprint}
```

98 Skips, spaces, font sizes

for HTML output: 13900 `\begin{warppHTML}`

`LWR@HTMLsanitize@nobreakspace` Used to disable the `nbsp` entity inside verbatims `<pre>` sections, but not inside (*bool*) inline verbatims where spacing must be preserved by `<nbsp>`.

(`\fvextra` used ~ which showed as `<nbsp>`.)

```

13901 \newbool{\LWR@HTMLsanitize@nobreakspace}
13902 \booltrue{\LWR@HTMLsanitize@nobreakspace}

```

`\`, and `\thinspace` may be redefined by other packages, so are redefined `\AtBeginDocument` here.

Direct-formatting space commands become HTML entities:

```

13903 \AtBeginDocument{%
13904 %
13905 \renewrobustcmd*\,}{\HTMLUnicode{202f}}% HTML thin non-breakable space, not using LWR@formatted
13906 %

```

```

13907 \newrobustcmd*{\LWR@HTML@thinspace}{\HTMLUnicode{202f}}% HTML thin non-breakable space
13908 \LWR@formatted{thinspace}
13909 %
13910 \newrobustcmd*{\LWR@HTML@negthinspace}{\HTMLUnicode{202f}} % HTML thin non-breakable space
13911 \LWR@formatted{negthinspace}

```

Cannot use \LWR@formatted for ~ or \nobreakspace.

```

13912 \renewrobustcmd*{~}{%
13913     \ifbool{LWR@HTML@sanitize@nobreakspace}%
13914         {\leavevmode\nobreak\HTMLentity{nbsp}}%
13915         {\LWR@originobreakspace}%
13916 }
13917
13918 \LetLtxMacro\nobreakspace~

```

\?-\nobreakspace seems to be necessary for packages such as ctexbook, where this is used at the end of the document.

```

13919 \expandafter\LetLtxMacro\csname ?-\string\nobreakspace\endcsname~

13920 \newrobustcmd*{\LWR@HTML@textellipsis}{\HTMLUnicode{2026}}
13921 \LWR@formatted{textellipsis}
13922 %
13923 \newrobustcmd*{\LWR@HTML@vdots}{\HTMLUnicode{22EE}}
13924 \LWR@formatted{vdots}
13925 %
13926 }% AtBeginDocument

```

Direct-formatting font sizes are remembered for future use:

```

13927 \newcommand*{\LWR@font@size}{normalsize}
13928
13929 \newrobustcmd*{\LWR@HTML@normalsize}{\renewcommand*{\LWR@font@size}{normalsize}}
13930 \LWR@formatted{normalsize}
13931
13932 \newrobustcmd*{\LWR@HTML@small}{\renewcommand*{\LWR@font@size}{small}}
13933 \LWR@formatted{small}
13934
13935 \newrobustcmd*{\LWR@HTML@footnotesize}{\renewcommand*{\LWR@font@size}{footnotesize}}
13936 \LWR@formatted{footnotesize}
13937
13938 \newrobustcmd*{\LWR@HTML@scriptsize}{\renewcommand*{\LWR@font@size}{scriptsize}}
13939 \LWR@formatted{scriptsize}
13940
13941 \newrobustcmd*{\LWR@HTML@tiny}{\renewcommand*{\LWR@font@size}{tiny}}
13942 \LWR@formatted{tiny}
13943
13944 \newrobustcmd*{\LWR@HTML@large}{\renewcommand*{\LWR@font@size}{large}}
13945 \LWR@formatted{large}
13946
13947 \newrobustcmd*{\LWR@HTML@Large}{\renewcommand*{\LWR@font@size}{Large}}
13948 \LWR@formatted{Large}
13949
13950 \newrobustcmd*{\LWR@HTML@LARGE}{\renewcommand*{\LWR@font@size}{LARGE}}
13951 \LWR@formatted{LARGE}
13952
13953 \newrobustcmd*{\LWR@HTML@huge}{\renewcommand*{\LWR@font@size}{huge}}
13954 \LWR@formatted{huge}

```

```

13955
13956 \newrobustcmd*{\LWR@HTML@Huge}{\renewcommand*{\LWR@font@size}{Huge}}
13957 \LWR@formatted{Huge}

```

```

13958 \DeclareDocumentCommand{\onecolumn}{}{}
13959
13960 \DeclareDocumentCommand{\twocolumn}{0{}}{
13961
13962 #1
13963
13964 }

```

\hfill

```

13965 \newcommand*{\LWR@HTML@hfill}{\quad}
13966 \LWR@formatted{hfill}

```

\hrulefill

```

13967 \newcommand*{\LWR@HTML@hrulefill}{%
13968   \ifbool{\LWR@doingapar}%
13969     {\rule{1in}{1pt}}%
13970     {%
13971       \LWR@findcurrenttextcolor%
13972       \ifdefstring{\LWR@tempcolor}{000000}%
13973       {%
13974         \begin{BlockClass}{hrule}%
13975         \end{BlockClass}%
13976       }%
13977       {%
13978         \begin{BlockClass}[%
13979           border-top: 1px solid \LWR@origpound\LWR@tempcolor % space
13980         ]{hrule}%
13981         \end{BlockClass}%
13982       }%
13983     }%
13984 }%
13985 \LWR@formatted{hrulefill}

```

\dotfill

```

13986 \newcommand*{\LWR@HTML@dotfill}{\dots}
13987 \LWR@formatted{dotfill}

```

\newpage Not \LWR@foramttd since cannot be used inside a lateximage anyhow.

```

13988 \renewcommand*{\newpage}{
13989
13990 }

```

\newline Uses the HTML
 element.

```

13991 \newrobustcmd*{\LWR@newlinebr}{\unskip\LWR@htmltag{br /}\LWR@orignewline}%
13992 \LetLtxMacro\newline\LWR@newlinebr

```

\\ Redefined to \LWR@endofline or \LWR@tabularendofline.

`\LWR@endofline * [len]`

`\` is assigned to `\LWR@endofline` at `\LWR@LwarpStart`.

Inside `tabular`, `\` is temporarily changed to `\LWR@tabularendofline`.

```

13993 \LetLtxMacro\LWR@origendofline\
13994 \NewDocumentCommand{\LWR@endofline}{s O{0pt}}
13995 {%
13996 \newline%

13997 \setlength{\LWR@templengthone}{#2}%
13998 \ifdimgreater{\LWR@templengthone}{0pt}{\newline}{}%
13999 }

```

`\LWR@minipagestartpars` Minipages are often placed side-by-side inside figures, with a bit of horizontal space to separate them. Since `HTML` does not allow a `<div>` to be inside a `p`, paragraphs must be turned off during the generation of the minipage, then turned on after the minipage is complete. When this occurs between side-by-side minipages, `lwarp` correctly suppresses the paragraph tags between the minipages, unless some other text is between the minipages. Such text forms its own paragraph, resulting in text after a minipage to be on its own line. Since people often place small horizontal space between minipages, it is desirable to maintain this space if possible. `lwarp` tries to do this by remembering that a minipage has been seen, in which case paragraph tags are suppressed around `\hspace`, `\enskip`, `\quad`, and `\qqquad` until the end of the paragraph, when the closing `p` tag is created.

`\hspace`
`\enskip`
`\quad`
`\qqquad`

When a minipage is seen, the boolean `LWR@minipagethispar` is set, telling the following horizontal whitespace commands to try to suppress their surrounding paragraph tags. `LWR@minipagethispar` is cleared at the next end of paragraph, when the `HTML` paragraph closing tag is generated.

Placed just before `\hspace`, `\quad`, or `\qqquad`'s `HTML` output.

```

14000 \newcommand*{\LWR@minipagestartpars}{%
14001   \ifbool{LWR@minipagethispar}{\LWR@startpars}}%
14002 }

```

`\LWR@minipagestoppars` Placed just after `\hspace`, `\quad`, or `\qqquad`'s `HTML` output.

```

14003 \newcommand*{\LWR@minipagestoppars}{%
14004   \ifbool{LWR@minipagethispar}{\LWR@stoppars}}%
14005 }

```

`\quad` Handles special minipage & horizontal space interactions. Uses `2003 EM SPACE` to pass validation.

```

14006 \newrobustcmd*{\LWR@HTML@quad}{%
14007   \LWR@minipagestoppars%
14008   \HTMLunicode{2003}%
14009   \LWR@minipagestartpars%
14010 }
14011 \LWR@formatted{quad}

```

`\qqquad` Handles special minipage & horizontal space interactions.

```
14012 \newrobustcmd*{\LWR@HTML@qquad}{\quad\quad}
14013 \LWR@formatted{qquad}
```

`\enskip` Handles special minipage & horizontal space interactions.

```
14014 \newrobustcmd*{\LWR@HTML@enskip}{%
14015   \LWR@minipagestoppars%
14016   \HTMLunicode{2002}%
14017   \LWR@minipagestartpars%
14018 }
14019 \LWR@formatted{enskip}
```

`\LWR@tempwidth` (*Len*) Used to compute span width, height, raise for `\hspace` and `\rule`:

```
\LWR@tempheight (Len)
14020 \newlength{\LWR@tempwidth}
\LWR@tempraise (Len)
14021 \newlength{\LWR@tempheight}
14022 \newlength{\LWR@tempraise}
```

`\hspace * {<length>} * {<length>}`

Handles special minipage & horizontal space interactions.

Prints a span of a given width. Ignores the optional star.

`\hspace{\fill}` is converted to `\hspace{2em}`, equal to `\qquad`.

```
14023 \NewDocumentCommand{\LWR@HTML@hspace}{s m}{%
14024 \setlength{\LWR@tempwidth}{#2}%
```

If `\fill`, change to `\qquad`:

```
14025 \ifnum\gluestretchorder\LWR@tempwidth>0%
14026 \setlength{\LWR@tempwidth}{2em}%
14027 \fi%
```

Only if the width is greater than zero:

```
14028 \ifdimcomp{\LWR@tempwidth}{>}{0pt}{%
```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```
14029   \LWR@minipagestoppars%
```

Support the HTML thin wrappable space:

```
14030   \ifdimcomp{\LWR@tempwidth}{=}{.16667em}%
14031   {%
14032     \HTMLunicode{2009}% thin breakable space
14033   }%
```

Print the span with the converted width. Not rounded.

```
14034   {%
14035     \LWR@htmltagc{%
14036     span style=\textquotedbl{}width:\LWR@printlength{\LWR@tempwidth}; % extra space
14037     display:inline-block\textquotedbl%
14038   }%
```

If formatting for a word processor, approximate with a number of `\quads`, in case a span of a given width is not supported:

```

14039     \ifbool{FormatWP}{%
14040         \setlength{\LWR@templengthone}{\LWR@tempwidth}%
14041         \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
14042             \quad%
14043             \addtolength{\LWR@templengthone}{-1em}%
14044         }%
14045     }%

```

If NOT formatting for a word processor, include an empty comment to avoid an empty span:

```

14046     {\LWR@htmlcomment{}}%

```

Close the span:

```

14047     \LWR@htmltag{/span}%
14048 }%

```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```

14049     \LWR@minipagestartpars%
14050 }{}% width greater than 0
14051 }%
14052 \LWR@formatted{hspace}

```

`\LWR@vspace * {<length>}` Nullified vspace.

```

14053 \NewDocumentCommand{\LWR@HTML@vspace}{s m}{}
14054
14055 \LWR@formatted{vspace}

```

`\linebreak [<num>]` Inserts an HTML br tag.

```

14056 \renewcommand*{\linebreak}[1][\newline}

```

`\nolinebreak [<num>]`

```

14057 \renewcommand*{\nolinebreak}[1][{}

```

`\pagebreak [<num>]` Starts a new paragraph.

```

14058 \renewcommand*{\pagebreak}[1][{}
14059
14060 }

```

`\nopagebreak [<num>]`

```

14061 \renewcommand*{\nopagebreak}[1][{}

```

`\enlargethispage * {<len>}`

```

14062 \RenewDocumentCommand{\enlargethispage}{s m}{}

```



```

\clearpage
\cleardoublepage
14063 \renewcommand*\clearpage{}
14064 \renewcommand*\cleardoublepage{}

```

```
\rule [⟨raise⟩] {⟨width⟩} {⟨height⟩}
```

Handles special minipage & horizontal space interactions.

Creates a span of a given width and height. Ignores the optional star.

`\fill` is zero-width, so `\hspace{\fill}` is ignored.

```
14065 \newcommand*\LWR@HTML@rule}[3][[]]{%
```

The width is copied into a temporary L^AT_EX length, from which comparisons and conversions may be made:

```
14066 \setlength{\LWR@tempwidth}{#2}%
```

If it's zero-width then skip the entire rule:

```
14067 \ifthenelse{\lengthtest{\LWR@tempwidth=0pt}}%
```

```
14068 {}% zero- width
```

```
14069 {}% non-zero width
```

If it's non-zero width, set a minimal thickness so that it more reliably shows in the browser:

```

14070 \ifthenelse{%
14071     \lengthtest{\LWR@tempwidth>0pt}\AND%
14072     \lengthtest{\LWR@tempwidth<1pt}%
14073 }%
14074     {\setlength{\LWR@tempwidth}{1pt}}%
14075     {}%

```

Likewise with height:

```

14076 \setlength{\LWR@tempheight}{#3}%
14077 \ifthenelse{%
14078     \lengthtest{\LWR@tempheight>0pt}\AND%
14079     \lengthtest{\LWR@tempheight<1pt}%
14080 }%
14081     {\setlength{\LWR@tempheight}{1pt}}%
14082     {}%

```

If had a minipage this paragraph, try to inline the rule without generating paragraph tags:

```
14083 \LWR@minipagestoppar%
```

Print the span with the converted width and height. The width and height are NOT rounded, since a height of less than 1pt is quite common in L^AT_EX code.

```

14084 \LWR@findcurrenttextcolor%
14085 \LWR@htmltagc{%
14086 span\LWR@indentHTML%
14087 style=\textquotedbl%

```

The HTML background color is used to draw the filled rule according to the L^AT_EX foreground color set by `\textcolor`.

```
14088 \ifbool{FormatWP}{background:\LWR@currenttextcolor ; }%
```

The width and height are printed, converted to PT:

```
14089 width:\LWR@printlength{\LWR@tempwidth} ; %
14090 height:\LWR@printlength{\LWR@tempheight} ; %
```

The raise height is converted to a CSS transform. The *2 raise multiplier is to approximately match HTML output's X height. Conversion to a L^AT_EX length allows a typical L^AT_EX expression to be used as an argument for the raise, whereas printing the raise argument directly to HTML output without conversion to a L^AT_EX length limits the allowable syntax. To do: A superior method would compute a ratio of L^AT_EX ex height, then print that to HTML with an ex unit.

```
14091 \ifblank{#1}%
14092 {}%
14093 {%
14094     \setlength{\LWR@tempraise}{0pt-#1}%
14095     \setlength{\LWR@tempraise}{\LWR@tempraise*2}%
14096     \LWR@indentHTML%
14097     -ms-transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
14098     \LWR@indentHTML%
14099     -webkit-transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
14100     \LWR@indentHTML%
14101     transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
14102     \LWR@indentHTML%
14103 }%
```

Display inline-block to place the span inline with the text:

```
14104 display:inline-block;\textquotedbl\LWR@orignewline%
14105 }%
```

If formatting for a word processor, approximate with a number of underscores, in case a span of a given width is not supported:

```
14106 \ifbool{FormatWP}{%
14107     \setlength{\LWR@templengthone}{\LWR@tempwidth}%
14108     \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
14109         \_{}%
14110         \addtolength{\LWR@templengthone}{-1em}%
14111     }%
14112 }%
```

If NOT formatting for a word processor, add a comment to avoid an empty ``:

```
14113 {\LWR@htmlcomment{}}%
```

Close the span:

```
14114 \LWR@htmltagc{/span}%
```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```

14115 \LWR@minipagestartpars%
14116 }% non-zero width
14117 }
14118
14119 \LWR@formatted{rule}

14120 \end{warpHTML}

```

99 \phantomsection

for HTML output: 14121 \begin{warpHTML}

\LWR@phantomsection Emulate the `hyperref` `\phantomsection` command, often used to insert the bibliography into the table of contents. Ignores `\ForceHTMLTOC`.

```

14122 \newrobustcmd*{\LWR@phantomsection}{%
14123 \begingroup%
14124 \boolfalse{LWR@forcinghtmltoc}%
14125 \section*{}}%
14126 \endgroup%
14127 }

14128 \end{warpHTML}

```

100 \LaTeX and other logos

Logos for HTML and print modes:

Some of these logos may be redefined in a later package, so after loading other packages, and at the beginning of the document, their definitions are finally set by `\LWR@formatted`.

For CSS conversions, see:

<http://edward.oconnor.cx/2007/08/tex-poshlet>

<http://nitens.org/taraborelli/texlogo>

and the spacing described in the `metafont` package documentation.

```

for HTML & PRINT: 14129 \begin{warpall}
14130 \newbool{LWR@warnXe}
14131 \boolfalse{LWR@warnXe}
14132
14133 \newrobustcmd*{\Xe}
14134   {%
14135     X\hspace{-.1667em}\raisebox{-.5ex}{E}%
14136     \global\booltrue{LWR@warnXe}%
14137   }
14138
14139 \AtBeginDocument{
14140   \IfPackageLoadedTF{graphics}{
14141     \IfPackageLoadedTF{metaLogo}{}{

```

```

14142         \renewrobustcmd*{\Xe}
14143             {X\hspace{-.1667em}\raisebox{-.5ex}{\reflectbox{E}}}
14144     }
14145 }{}
14146 }
14147
14148 \AtEndDocument{
14149     \ifbool{LWR@warnXe}{
14150         \PackageNoteNoLine{lwarp}{Load graphicx or graphics
14151             for improved XeTeX logo}
14152     }{}
14153 }
14154
14155 \providerobustcmd*{\XeTeX}{\mbox{\Xe\hspace{-.125em}\TeX}}
14156 \providerobustcmd*{\XeLaTeX}{\mbox{\Xe\hspace{-.125em}\LaTeX}}
14157 \providerobustcmd*{\AmS}{%
14158     \leavevmode\hbox{$\mathcal A\kern-.2em\lower.376ex%
14159     \hbox{$\mathcal M$}\kern-.2em\mathcal S$}%
14160 }
14161 \newrobustcmd*{\LyX}{\textsf{LyX}}
14162 \providerobustcmd*{\LuaTeX}{\mbox{Lua\TeX}}
14163 \providerobustcmd*{\LuaLaTeX}{\mbox{Lua\LaTeX}}
14164 \providerobustcmd*{\BibTeX}{\mbox{B\textsc{ib}\TeX}}
14165 \providerobustcmd*{\MakeIndex}{\mbox{\textit{MakeIndex}}}
14166 \providerobustcmd*{\ConTeXt}{\mbox{Con\TeX{t}}}
14167 \providerobustcmd*{\MiKTeX}{\mbox{MiK\TeX}}
14168 \end{warpaLL}

```

for HTML output: 14169 \begin{warpaHTML}

The print-mode versions of the following may be changed by metalogo, so their print formatting is recorded \AtBeginDocument.

\TeX T_EX

latexlogo is a css class used to properly typeset the E and A in L^AT_EX and friends.

latexlogofont is a css class used to select the font for the rest of the logo in L^AT_EX, LuaT_EX, ConT_EXt, etc.

```

14170 \newrobustcmd*{\LWR@HTML@TeX}
14171 {%
14172     \InlineClass{latexlogofont}%
14173     {%
14174         \InlineClass{latexlogo}%
14175         {%
14176             T%
14177             \InlineClass{latexlogosub}{e}%
14178             X%
14179         }%
14180     }%
14181 }
14182 \AtBeginDocument{\LWR@formatted{TeX}}% may have been patched by metalogo

```

\LaTeX L^AT_EX, L^AT_EX 2_ε

\LaTeXe

```

14183 \newrobustcmd*{\LWR@HTML@LaTeX}
14184 {%

```

```

14185 \InlineClass{latexlogofont}%
14186 {%
14187     \InlineClass{latexlogo}%
14188     {%
14189         L%
14190         \InlineClass{latexlogosup}{a}%
14191         T%
14192         \InlineClass{latexlogosub}{e}%
14193         X%
14194     }%
14195 }%
14196 }
14197
14198 \AtBeginDocument{\LWR@formatted{LaTeX}}% may have been patched by metalogo
14199
14200
14201 \newrobustcmd*{\LWR@HTML@LaTeXe}
14202 {%
14203     \LaTeX%
14204     \InlineClass{latexlogofont}{%
14205         \InlineClass{latexlogotwoe}{%
14206             2%
14207             \InlineClass{latexlogotwoesub}{\HTMLUnicode{03B5}}%
14208         }%
14209     }%
14210 }
14211 \AtBeginDocument{\LWR@formatted{LaTeXe}}% may have been patched by metalogo

```

\LuaTeX LuaTeX, LuaL^ATeX

\LuaLaTeX

```

14212 \newrobustcmd*{\LWR@HTML@LuaTeX}{\InlineClass{latexlogofont}{Lua}\TeX}
14213 \AtBeginDocument{\LWR@formatted{LuaTeX}}% may have been patched by metalogo
14214
14215 \newrobustcmd*{\LWR@HTML@LuaLaTeX}{\InlineClass{latexlogofont}{Lua}\LaTeX}
14216 \AtBeginDocument{\LWR@formatted{LuaLaTeX}}% may have been patched by metalogo

```

\XeTeX X_qTeX, X_qL^ATeX

\XeLaTeX

xetexlogo is a css class which aligns the backwards E in X_qTeX and spaces T_EX appropriately.

xelatexlogo is a css class which aligns the backwards E in X_qL^ATeX and spaces L^ATeX appropriately.

```

14217 \newrobustcmd*{\LWR@HTML@Xe}
14218 {%
14219     X%
14220     \InlineClass{xelatexlogosub}{\HTMLUnicode{18e}}%
14221 }
14222 \AtBeginDocument{\LWR@formatted{Xe}}% may have been patched by metalogo
14223
14224 \newrobustcmd*{\LWR@HTML@XeTeX}{\InlineClass{xelatexlogo}{\Xe}\TeX}
14225 \AtBeginDocument{\LWR@formatted{XeTeX}}% may have been patched by metalogo
14226
14227 \newrobustcmd*{\LWR@HTML@XeLaTeX}{\InlineClass{xelatexlogo}{\Xe}\LaTeX}
14228 \AtBeginDocument{\LWR@formatted{XeLaTeX}}% may have been patched by metalogo

```

`\ConTeXt ConTeXt`

```

14229 \newrobustcmd*{\LWR@HTML@ConTeXt}{%
14230   \InlineClass{latexlogofont}{Con}\TeX}%
14231   \InlineClass{latexlogofont}{t}%
14232 }
14233 \LWR@formatted{ConTeXt}

```

`\BibTeX BIBTEX, MakeIndex``\MakeIndex`

```

14234 \newrobustcmd*{\LWR@HTML@BibTeX}
14235   {\InlineClass{latexlogofont}{B\textsc{ib}}\TeX}
14236 \LWR@formatted{BibTeX}
14237
14238 \newrobustcmd*{\LWR@HTML@MakeIndex}
14239   {\InlineClass{latexlogofont}{\textit{MakeIndex}}}
14240 \LWR@formatted{MakeIndex}

```

`\AmS AMS`

`amslogo` is a css class used for the *AMS* logo.

```

14241 \AtBeginDocument{%
14242 \newrobustcmd*{\LWR@HTML@AmS}
14243 {%
14244   \InlineClass{amslogo}{%
14245     \textit{%
14246       A%
14247       \InlineClass{latexlogosub}{M}%
14248       S%
14249     }}%
14250   }%
14251 }%
14252 \LWR@formatted{AmS}
14253 }

```

`\MiKTeX MiKTeX`

```

14254 \newrobustcmd*{\LWR@HTML@MiKTeX}{\InlineClass{latexlogofont}{MiK}\TeX}
14255 \LWR@formatted{MiKTeX}

```

`\LyX LyX`

`lyxlogo` is a css class used for the *LyX* logo.

```

14256 \newrobustcmd*{\LWR@HTML@LyX}{\InlineClass{lyxlogo}{LyX}}
14257 \LWR@formatted{LyX}

14258 \end{warpHTML}

```

101 Starting and stopping lwarp

for HTML output: 14259 \begin{warpHTML}

`\LWR@LwarpStart` Automatically sets up the HTML-related actions for the start and end of the document.
`\LWR@LwarpEnd`

```
14260 \AfterEndPreamble{\LWR@LwarpStart}
14261 \AtEndDocument{\LWR@LwarpEnd}
14262 \DeclareHookRule{enddocument}{lwarp}{after}{legacy}

14263 \end{warpHTML}
```

102 Loading array

`array` is required for `lwarp`'s column parsing. It and its patches are now loaded.

for HTML output:

```
14264 \begin{warpHTML}
14265 \RequirePackage{array}
```

The following are compared with the tabular preamble > to add CSS classes to adjust tabular cells. Defined here now that `\arraybackslash` is defined after `array` is loaded.

```
14266 \edef\LWR@detect@centeringarraybackslash{\centering\arraybackslash}
14267 \edef\LWR@detect@raggedrightarraybackslash{\raggedright\arraybackslash}
14268 \edef\LWR@detect@raggedleftarraybackslash{\raggedleft\arraybackslash}
14269 \def\LWR@detect@itshape{\itshape}
14270 \def\LWR@detect@bfseries{\bfseries}
14271 \def\LWR@detect@bfit{\bfseries\itshape}
14272 \end{warpHTML}
```

103 Loading everyshi patches

`everyshi` is emulated by the \LaTeX core, so its patches are loaded here. `\AtBeginDocument` is used in case an older version of \LaTeX is used.

for HTML output:

```
14273 \begin{warpHTML}
14274 \AtBeginDocument{
14275   \IfPackageLoadedTF{everyshi}{
14276     \RequirePackage{lwarp-everyshi}
14277   }{}
14278 }
14279 \end{warpHTML}
```

104 Loading textcomp patches

`textcomp` has now been integrated into the \LaTeX core, so its patches are loaded now.

for HTML output:

```
14280 \begin{warpHTML}
14281 \RequirePackage{lwarp-textcomp}
14282 \end{warpHTML}
```

105 Loading amsmath, amsthm patches, centernot

amsmath, amsthm, and centernot may have been preloaded, such as by newtx, so their patches are loaded now.

```

for HTML output: 14283 \begin{warpHTML}
14284 \IfPackageLoadedTF{amsthm}{
14285   \RequirePackage{lwarp-amsthm}
14286 }{}

14287 \IfPackageLoadedTF{amsmath}{
14288   \RequirePackage{lwarp-amsmath}
14289 }{}

```

amsthm may load centernot, so centernot must be checked second.

```

14290 \IfPackageLoadedTF{centernot}{
14291   \RequirePackage{lwarp-centernot}
14292 }{}
14293 \end{warpHTML}

```

106 Loading KOMA-SCRIPT class patches

Load patches to koma-script.

```

for HTML output: 14294 \begin{warpHTML}

14295 \IfClassLoadedTF{scrbook}{\RequirePackage{lwarp-patch-komascript}}{}
14296 \IfClassLoadedTF{scrartcl}{\RequirePackage{lwarp-patch-komascript}}{}
14297 \IfClassLoadedTF{scrreprt}{\RequirePackage{lwarp-patch-komascript}}{}

14298 \end{warpHTML}

```

107 Loading MEMOIR class patches

Load patches to memoir.

```

for PRINT output: 14299 \begin{warpprint}
14300 \IfClassLoadedTF{memoir}{\LWR@origRequirePackage{xcolor}}{}
14301 \end{warpprint}

```

```

for HTML output: 14302 \begin{warpHTML}
14303 \IfClassLoadedTF{memoir}{\RequirePackage{lwarp-patch-memoir}}{}
14304 \end{warpHTML}

```

108 ut* class patches

Load patches to uj* and ut* classes, as well as ltj* classes.

```

for HTML output: 14305 \begin{warpHTML}

```



```
14306 \newcommand*\LWR@patchujtclasses}{
```

uj/t does not use \partname

```
14307   \def\@partnameformat{}

14308   \def\@partcntformat##1{%
14309     \prepartname%
14310     \csname the##1\endcsname%
14311     \postpartname%
14312     \quad%
14313   }
14314   \@ifundefined{chapter}{}{
14315     \def\@chapcntformat##1{%
14316       \prechaptername%
14317       \csname the##1\endcsname%
14318       \postchaptername%
14319       \quad%
14320     }
14321   }
14322   \renewcommand*\LWR@printchaptername}{}
```

Use decimal points instead of centered dots:

```
14323   \renewcommand{\thepart}{\@Roman\c@part}
14324   \@ifundefined{chapter}{
14325     \renewcommand{\thesection}{\@arabic\c@section}
14326   }{
14327     \renewcommand{\thechapter}{\@arabic\c@chapter}
14328     \renewcommand{\thesection}{\thechapter.\@arabic\c@section}
14329   }
14330   \renewcommand{\thesubsection}{\thesection.\@arabic\c@subsection}
14331   \renewcommand{\thesubsubsection}{%
14332     \thesubsection.\@arabic\c@subsubsection}
14333   \renewcommand{\theparagraph}{%
14334     \thesubsubsection.\@arabic\c@paragraph}
14335   \renewcommand{\thesubparagraph}{%
14336     \theparagraph.\@arabic\c@subparagraph}
14337   \@ifundefined{chapter}{
14338     \renewcommand{\thefigure}{\@arabic\c@figure}
14339     \renewcommand{\thetable}{\@arabic\c@table}
14340   }{
14341     \renewcommand{\thefigure}{%
14342       \ifnum\c@chapter>\z@\thechapter.\fi\@arabic\c@figure}
14343     \renewcommand{\thetable}{%
14344       \ifnum\c@chapter>\z@\thechapter.\fi\@arabic\c@table}
14345   }
14346 }
14347
14348 \IfClassLoadedTF{ujarticle}{\LWR@patchujtclasses}{}
14349 \IfClassLoadedTF{ujbook}{\LWR@patchujtclasses}{}
14350 \IfClassLoadedTF{ujreport}{\LWR@patchujtclasses}{}
14351 \IfClassLoadedTF{utarticle}{\LWR@patchujtclasses}{}
14352 \IfClassLoadedTF{utbook}{\LWR@patchujtclasses}{}
14353 \IfClassLoadedTF{utreport}{\LWR@patchujtclasses}{}
14354 \IfClassLoadedTF{ltjarticle}{\LWR@patchujtclasses}{}
14355 \IfClassLoadedTF{ltjbook}{\LWR@patchujtclasses}{}
14356 \IfClassLoadedTF{ltjreport}{\LWR@patchujtclasses}{}
14357 \IfClassLoadedTF{ltjsarticle}{\LWR@patchujtclasses}{}

```

```

14358 \IfClassLoadedTF{ltjsbook}{\LWR@patchujtclasses}{}
14359 \IfClassLoadedTF{ltjsreport}{\LWR@patchujtclasses}{}
14360 \IfClassLoadedTF{ltjskiyou}{\LWR@patchujtclasses}{}
14361 \IfClassLoadedTF{ltjspf}{\LWR@patchujtclasses}{}
14362 \IfClassLoadedTF{ltjtarticle}{\LWR@patchujtclasses}{}
14363 \IfClassLoadedTF{ltjtbook}{\LWR@patchujtclasses}{}
14364 \IfClassLoadedTF{ltjtreport}{\LWR@patchujtclasses}{}

14365 \end{warpHTML}

```

109 C_TE_X patches

Patches for `ctex` and related classes, which are loaded before `lwarp`.

All C_TE_X classes and the `ctex` package seem to load `ctexpatch`, so its presence is used to decide whether to have `lwarp` patch C_TE_X.

for HTML output: 14366 `\begin{warpHTML}`

`\AtBeginDocument` in case the user set `FileSectionNames` in the preamble.

```

14367 \AtBeginDocument{
14368     \IfPackageLoadedTF{ctexpatch}{%
14369         \def\@partcntformat#1{%
14370             \LWR@isolate{\CTEX@partname}~%
14371             \CTEX@part@aftername%
14372         }%
14373     }
14374     \def\@partnameformat{}
14375     \def\@chapcntformat#1{%
14376         \LWR@isolate{\CTEX@chaptername}~%
14377         \CTEX@chapter@aftername%
14378     }%
14379 }
14380     \renewcommand*{\LWR@printchaptername}{}
14381 }{}
14382 }
14383 }

14384 \end{warpHTML}

```

110 kotexutf patches

Patch for `kotexutf`, which is loaded before `lwarp`.

`kotexutf`'s `\@setref` was conflicting with `lwarp`'s cross references.

for HTML output: 14385 `\begin{warpHTML}`

If `kotexutf`'s version of `\@setref` is detected, it is reverted to the original.

```

14386 \AtBeginDocument{
14387 \IfPackageLoadedTF{kotexutf}{%

```

```

14388 \def\LWR@kotexutf@setref#1#2#3{%
14389   \@setref@dhucs@orig{#1}{#2}{#3}%
14390   \ifx#1\relax\else
14391     \bgroup
14392     \dhucs@make@ckkchar@null
14393     \edef\@temp{\expandafter#2#1}\global\josatoks\expandafter{\@temp}%
14394     \egroup
14395     \fi%
14396   }%
14397
14398 \ifdefequal{\@setref}{\LWR@kotexutf@setref}{
14399   \let\@setref\@setref@dhucs@orig
14400 }{}
14401 }{}
14402 }

14403 \end{warpHTML}

```

111 babel and polyglossia warnings

lwarp prints a message instructing the user how to avoid the following error.

(These are not `\PackageWarnings` because there may not be a problem.)

lwarp uses `cleveref`, which has some limitations when using `polyglossia`, possibly resulting in the error

```
! Undefined control sequence. . . . \__hook begindocument
```

To test compatibility, add

```
\usepackage{cleveref}
```

near the end of the preamble (as the last package to be loaded), and try to compile the print version. It may be necessary to set

```
\setdefaultlanguage{english}
```

or some other language supported by `cleveref`, then select other languages using `\setotherlanguages`.

Once the print version works with `cleveref` and `polyglossia`, the HTML version should work as well using `lwarp`.

```

for HTML output: 14404 \begin{warpHTML}
14405 \AtBeginDocument{
14406
14407 \IfPackageLoadedTF{polyglossia}{
14408   \PackageNoteNoLine{lwarp}
14409   {%
14410     Polyglossia has been loaded. Lwarp also uses cleveref.\MessageBreak
14411     See the cleveref documentation regarding\MessageBreak
14412     polyglossia support. Some languages are not supported.\MessageBreak
14413     --- \MessageBreak
14414     If the error\MessageBreak
14415     \space\space Undefined control sequence ...
14416     \protect\__hook begindocument\MessageBreak
14417     occurs here, use the polyglossia macro:\MessageBreak

```

```

14418     \space\space\protect\setmainlanguage\protect{...\protect}
14419   }
14420 }{
14421   \IfPackageLoadedTF{babel}{
14422     \PackageNoteNoLine{lwarp}
14423     {%
14424       Babel has been loaded. Lwarp also uses cleveref.\MessageBreak
14425       See the cleveref documentation regarding\MessageBreak
14426       babel support. Some languages are not supported%
14427     }
14428   }{ }
14429 }
14430
14431 }
14432 \end{warpHTML}

```

112 MATHJAX warnings

`\LWR@mathjaxwarn {<packagename>} {<More text.>}`

Issue a warning that MATHJAX is emulated. To be done `\AtBeginDocument`.

```

14433 \newcommand*{\LWR@mathjaxwarn}[2]{%
14434   \IfPackageLoadedTF{lwarp-#1}{%
14435     \ifblank{#2}{%
14436       \PackageWarningNoLine{lwarp}
14437       {%
14438         Lwarp provides emulation for MathJax when used\MessageBreak
14439         with the #1 package%
14440       }
14441     }{%
14442       \PackageWarningNoLine{lwarp}
14443       {%
14444         Lwarp provides emulation for MathJax when used\MessageBreak
14445         with the #1 package.\MessageBreak
14446         #2%
14447       }
14448     }%
14449   }{ }%
14450 }
14451
14452 % \begin{macro}{\LWR@nomathjaxwarn} \marg{packagename} \marg{More text.}
14453 %
14454 % Issue a warning that \MathJax\ is not supported.
14455 % To be done \cs{AtBeginDocument}.
14456 %
14457 % \changes{v0.894}{2020/12/22}{Warn if using packages not supported by \MathJax.}
14458 % \changes{v0.895}{2021/01/08}{Improved \MathJax\ warning.}
14459 % \begin{macrocode}
14460 \newcommand*{\LWR@nomathjaxwarn}[2]{%
14461   \IfPackageLoadedTF{lwarp-#1}{%
14462     \ifblank{#2}{%
14463       \PackageWarningNoLine{lwarp}
14464       {%
14465         Lwarp does not provide MathJax support for #1.\MessageBreak
14466         Use SVG math by removing the Lwarp mathjax option%
14467       }

```

```

14468     }{%
14469         \PackageWarningNoLine{lwarp}
14470         {%
14471             Lwarp does not provide MathJax support for #1.\MessageBreak
14472             #2%
14473         }
14474     }%
14475 }{%
14476 }

```

`\LWR@forceSVGmessage {<packagename>}`

```

14477 \newcommand*{\LWR@forceSVGmessage}[1]{%
14478     SVG math output may be enabled for select math\MessageBreak
14479     expressions to preserve #1 visual\MessageBreak
14480     features for those particular expressions.\MessageBreak
14481     Before the chosen inline math, use \protect\inlinemathother\MessageBreak
14482     to begin using SVG math, and \protect\inlinemathnormal\MessageBreak
14483     afterward to resume using MathJax math.\MessageBreak
14484     Before display math, use \protect\displaymathother\MessageBreak
14485     to begin using SVG math, and use \protect\displaymathnormal\MessageBreak
14486     after to resume using MathJax for the following math.\MessageBreak
14487     Or, use SVG math for all expressions by removing\MessageBreak
14488     the mathjax option for the lwarp package%
14489 }

```

If MATHJAX is being used, issue a warning for certain packages.

```

14490 \AtBeginDocument{
14491     \ifbool{mathjax}{
14492         \LWR@nomathjaxwarn{aligned-overset}{}
14493         \LWR@nomathjaxwarn{amscdx}{\LWR@forceSVGmessage{amscdx}}
14494         \LWR@mathjaxwarn{arydshln}
14495         {In a math array, do not use the optional argument\MessageBreak
14496         for \protect\cdashline.\space\space
14497         Furthermore, \protect\cline\space is not\MessageBreak
14498         supported by MathJax}
14499         \LWR@nomathjaxwarn{autoaligne}{}
14500         \LWR@mathjaxwarn{autonum}
14501         {MathJax does not support equation+.\MessageBreak
14502         You may use the warpprint and warpHTML\MessageBreak
14503         environments to isolate the package load\MessageBreak
14504         and the equation+ environments}
14505         \LWR@mathjaxwarn{bigdelim}
14506         {Delimiters appear only of the first line}
14507         \LWR@nomathjaxwarn{boldtensors}{}
14508         \LWR@mathjaxwarn{booktabs}
14509         {\protect\cmidrule\space is not displayed}
14510         \LWR@mathjaxwarn{breqn}
14511         {Each environment becomes an SVG image}
14512         \LWR@mathjaxwarn{colortbl}
14513         {Colors are ignored in MathJax.\MessageBreak
14514         (Text mode tabular does support colortbl.)\MessageBreak
14515         \LWR@forceSVGmessage{colortbl}}
14516         \LWR@mathjaxwarn{delarray}{\LWR@forceSVGmessage{delarray}}
14517         \LWR@nomathjaxwarn{gauss}{\LWR@forceSVGmessage{gauss}}
14518         \LWR@mathjaxwarn{hhline}
14519         {A simple \protect\hline\space is used}
14520         \LWR@mathjaxwarn{isomath}

```

```

14521     {Some of the symbol font macros such as \protect\mathsfbf{it}\MessageBreak
14522         do not use a sans font because MathJax does not yet\MessageBreak
14523         have sans Greek. Tensors may look like vectors%
14524     }
14525     \LWR@nomathjaxwarn{jkmath}{\LWR@forceSVGmessage{jkmath}}
14526     \LWR@mathjaxwarn{libertinust1math}
14527     {Some of the symbol font macros such as \protect\mathsfbf{it}\MessageBreak
14528         do not use a sans font because MathJax does not yet\MessageBreak
14529         have sans Greek. Tensors may look like vectors%
14530     }
14531     \LWR@mathjaxwarn{mathtools}
14532         {See the Lwarp manual regarding the disallowspaces\MessageBreak
14533         and showonlyrefs options, the alignat environment,\MessageBreak
14534         and \protect\DeclarePairedDelimiter\space and related%
14535     }
14536     \LWR@mathjaxwarn{mathspec}
14537         {Double quotes are removed, even inside \protect\text}
14538     \LWR@mathjaxwarn{mismatch}
14539         {MathJax does not support \cs{enumber}, \cs{inumber},\MessageBreak
14540     \protect\jnumber, \protect\pinumber, \protect\MathUp, \protect\MathIt,\MessageBreak
14541     \protect\MathNumbers, or \protect\MathNormal.\MessageBreak
14542     \protect\itpi\space is made available as a clone of \protect\pi.\MessageBreak
14543     Tensors are not sans serif%
14544     }
14545     \LWR@mathjaxwarn{multirow}
14546         {Multirow works as expected in text mode, but\MessageBreak
14547         limited emulation is provided for MathJax math.\MessageBreak
14548     \protect\multirow\space ignores all arguments except\MessageBreak
14549     the text}
14550     \LWR@mathjaxwarn{nicematrix}
14551         {Keys/values are ignored in MathJax.\MessageBreak
14552     \protect\Cdots, etc. do not span multiple cells.\MessageBreak
14553     AutoNiceMatrix, etc. are not supported for MathJax.\MessageBreak
14554     \protect\CodeBefore, \protect\Body, and \protect\CodeAfter\MessageBreak
14555     \space\space also are not supported for MathJax.\MessageBreak
14556     \LWR@forceSVGmessage{nicematrix}%
14557     }
14558     \LWR@nomathjaxwarn{pb-diagram}{\LWR@forceSVGmessage{pb-diagram}}
14559 %     \LWR@mathjaxwarn{physics}
14560 %         {The third-party extension is not used.\MessageBreak
14561 %         {The MathJax v3 extension is used.\MessageBreak
14562 %         See the Lwarp manual for details}
14563     \LWR@mathjaxwarn{siunitx}
14564     {Place \protect\sisetup\space before \protect\begin{document}.\MessageBreak
14565     Many optional arguments are ignored}
14566     \LWR@nomathjaxwarn{tensind}{}
14567     \LWR@mathjaxwarn{unicode-math}
14568         {Do not use embedded Unicode characters.\MessageBreak
14569         (Not all characters are encoded correctly.)\MessageBreak
14570         Some symbol fonts are not supported by MathJax,\MessageBreak
14571         and are only approximated.\MessageBreak
14572     Greek macros such as \protect\alpha\space respond to the math-style\MessageBreak
14573     option. Latin symbols does not, per MathJax\MessageBreak
14574     limitations, unless placed inside \protect\symbit\space or similar}
14575     \LWR@nomathjaxwarn{unitsdef}{}
14576     \LWR@mathjaxwarn{witharrows}
14577         {Arrows can only point to the next line.\MessageBreak
14578         Text is only placed on a single line}
14579     \LWR@nomathjaxwarn{xy}
14580     {In text, xy works as-is. SVG images will be generated.\MessageBreak

```

```
14581         \LWR@forceSVGmessage{xy}}
14582     }{}
14583 }
```

113 Temporary patches

These are temporary fixes for issues which probably soon will be fixed by others, outside of lwarp.

File 2 **lwarp-2in1.sty**§ 114 Package **2in1**2in1 (*Pkg*) 2in1 is ignored.**for HTML output:** 1 \LWR@ProvidesPackageDrop{2in1}File 3 **lwarp-2up.sty**§ 115 Package **2up**2up (*Pkg*) 2up is ignored.**for HTML output:** 1 \LWR@ProvidesPackageDrop{2up}[2010/05/15]

```

2 \def\source#1#2#3{}
3 \def\target#1#2#3{}
4 \def\targetlayout#1{}
5 \newdimen\pageseplength
6 \newdimen\pagesepwidth
7 \newdimen\pagesepoffset
8 \def\twoupemptypage{}
9 \def\twoupclearpage{}
10 \def\twoupeject{}
11 \def\twouparticle{}
12 \def\twoupplain{}
13 \def\twouplegaltarget{}
14 \def\twouplandscape{}
15 \def\twoupwrites{}

```

File 4 **lwarp-a4.sty**§ 116 Package **a4**a4 (*Pkg*) a4 is ignored.**for HTML output:** 1 \LWR@ProvidesPackageDrop{a4}[2004/04/15]

2 \newcommand*{\WideMargins}{}

File 5 **lwarp-a4wide.sty**§ 117 Package **a4wide**a4wide (*Pkg*) a4wide is ignored.**for HTML output:** 1 \LWR@ProvidesPackageDrop{a4wide}[1994/08/30]

File 6 **lwarp-a5comb.sty**§ 118 Package **a5comb**


`a5comb (Pkg)` `a5comb` is ignored.

for HTML output: `1 \LWR@ProvidesPackageDrop{a5comb}`

File 7 **lwarp-abstract.sty**§ 119 Package **abstract**

(Emulates or patches code by PETER WILSON.)

`abstract (Pkg)` `abstract` is supported and patched by `lwarp`.

 **missing TOC** If using the number option with file splits, be sure to place the table of contents before the abstract. The number option causes a section break which may cause a file split, which would put a table of contents out of the home page if it is after the abstract.

for HTML output: `memoir` provides an abstract environment even though it is not an article or report class. Meanwhile, `lwarp` loads `book` to emulate `memoir`, but `book` does not have an abstract environment, so when the abstract package is loaded for emulation there is no pre-existing abstract to redefine, which would cause an error. Thus, a null abstract is provide here:

```
1 \ProvideDocumentEnvironment{abstract}{}{}{}
```

Accept all options for `lwarp-abstract`:

```
2 \LWR@ProvidesPackagePass{abstract}[2009/06/08]
```

```
3 \AtBeginDocument{
4 \BeforeBeginEnvironment{abstract}{
5 \LWR@forcenewpage
6 \BlockClass{abstract}
7 }
8 \AfterEndEnvironment{abstract}{\endBlockClass}
9 }
10
11 \renewcommand{\@bsrunintitle}{%
12 \hspace*{\abstitlekip}%
13 {\abstractnamefont%
14 \InlineClass{abstractrunintitle}{\abstractname}%
15 \@bslabeldelim}%
16 }
```

```
17 \IfClassLoadedTF{memoir}
18 {
19 \renewenvironment{abstract}{%
```

```

20% % \titlepage
21% \null\vfil
22% \@beginparpenalty\@lowpenalty
23 \setup@bstract
24 \if@bsrunin
25 \else
26% \if@bsstyle
27% \abstitlestyle{\BlockClassSingle{abstracttitle}{\abstractname}}
28% \else
29 \ifnumber@bs
30 \num@bs
31 \else
32 \begin{\absnamepos}%
33 \abstractnamefont \BlockClassSingle{abstracttitle}{\abstractname}
34% \endparpenalty\@M
35 \end\absnamepos%
36 \vspace{\abstitlekip}%
37 \fi
38% \fi
39% \vspace{\abstitlekip}%
40 \fi
41 \put@bsintoc%
42 \begin{@bstr@ctlist}\if@bsrunin\@bsrunintitle\fi\abstracttextfont}%
43 {\par\end{@bstr@ctlist}%\vfil\null%\endtitlepage
44 }
45 }{% not memoir
46 \if@titlepage
47 \renewenvironment{abstract}{%
48% \titlepage
49 \null\vfil
50 \@beginparpenalty\@lowpenalty
51 \if@bsrunin
52 \else
53 \if@bsstyle
54 \abstitlestyle{\BlockClassSingle{abstracttitle}{\abstractname}}
55 \else
56 \ifnumber@bs
57 \num@bs
58 \else
59 \begin{\absnamepos}%
60 \abstractnamefont \BlockClassSingle{abstracttitle}{\abstractname}
61 \endparpenalty\@M
62 \end\absnamepos%
63%% \vspace{\abstitlekip}%
64 \fi
65 \fi
66 \vspace{\abstitlekip}%
67 \fi
68 \put@bsintoc%
69 \begin{@bstr@ctlist}\if@bsrunin\@bsrunintitle\fi\abstracttextfont}%
70 {\par\end{@bstr@ctlist}\vfil\null%\endtitlepage
71 }
72 \else
73 \renewenvironment{abstract}{%
74 \if@bsrunin
75 \else
76 \if@bsstyle
77 \abstitlestyle{\BlockClassSingle{abstracttitle}{\abstractname}}
78 \else
79 \ifnumber@bs

```

```

80         \num@bs
81         \else
82 \begin{\absnamepos}%
83 \abstractnamefont\BlockClassSingle{abstracttitle}{\abstractname}%
84 \end\absnamepos%
85%%         \vspace{\abstitleskip}%
86         \fi
87         \fi
88         \vspace{\abstitleskip}%
89         \fi
90         \put@bsintoc%
91         \begin{@bstr@ctlist}\if@bsrunin\@bsrunintitle\fi\abstracttextfont}%
92         {\par\end{@bstr@ctlist}}
93 \fi
94 }% not memoir

```

File 8 **lwarp-academicons.sty**

§ 120 Package **academicons**

(Emulates or patches code by DIOGO A. B. FERNANDES.)

academicons (*Pkg*) academicons is patched for use by lwarp.

If `\aiicon` is used, the name of the icon is used in the `alt` tag. Otherwise, for each of the individual icon macros, a generic `alt` tag is used.

for HTML output:

```

1 \LWR@ProvidesPackagePass{academicons}[2018/06/27]
2 \LetLtxMacro\LWR@orig@symbol\symbol
3
4 \let\LWR@academicons@orig@AI\AI
5
6 \newcommand*{\LWR@academicons@symbol}[1]{%
7   \begin{lateximage}*[academicon][academicons#1]%
8   \begingroup%
9     \LWR@academicons@orig@AI%
10    \LWR@orig@symbol{#1}%
11    \endgroup%
12   \end{lateximage}%
13 }
14
15 \renewcommand*{\AI}{%
16   \LetLtxMacro\symbol\LWR@academicons@symbol%
17 }
18
19 \renewcommand*{\aiicon}[1]
20 {%
21   \begin{lateximage}*[#1 icon]?[academicons#1]%
22   \AI\csname aiicon@#1\endcsname%
23   \end{lateximage}%
24 }

```

File 9 **lwarp-accents.sty**§ 121 Package **accents***(Emulates or patches code by JAVIER BEZOS.)*accents (*Pkg*) accents is used as-is for SVG math, and is emulated for MATHJAX.**for HTML output:** 1 \LWR@ProvidesPackagePass{accents}[2006/05/12]

For MATHJAX:

```

2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{accents}
4
5 \CustomizeMathJax{\newcommand{\ring}[1]{\mathring{#1}}}
6 \CustomizeMathJax{\newcommand{\accentset}[2]{\overset{#1}{#2}}}

```

As of this writing, MATHJAX v3 does not yet support groups for macros, so for `\underaccent`, the originals are remembered here, then they are temporarily redefined and used inside `\underaccent`, then restored to their originals. `\LARGE` gives a reasonable size, and `\raise` is used to adjust vertically without introducing extra line space.

```

7 \CustomizeMathJax{\let\LWRgrave\grave}
8 \CustomizeMathJax{\let\LWRacute\acute}
9 \CustomizeMathJax{\let\LWRcheck\check}
10 \CustomizeMathJax{\let\LWRbreve\breve}
11 \CustomizeMathJax{\let\LWRbar\bar}
12 \CustomizeMathJax{\let\LWRhat\hat}
13 \CustomizeMathJax{\let\LWRdot\dot}
14 \CustomizeMathJax{\let\LWRtilde\tilde}
15 \CustomizeMathJax{\let\LWRddot\ddot}
16 \CustomizeMathJax{\let\LWRvec\vec}
17 \CustomizeMathJax{\let\LWRwidetilde\widetilde}
18
19 \CustomizeMathJax{\newcommand{\underaccent}[2]{%
20   \%
21   \renewcommand{\grave}[1]{\LARGE\LWRgrave{##1}}}%
22   \renewcommand{\acute}[1]{\LARGE\LWRacute{##1}}}%
23   \renewcommand{\check}[1]{\LARGE\LWRcheck{##1}}}%
24   \renewcommand{\breve}[1]{\LARGE\LWRbreve{##1}}}%
25   \renewcommand{\bar}[1]{\LARGE\LWRbar{##1}}}%
26   \renewcommand{\hat}[1]{\LARGE\LWRhat{##1}}}%
27   \renewcommand{\dot}[1]{\LARGE\LWRdot{##1}}}%
28   \renewcommand{\tilde}[1]{\LARGE\LWRtilde{##1}}}%
29   \renewcommand{\ddot}[1]{\LARGE\LWRddot{##1}}}%
30   \renewcommand{\vec}[1]{\LARGE\LWRvec{##1}}}%
31   \renewcommand{\widetilde}[1]{\LARGE\LWRwidetilde{\hphantom{#2}}}%
32   \underset{\raise 2pt {#1}}{#2}%
33   \let\grave\LWRgrave%
34   \let\acute\LWRacute%
35   \let\check\LWRcheck%
36   \let\breve\LWRbreve%
37   \let\bar\LWRbar%

```

```

38 \let\hat\LWRhat%
39 \let\dot\LWRdot%
40 \let\tilde\LWRtilde%
41 \let\ddot\LWRddot%
42 \let\vec\LWRvec%
43 \let\widetilde\LWRwidetilde%
44 }%
45 }}
46
47 \CustomizeMathJax{\newcommand{\undertilde}[1]{%
48 \underset{\raise 3pt {\widetilde{\hphantom{#1}}}}{#1}%
49 }}
50 \end{warpMathJax}

```

File 10 **lwarp-accessibility.sty**

§ 122 Package **accessibility**

accessibility (*Pkg*) accessibility is emulated.

for HTML output: Discard all options for lwarp-accessibility:

```

1 \LWR@ProvidesPackageDrop{accessibility}[2019/10/14]

2 \newcommand{\alt}[1]{\ThisAltText{#1}}
3 \newcommand{\newhref}[3]{\ThisAltText{#2}\LWR@href{#1}{#3}}%
4 \providecommand{\thead}[1]{\textbf{#1}}

For MATHJAX:

5 \begin{warpMathJax}
6 \CustomizeMathJax{\newcommand{\alt}[1]{}}
7 \CustomizeMathJax{\newcommand{\thead}[1]{\text{\textbf{#1}}}}
8 \end{warpMathJax}

```

File 11 **lwarp-accsupp.sty**

§ 123 Package **accsupp**

accsupp (*Pkg*) accsupp is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{accsupp}[2018/03/28]

```

2 \newcommand*\BeginAccSupp[1]{}
3 \newcommand*\EndAccSupp[1]{}

For MATHJAX:


4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\BeginAccSupp}[1]{} }
6 \CustomizeMathJax{\newcommand{\EndAccSupp}[1]{} }
7 \end{warpMathJax}

```

File 12 **lwarp-acro.sty**§ 124 Package **acro**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

acro (*Pkg*) acro is patched for use by lwarp.

 **formats** Define acronymn formats using `\textbf` instead of `\bfseries` etc.

for HTML output: 1 \LWR@ProvidesPackagePass{acro}[2019/10/12]

`\DeclareAcronym` is used in the preamble, where `lwarp` has not yet made the dollar active, so temporarily enable `lwarp` math catcode just for this definition:

```
2 \ExplSyntaxOn
3 \NewDocumentCommand \LWR@DeclareAcronym {mm}
4 {
5   \acro_declare_acronym:nn {#1} {#2}
6   \catcode`\$=3% lwarp
7 }
8 \ExplSyntaxOff
9
10 \RenewDocumentCommand{\DeclareAcronym}{}{
11   \catcode`\$=\active% lwarp
12   \LWR@DeclareAcronym
13 }
```

Replace dot fill with simple dots:

```
14 \ExplSyntaxOn
15 \cs_new_protected:Npn \LWR@HTML@acro_dot_fill: { \dots\space }
16 \LWR@formatted{acro_dot_fill:}
17 \ExplSyntaxOff
```

Modified to activate the current font:

```
18 \ExplSyntaxOn
19 \IfPackageAtLeastTF{acro}{2020/04/29}%
20 { }% v3 or later
21 { }% before v3
22 \IfPackageAtLeastTF{acro}{2019/09/23}%
23 { }% v2.10 or later
24 \cs_gset_protected:Npn \__acro_typeset:nn #1#2
25 {
26   \mode_if_horizontal:F { \leavevmode }
27   \group_begin:
28     \use:x
29     {
30       \bool_if:cTF {l__acro_custom_#1_format_bool}
31       { \exp_not:v {l__acro_custom_#1_format_tl} }
32       { \exp_not:v {l__acro_#1_format_tl} }
33       { \exp_not:N\LWR@textcurrentfont{#2}}% lwarp
34     }
35   \group_end:
```

```

36 }
37
38 \cs_gset_protected:Npn \__acro_ending_format:nn #1#2
39 {
40   \bool_if:NTF \l__acro_include_endings_format_bool
41     {
42       \str_case:nn {#1}
43         {
44           {long}
45           {
46             \bool_if:NTF \l__acro_custom_long_format_bool
47               { \l__acro_custom_long_format_tl }
48               {
49                 \bool_if:NTF \l__acro_first_instance_bool
50                   { \l__acro_first_long_format_tl }
51                   { \l__acro_long_format_tl }
52               }
53           }
54         }
55         {short}
56         {
57           \bool_if:NTF \l__acro_custom_short_format_bool
58             { \l__acro_custom_short_format_tl }
59             { \l__acro_short_format_tl }
60         }
61         {alt}
62         {
63           \bool_if:NTF \l__acro_custom_alt_format_bool
64             { \l__acro_custom_alt_format_tl }
65             { \l__acro_alt_format_tl }
66         }
67     }
68   { \use:n }
69   {\exp_not:N\LWR@textcurrentfont{#2}}% lwarp
70 }
71 }% v2.10 or later
72 {% before v2.10
73 \cs_gset_protected:Npn \acro_write_short:nn #1#2
74 {
75   \mode_if_horizontal:F { \leavevmode }
76   \group_begin:
77     \bool_if:NTF \l__acro_custom_format_bool
78       { \l__acro_custom_format_tl }
79       { \l__acro_short_format_tl }
80     {\LWR@textcurrentfont{#2}}% lwarp
81   \group_end:
82 }
83
84 \cs_gset_protected:Npn \acro_write_alt:nn #1#2
85 {
86   \mode_if_horizontal:F { \leavevmode }
87   \group_begin:
88     \bool_if:NTF \l__acro_custom_format_bool
89       { \l__acro_custom_format_tl }
90       { \l__acro_alt_format_tl }
91     {\LWR@textcurrentfont{#2}}% lwarp
92   \group_end:
93 }
94
95 \cs_gset_protected:Npn \acro_write_long:nn #1#2

```

```

96 {
97   \mode_if_horizontal:F { \leavevmode }
98   \group_begin:
99     \bool_if:NTF \l__acro_custom_long_format_bool
100     { \l__acro_custom_long_format_tl }
101     { \use:n }
102     {
103       \use:x
104       {
105         \exp_not:n {#1}
106         {
107           \bool_if:NTF \l__acro_first_upper_bool
108           { \exp_not:N \__acro_first_upper_case:n { \exp_not:n {
109             \LWR@textcurrentfont{#2}% lwarp
110           } } }
111           { \exp_not:n {\LWR@textcurrentfont{#2}} }% lwarp
112         }
113       }
114     }
115   \group_end:
116 }
117 }% before v2.10
118 }% before v3
119 \ExplSyntaxOff


```

File 13 **lwarp-acronym.sty**

§ 125 Package **acronym**

(Emulates or patches code by TOBIAS OETIKER.)

acronym (*Pkg*) acronym is patched for use by lwarp.

 **multiply-defined labels** \acresetall does not work with cleveref, causing multiply-defined labels. lwarp patches acronym for HTML, but not for print mode.

for HTML output: 1 \LWR@ProvidesPackagePass{acronym}[2020/04/17]

Simplifies for HTML. Unable to use \VerifyCommand here due to \csname being used.

```

2 \expandafter\def\csname AC@\AC@prefix{ }\acro\endcsname#1[#2]#3{%
3   \ifAC@noList%
4   \else%
5   \ifnum%
6     \ifAC@printonlyused 1%
7     \else\ifAC@printonlyreused 1%
8     \else 0\fi\fi%
9   =1\relax%
10  \ifnum%
11    \ifAC@printonlyused%
12    \expandafter\ifx\csname acused@#1@once\endcsname\AC@used 1 \else 0 \fi%
13    \else\ifAC@printonlyreused%
14    \expandafter\ifx\csname acused@#1@twice\endcsname\AC@used 1 \else 0 \fi%
15    \else 0 \fi\fi%
16  =1\relax%
17  \item[\protect\AC@hypertarget{#1}]{%

```



```

18     \AC@hyperref[acro:#1]{\aclabelfont{#2}\hfill}%
19   ]\AC@hyperref[acro:#1]{#3}%
20     \ifAC@withpage%
21       \expandafter\ifx\csname r@acro:#1\endcsname\relax%
22       \PackageInfo{acronym}{%
23         Acronym #1 used in text but not spelled out in
24         full in text}%
25     \else%
26       \nobreak\leaders\hbox{%
27         $\m@th\mkern\@dotsep mu\hbox{.}\mkern\@dotsep mu$%
28       }\hfill%
29       \nobreak\hb@xt@\@pnumwidth{%
30       \hfil\normalfont\normalcolor
31       \quad --- % lwarp
32       \AC@pageref{acro:#1}%
33     }%
34     \fi%
35     \fi\}%
36   \fi%
37 \else%
38 \item[\protect\AC@hypertarget{#1}{\AC@hyperref[acro:#1]{\aclabelfont{#2}\hfill}}]%
39   \AC@hyperref[acro:#1]{#3}%
40 \fi%
41 \fi%
42 \begingroup
43   \def\acroextra##1{%
44     \@bsphack
45     \ifAC@printonlyreused%
46       \protected@write\@auxout{}{%
47         \string\newacro{#1}%
48         \expandafter\ifx\csname acused@#1@twice\endcsname\AC@used%
49         \string\AC@hyperlink{#1}{#2}%
50       \else%
51         {#2}%
52       \fi%
53     ]{#3}%
54   }%
55 \else%
56   \protected@write\@auxout{}{%
57     \string\newacro{#1}[\string\AC@hyperlink{#1}{#2}]{#3}%
58   }%
59   \fi%
60 \esphack
61 \endgroup
62 \ignorespaces}

```

Uses `\textit` instead of `\itshape`:

```

63 \renewcommand{\acfia}[1]{%
64   {\textit{\AC@acl{#1}}} (\ifAC@starred\acs*{#1}\else\acs{#1}\fi)}

```

Removes the mbox to allow math inside:

```

65 \VerifyCommand[\lwarp][acronym]{\AC@acs}{E2119484F7CD2A5D4B064390C6BB806F}
66
67 \renewcommand*\AC@acs[1]{%
68   \mbox{
69   \expandafter\AC@get\csname fn@#1\endcsname\@firstoftwo{#1}}
70 }

```

Fix for acronym labels in the captions of floats.

```

71 \renewcommand{\@starttoc}[1]{%
72   \LWR@htmlElementclass{nav}{#1}
73   \LetLtxMacro\@verridelabel\@gobble
74   \LWR@orig@starttoc{#1}
75   \LWR@htmlElementclassend{nav}{#1}
76 }

```

Modified for cleveref and lwarp:

```

77 \VerifyCommand[lwarp][acronym]{\AC@und@newl@bel}{661CF70DCB3E1AA8871B26E785BE7C86}
78
79 \renewcommand*\AC@und@newl@bel[3]{%
80   \@ifundefined{#1#3}%
81   {%
82     \global\expandafter\let\csname#2#3\endcsname\@nnil
83     \global\expandafter\let\csname#2#3@lwarp\endcsname\@nnil% lwarp
84     \global\expandafter\let\csname#2#3@cref\endcsname\@nnil% lwarp
85   }%
86   {%
87     \global\expandafter\let\csname#1#3\endcsname\relax
88     \global\expandafter\let\csname#1#3@lwarp\endcsname\relax% lwarp
89     \global\expandafter\let\csname#1#3@cref\endcsname\relax% lwarp
90   }%
91 }%

```

Improve paragraph handling:

```

92 \BeforeBeginEnvironment{acronym}{\LWR@stoppars}
93 \AfterEndEnvironment{acronym}{\LWR@startpars}

```

Create hyperlinks, even though hyperref is only emulated:

```

94 \AtBeginDocument{
95   \LetLtxMacro\AC@hyperlink\hyperlink
96   \LetLtxMacro\AC@hyperref\hyperref
97   \newcommand*\AC@raisedhypertarget[2]{%
98     \Hy@raisedlink{%
99       \hypertarget{#1}}}%
100   }%
101   #2}%
102   \LetLtxMacro\AC@hypertarget\AC@raisedhypertarget
103   \def\AC@phantomsection{%
104     \Hy@GlobalStepCount\Hy@linkcounter
105     \edef\@currentHref{section*.\the \Hy@linkcounter}%
106     \Hy@raisedlink{%
107       \hyper@anchorstart{\@currentHref}\hyper@anchorend
108     }%
109     \phantomsection%
110   }%
111 }
112
113 \appto\LWR@restoreorigformatting{%
114   \LetLtxMacro\AC@hyperlink\@secondoftwo%
115   \LetLtxMacro\AC@hyperref\LWR@nullify@hyperref%
116 }

```

File 14 **lwarp-adjmulticol.sty**§ 126 Package **adjmulticol**

(Emulates or patches code by BORIS VEYTSMAN.)

adjmulticol (*Pkg*) adjmulticol is emulated.

Emulation similar to multicols is used, with adjusted margins. If the number of columns is specified as 1, it is set so, but if two or greater are used, lwarp allows a variable number of columns up to three.

for HTML output: 1 \LWR@ProvidesPackageDrop{adjmulticol}[2012/01/20]

2 \RequirePackage{multicol}

adjmulticols * {<numcols>} {<left margin>} {<right margin>}

3 \NewDocumentEnvironment{adjmulticols}{s m m m}

4 {%

Compute the margins, and limit to positive only:

5 \setlength{\LWR@templengthone}{#3}%

6 \ifdimcomp{\LWR@templengthone}{<}{0pt}{\setlength{\LWR@templengthone}{0pt}}{ }%

7 \setlength{\LWR@templengthtwo}{#4}

8 \ifdimcomp{\LWR@templengthtwo}{<}{0pt}{\setlength{\LWR@templengthtwo}{0pt}}{ }%

If one column is specified, use a <div> of class singlecolumn, else use multicols:

9 \newcommand*\LWR@mccolstype{multicols}%

10 \ifnumcomp{#2}{=} {1}{\renewcommand*\LWR@mccolstype{singlecolumn}}{ }%

Help avoid page overflow:

11 \LWR@forcenewpage%

Create the <div> with the given margin and class:

12 \BlockClass[%

13 \LWR@print@mbbox{margin-left:\LWR@printlength{\LWR@templengthone}} ; %

14 \LWR@print@mbbox{margin-right:\LWR@printlength{\LWR@templengthtwo}}%

15]{\LWR@mccolstype}%

16 }

17 {\endBlockClass}

File 15 **lwarp-addlines.sty**§ 127 Package **addlines**

(Emulates or patches code by WILL ROBERTSON.)

`addlines (Pkg)` `addlines` is ignored.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{addlines}[2018/12/05]

2 \newcommand\addlines{\@ifstar\addlines@a\addlines@a}
3 \newcommand\addlines@a[1][1]{}
4 \let\addline\addlines
5 \newcommand\removelines{\@ifstar\removelines@a\removelines@a}
6 \newcommand\removelines@a[1][1]{}
7 \let\removeline\removelines
8 \newcommand\squeezepage[1][0]{}

```

File 16 **lwarp-afterpage.sty**

§ 128 Package **afterpage**

(Emulates or patches code by DAVID CARLISLE.)

`afterpage (Pkg)` `afterpage` is emulated.

for HTML output: Discard all options for `lwarp-afterpage`:

```
1 \LWR@ProvidesPackageDrop{afterpage}[2014/10/28]

2 \newcommand{\afterpage}[1]{#1}

```

File 17 **lwarp-algorithm2e.sty**

§ 129 Package **algorithm2e**

(Emulates or patches code by CHRISTOPHE FIORIO.)

`algorithm2e (Pkg)` `algorithm2e` is patched for use by `lwarp`.

For print output, captions are placed according to package options, but for HTML output captions are placed where used. Therefore, to have captions appear at the top of the algorithms for both print and HTML, place each captions at the top of each algorithm.

for HTML output:

```
1 \LWR@ProvidesPackagePass{algorithm2e}[2017/07/18]

For the list-of entries:

2 \renewcommand{\l@algocf}[2]{\hypertocfloat{1}{algocf}{loa}{#1}{#2}}

Select the lwarp float style according to the algorithm2e style:

3 \newcommand*\LWR@floatstyle@algocf{ruled}
4
5 \ifdefstring{\algocf@style}{boxed}{%
6 \renewcommand*\LWR@floatstyle@algocf}{boxed}
7 }{}
8

```

```

9 \ifdefstring{\algocf@style}{boxruled}{%
10 \renewcommand*\LWR@floatstyle@algocf}{boxruled}
11 }{}
12
13 \ifdefstring{\algocf@style}{plain}{%
14 \renewcommand*\LWR@floatstyle@algocf}{plain}
15 }{}

```

Paragraph handling to allow line numbers under certain conditions:

```

16 \renewcommand{\algocf@everypar}{%
17   \ifbool{LWR@algocf@dopars}{%
18     \ifbool{LWR@doingstartpars}{%
19       \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}{%
20         }{}%
21       }{}%

```

`algorithm2e` uses `\everypar`, so the open paragraph tag is generated here instead of `\LWR@openparagraph`:

```

22   \LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline%
23
24   \algocf@everypar\nl\algocf@everyparhanging%
25   }{}%
26 }{}%
27 }

```

lwarp caption handling:

```

28 \renewcommand{\algocf@makecaption}[2]{%
29   \LWR@HTML@caption@begin{algocf}%
30   \LWR@isolate{\algocf@captiontext{#1}{#2}}%
31   \LWR@HTML@caption@end%
32 }

```

Print any caption where it is declared:

```

33 \renewcommand{\algocf@makecaption@plain}[2]{%
34   \LWR@HTML@caption@begin{algocf}%
35   \LWR@isolate{\algocf@captiontext{#1}{#2}}%
36   \LWR@HTML@caption@end%
37 }
38
39 \renewcommand{\algocf@makecaption@boxed}[2]{%
40   \LWR@HTML@caption@begin{algocf}%
41   \LWR@isolate{\algocf@captiontext{#1}{#2}}%
42   \LWR@HTML@caption@end%
43 }
44
45 \renewcommand{\algocf@makecaption@ruled}[2]{%
46   \LWR@HTML@caption@begin{algocf}%
47   \LWR@isolate{\algocf@captiontext{#1}{#2}}%
48   \LWR@HTML@caption@end%
49 }

```

Turn off line numbering while making the caption:

```

50 \long\def\algocf@latexcaption#1[#2]#3{% original definition of caption
51 \boolfalse{LWR@algocf@dopars}%      lwarp
52 \par%
53 \addcontentsline{\csname ext@#1\endcsname}{#1}%
54 {\protect\numberline{\csname the#1\endcsname}{\ignorespaces \LWR@isolate{#2}}}%
55 \begingroup%
56 \@parboxrestore%
57 \if@minipage%
58   \setminipage%
59 \fi%
60 \normalsize%
61 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par%
62 \endgroup%
63 \booltrue{LWR@algocf@dopars}%      lwarp
64 }

```

Line numbers are printed in a `` of class `alg2elinenumber`:

```

65 \renewcommand{\algocf@printnl}[1]{%
66   \InlineClass{alg2elinenumber}{\NLsty{#1}}~%
67 }%

```

While initializing an algorithm environment, locally declare the style of a regular figure to be the same as the algorithm style, in case the figure option was used.

```

68 \preto\@algocf@init{%
69   \edef\LWR@floatstyle@figure{\LWR@floatstyle@algocf}%
70 }

```

For `lwarp`, the algorithm is not assembled inside a box, since `lateximages` would not work, so the captions are printed where declared.

```

71 \renewcommand{\@algocf@start}{%
72   \let\@mathsemicolon=\; \def\;{\ifmmode\@mathsemicolon\else\@endalgoln\fi}%
73 %   \raggedright%
74   \ALFnt{}%
75   \booltrue{LWR@algocf@dopars}% lwarp
76 }
77
78 \renewcommand{\@algocf@finish}{%
79   \boolfalse{LWR@algocf@dopars}% lwarp
80   \lineskip\normallineskip\setlength{\skiptotal}{\@defaultskiptotal}%
81   \let\;=\@mathsemicolon%
82   \let\]=\@mathdisplay%
83 }

```

Use an HTML break:

```

84 \renewcommand{\BlankLine}{%
85 \LWR@stoppars%
86 \LWR@htmltagc{br /}%
87 \LWR@startpars%
88 }

```

Simplified for HTML. The paragraph handling must be preserved.

```

89 \renewcommand{\SetKwInOut}[2]{%
90   \algocf@newcommand{#1}[1]{%
91     \ifthenelse{\boolean{algocf@hanginginout}}%

```

```

92     {\relax}%
93     {\algocf@seteveryparhanging{\relax}}%
94     \ifthenelse{\boolean{algocf@inoutnumbered}}%
95     {\relax}%
96     {\algocf@seteveryparnl{\relax}}%
97     {%
98         \KwSty{#2\algocf@typo:}%
99         ~##1\par%
100    }%
101    \algocf@linesnumbered% reset the numbering of the lines
102    \ifthenelse{\boolean{algocf@hanginginout}}%
103    {\relax}%
104    {\algocf@reseteveryparhanging}%
105  }%
106 }%
107
108 \renewcommand{\ResetInOut}[1]{%

```

Each of the following creates a <div> of a given class, and turns off line numbering while creating the <div> tags:

```

109 \renewcommand{\algocf@vline}[1]{%
110     \boolfalse{LWR@algocf@dopars}%
111     \begin{BlockClass}{alg2evline}
112     \booltrue{LWR@algocf@dopars}%
113     #1
114     \boolfalse{LWR@algocf@dopars}%
115     \end{BlockClass}
116     \booltrue{LWR@algocf@dopars}%
117 }

118 \renewcommand{\algocf@vsline}[1]{%
119     \boolfalse{LWR@algocf@dopars}%
120     \begin{BlockClass}{alg2evsline}
121     \booltrue{LWR@algocf@dopars}%
122     #1
123     \boolfalse{LWR@algocf@dopars}%
124     \end{BlockClass}
125     \booltrue{LWR@algocf@dopars}%
126 }

127 \renewcommand{\algocf@noline}[1]{%
128     \boolfalse{LWR@algocf@dopars}%
129     \begin{BlockClass}{alg2enoline}
130     \booltrue{LWR@algocf@dopars}%
131     #1
132     \boolfalse{LWR@algocf@dopars}%
133     \end{BlockClass}
134     \booltrue{LWR@algocf@dopars}%
135 }

```

The [H] environment is converted to a regular float, which in HTML is placed where declared. Reusing the regular float allows the [H] version to reuse the ruled and boxed options.

```

136 \LetLtxMacro\algocf@Here\algocf
137 \LetLtxMacro\endalgocf@Here\endalgocf

```

File 18 **lwarp-algorithmicx.sty**§ 130 Package **algorithmicx**

(Emulates or patches code by SZÁSZ JÁNOS.)

algorithmicx (*Pkg*) algorithmicx is supported with minor adjustments.

for HTML output: 1 \LWR@ProvidesPackagePass{algorithmicx}[2005/04/27]

Inside the algorithmic environment, level indenting is converted to a `` of the required length, and comments are placed inside a `` which is floated right.

 **package conflicts** If using `\newfloat`, `trivfloat`, and/or `algorithmicx` together, see section 646.1.

```

2 \AtBeginEnvironment{algorithmic}{%
3 %
4 \let\origALG@doentity\ALG@doentity%
5 %
6 \renewcommand*\ALG@doentity}{%
7 \origALG@doentity%
8 \LWR@htmltagc{%
9   span style=\textquotedbl{}%
10     width:\LWR@printlength{\ALG@thistlm}; display:inline-block;%
11   \textquotedbl%
12 }%
13 \ifbool{FormatWP}{%
14 \setlength{\LWR@templengthone}{\the\ALG@thistlm}%
15 \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
16 \quad%
17 \addtolength{\LWR@templengthone}{-1em}%
18 }%
19 }{%
20 \LWR@htmltagc{/span}%
21 }%
22
23 \let\LWR@origComment\Comment%
24
25 \renewcommand{\Comment}[1]{%
26   \InlineClass{floatright}{\LWR@origComment{#1}}%
27 }%
28 }
29
30 \renewcommand\algorithmiccomment[1]{%
31 \hfill\HTMLUnicode{25B7} #1% white right triangle
32 }%

```

File 19 **lwarp-alltt.sty**§ 131 Package **alltt**

(Emulates or patches code by JOHANNES BRAAMS.)

`alltt` (*Pkg*) `alltt` is patched for use by `lwarp`.

for HTML output:

```

1 \LWR@ProvidesPackagePass{alltt}[1997/06/16]

2 \AfterEndPreamble{
3 \LWR@traceinfo{Patching alltt.}
4
5 \AtBeginEnvironment{alltt}{%
6   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
7     {}%
8     {%
9       \LWR@forcenewpage
```

Vertical spacing changes if inside a list.

```

10       \LWR@atbeginverbatim{alltt}%
11     }%
12 }
13
14 \AfterEndEnvironment{alltt}{%
15   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
16     {}%
17     {%
```

Vertical spacing changes if inside a list.

```


18       \LWR@afterendverbatim%
19     }%
20 }
21
22 }
```

File 20 **lwarp-amscdx.sty**

§ 132 Package **amscdx**

(Emulates or patches code by MARTIN VERMEER.)

`amscdx` (*Pkg*) `amscdx` is used as-is for SVG math.

 **MATHJAX** For MATHJAX, a warning notes that the CD environment must be enclosed between `\displaymathother` and `\displaymathnormal`.

for HTML output:

```

1 \LWR@ProvidesPackagePass{amscdx}[2019/07/02]

2 \begin{warpMathJax}
3 \CustomizeMathJax{%
4   \renewenvironment{CD}
5     {\text{(Use \unicode{x005C}displaymathother before the CD enviroment.) \quad}}
6     {\quad \text{(Use \unicode{x005C}displaymathnormal after the CD enviroment.)}}
7 }
8
9 \CustomizeMathJax{\newcommand{\CDFattrue}}{}
10 \CustomizeMathJax{\newcommand{\CDFatfalse}}{}
11 \CustomizeMathJax{\newcommand{\CDashtrue}}{}
12 \CustomizeMathJax{\newcommand{\CDashfalse}}{}}
```

```
13 \CustomizeMathJax{\newcommand{\CDlor}[1]{} }
14 \end{warpMathJax}
```

File 21 **lwarp-amsmath.sty**

§ 133 Package **amsmath**

(Emulates or patches code by AMERICAN MATHEMATICAL SOCIETY, L^AT_EX3 PROJECT.)

amsmath (*Pkg*) amsmath is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{amsmath}[2017/09/02]

\dotso

An HTML text-mode version.

```
2 \newcommand*\LWR@HTML@dotso{\textellipsis\ }
3 \LWR@formatted{dotso}
```

Patches to allow \eqref inside a caption:

```
4 \def\maketag@@@#1{\text{#1}}
5 \def\tagform@#1{\maketag@@@(\ignorespaces#1\unskip)}
```

Patches for $\mathcal{M}\mathcal{S}$ math \tag macro to remember the first tag:

```
6 \ifbool{mathjax}{ }{% not mathjax
7
8 \VerifyCommand[lwarp][amsmath]{\make@df@tag@@}{A5AA7B9CD20DC2C73B1D19D582C44A8E}
9 \VerifyCommand[lwarp][amsmath]{\make@df@tag@@@}{670399C01F88B0E9B0874E9B129FA404}
10
11 \LetLtxMacro\LWR@origmake@df@tag@@\make@df@tag@@
12 \LetLtxMacro\LWR@origmake@df@tag@@@\make@df@tag@@@
13
14 \renewcommand*\make@df@tag@@[1]{%
15   \LWR@remembertag{#1}%
16   \LWR@origmake@df@tag@@{#1}%
17 }
18
19 \renewcommand*\make@df@tag@@@[1]{%
20   \LWR@remembertag{#1}%
21   \LWR@origmake@df@tag@@@{#1}%
22 }
23
24 }% not mathjax
```

For nesting $\mathcal{M}\mathcal{S}$ environments:

```
25 \newcounter{LWR@amsmathdepth}
26 \setcounter{LWR@amsmathdepth}{0}
```

The following $\mathcal{M}\mathcal{S}$ environments are patched in-place:

LWR@maxfields@ (*Ctr*) A copy of maxfields@ as it was passed. This is used to generate the mandatory argument for alignat and alignat* when using MATHJAX.

```

27 \newcounter{LWR@maxfields@}
28
29 \VerifyCommand[lwarp][amsmath]{\start@align}{D39AF6A45F9E97A21F17EADB4D21D218}
30
31 \xpatchcmd{\start@align}
32   {\maxfields@#3\relax}
33   {%
34     \maxfields@#3\relax%
35     \setcounter{LWR@maxfields@}{#3}%
36   }
37   {}
38   {\LWR@patcherror{amsmath}{start@align}}

```

`\LWR@amsmathenv@@before`

* $\langle environment name \rangle$
 * if the environment was starred.
 Embeds the environment inside a lateximage.

```

39 \NewDocumentCommand{\LWR@amsmathenv@@before}{s m}{%
40   \IfBooleanTF{#1}{
41     \begin{BlockClass}{displaymath}
42   }{
43     \begin{BlockClass}{displaymathnumbered}
44   }
45   \LWR@newautoidanchor%
46   \booltrue{LWR@indisplaymathimage}%
47   \begin{lateximage}[\LWR@amsmathbodynumbered{#2}]*?%
48   \LWR@applyxfakebold%
49 }

```

`\LWR@amsmathenv@before`

* $\langle environment name \rangle$
 * if the environment was starred.
 Embeds the environment with MATHJAX or a lateximage.

```

50 \NewDocumentCommand{\LWR@amsmathenv@before}{s m}{%
51   \ifnumequal{\value{LWR@amsmathdepth}}{0}{%
52     \LWR@stoppars%
53     \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
54     {
55       \LWR@syncmathjax
56       \boolfalse{LWR@amsmultline}
57       \ifstrequal{#2}{multline}{\booltrue{LWR@amsmultline}}{}
58       \ifstrequal{#2}{multline*}{\booltrue{LWR@amsmultline}}{}

```



autonum's "+" environments are not supported by MATHJAX.

```

59     \LWR@beginhideamsmath
60   }
61   {
62     \IfBooleanTF{#1}{
63       \LWR@amsmathenv@@before*{#2}
64     }{
65       \LWR@amsmathenv@before{#2}
66     }
67   }
68 }{}
69 \addtocounter{LWR@amsmathdepth}{1}
70 }

```

`\LWR@amsmathenv@after`

Embeds the environment inside a `lateximage`.

```
71 \newcommand*\LWR@amsmathenv@after{%
72   \end{lateximage}\end{BlockClass}\LWR@startpars%
73 }
```

`\LWR@amsmathenv@after`

* `{(environment name)}`

* if the environment was starred. Ignored here, only used for a consistent syntax.

Embeds the environment with `MATHJAX` or a `lateximage`.

```
74 \NewDocumentCommand{\LWR@amsmathenv@after}{s m}{%
75   \ifnumequal{\value{LWR@amsmathdepth}}{1}{%
76     \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
77     {
78       \LWR@endhideamsmath
79       \boolfalse{LWR@amsmultline}
80       \LWR@addmathjax{#2}{\the\@envbody}%
81     }
82     {\LWR@amsmathenv@after}
```

Clear the single-use alt text:

```
83   \gdef\LWR@ThisAltText{%
84   }{}
85   \addtocounter{LWR@amsmathdepth}{-1}
86 }
```

`multline (env)`

```
87 \BeforeBeginEnvironment{multline}{\LWR@amsmathenv@before{multline}}
88
89 \AfterEndEnvironment{multline}{\LWR@amsmathenv@after{multline}}
```

`multline* (env)`

```
90 \BeforeBeginEnvironment{multline*}{\LWR@amsmathenv@before*{multline*}}
91
92 \AfterEndEnvironment{multline*}{\LWR@amsmathenv@after*{multline*}}
93
```

`gather (env)`

```
94 \BeforeBeginEnvironment{gather}{\LWR@amsmathenv@before{gather}}
95
96 \AfterEndEnvironment{gather}{\LWR@amsmathenv@after{gather}}
```

`gather* (env)`

```
97 \BeforeBeginEnvironment{gather*}{\LWR@amsmathenv@before*{gather*}}
98
99 \AfterEndEnvironment{gather*}{\LWR@amsmathenv@after*{gather*}}
```

`align (env)`

```

100 \BeforeBeginEnvironment{align}{\LWR@amsmathenv@before{align}}
101
102 \AfterEndEnvironment{align}{\LWR@amsmathenv@after{align}}

```

*align** (*env.*)

```

103 \BeforeBeginEnvironment{align*}{\LWR@amsmathenv@before*{align*}}
104
105 \AfterEndEnvironment{align*}{\LWR@amsmathenv@after*{align*}}

```

flalign (*env.*)

```

106 \BeforeBeginEnvironment{flalign}{\LWR@amsmathenv@before{flalign}}
107
108 \AfterEndEnvironment{flalign}{\LWR@amsmathenv@after{flalign}}

```

*flalign** (*env.*)

```

109 \BeforeBeginEnvironment{flalign*}{\LWR@amsmathenv@before*{flalign*}}
110
111 \AfterEndEnvironment{flalign*}{\LWR@amsmathenv@after*{flalign*}}

```

alignat (*env.*)

```

112 \BeforeBeginEnvironment{alignat}{\LWR@amsmathenv@before{alignat}}
113
114 \AfterEndEnvironment{alignat}{\LWR@amsmathenv@after{alignat}}

```

*alignat** (*env.*)

```

115 \BeforeBeginEnvironment{alignat*}{\LWR@amsmathenv@before*{alignat*}}
116
117 \AfterEndEnvironment{alignat*}{\LWR@amsmathenv@after*{alignat*}}

```

```

118 \AtBeginEnvironment{subequations}{
119   \renewcommand*\theMathJaxsubequations}{1}
120   \renewcommand*\theMathJaxsection}{\theparentequation}
121   \renewcommand*\theMathJaxequation}{\arabic{equation}}
122 }

```

For MATHJAX:

```

123 \begin{warpMathJax}
124 \CustomizeMathJax{\newcommand{\intertext}[1]{\text{#1}\notag \\\}}
125 \CustomizeMathJax{\let\Hat\hat}
126 \CustomizeMathJax{\let\Check\check}
127 \CustomizeMathJax{\let\Tilde\tilde}
128 \CustomizeMathJax{\let\Acute\acute}
129 \CustomizeMathJax{\let\Grave\grave}
130 \CustomizeMathJax{\let\Dot\dot}
131 \CustomizeMathJax{\let\Ddot\ddot}
132 \CustomizeMathJax{\let\Breve\breve}
133 \CustomizeMathJax{\let\Bar\bar}
134 \CustomizeMathJax{\let\Vec\vec}
135 \end{warpMathJax}

```

File 22 **lwarp-amsthm.sty**

§ 134 Package **amsthm**

(Emulates or patches code by PUBLICATIONS TECHNICAL GROUP — AMERICAN MATHEMATICAL SOCIETY.)

The original source code is located in `amscldotx.dtx`, and printed in `amscldotx.pdf`.

`amsthm` (*Pkg*) `amsthm` is patched for use by `lwarp`.

Table 19: `amsthm` package — css styling of theorems and proofs

Theorem: `<div>` of class `amsthmbody<theoremstyle>`

Theorem Name: `` of class `amsthmname<theoremstyle>`

Theorem Number: `` of class `amsthmnumber<theoremstyle>`

Theorem Note: `` of class `amsthmnote<theoremstyle>`

Proof: `<div>` of class `amsthmproof`

Proof Name: `` of class `amsthmproofname`

where `<theoremstyle>` is `plain`, `definition`, etc.

for HTML output: `amsthm` must be loaded before `mdframed`:

```

1 \IfPackageLoadedTF{mdframed}{
2   \PackageError{lwarp}
3   {%
4     Package mdframed must be loaded after package amsthm.\MessageBreak
5     Enter 'H' for solutions%
6   }
7   {%
8     Move ``\protect\usepackage{amsthm}'' before
9     ``\protect\usepackage{mdframed}''.\MessageBreak
10    Package amsthm may be loaded by something else,\MessageBreak
11    which must also be moved before mdframed.%
12  }
13 }
14 {\relax}

```

Necessary for `\text`, used by `\openbox`, etc., below:

```

15 \RequirePackage{amsmath}
16 \LWR@ProvidesPackagePass{amsthm}[2017/10/31]

```

Storage for the style being used for new theorems:

```

17 \newcommand{\LWR@newtheoremstyle}{plain}

```

Patched to remember the style being used for new theorems:

```

18 \renewcommand{\theoremstyle}[1]{%
19   \ifundefined{th@#1}{%
20     \PackageWarning{amsthm}{Unknown theoremstyle `#1'}%
21     \thm@style{plain}%
22     \renewcommand{\LWR@newtheoremstyle}{plain}% lwarp
23   }{%
24     \thm@style{#1}%
25     \renewcommand{\LWR@newtheoremstyle}{#1}% lwarp
26   }%
27 }

```

Patched to remember the style for this theorem type:

```

28 \VerifyCommand[lwarp][amsthm]{\@xnthm}{21F7FB3FB6FB0C1A0F2EECD66EE87A60}
29
30 \def\@xnthm#1#2{%
31   \csedef{LWR@thmstyle#2}{\LWR@newtheoremstyle}% lwarp
32   \let\@tempa\relax
33   \@xp\ifdefinable\csname #2\endcsname{%
34     \global\@xp\let\csname end#2\endcsname\@endtheorem
35     \ifx *#1% unnumbered, need to get one more mandatory arg
36       \edef\@tempa##1{%
37         \gdef\@xp\@nx\csname#2\endcsname{%
38           \@nx\@thm{\@xp\@nx\csname th@the\thm@style\endcsname}%
39           }{##1}}%
40     \else % numbered theorem, need to check for optional arg
41       \def\@tempa{\@oparg{\@ynthm{#2}}[]}%
42     \fi
43     \AtBeginEnvironment{#2}{%
44       \edef\LWR@thismstyle{\@nameuse{LWR@thmstyle#2}}% lwarp
45     }% lwarp
46   }%
47   \@tempa%
48 }

```

Patched to enclose with css:

```

49 \newcommand{\LWR@haveamsthmname}{
50   \renewcommand{\thmname}[1]{%
51     \InlineClass{amsthmname\LWR@thismstyle}{##1}%
52   }
53 }
54
55 \newcommand{\LWR@haveamsthmnumber}{
56   \renewcommand{\thmnumber}[1]{%
57     \InlineClass{amsthmnumber\LWR@thismstyle}{##1}%
58   }
59 }
60
61 \newcommand{\LWR@haveamsthmnote}{
62   \renewcommand{\thmnote}[1]{%
63     \InlineClass{amsthmnote\LWR@thismstyle}{##1}%
64   }
65 }
66
67 \LWR@haveamsthmname
68 \LWR@haveamsthmnumber
69 \LWR@haveamsthmnote

```

Patched for css. Not using `\VerifyCommand` because the existing definition depends on other packages. The following is from `amsthm`'s own definition.

```

70 \def\@begintheorem#1#2[#3]{%
71     \GetTitleString{#3}%                lwarp
72     \let\@currentlabelname\GetTitleStringResult%    lwarp
73     \item[%
74     \LWR@newautopagelabel{page}\LWR@orignewline%
75 %   \deferred@thm@head{
76 %       \the\thm@headfont \thm@indent
77 %       \@ifempty{#1}{\let\thmname@gobble}{\LWR@haveamsthmname}%    lwarp
78 %       \@ifempty{#2}{\let\thmnumber@gobble}{\LWR@haveamsthmnumber}%    lwarp
79 %       \@ifempty{#3}{\let\thmnote@gobble}{\LWR@haveamsthmnote}%    lwarp
80 %       \thm@swap\swappedhead\thmhead{#1}{#2}{#3}%
81 %       \the\thm@headpunct % space
82 %       \thmheadnl % possibly a newline.
83 %       \hskip\thm@headsep
84 %   }%
85 %   ]%
86 \ignorespaces}

```

Patched for css:

```

87 \VerifyCommand[lwarp][amsthm]{\@thm}{2624BDB5B96C45756978B3D393430088}
88
89 \def\@thm#1#2#3{%
90     \ifhmode\unskip\unskip\par\fi
91     \normalfont
92     \LWR@forcenewpage%                lwarp
93
94     \LWR@printpendingfootnotes%      lwarp
95
96     \BlockClass{amsthmbody\LWR@thisthmstyle}%    lwarp
97     \trivlist
98     \let\thmheadnl\relax
99     \let\thm@swap@gobble
100    \thm@notefont{\fontseries\mdefault\upshape}%
101    \thm@headpunct{.}% add period after heading
102    \thm@headsep 5\p@ plus\p@ minus\p@\relax
103    \thm@space@setup
104    #1% style overrides
105    \@topsep \thm@preskip                % used by thm head
106    \@topsepadd \thm@postskip            % used by \@endparenv
107    \def\@tempa{#2}\ifx\@empty\@tempa
108        \def\@tempa{\@oparg{\@begintheorem{#3}{}}{}}[%
109        \else
110            \refstepcounter{#2}%
111            \def\@tempa{\@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}}[%
112    \fi
113    \@tempa%

```

`cleveref` patches `\@thm` to do `\cref@thmoptarg` if an optional argument is given. `lwarp` then patches `\cref@thmoptarg` `\AtBeginDocument`.


```

113 \AtBeginDocument{%
114 %
115 \VerifyCommand[lwarp][amsthm]{\cref@thmoptarg}{64B912D4D903D245FD05837C5838C9EC}
116 %
117 \def\cref@thmoptarg[#1]#2#3#4{%
118   \ifhmode\unskip\unskip\par\fi%
119   \normalfont%
120   \LWR@forcenewpage%                               lwarp

121   \LWR@printpendingfootnotes%                       lwarp

122   \BlockClass{amsthmbody\LWR@thisthmstyle}%        lwarp
123   \trivlist%
124   \let\thmheadn\relax%
125   \let\thm@swap@gobble%
126   \thm@notefont{\fontseries\mddefault\upshape}%
127   \thm@headpunct{.}% add period after heading
128   \thm@headsep 5\p@ plus\p@ minus\p@\relax%
129   \thm@space@setup%
130   #2% style overrides
131   \@topsep \thm@preskip           % used by thm head
132   \@topsepadd \thm@postskip       % used by \endparenv
133   \def\@tempa{#3}\ifx\@empty\@tempa%
134     \def\@tempa{\@oparg{\@begintheorem{#4}{}}{}}[%
135     \else%
136       \refstepcounter{#1}{#3}% <<< cleveref modification
137       \def\@tempa{\@oparg{\@begintheorem{#4}{\csname the#3\endcsname}}{}}[%
138       \fi%
139   \@tempa
140 }%
141 }% AtBeginDocument
142
143 \def\@endtheorem{%
144   \endtrivlist%

145   \LWR@printpendingfootnotes%                       lwarp

146   \endBlockClass%
147   \@endpfalse%
148 }

```

Proof QED symbol:

```

149 \AtBeginDocument{
150 \@ifundefined{LWR@orig@openbox}{
151 \LetLtxMacro\LWR@orig@openbox\openbox
152 \LetLtxMacro\LWR@orig@blacksquare\blacksquare
153 \LetLtxMacro\LWR@orig@Box\Box
154
155 \def\openbox{\text{\HTMLUnicode{25A1}}}% UTF-8 white box
156 \def\blacksquare{\text{\HTMLUnicode{220E}}}% UTF-8 end-of-proof
157 \def\Box{\text{\HTMLUnicode{25A1}}}% UTF-8 white box
158
159 \appto\LWR@restoreorigformatting{%
160   \LetLtxMacro\openbox\LWR@orig@openbox%
161   \LetLtxMacro\blacksquare\LWR@orig@blacksquare%
162   \LetLtxMacro\Box\LWR@orig@Box%
163 }% appto

```

```
164 }{}% @ifundefined
165 }% AtBeginDocument
```

Patched to add a :

```
166 \DeclareRobustCommand{\qed}{%
167   \ifmmode \mathqed
168   \else
169     \leavevmode\unskip\penalty9999 \hbox{ }\nobreak\hfill
170     \quad\hbox{\qedsymbol}%
171     \InlineClass{theoremdendmark}{\qedsymbol}%   lwarp
172   \fi
173 }
```

Patched for css:

```
174 \renewenvironment{proof}[1][\proofname]{\par
175   \LWR@forcenewpage% lwarp

176   \LWR@printpendingfootnotes%           lwarp

177   \BlockClass{amsthmproof}% lwarp
178   \LWR@newautopagelabel{page}%
179   \pushQED{\qed}%
180   \normalfont \topsep6\p@\@plus6\p@\relax
181   \trivlist
182   \item[
183     \InlineClass{amsthmproofname}{#1\@addpunct{.}}]\ignorespaces% changes
184 }{%
185   \popQED\endtrivlist%

186   \LWR@printpendingfootnotes%           lwarp

187   \endBlockClass% lwarp
188   \@endpefalse
189 }
```

File 23 **lwarp-anonchap.sty**

§ 135 Package **anonchap**

(Emulates or patches code by PETER WILSON.)

anonchap (*Pkg*) anonchap is emulated.

tocloft (*Pkg*) If using tocloft with tocbibind, anonchap, fncychap, or other packages which change chapter title formatting, load tocloft with its `titles` option, which tells tocloft to use standard L^AT_EX commands to create the titles, allowing other packages to work with it.

△ **tocloft & other packages**

The code is shared by tocbibind.

for HTML output: 1 \LWR@ProvidesPackageDrop{anonchap}[2009/08/03]

```

2 \newcommand{\simplechapter}[1][\@empty]{%
3   \def\@chapcntformat##1{%
4     #1~\csname the##1\endcsname\simplechapterdelim\quad%
5   }%
6 }
7
8 \newcommand{\restorechapter}{%
9 \let\@chapcntformat\@secntformat%
10 }

```

File 24 **lwarp-anysize.sty**

§ 136 Package **anysize**

(Emulates or patches code by MICHAEL SALZENBERG, THOMAS ESSER.)

anysize (*Pkg*) **anysize** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{anysize}[1994/08/13]

```

2 \def\papersize#1#2{}
3 \def\marginsize#1#2#3#4{}


```

File 25 **lwarp-appendix.sty**

§ 137 Package **appendix**

(Emulates or patches code by PETER WILSON.)

appendix (*Pkg*) **appendix** is patched for use by lwarp.

 **incorrect TOC link** During HTML conversion, the option toc without the option page results in a TOC link to whichever section was before the appendices environment. It is recommended to use both toc and also page at the same time.

for HTML output: 1 \LWR@ProvidesPackagePass{appendix}[2009/09/02]

```

2 \renewcommand*\@chap@pppage}{%
3 \part*\appendixpagename}
4 \if@dotoc@pp
5 \addappheadtotoc
6 \fi
7 }
8
9 \renewcommand*\@sec@pppage}{%
10 \part*\appendixpagename}
11 \if@dotoc@pp
12 \addappheadtotoc
13 \fi
14 }

```

File 26 **lwarp-apxproof.sty**§ 138 Package **apxproof**

(Emulates or patches code by PIERRE SENELLART.)

apxproof (*Pkg*) apxproof is patched for use by lwarp.

for HTML output:

```

1 \LWR@ProvidesPackagePass{apxproof}[2022/10/14]
2 \VerifyCommand[lwarp][apxproof]{\FVB@exp@VerbatimOut}{ADA4853FD25696EB39CD005CF44C7B5C}
3
4 \xpatchcmd{\FVB@exp@VerbatimOut}
5   {\FV@Scan}
6   {\boolfalse{LWR@HTMLsanitize@tmpb@enable}\FV@Scan}
7   {}
8   {\LWR@patcherror{apxproof}{FVB@exp@VerbatimOut}}
```

File 27 **lwarp-ar.sty**§ 139 Package **ar**

(Emulates or patches code by AGOSTINO DE MARCO.)

ar (*Pkg*) ar is patched for use by lwarp.

for HTML output:

```

1 \LWR@ProvidesPackagePass{ar}[2012/01/23]
```

Measure and print the width of the supplied glyph.

```

2 \newlength{\LWR@ar@width}
3
4 \newcommand*\LWR@ar@printwidth}[1]{%
5   \setlength{\LWR@ar@width}{\widthof{#1}}%
6   width:%
7   \LWR@convertto{em}{\the\LWR@ar@width}em%
8 }
```

The HTML version of \AR:

```

9 \newrobustcmd*\LWR@HTML@AR}{%
```

Start a hashed lateximage, additionally hashed by the font series, with a width depending on the given glyph:

```

10 \begin{lateximage}*[AR][\LWR@f@series][\LWR@ar@printwidth{\LWR@print@AR}]%
```

For text mode, set the font series according to the HTML font series:

```

11 \ifmode\else\cuse{LWR@orig\LWR@f@series series}\fi%
```

Print the original glyph using the newly set font series:

```
12 \LWR@print@AR%
```

Done.

```
13 \end{lateximage}%
14 }
```

Combine the print and HTML versions:

```
15 \LWR@formatted{AR}

16 \newrobustcmd*{\LWR@HTML@ARb}{%
17 \begin{lateximage}*[AR][b][\LWR@ar@printwidth{\LWR@print@ARb}]%
18 \LWR@print@ARb%
19 \end{lateximage}%
20 }
21 \LWR@formatted{ARb}

22 \newrobustcmd*{\LWR@HTML@ARss}{%
23 \begin{lateximage}*[ARss][\LWR@f@series][\LWR@ar@printwidth{\LWR@print@ARss}]%
24 \ifmmode\else\csuse{LWR@orig\LWR@f@series series}\fi%
25 \LWR@print@ARss%
26 \end{lateximage}%
27 }
28 \LWR@formatted{ARss}

29 \newrobustcmd*{\LWR@HTML@ARssb}{%
30 \begin{lateximage}*[AR][ssb][\LWR@ar@printwidth{\LWR@print@ARssb}]%
31 \LWR@print@ARssb%
32 \end{lateximage}%
33 }
34 \LWR@formatted{ARssb}

35 \newrobustcmd*{\LWR@HTML@ARtt}{%
36 \begin{lateximage}*[AR][tt][\LWR@ar@printwidth{\LWR@print@ARtt}]%
37 \LWR@print@ARtt%
38 \end{lateximage}%
39 }
40 \LWR@formatted{ARtt}
```

For MATHJAX:

```
41 \begin{warpMathJax}
42 \CustomizeMathJax{\newcommand{\AR}{\mathit{A!\!R}}}
43 \CustomizeMathJax{\newcommand{\ARb}{\boldsymbol{A!\!R}}}
44 \end{warpMathJax}
```

File 28 **lwarp-arabicfront.sty**

§ 140 Package **arabicfront**

arabicfront (*pkg*) arabicfront is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{arabicfront}[2006/09/03]

File 29 **lwarp-array.sty**§ 141 Package **array**

`array` (*Pkg*) `array` is used as-is for print output, and emulated for HTML.

`plarray` and `plextarray` do not affect `\firstline` or `\lastline`, and so are not affected by the following.

for HTML output:

If `array` is not yet loaded, remove the default nullfied macros:

```
1 \IfPackageLoadedTF{array}{%
2   \let\firstline\relax
3   \let\lastline\relax
4 }
5
6 \LWR@ProvidesPackagePass{array}[2018/12/30]
```

Provide simplified column types for HTML:

```
7 \HTMLnewcolumn{w}[2]{#1}
8 \HTMLnewcolumn{W}[2]{#1}
```

More HTML versions:

```
9 \newcommand*\LWR@HTML@firstline{\LWR@HTMLhline}%
10 \LWR@expandableformatted{firstline}
11
12 \newcommand*\LWR@HTML@lastline{\LWR@HTMLhline}%
13 \LWR@expandableformatted{lastline}

14 \let\tabularnewline\
15 \providecommand*\LWR@HTML@tabularnewline{\LWR@tabularendofline}
16 \LWR@formatted{tabularnewline}
```

For MATHJAX:

```
17 \CustomizeMathJax{
18   \newcommand{\multicolumn}[3]{#3}% only uses one cell
19 }
```

File 30 **lwarp-arydshln.sty**§ 142 Package **arydshln**

(Emulates or patches code by HIROSHI NAKASHIMA.)

`arydshln` (*Pkg*) `arydshln` heavily patches `tabular` code, so the actual package is not used. `arydshln` is emulated for HTML `tabular`, and reverts to solid rules for SVG math `array` and `tabular` in a `lateximage`.

css is not able to display a double-dashed border, so a single-dashed rule is displayed as a single-dashed border, and a double-dashed rule is displayed as a thicker single-dashed border.

For MATHJAX, limited emulation is provided for math mode.

for HTML output: `array` is required to allow `\newcolumn` below.

```
1 \RequirePackage{array}
2 \LWR@ProvidesPackageDrop{arydshln}[2018/09/26]
```

Ignored, but included for source compatibility:

```
3 \newdimen\dashlinedash \dashlinedash4pt %
4 \newdimen\dashlinegap \dashlinegap4pt %
5 \let\hdashlinewidth\dashlinedash
6 \let\hdashlinegap\dashlinegap
7
8 \def\ADLnullwide{}
9 \def\ADLsomewide{}
10 \def\ADLnullwidehline{}
11 \def\ADLsomewidehline{}
12
13 \def\ADLactivate{}
14 \def\ADLinactivate{}
15 \newcommand*\ADLdrawingmode[1]{}
16 \newcommand*\ADLnoshorthanded{}
17 \newcommand*\dashgapcolor[2][{}
18 \newcommand*\nodashgapcolor{}
```

In a `lateximage`, revert to solid vertical rules:

```
19 \appto\LWR@restoreorigformatting{%
20 \newcolumnntype{:}{|}%
21 \newcolumnntype{;}[1]{|}%
22 \let\txMacro\hdashline\hline%
23 }
```

Some of these macros are already defined as temporary placeholders in the `lwarp` core, so they must be redefined here.

The emulated defaults also work for an emulated print mode inside a `lateximage`:

```
24 \def\hdashline{
25%   \adl@hdashline\adl@ihdashline
26   \adl@hdashline\adl@inactivehdl
27 }
28 \def\adl@hdashline#1{\noalign{\ifnum0=^}\fi
29%   \ifadl@zwhrule \vskip-\arrayrulewidth
30%   \else
31%     \adl@hline\adl@connect\arrayrulewidth
32%     \hrule \@height \arrayrulewidth% lwarp
33%   \fi
34%   \@ifnextchar[%
35%     {#1}%
36%     {#1[%
37%       \dashlinedash/\dashlinegap
38%       1pt/1pt
```

```

39         ]}}
40 % \def\adl@ihdashline[#1/#2]{\ifnum0=`{\fi}%
41 %     \multispan{\adl@columns}\unskip \adl@hcline\z@[#1/#2]%
42 %     \noalign{\ifnum0=`}\fi
43 %     \futurelet\@tempa\adl@xhline}
44 \def\adl@inactivehdl[#1/#2]{
45 %     \ifadl@zwhrule \vskip-\arrayrulewidth \fi
46 %     \hrule\@height\arrayrulewidth
47 %     \futurelet\@tempa\adl@xhline}
48 \def\adl@xhline{\ifx\@tempa\hline \adl@ixhline\fi
49 %     \ifx\@tempa\hdashline \adl@ixhline\fi
50 %     \ifnum0=`{\fi}}
51 \def\adl@ixhline{\vskip\doublerulesep \adl@hline\relax\doublerulesep}
52 \def\adl@hline#1#2{%
53 % \@tempcnta#2
54 %     \global\advance\adl@totalheight\@tempcnta
55 %     \xdef\adl@rowsL{\adl@rowsL
56 %         (#1/\number\@tempcnta);}
57 %     \xdef\adl@rowsR{\adl@rowsR
58 %         (#1/\number\@tempcnta);}
59 }
60
61 \def\cdashline#1{\noalign{\ifnum0=`}\fi
62 %     \@ifnextchar[%
63 %         {\adl@cdline[#1]}%
64 %         {\adl@cdline[#1][\dashlinedash/\dashlinegap]}
65 %         {\adl@inactivecdl[#1]}%
66 %         {\adl@inactivecdl[#1][\dashlinedash/\dashlinegap]}
67 }
68
69 \def\adl@inactivecdl[#1-#2][#3]{\ifnum0=`{\fi}\cline{#1-#2}}

70 \begin{warpMathJax}
71 \CustomizeMathJax{\newcommand{\firsthdashline}[1][]{\hdashline}}
72 \CustomizeMathJax{\let\lasthdashline\firsthdashline}
73 \CustomizeMathJax{\let\cdashline\cline}
74 \end{warpMathJax}

```

File 31 **lwarp-asymptote.sty**

§ 143 Package **asymptote**

(Emulates or patches code by ANDY HAMMERLINDL, JOHN BOWMAN, TOM PRINCE.)

asymptote (*Pkg*) **asymptote** is patched for use by **lwarp**.

To compile:

```
pdflatex project.tex
asy project-*.asy
pdflatex project.tex

lwarpmk print
asy project-*.asy
lwarpmk print1
lwarpmk print1

lwarpmk html
asy project_html-*.asy
lwarpmk html1
lwarpmk html1
lwarpmk limages
```

for HTML output:

```
1 \LWR@ProvidesPackagePass{asymptote}[2016/11/26]

2 \BeforeBeginEnvironment{asy}{%
3   \begin{lateximage}[-asymptote-~\PackageDiagramAltText]?%
4 }
5 \AfterEndEnvironment{asy}{\end{lateximage}}
6
7 \VerifyCommand[lwarp][asymptote]{\asyinclude}{A4F9DF668FC457768E7DFB83FAF7B343}
8
9 \xpatchcmd{\asyinclude}
10   {\begingroup}
11   {\begin{lateximage}[-asymptote-~\PackageDiagramAltText]?}
12   {}
13   {\LWR@patcherror{asymptote}{asyinclude-begingroup}}
14
15 \xpatchcmd{\asyinclude}
16   {\endgroup}
17   {\end{lateximage}}
18   {}
19   {\LWR@patcherror{asymptote}{asyinclude-endgroup}}
```

File 32 **lwarp-atbegshi.sty**

§ 144 Package **atbegshi**

(Emulates or patches code by HEIKO OBERDIEK.)

atbegshi (*Pkg*) atbegshi is ignored.

for HTML output: Discard all options for lwarp-atbegshi:

```
1 \LWR@ProvidesPackageDrop{atbegshi}[2011/10/05]

2 \let\AtBeginShipout\relax
3 \let\AtBeginShipoutNext\relax
4 \let\AtBeginShipoutFirst\relax
5 \let\AtBeginShipoutDiscard\relax
6 \let\AtBeginShipoutInit\relax
7 \let\AtBeginShipoutAddToBox\relax
```

```

8 \let\AtBeginShipoutAddToBoxForeground\relax
9 \let\AtBeginShipoutUpperLeft\relax
10 \let\AtBeginShipoutUpperLeftForeground\relax
11 \let\AtBeginShipoutOriginalShipout\relax
12
13 \newcommand*\AtBeginShipout}[1]{}
14 \newbox\AtBeginShipoutBox
15 \newcommand*\AtBeginShipoutNext}[1]{}
16 \newcommand*\AtBeginShipoutFirst}[1]{}
17 \newcommand*\AtBeginShipoutDiscard{}
18 \newcommand*\AtBeginShipoutInit{}
19 \newcommand*\AtBeginShipoutAddToBox}[1]{}
20 \newcommand*\AtBeginShipoutAddToBoxForeground}[1]{}
21 \newcommand*\AtBeginShipoutUpperLeft}[1]{}
22 \newcommand*\AtBeginShipoutUpperLeftForeground}[1]{}
23 \newcommand*\AtBeginShipoutOriginalShipout}[1]{}
24 \def\AtBeginShipoutBoxWidth{0pt}
25 \def\AtBeginShipoutBoxHeight{0pt}
26 \def\AtBeginShipoutBoxDepth{0pt}


```

File 33 **lwarp-attachfile.sty**

§ 145 Package **attachfile**

(Emulates or patches code by SCOTT PAKIN.)

attachfile (*Pkg*) **attachfile** is patched for use by lwarp.

 Metadata is ignored for now.

for HTML output: 1 \LWR@ProvidesPackagePass{attachfile}[2016/09/18]

Encloses each icon:

```

2 \newenvironment*\LWR@attachfile@icon}
3 {
4   \begin{lateximage}*%
5     [-attachfile-]%
6     [%
7       \detokenize\expandafter{\atfi@icon@icon}-%
8       \detokenize\expandafter{\atfi@color@rgb}%
9     ]%
10 }
11 {
12   \end{lateximage}
13 }

```

Each icon is enclosed inside a `LWR@attachfile@icon` environment:

```

14 \xpretocmd{\atfi@acroGraph}{\LWR@attachfile@icon}{}{}
15 \xapptocmd{\atfi@acroGraph}{\endLWR@attachfile@icon}{}{}
16
17 \xpretocmd{\atfi@acroPaperclip}{\LWR@attachfile@icon}{}{}
18 \xapptocmd{\atfi@acroPaperclip}{\endLWR@attachfile@icon}{}{}
19
20 \xpretocmd{\atfi@acroPushPin}{\LWR@attachfile@icon}{}{}
21 \xapptocmd{\atfi@acroPushPin}{\endLWR@attachfile@icon}{}{}

```

```

22
23 \xpretocmd{\atfi@acroTag}{\LWR@attachfile@icon}{}{}
24 \xapptocmd{\atfi@acroTag}{\endLWR@attachfile@icon}{}{}

```

Disable PDF file embedding:

```
25 \DeclareRobustCommand{\atfi@embedfile}[1]{}

```

The displayed output for an `\attachfile` reference:

```

26 \newcommand*{\LWR@attachfile@appearance}{}
27
28 \DeclareRobustCommand{\atfi@set@appearance}[1]{%
29   \def\LWR@attachfile@appearance{#1}%
30 }

```

A file annotation becomes a reference:

```

31 \DeclareRobustCommand{\atfi@insert@file@annot}[1]{%
32   \LWR@href@partsanitized{#1}{\LWR@attachfile@appearance}%
33 }

```

File 34 **lwarp-attachfile2.sty**

§ 146 Package **attachfile2**

(Emulates or patches code by HEIKO OBERDIEK.)

`attachfile2` (*Pkg*) `attachfile2` is patched for use by `lwarp`.



Metadata is ignored for now.

for HTML output: 1 \LWR@ProvidesPackagePass{attachfile2}[2016/05/16]

Adds memory of the selected color:

```

2 \def\LWR@attachfiletwo@color{}%
3
4 \define@key{AtFi}{color}{%
5   \def\LWR@attachfiletwo@color{#1}%   lwarp
6   \HyColor@AttachfileColor{#1}%
7     \atfi@color@tex\atfi@color@inline\atfi@color@annot
8     {attachfile2}{color}%
9 }

```

Encloses each icon:

```

10 \newenvironment*{\LWR@attachfile@icon}
11 {
12   \begin{lateximage}*%
13     [-attachfile-]%
14     [%
15       \detokenize\expandafter{\atfi@icon@icon}-%
16       \detokenize\expandafter{\LWR@attachfiletwo@color}%
17     ]%
18 }

```

```

19 {
20   \end{lateximage}
21 }

```

Each icon is enclosed inside a `LWR@attachfile@icon` environment:

```

22 \xpretocmd{\atfi@acroGraph}{\LWR@attachfile@icon}{}{}
23 \xapptocmd{\atfi@acroGraph}{\endLWR@attachfile@icon}{}{}
24
25 \xpretocmd{\atfi@acroPaperclip}{\LWR@attachfile@icon}{}{}
26 \xapptocmd{\atfi@acroPaperclip}{\endLWR@attachfile@icon}{}{}
27
28 \xpretocmd{\atfi@acroPushPin}{\LWR@attachfile@icon}{}{}
29 \xapptocmd{\atfi@acroPushPin}{\endLWR@attachfile@icon}{}{}
30
31 \xpretocmd{\atfi@acroTag}{\LWR@attachfile@icon}{}{}
32 \xapptocmd{\atfi@acroTag}{\endLWR@attachfile@icon}{}{}

```

Disable PDF file embedding:

```

33 \DeclareRobustCommand{\atfi@embedfile}[1]{}

```

The displayed output for an `\attachfile` reference:

```

34 \newcommand*{\LWR@attachfile@appearance}{}
35
36 \def\atfi@set@appearance@icon{%
37   \atfi@set@appearance{\csname atfi@acro\atfi@icon@icon\endcsname}%
38 }
39
40 \DeclareRobustCommand{\atfi@set@appearance}[1]{%
41   \def\LWR@attachfile@appearance{#1}%
42 }

```

A file annotation becomes a reference:

```

43 \DeclareRobustCommand{\atfi@insert@file@annot}[1]{%
44   \LWR@href@partsanitized{#1}{\LWR@attachfile@appearance}%
45 }

```

Modified for text color:

```

46 \VerifyCommand[lwarp][attachfile2]{\notextattachfile}{CE78259EFC576D4A15920EADF824D7EF}
47
48 \DeclareRobustCommand{\notextattachfile}[2][[]]{%
49   \begingroup
50     \atfi@setup{#1}%
51     \ifatfi@print
52       \leavevmode
53       \begingroup
54         \HyColor@UseColor\atfi@color@tex
55         \LWR@textcurrentcolor{#2}%      lwarp
56 % \strut
57   \endgroup
58 % \else
59 %   \sbox\ltx@zero{#2\strut}%
60 %   \makebox[\wd0]{}%
61   \fi
62 \endgroup

```

63 }

Modified to draw the icon:

```

64 \VerifyCommand[lwarp][attachfile2]{\noattachfile}{CE78259EFC576D4A15920EADF824D7EF}
65
66 \DeclareRobustCommand{\noattachfile}[1][\%
67   \begin{group}
68     \atfi@setup{#1}%
69     \atfi@set@appearance@icon
70     \ifatfi@print
71     \LWR@attachfile@appearance%   lwarp
72 %   \expandafter
73 %   \atfi@refxform\csname atfi@appobj@atfi@icon@icon\endcsname
74 %   \else
75 %   \makebox[\atfi@appearancewidth]{\%
76   \fi
77 \endgroup
78 }
```

File 35 **lwarp-authblk.sty**

§ 147 Package **authblk**

(Emulates or patches code by PATRICK W. DALY.)

authblk (*Pkg*) authblk is patched for HTML.

package support lwarp supports the native L^AT_EX titling commands, and also supports the packages
⚠ **load order** authblk and titling. If both are used, authblk should be loaded before titling.

\published and \subtitle If using the titling package, additional titlepage fields for \published and \subtitle may be added by using \AddSubtitlePublished in the preamble. See section 71.8.

(Emulates or patches code by PATRICK W. DALY.)

for HTML output: Require that authblk be loaded before titling:

```

1 \IfPackageLoadedTF{titling}{
2   \PackageError{lwarp-authblk}
3     {Package authblk must be loaded before titling}
4     {\%
5       Titling appends authblk's author macro,
6       so authblk must be loaded first.%
7     }
8 }
9 {\relax}
```

Load authblk:

```
10 \LWR@ProvidesPackagePass{authblk}[2001/02/27]
```

Patch to add a class for the affiliation:

```

11 \LetLtxMacro\LWRAB@affil\affil
12
13 \renewcommand{\affil}[2][\%

```

```
14 \LWRAB@affil[#1]{\protect\InlineClass{affiliation}{#2}}
15 }
```

Create an HTML break for an `\authorcr`:

```
16 \renewcommand*{\authorcr}{\protect\LWR@newlinebr}
```

File 36 **lwarp-autobreak.sty**

§ 148 Package **autobreak**

(Emulates or patches code by TAKAHIRO UEDA.)

`autobreak` (*Pkg*) `autobreak` is used as-is for SVG math, and nullified for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{autobreak}[2017/02/23]


For MATHJAX. The modified `align` environment is used for SVG math, but is reverted to its original for MATHJAX. (Extraneous commas were appearing in the result.)

```
2 \begin{warpMathJax}
3 \renewenvironment{autobreak}{\newcommand{\MoveEqLeft}[1]{}{}}
4 \let\start@align\@autobreak@oldstart@align
5 \let\endalign\@autobreak@oldendalign
6 \CustomizeMathJax{\newenvironment{autobreak}{}{}}
7 \CustomizeMathJax{\newcommand{\MoveEqLeft}[1]{}{}}
8 \CustomizeMathJax{\newcommand{\everybeforeautobreak}[1]{}{}}
9 \CustomizeMathJax{\newcommand{\everyafterautobreak}[1]{}{}}
10 \end{warpMathJax}
```

File 37 **lwarp-autonum.sty**

§ 149 Package **autonum**

`autonum` (*Pkg*) `autonum` is ignored.

 **numbering, +** All equations are numbered in HTML output. MATHJAX does not support the “+” environments.

for HTML output: 1 \LWR@ProvidesPackageDrop{autonum}[2015/01/18]

```
2 \RequirePackage{amsmath}
3
4
5 \newenvironment{equation+}{\equation}{\endequation}
6
7
8 \newenvironment{gather+}{\gather}{\endgather}
9
10 \BeforeBeginEnvironment{gather+}{\LWR@amsmathenv@before{gather+}}
11
12 \AfterEndEnvironment{gather+}{\LWR@amsmathenv@after}
13
```

```

14
15 \newenvironment{multline+}{\multline}{\endmultline}
16
17 \BeforeBeginEnvironment{multline+}{\LWR@amsmathenv@@before{multline+}}
18
19 \AfterEndEnvironment{multline+}{\LWR@amsmathenv@@after}

20 \newenvironment{flalign+}{\flalign}{\endflalign}
21
22 \BeforeBeginEnvironment{flalign+}{\LWR@amsmathenv@@before{flalign+}}
23
24 \AfterEndEnvironment{flalign+}{\LWR@amsmathenv@@after}
25
26
27 \newenvironment{align+}{\align}{\endalign}
28
29 \BeforeBeginEnvironment{align+}{\LWR@amsmathenv@@before{aline+}}
30
31 \AfterEndEnvironment{align+}{\LWR@amsmathenv@@after}
32
33
34 \newenvironment{alignat+}{\alignat}{\endalignat}
35
36 \BeforeBeginEnvironment{alignat+}{\LWR@amsmathenv@@before{alineat+}}
37
38 \AfterEndEnvironment{alignat+}{\LWR@amsmathenv@@after}
39
40
41 \newenvironment{split+}{\split}{\endsplit}

```

File 38 **lwarp-awesomebox.sty**

§ 150 Package **awesomebox**

(Emulates or patches code by ÉTIENNE DEPARIS.)

awesomebox (*Pkg*) **awesomebox** is patched for use by **lwarp**.

for HTML output:

```

1 \LWR@ProvidesPackagePass{awesomebox}[2019/07/27]

2 \newcommand*{\LWR@awesomebox@boxborders}{}%
3 \newcommand*{\LWR@awesomebox@contentsborders}{}%
4
5 \newcommand*{\LWR@awesomebox@ruleborders}{%
6   border-top: 1px solid black ;
7   border-bottom: 1px solid black%
8 }
9
10 % \awesomebox[1:vrulecolor][2:hrule][3:title]{4:vrulewidth}{5:icon}{6:iconcolor}{7:content}
11 \RenewDocumentCommand \awesomebox { O{abvrulecolor} O{ } o m m m +m }{%
12   \begin{awesomeblock}[#1][#2][#3][#4][#5][#6]
13     #7
14   \end{awesomeblock}
15 }
16
17 % \begin{awesomeblock}[1:vrulecolor][2:hrule][3:title]{4:vrulewidth}{5:icon}{6:iconcolor}

```

```

18 % <contents>
19 % \end{awesomeblock}
20 \RenewDocumentEnvironment{awesomeblock}{ O{abvrulecolor} O{ o m m m }
21 {%
22   \LWR@forceminwidth{#4}%
23   \convertcolorspec{named}{#1}{HTML}\LWR@tempcolor%
24   \renewcommand*\LWR@awesomebox@boxborders}{}%
25   \renewcommand*\LWR@awesomebox@contentsborders}{}%
26   \ifdefstrequal{\abShortLine}{#2}{%
27     \renewcommand*\LWR@awesomebox@contentsborders}\LWR@awesomebox@ruleborders}%
28   }{%
29   \ifdefstrequal{\abLongLine}{#2}{%
30     \renewcommand*\LWR@awesomebox@boxborders}\LWR@awesomebox@ruleborders}%
31   }{%
32   \begin{BlockClass}\LWR@awesomebox@boxborders]{awesomebox}
33   \begin{BlockClass}[%
34     margin-left: 2\% ;
35     vertical-align: top
36   ]{minipage}
37     \color{#6}\Huge #5
38   \end{BlockClass}
39   \begin{BlockClass}[%
40     width:75\% ;
41     vertical-align: top ;
42     padding-left: 1em ;
43     \LWR@awesomebox@contentsborders ;
44     border-left: \LWR@printlength{\LWR@atleastonept} %
45       solid \LWR@origpound\LWR@tempcolor%
46   ]{minipage}
47     \IfValueTF{#3}{#3\newline}{%
48   }
49 {%
50   \end{BlockClass}
51   \end{BlockClass}
52 }

```

File 39 **lwarp-axessibility.sty**

§ 151 Package **axessibility**

axessibility (*Pkg*) axessibility is ignored.

for HTML output:

```

1 \PackageInfo{lwarp}{Using the lwarp version of package `axessibility'.}%
2 \ProvidesPackage{lwarp-axessibility}% no date is declared by the original
3
4 \newif\iftagpdfopt
5
6 \DeclareOption{accsupp}{
7   \tagpdfoptfalse
8 }
9
10 \DeclareOption{tagpdf}{
11   \tagpdfopttrue
12 }
13
14 \ProcessOptions\relax
15

```



```

16 \iftagpdfopt
17   \RequirePackage{tagpdf}
18 \else
19   \RequirePackage{accsupp}
20 \fi

21 \long\def\wrap#1{}
22 \long\def\wrapml#1{}
23 \long\def\wrapmlstar#1{}
24 \long\def\wrapmlalt#1{}

```

For MATHJAX. These usually will not be needed.

```

25 \begin{warpMathJax}
26 \CustomizeMathJax{\newcommand{\wrap}[1]{} }
27 \CustomizeMathJax{\newcommand{\wrapml}[1]{} }
28 \CustomizeMathJax{\newcommand{\wrapmlstar}[1]{} }
29 \CustomizeMathJax{\newcommand{\wrapmlalt}[1]{} }
30 \end{warpMathJax}

```

File 40 **lwarp-axodraw2.sty**

§ 152 Package **axodraw2**

(Emulates or patches code by JOHN C. COLLINS, J.A.M. VERMASEREN.)

axodraw2 (*Pkg*) axodraw2 is patched for use by lwarp.

for HTML output:

```

1 \LWR@ProvidesPackagePass{axodraw2}[2018/02/15]

2 \BeforeBeginEnvironment{axopicture}{%
3   \begin{lateximage}[-axopicture-~\PackageDiagramAltText]?%
4 }
5
6 \AfterEndEnvironment{axopicture}{\end{lateximage}}

```

File 41 **lwarp-backnaur.sty**

§ 153 Package **backnaur**

(Emulates or patches code by ADRIAN P. ROBSON.)

backnaur (*Pkg*) backnaur is patched for use by lwarp, and emulated for MATHJAX.

for HTML output:

```

1 \LWR@ProvidesPackagePass{backnaur}[2019/06/18]

2 \renewenvironment{bnf}{\eqnarray}{\endeqnarray}
3 \renewenvironment{bnf*}{\csuse{eqnarray*}}{\csuse{endeqnarray*}}

```

For MATHJAX:

```

4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\bnf}[1]{\Langle \text{\texttrm{#1}} \rangle}}

```

```

6 \CustomizeMathJax{\newcommand{\bnfor}{\; \mid \;}}
7 \CustomizeMathJax{\newcommand{\bnfsp}{\;}}
8 \IfPackageLoadedWithOptionsTF{backnaur}{perp}{
9   \CustomizeMathJax{\newcommand{\bnfes}{\perp}}
10 }{
11   \IfPackageLoadedWithOptionsTF{backnaur}{epsilon}{
12     \CustomizeMathJax{\newcommand{\bnfes}{\epsilon}}
13   }{
14     \CustomizeMathJax{\newcommand{\bnfes}{\lambda}}
15   }
16 }
17 \IfPackageLoadedWithOptionsTF{backnaur}{tsrm}{
18   \CustomizeMathJax{\newcommand{\bnfts}[1]{\text{#1}}}
19 }{
20   \CustomizeMathJax{\newcommand{\bnfts}[1]{\text{\texttt{#1}}}}
21 }
22 \CustomizeMathJax{\newcommand{\bnftd}[1]{\text{\textit{#1}}}}
23 \CustomizeMathJax{\newcommand{\bnfsk}{\dots}}
24 \IfPackageLoadedWithOptionsTF{backnaur}{altpo}{
25   \CustomizeMathJax{\newcommand{\bnfpo}{::=}}
26 }{
27   \CustomizeMathJax{\newcommand{\bnfpo}{\models}}
28 }
29 \CustomizeMathJax{\newcommand{\bnfprod}{\ifstar{\LWRbnfprodnn}{\LWRbnfprodyn}}}
30 \CustomizeMathJax{\newcommand{\LWRbnfprodyn}[2]{\bnfprn{#1} & \bnfpo & #2}}
31 \CustomizeMathJax{\newcommand{\LWRbnfprodnn}[2]{\nonumber \bnfprn{#1} & \bnfpo & #2}}
32 \CustomizeMathJax{\newcommand{\bnfmore}{\ifstar{\LWRbnfmoreenn}{\LWRbnfmoreyn}}}
33 \CustomizeMathJax{\newcommand{\LWRbnfmoreyn}[1]{ & & #1}}
34 \CustomizeMathJax{\newcommand{\LWRbnfmoreenn}[1]{\nonumber & & #1}}
35 \end{warpMathJax}

```

File 42 **lwarp-backref.sty**

§ 154 Package **backref**

(Emulates or patches code by DAVID CARLISLE AND SEBASTIAN RAHTZ.)

backref (*Pkg*) **backref** is patched for use by **lwarp**.

for HTML output: 1 \LWR@ProvidesPackagePass{backref}[2023-11-26]

Force the hyperref option:

```

2 \def\backref{}
3
4 \long\def\hyper@section@backref#1#2#3{\LWR@refwithsection{#3}}
5
6 \let\backrefxxx\hyper@section@backref
7
8 \VerifyCommand[lwarp][backref]{\Hy@backout}
9   {277444C1A7F4620D9563D82EFD29877E}
10
11 \xpatchcmd{\Hy@backout}
12   {\@currentHref}%
13   {\BaseJobname-autopage-\arabic{\LWR@previousautopagelabel}}
14   {}
15   {\LWR@patcherror{backref}{\Hy@backout}}

```

File 43 **lwarp-balance.sty**§ 155 Package **balance**

(Emulates or patches code by PATRICK W. DALY.)

balance (*Pkg*) **balance** is ignored.

for HTML output: Discard all options for **lwarp-balance**:

```
1 \LWR@ProvidesPackageDrop{balance}[1999/02/23]

2 \newcommand*{\balance}{}
3 \newcommand*{\nobalance}{}

```

File 44 **lwarp-bbding.sty**§ 156 Package **bbding**

(Emulates or patches code by KAREL HORAK, PETER MØLLER NEERGAARD.)

bbding (*Pkg*) **bbding** is patched for use by **lwarp**.

for HTML output:

```
1 \LWR@ProvidesPackagePass{bbding}[1999/04/15]

2 \newcommand*{\LWR@bbdingsymbol}[2]{\HTMLUnicode{#2}}
3
4 \newcommand{\LWR@HTML@ScissorRightBrokenBottom}{\LWR@bbdingsymbol{000} {2701}}
5 \newcommand{\LWR@HTML@ScissorRight}{\LWR@bbdingsymbol{001} {2702}}
6 \newcommand{\LWR@HTML@ScissorRightBrokenTop}{\LWR@bbdingsymbol{002} {2703}}
7 \newcommand{\LWR@HTML@ScissorLeftBrokenBottom}{\LWR@bbdingsymbol{003} {2701}}
8 \newcommand{\LWR@HTML@ScissorLeft}{\LWR@bbdingsymbol{004} {2702}}
9 \newcommand{\LWR@HTML@ScissorLeftBrokenTop}{\LWR@bbdingsymbol{005} {2703}}
10 \newcommand{\LWR@HTML@ScissorHollowRight}{\LWR@bbdingsymbol{006} {2704}}
11 \newcommand{\LWR@HTML@ScissorHollowLeft}{\LWR@bbdingsymbol{007} {2704}}
12 \newcommand{\LWR@HTML@Phone}{\LWR@bbdingsymbol{010} {260E}}
13 \newcommand{\LWR@HTML@PhoneHandset}{\LWR@bbdingsymbol{011} {2706}}
14 \newcommand{\LWR@HTML@Tape}{\LWR@bbdingsymbol{012} {2707}}
15 \newcommand{\LWR@HTML@Plane}{\LWR@bbdingsymbol{013} {2708}}
16 \newcommand{\LWR@HTML@Envelope}{\LWR@bbdingsymbol{014} {2709}}
17 \newcommand{\LWR@HTML@HandCuffRight}{\LWR@bbdingsymbol{015} {261B}}
18 \newcommand{\LWR@HTML@HandCuffLeft}{\LWR@bbdingsymbol{016} {261A}}
19 \newcommand{\LWR@HTML@HandCuffRightUp}{\LWR@bbdingsymbol{017} {261D}}
20 \newcommand{\LWR@HTML@HandCuffLeftUp}{\LWR@bbdingsymbol{020} {261F}}
21 \newcommand{\LWR@HTML@HandRight}{\LWR@bbdingsymbol{021} {261E}}
22 \newcommand{\LWR@HTML@HandLeft}{\LWR@bbdingsymbol{022} {261C}}
23 \newcommand{\LWR@HTML@HandRightUp}{\LWR@bbdingsymbol{023} {261D}}
24 \newcommand{\LWR@HTML@HandLeftUp}{\LWR@bbdingsymbol{024} {261F}}
25 \newcommand{\LWR@HTML@Peace}{\LWR@bbdingsymbol{025} {270C}}
26 \newcommand{\LWR@HTML@HandPencilLeft}{\LWR@bbdingsymbol{026} {270D}}
27 \newcommand{\LWR@HTML@PencilRight}{\LWR@bbdingsymbol{027} {270F}}
28 \newcommand{\LWR@HTML@PencilLeft}{\LWR@bbdingsymbol{030} {270F}}
29 \newcommand{\LWR@HTML@PencilRightUp}{\LWR@bbdingsymbol{031} {2710}}

```

30 \newcommand{\LWR@HTML@PencilLeftUp}{\LWR@bbdingsymbol{032}}	{2710}}
31 \newcommand{\LWR@HTML@PencilRightDown}{\LWR@bbdingsymbol{033}}	{270E}}
32 \newcommand{\LWR@HTML@PencilLeftDown}{\LWR@bbdingsymbol{034}}	{270E}}
33 \newcommand{\LWR@HTML@NibRight}{\LWR@bbdingsymbol{035}}	{2711}}
34 \newcommand{\LWR@HTML@NibLeft}{\LWR@bbdingsymbol{036}}	{2711}}
35 \newcommand{\LWR@HTML@NibSolidRight}{\LWR@bbdingsymbol{037}}	{2712}}
36 \newcommand{\LWR@HTML@NibSolidLeft}{\LWR@bbdingsymbol{040}}	{2712}}
37 \newcommand{\LWR@HTML@Checkmark}{\LWR@bbdingsymbol{041}}	{2713}}
38 \newcommand{\LWR@HTML@CheckmarkBold}{\LWR@bbdingsymbol{042}}	{2714}}
39 \newcommand{\LWR@HTML@XSolid}{\LWR@bbdingsymbol{043}}	{2715}}
40 \newcommand{\LWR@HTML@XSolidBold}{\LWR@bbdingsymbol{044}}	{2716}}
41 \newcommand{\LWR@HTML@XSolidBrush}{\LWR@bbdingsymbol{045}}	{2717}}
42 \newcommand{\LWR@HTML@PlusOutline}{\LWR@bbdingsymbol{046}}	{2719}}
43 \newcommand{\LWR@HTML@Plus}{\LWR@bbdingsymbol{047}}	{271A}}
44 \newcommand{\LWR@HTML@PlusCenterOpen}{\LWR@bbdingsymbol{050}}	{271C}}
45 \newcommand{\LWR@HTML@PlusThinCenterOpen}{\LWR@bbdingsymbol{051}}	{271B}}
46 \newcommand{\LWR@HTML@Cross}{\LWR@bbdingsymbol{052}}	{271D}}
47 \newcommand{\LWR@HTML@CrossOpenShadow}{\LWR@bbdingsymbol{053}}	{271E}}
48 \newcommand{\LWR@HTML@CrossOutline}{\LWR@bbdingsymbol{054}}	{271F}}
49 \newcommand{\LWR@HTML@CrossBoldOutline}{\LWR@bbdingsymbol{055}}	{271F}}
50 \newcommand{\LWR@HTML@CrossMaltese}{\LWR@bbdingsymbol{056}}	{2720}}
51 \newcommand{\LWR@HTML@DavidStarSolid}{\LWR@bbdingsymbol{057}}	{2721}}
52 \newcommand{\LWR@HTML@DavidStar}{\LWR@bbdingsymbol{060}}	{2721}}
53 \newcommand{\LWR@HTML@FourAsterisk}{\LWR@bbdingsymbol{061}}	{2722}}
54 \newcommand{\LWR@HTML@JackStar}{\LWR@bbdingsymbol{062}}	{2723}}
55 \newcommand{\LWR@HTML@JackStarBold}{\LWR@bbdingsymbol{063}}	{2724}}
56 \newcommand{\LWR@HTML@CrossClowerTips}{\LWR@bbdingsymbol{064}}	{2725}}
57 \newcommand{\LWR@HTML@FourStar}{\LWR@bbdingsymbol{065}}	{2726}}
58 \newcommand{\LWR@HTML@FourStarOpen}{\LWR@bbdingsymbol{066}}	{2727}}
59 \newcommand{\LWR@HTML@FiveStarLines}{\LWR@bbdingsymbol{067}}	{2729}}
60 \newcommand{\LWR@HTML@FiveStar}{\LWR@bbdingsymbol{070}}	{2605}}
61 \newcommand{\LWR@HTML@FiveStarOpen}{\LWR@bbdingsymbol{071}}	{2729}}
62 \newcommand{\LWR@HTML@FiveStarOpenCircled}{\LWR@bbdingsymbol{072}}	{272A}}
63 \newcommand{\LWR@HTML@FiveStarCenterOpen}{\LWR@bbdingsymbol{073}}	{272B}}
64 \newcommand{\LWR@HTML@FiveStarOpenDotted}{\LWR@bbdingsymbol{074}}	{272C}}
65 \newcommand{\LWR@HTML@FiveStarOutline}{\LWR@bbdingsymbol{075}}	{272D}}
66 \newcommand{\LWR@HTML@FiveStarOutlineHeavy}{\LWR@bbdingsymbol{076}}	{272E}}
67 \newcommand{\LWR@HTML@FiveStarConvex}{\LWR@bbdingsymbol{077}}	{272F}}
68 \newcommand{\LWR@HTML@FiveStarShadow}{\LWR@bbdingsymbol{100}}	{2730}}
69 \newcommand{\LWR@HTML@AsteriskBold}{\LWR@bbdingsymbol{101}}	{2731}}
70 \newcommand{\LWR@HTML@AsteriskCenterOpen}{\LWR@bbdingsymbol{102}}	{2732}}
71 \newcommand{\LWR@HTML@AsteriskThin}{\LWR@bbdingsymbol{103}}	{273B}}
72 \newcommand{\LWR@HTML@AsteriskThinCenterOpen}{\LWR@bbdingsymbol{104}}	{273C}}
73 \newcommand{\LWR@HTML@EightStarTaper}{\LWR@bbdingsymbol{105}}	{2733}}
74 \newcommand{\LWR@HTML@EightStarConvex}{\LWR@bbdingsymbol{106}}	{2735}}
75 \newcommand{\LWR@HTML@SixStar}{\LWR@bbdingsymbol{107}}	{2736}}
76 \newcommand{\LWR@HTML@EightStar}{\LWR@bbdingsymbol{110}}	{2737}}
77 \newcommand{\LWR@HTML@EightStarBold}{\LWR@bbdingsymbol{111}}	{2738}}
78 \newcommand{\LWR@HTML@TwelveStar}{\LWR@bbdingsymbol{112}}	{2739}}
79 \newcommand{\LWR@HTML@SixteenStarLight}{\LWR@bbdingsymbol{113}}	{273A}}
80 \newcommand{\LWR@HTML@SixFlowerPetalRemoved}{\LWR@bbdingsymbol{114}}	{273B}}
81 \newcommand{\LWR@HTML@SixFlowerOpenCenter}{\LWR@bbdingsymbol{115}}	{273C}}
82 \newcommand{\LWR@HTML@Asterisk}{\LWR@bbdingsymbol{116}}	{273D}}
83 \newcommand{\LWR@HTML@SixFlowerAlternate}{\LWR@bbdingsymbol{117}}	{273E}}
84 \newcommand{\LWR@HTML@FiveFlowerPetal}{\LWR@bbdingsymbol{120}}	{273F}}
85 \newcommand{\LWR@HTML@SixFlowerPetalDotted}{\LWR@bbdingsymbol{121}}	{2740}}
86 \newcommand{\LWR@HTML@FiveFlowerOpen}{\LWR@bbdingsymbol{122}}	{2740}}
87 \newcommand{\LWR@HTML@EightFlowerPetal}{\LWR@bbdingsymbol{123}}	{2741}}
88 \newcommand{\LWR@HTML@SunshineOpenCircled}{\LWR@bbdingsymbol{124}}	{2742}}
89 \newcommand{\LWR@HTML@SixFlowerAltPetal}{\LWR@bbdingsymbol{125}}	{2743}}

90 \newcommand{\LWR@HTML@FourClowerOpen}{\LWR@bbdingsymbol{126} {273F}}
 91 \newcommand{\LWR@HTML@FourClowerSolid}{\LWR@bbdingsymbol{127} {273F}}
 92 \newcommand{\LWR@HTML@AsteriskRoundedEnds}{\LWR@bbdingsymbol{130} {2749}}
 93 \newcommand{\LWR@HTML@EightFlowerPetalRemoved}{\LWR@bbdingsymbol{131} {274A}}
 94 \newcommand{\LWR@HTML@EightAsterisk}{\LWR@bbdingsymbol{132} {274B}}
 95 \newcommand{\LWR@HTML@SixFlowerRemovedOpenPetal}{\LWR@bbdingsymbol{133} {2740}}
 96 \newcommand{\LWR@HTML@SparkleBold}{\LWR@bbdingsymbol{134} {2748}}
 97 \newcommand{\LWR@HTML@Sparkle}{\LWR@bbdingsymbol{135} {2747}}
 98 \newcommand{\LWR@HTML@SnowflakeChevron}{\LWR@bbdingsymbol{136} {2744}}
 99 \newcommand{\LWR@HTML@SnowflakeChevronBold}{\LWR@bbdingsymbol{137} {2746}}
 100 \newcommand{\LWR@HTML@Snowflake}{\LWR@bbdingsymbol{140} {2744}}
 101 \newcommand{\LWR@HTML@CircleSolid}{\LWR@bbdingsymbol{141} {25CF}}
 102 \newcommand{\LWR@HTML@Ellipse}{\LWR@bbdingsymbol{142} {274D}}
 103 \newcommand{\LWR@HTML@EllipseSolid}{\LWR@bbdingsymbol{143} {25CF}}
 104 \newcommand{\LWR@HTML@CircleShadow}{\LWR@bbdingsymbol{144} {274D}}
 105 \newcommand{\LWR@HTML@EllipseShadow}{\LWR@bbdingsymbol{145} {274D}}
 106 \newcommand{\LWR@HTML@Square}{\LWR@bbdingsymbol{146} {25A1}}
 107 \newcommand{\LWR@HTML@SquareSolid}{\LWR@bbdingsymbol{147} {25A0}}
 108 \newcommand{\LWR@HTML@SquareShadowBottomRight}{\LWR@bbdingsymbol{150} {2751}}
 109 \newcommand{\LWR@HTML@SquareShadowTopRight}{\LWR@bbdingsymbol{151} {2752}}
 110 \newcommand{\LWR@HTML@SquareShadowTopLeft}{\LWR@bbdingsymbol{152} {2752}}
 111 \newcommand{\LWR@HTML@SquareCastShadowBottomRight}{\LWR@bbdingsymbol{153} {2751}}
 112 \newcommand{\LWR@HTML@SquareCastShadowTopRight}{\LWR@bbdingsymbol{154} {2752}}
 113 \newcommand{\LWR@HTML@SquareCastShadowTopLeft}{\LWR@bbdingsymbol{155} {2752}}
 114 \newcommand{\LWR@HTML@TriangleUp}{\LWR@bbdingsymbol{156} {25B2}}
 115 \newcommand{\LWR@HTML@TriangleDown}{\LWR@bbdingsymbol{157} {25BC}}
 116 \newcommand{\LWR@HTML@DiamondSolid}{\LWR@bbdingsymbol{160} {25C6}}
 117 \newcommand{\LWR@HTML@OrnamentDiamondSolid}{\LWR@bbdingsymbol{161} {2756}}
 118 \newcommand{\LWR@HTML@HalfCircleRight}{\LWR@bbdingsymbol{162} {25D7}}
 119 \newcommand{\LWR@HTML@HalfCircleLeft}{\LWR@bbdingsymbol{163} {25D6}}
 120 \newcommand{\LWR@HTML@RectangleThin}{\LWR@bbdingsymbol{164} {2758}}
 121 \newcommand{\LWR@HTML@Rectangle}{\LWR@bbdingsymbol{165} {2759}}
 122 \newcommand{\LWR@HTML@RectangleBold}{\LWR@bbdingsymbol{166} {275A}}
 123 \newcommand{\LWR@HTML@ArrowBoldRightStrobe}{\LWR@bbdingsymbol{167} {27A0}}
 124 \newcommand{\LWR@HTML@ArrowBoldUpRight}{\LWR@bbdingsymbol{170} {27A6}}
 125 \newcommand{\LWR@HTML@ArrowBoldDownRight}{\LWR@bbdingsymbol{171} {27A5}}
 126 \newcommand{\LWR@HTML@ArrowBoldRightShort}{\LWR@bbdingsymbol{172} {27A7}}
 127 \newcommand{\LWR@HTML@ArrowBoldRightCircled}{\LWR@bbdingsymbol{173} {27B2}}
 128
 129
 130 \LWR@formatted{ScissorRightBrokenBottom}
 131 \LWR@formatted{ScissorRight}
 132 \LWR@formatted{ScissorRightBrokenTop}
 133 \LWR@formatted{ScissorLeftBrokenBottom}
 134 \LWR@formatted{ScissorLeft}
 135 \LWR@formatted{ScissorLeftBrokenTop}
 136 \LWR@formatted{ScissorHollowRight}
 137 \LWR@formatted{ScissorHollowLeft}
 138 \LWR@formatted{Phone}
 139 \LWR@formatted{PhoneHandset}
 140 \LWR@formatted{Tape}
 141 \LWR@formatted{Plane}
 142 \LWR@formatted{Envelope}
 143 \LWR@formatted{HandCuffRight}
 144 \LWR@formatted{HandCuffLeft}
 145 \LWR@formatted{HandCuffRightUp}
 146 \LWR@formatted{HandCuffLeftUp}
 147 \LWR@formatted{HandRight}
 148 \LWR@formatted{HandLeft}
 149 \LWR@formatted{HandRightUp}

150 \LWR@formatted{HandLeftUp}
151 \LWR@formatted{Peace}
152 \LWR@formatted{HandPencilLeft}
153 \LWR@formatted{PencilRight}
154 \LWR@formatted{PencilLeft}
155 \LWR@formatted{PencilRightUp}
156 \LWR@formatted{PencilLeftUp}
157 \LWR@formatted{PencilRightDown}
158 \LWR@formatted{PencilLeftDown}
159 \LWR@formatted{NibRight}
160 \LWR@formatted{NibLeft}
161 \LWR@formatted{NibSolidRight}
162 \LWR@formatted{NibSolidLeft}
163 \LWR@formatted{Checkmark}
164 \LWR@formatted{CheckmarkBold}
165 \LWR@formatted{XSolid}
166 \LWR@formatted{XSolidBold}
167 \LWR@formatted{XSolidBrush}
168 \LWR@formatted{PlusOutline}
169 \LWR@formatted{Plus}
170 \LWR@formatted{PlusCenterOpen}
171 \LWR@formatted{PlusThinCenterOpen}
172 \LWR@formatted{Cross}
173 \LWR@formatted{CrossOpenShadow}
174 \LWR@formatted{CrossOutline}
175 \LWR@formatted{CrossBoldOutline}
176 \LWR@formatted{CrossMaltese}
177 \LWR@formatted{DavidStarSolid}
178 \LWR@formatted{DavidStar}
179 \LWR@formatted{FourAsterisk}
180 \LWR@formatted{JackStar}
181 \LWR@formatted{JackStarBold}
182 \LWR@formatted{CrossCLowerTips}
183 \LWR@formatted{FourStar}
184 \LWR@formatted{FourStarOpen}
185 \LWR@formatted{FiveStarLines}
186 \LWR@formatted{FiveStar}
187 \LWR@formatted{FiveStarOpen}
188 \LWR@formatted{FiveStarOpenCircled}
189 \LWR@formatted{FiveStarCenterOpen}
190 \LWR@formatted{FiveStarOpenDotted}
191 \LWR@formatted{FiveStarOutline}
192 \LWR@formatted{FiveStarOutlineHeavy}
193 \LWR@formatted{FiveStarConvex}
194 \LWR@formatted{FiveStarShadow}
195 \LWR@formatted{AsteriskBold}
196 \LWR@formatted{AsteriskCenterOpen}
197 \LWR@formatted{AsteriskThin}
198 \LWR@formatted{AsteriskThinCenterOpen}
199 \LWR@formatted{EightStarTaper}
200 \LWR@formatted{EightStarConvex}
201 \LWR@formatted{SixStar}
202 \LWR@formatted{EightStar}
203 \LWR@formatted{EightStarBold}
204 \LWR@formatted{TwelveStar}
205 \LWR@formatted{SixteenStarLight}
206 \LWR@formatted{SixFlowerPetalRemoved}
207 \LWR@formatted{SixFlowerOpenCenter}
208 \LWR@formatted{Asterisk}
209 \LWR@formatted{SixFlowerAlternate}

```

210 \LWR@formatted{FiveFlowerPetal}
211 \LWR@formatted{SixFlowerPetalDotted}
212 \LWR@formatted{FiveFlowerOpen}
213 \LWR@formatted{EightFlowerPetal}
214 \LWR@formatted{SunshineOpenCircled}
215 \LWR@formatted{SixFlowerAltPetal}
216 \LWR@formatted{FourClowerOpen}
217 \LWR@formatted{FourClowerSolid}
218 \LWR@formatted{AsteriskRoundedEnds}
219 \LWR@formatted{EightFlowerPetalRemoved}
220 \LWR@formatted{EightAsterisk}
221 \LWR@formatted{SixFlowerRemovedOpenPetal}
222 \LWR@formatted{SparkleBold}
223 \LWR@formatted{Sparkle}
224 \LWR@formatted{SnowflakeChevron}
225 \LWR@formatted{SnowflakeChevronBold}
226 \LWR@formatted{Snowflake}
227 \LWR@formatted{CircleSolid}
228 \LWR@formatted{Ellipse}
229 \LWR@formatted{EllipseSolid}
230 \LWR@formatted{CircleShadow}
231 \LWR@formatted{EllipseShadow}
232 \LWR@formatted{Square}
233 \LWR@formatted{SquareSolid}
234 \LWR@formatted{SquareShadowBottomRight}
235 \LWR@formatted{SquareShadowTopRight}
236 \LWR@formatted{SquareShadowTopLeft}
237 \LWR@formatted{SquareCastShadowBottomRight}
238 \LWR@formatted{SquareCastShadowTopRight}
239 \LWR@formatted{SquareCastShadowTopLeft}
240 \LWR@formatted{TriangleUp}
241 \LWR@formatted{TriangleDown}
242 \LWR@formatted{DiamondSolid}
243 \LWR@formatted{OrnamentDiamondSolid}
244 \LWR@formatted{HalfCircleRight}
245 \LWR@formatted{HalfCircleLeft}
246 \LWR@formatted{RectangleThin}
247 \LWR@formatted{Rectangle}
248 \LWR@formatted{RectangleBold}
249 \LWR@formatted{ArrowBoldRightStrobe}
250 \LWR@formatted{ArrowBoldUpRight}
251 \LWR@formatted{ArrowBoldDownRight}
252 \LWR@formatted{ArrowBoldRightShort}
253 \LWR@formatted{ArrowBoldRightCircled}

```

File 45 **lwarp-beamerarticle.sty**

§ 157 Package **beamerarticle**

(Emulates or patches code by TILL TANTAU, VEDRAN MILETIĆ, LOUIS STUART, JOSEPH WRIGHT.)

beamerarticle (*Pkg*) **beamerarticle** is patched for use by lwarp.

for HTML output:

```

1 \LWR@ProvidesPackagePass{beamerarticle}[2021/05/26]

2 \renewcommand<>{\textcolor}{\only#1{\beameroriginal{\textcolor}}}
3

```

```

4 \AtBeginDocument{
5
6 \renewcommand<>{\LWR@listitem}{%
7   \only#1{%
8     \beameroriginal{\LWR@listitem}%
9   }%
10 }
11
12 \renewcommand<>{\LWR@itemizeitem}{%
13   \only#1{%
14     \beameroriginal{\LWR@itemizeitem}%
15   }%
16 }
17
18 \renewcommand<>{\LWR@descitem}{%
19   \only#1{%
20     \beameroriginal{\LWR@descitem}%
21   }%
22 }
23
24 \renewcommand<>{\abstract}{%
25   \only#1{%
26     \beameroriginal{\abstract}%
27   }%
28 }
29
30 \renewcommand<>{\LWR@includegraphicsb}{%
31   \only#1{%
32     \beameroriginal{\LWR@includegraphicsb}%
33   }%
34 }
35
36 \xpretocmd\frame
37   {
38     \LWR@forcenewpage
39     \BlockClass{beamerframe}%
40   }
41   {}
42   {\LWR@patcherror{beamerarticle}{frame}}
43
44 \xapptocmd\beamer@endframe
45   {\endBlockClass}
46   {}
47   {\LWR@patcherror{beamerarticle}{beamer@endframe}}

```

An example in the beamer docs for `\includegraphics` shows the use of `\lap` in a frame.

```

48 \xpretocmd\beamer@article@startframe
49   {\LWR@nulllistfills}
50   {}
51   {\LWR@patcherror{beamerarticle}{beamer@article@startframe}}
52
53 }% AtBeginDocument
54
55 \let\beamer@@tmpop@frametitle@default\relax
56 \defbeamer@template<article>*{frametitle}{default}{%
57   \paragraph*{\insertframetitle}\ \par%
58   \ifdefempty{\insertframesubtitle}{%
59     \noindent\emph{\insertframesubtitle}\par%

```



```

60   }%
61 }
62
63
64 \NewDocumentCommand{\LWR@beamer@itemize}{o}{%
65   \LWR@itemizestart\LWR@origitemize%
66 }%
67 \NewDocumentCommand{\LWR@beamer@description}{o o}{%
68   \LWR@descriptionstart\LWR@origdescription%
69 }%
70
71 \xapptocmd{\LWR@patchlists}
72   {%
73     \LetLtxMacro\itemize\LWR@beamer@itemize%
74     \LetLtxMacro\description\LWR@beamer@description%
75   }
76   {}
77   {\LWR@patcherror{beamerarticle}{\LWR@patchlists}}
78
79
80 \LetLtxMacro\maketitle\LWR@maketitle
81
82 \renewcommand{\subtitle}[2][{}]{
83   \gdef\@subtitle{#2}
84   \def\insertsubtitle{#2}
85 }

```

Add subtitle if not already present:

```

86 \AtBeginDocument{
87 \IfPackageLoadedTF{lwarp-scrextend}
88   }% komascript already has subtitle
89   {% not komascript
90     \xpatchcmd{\@maketitle}
91       {%
92         \LWR@htmltag{\LWR@tagtitleend}%
93         \LWR@startpars%
94       }%
95       {%
96         \LWR@htmltag{\LWR@tagtitleend}%
97         \ifdefvoid{\@subtitle}{}%
98         \begin{BlockClass}{subtitle}%
99         \@subtitle%
100        \end{BlockClass}%
101        }%
102        \LWR@startpars%
103      }%
104      {}
105      {\LWR@patcherror{beamerarticle}{\@maketitle}}
106   }% not komascript
107 }
108
109 \RequirePackage{fancyvrb}
110 \DefineVerbatimEnvironment{semiverbatim}{Verbatim}{commandchars=\\\{\}}

```

File 46 **lwarp-biblatex.sty**

§ 158 Package **biblatex**

(Emulates or patches code by PHILIPP LEHMAN.)

`biblatex` (*Pkg*) When `biblatex` is used, modifications from `newfloat` may have to be undone.

for HTML output:

1. `lwarp` uses `newfloat`.
2. For classes with chapters which `newfloat` does not know about, such as C_TE_X-related classes, `newfloat` may modify `\addtocontents`.
3. `biblatex`, though, wants to patch `\addtocontents`, which causes an error if `\addtocontents` has been changed.
4. Therefore, `\addtocontents` is restored to its original here, since `biblatex` is about to be loaded.
5. This means that the `newfloat`'s `chapterlistsgaps` option may no longer work.

```
1 \ifdef{\newfloat@addtocontents@ORI}{
2   \let\addtocontents\newfloat@addtocontents@ORI
3 }{}
```

`hyperref` emulation is loaded `\AtBeginDocument` to avoid an options clash.

```
4 \AtBeginDocument{\RequirePackage{hyperref}}
5
6 \LWR@ProvidesPackagePass{biblatex}[2018/03/04]
```

The following create hyperlinks to the references. The original code to use `hyperref` is recreated here, because `hyperref` is emulated.

```
7 \AfterPreamble{
```

Not using `\VerifyCommand` because this may be defined several ways.

```
8 \let\blx@anchors\@empty
9 \protected\def\blx@anchor{%
10   \xifinlist{\the\c@refsection @\abx@field@entrykey}{\blx@anchors}
11   {}
12   {\listxadd\blx@anchors{\the\c@refsection @\abx@field@entrykey}%
13     \hypertarget{cite.\the\c@refsection @\abx@field@entrykey}{}}
14
15 \protected\def\blx@imc@bibhyperref{%
16   \@ifnextchar[%
17     {\blx@bibhyperref}
18     {\blx@bibhyperref[\abx@field@entrykey]}}%
19
20 \long\def\blx@bibhyperref[#1]#2{%
21 %   \blx@sfsave
22   \hyperlink{cite.\the\c@refsection @#1}{%
```

```

23 %           \blx@sfrest
24           #2%
25 %           \blx@sfsave
26           }%
27 % \blx@sfrest%
28 }%% \def\blx@nohyperref[#1]#2{#2}%
29
30 \protected\long\def\blx@imc@bibhyperlink#1#2{%
31 %           \blx@sfsave
32 %           \hyperlink{cite.\the\c@refsection:#1}{%
33 %             \blx@sfrest
34 %             #2%
35 %             \blx@sfsave
36 %           }%
37 %           \blx@sfrest%
38 }%
39
40 \protected\long\def\blx@imc@bibhypertarget#1#2{%
41 %           \blx@sfsave%
42 %           \hypertarget{cite.\the\c@refsection:#1}{%
43 %             \blx@sfrest
44 %             #2%
45 %             \blx@sfsave%
46 %           }%
47 %           \blx@sfrest%
48 }
49
50 \let\blx@imc@ifhyperref\@firstoftwo

```

Ensure that an autopage reference is current where each `\cite` is used, although this is nullified inside footnotes since they now use a \LaTeX box.

```

51 \xpretocmd{\blx@citecmdinit}
52   {\LWR@newautopagelabel{page}}%
53   {}
54   {\LWR@patcherror{biblatex}{blx@citecmdinit}}

```

Ensure that an autopage reference is current for each backref. If the citation is in a footnote, the backref will point to whatever preceded the footnotes.

```

55 \VerifyCommand[lwarp][biblatex]{\blx@addbackref@i}{C820E8B12CF2904906644302E07EBE88}
56
57 \xpatchcmd{\blx@addbackref@i}
58   {\thepage}
59   {\theLWR@previousautopagelabel}% ref to the most recent object
60   {}
61   {\LWR@patcherror{biblatex}{blx@addbackref@i A}}
62
63 \xpatchcmd{\blx@addbackref@i}
64   {\c@page}
65   {\c@LWR@previousautopagelabel}% ref to the most recent object
66   {}
67   {\LWR@patcherror{biblatex}{blx@addbackref@i B}}

```

The following patches are for back page references.

```

68 \DeclareListFormat{pageref}{%
69   \ifnumless{\abx@pagerefstyle}{0}
70   {\usebibmacro{list:plain}%

```

```

71     \ifhyperref
72     {%
73 %         \hyperlink{page.#1}{#1}%
74         \LWR@refwithsection{\BaseJobname-autopage-#1}%   lwarp
75     }
76     {#1}}
77     {\ifnumequal{\value{listcount}}{1}
78     {\usebibmacro{pageref:init}}
79     {}}%
80     \usebibmacro{pageref:comp}{#1}%
81     \ifnumequal{\value{listcount}}{\value{liststop}}
82     {\usebibmacro{pageref:dump}}
83     {}}
84
85 \expandafter\VerifyCommand\expandafter{\csname abx@macro@pageref:comp\endcsname}
86   {019E018D2EBB4F3D02578439F03128D8}
87
88 \renewbibmacro*{pageref:comp}[1]{%
89   \numdef\abx@range@prev{\abx@range@prev+1}%
90   \ifinteger{#1}
91     {\def\abx@range@num{#1}%
92     \def\abx@range@this{1}%
93     \ifnumequal{\abx@range@this}{\abx@range@last}
94       {}
95       {\def\abx@range@prev{-1}}}
96     {\ifrmnum{#1}
97     {\numdef\abx@range@num{\rmntonum{#1}}%
98     \def\abx@range@this{2}%
99     \ifnumequal{\abx@range@this}{\abx@range@last}
100      {}
101      {\def\abx@range@prev{-1}}}
102     {\undef\abx@range@num
103     \def\abx@range@this{0}%
104     \def\abx@range@prev{-1}}}
105 \ifdef\abx@range@num
106   {\ifnumequal{\abx@range@num}{\abx@range@prev}
107   {\def\abx@range@hold{#1}%
108   \numdef\abx@range@diff{\abx@range@diff+1}}
109   {\usebibmacro{pageref:dump}%
110   \ifnumgreater{\abx@range@last}{-1}
111   {\printdelim{multilistdelim}}
112   {}}%
113   \ifhyperref
114 %     {\hyperlink{page.#1}{#1}}
115     {\LWR@refwithsection{\BaseJobname-autopage-#1}}%   lwarp
116     {#1}}%
117   \edef\abx@range@prev{\abx@range@num}}
118   {\usebibmacro{pageref:dump}%
119   \ifnumgreater{\abx@range@last}{-1}
120   {\printdelim{multilistdelim}}
121   {}}%
122   \ifhyperref
123 %     {\hyperlink{page.#1}{#1}}
124     {\LWR@refwithsection{\BaseJobname-autopage-#1}}%   lwarp
125     {#1}}%
126   \def\abx@range@prev{-1}}%
127 \edef\abx@range@last{\abx@range@this}}
128
129 \expandafter\VerifyCommand\expandafter{\csname abx@macro@pageref:dump\endcsname}
130   {9BD1165E771053A5DA8957BE4E2E7B9E}

```

```

131
132 \renewbibmacro*{pageref:dump}{%
133   \ifnumgreater{\abx@range@diff}{0}
134     {\ifcase\abx@pagerefstyle\relax % two
135       \bibrangedash
136       \ifhyperref
137 %         {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}
138         {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
139         {\abx@range@hold}}%
140     \or % three
141       \ifnumless{\abx@range@diff}{2}
142         {\printdelim{multilistdelim}}
143         {\bibrangedash}%
144       \ifhyperref
145 %         {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}
146         {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
147         {\abx@range@hold}}%
148     \or % two+
149       \ifnumless{\abx@range@diff}{2}
150         {\sqspace
151           \ifhyperref
152 %             {\hyperlink{page.\abx@range@hold}{\bibstring{sequens}}}
153             {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
154             {\bibstring{sequens}}}
155           {\bibrangedash
156             \ifhyperref
157 %               {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}
158               {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
159               {\abx@range@hold}}}%
160     \or % three+
161       \ifnumless{\abx@range@diff}{2}
162         {\sqspace
163           \ifhyperref
164 %             {\hyperlink{page.\abx@range@hold}{\bibstring{sequens}}}
165             {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
166             {\bibstring{sequens}}}
167           {\ifnumless{\abx@range@diff}{3}
168             {\sqspace
169               \ifhyperref
170 %                 {\hyperlink{page.\abx@range@hold}{\bibstring{sequentes}}}
171                 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
172                 {\bibstring{sequentes}}}
173               {\bibrangedash
174                 \ifhyperref
175 %                   {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}
176                   {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
177                   {\abx@range@hold}}}%
178           \else % all+
179             \ifnumless{\abx@range@diff}{2}
180               {\sqspace
181                 \ifhyperref
182 %                   {\hyperlink{page.\abx@range@hold}{\bibstring{sequens}}}
183                   {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
184                   {\bibstring{sequens}}}
185               {\sqspace
186                 \ifhyperref
187 %                   {\hyperlink{page.\abx@range@hold}{\bibstring{sequentes}}}
188                   {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
189                   {\bibstring{sequentes}}}%
190             \fi

```

```

191     \def\abx@range@diff{0}}
192     {}
193
194 }% \AfterPreamble

```

File 47 **lwarp-bibunits.sty**

§ 159 Package **bibunits**

(Emulates or patches code by THORSTEN HANSEN.)

`bibunits` (*Pkg*) `bibunits` is patched for use by `lwarp`.

for HTML output: 1 \LWR@ProvidesPackagePass{bibunits}[2004/05/12]

2 \def\bu@bibdata{\BaseJobname}

File 48 **lwarp-bigdelim.sty**

§ 160 Package **bigdelim**

(Emulates or patches code by PIET VAN OOSTRUM, ØYSTEIN BACHE, JERRY LEICHTER.)

`bigdelim` (*Pkg*) `bigdelim` is used as-is for `print` or `lateximage`, and patched for `HTML`.

The delimiters are displayed in `HTML` by printing the delimiter, the text, and a thick border across the side of the `\multirow` which indicates the actual height of the delimiter. The delimiter character is given a `` class of `ldelim` or `rdelim`, and the default `css` sets this to `font-size:200%`

⚠ **use `\mrowcell`** `\ldelim` and `\rdelim` use `\multirow`, so `\mrowcell` must be used in the proper number of empty cells in the same column below `\ldelim` or `\rdelim`, but not in cells which are above or below the delimiter:

```

\begin{tabular}{lll}
<empty> & a & b \\
\ldelim{\}{3}{.25in}[left ] & c & d \\
\mrowcell & e & f \\
\mrowcell & g & h \\
<empty> & i & j \\
\end{tabular}

```

```

<->   a   b
      {
left  { c   d
      { e   f
      { g   h
<->   i   j

```

For `MATHJAX`, limited emulation is provided which merely prints the delimiter and optional text in the first row.

for HTML output:

First, remove the temporary definitions of `\ldelim` and `\rdelim`, which were previously defined for tabular scanning in case `bigdelim` was not loaded:

```
1 \let\ldelim\relax
2 \let\rdelim\relax
```

Next, load the package's new definitions:

```
3 \LWR@ProvidesPackagePass{bigdelim}[2021/03/15]
```

```
\ldelim {\langle 1:delimiter \rangle} {\langle 2:#rows \rangle} [\langle 3: vmove \rangle] {\langle 4:width \rangle} [\langle 5:text \rangle]
\rdelim
```

```
4 \NewDocumentCommand{\LWR@HTML@ldelim}{m m o m O{}}{%
5 \renewcommand{\LWR@multirowborder}{right}%
6 \multirow{#2}{#4}{#5 \InlineClass{ldelim}{#1}}%
7 }
8
9 \LWR@formatted{ldelim}
10
11 \NewDocumentCommand{\LWR@HTML@rdelim}{m m o m O{}}{%
12 \renewcommand{\LWR@multirowborder}{left}%
13 \multirow{#2}{#4}{\InlineClass{rdelim}{#1} #5}%
14 }
15
16 \LWR@formatted{rdelim}
```

Limited emulation for MATHJAX. The delimiter is printed on the first row, along with any optional text.

```
17 \begin{warpMathJax}
18 % \ldelim ( {n}{width}[text]
19 \CustomizeMathJax{\newcommand{\LWRldelimtwo}[1][\text{#1}~\LWRbigdelim]}
20 \CustomizeMathJax{\newcommand{\LWRldelimone}[2][\LWRldelimtwo]}
21 \CustomizeMathJax{\def\ldelim#1#2{\def\LWRbigdelim{#1}\LWRldelimone}}
22 % \rdelim ) {n}{width}[text]
23 \CustomizeMathJax{\newcommand{\LWRrdelimtwo}[1][\LWRbigdelim~\text{#1}]}
24 \CustomizeMathJax{\newcommand{\LWRrdelimone}[2][\LWRrdelimtwo]}
25 \CustomizeMathJax{\def\rdelim#1#2{\def\LWRbigdelim{#1}\LWRrdelimone}}
26 \end{warpMathJax}
```

File 49 **lwarp-bigfoot.sty**

§ 161 Package **bigfoot**

`bigfoot (Pkg)` `bigfoot` is emulated.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{bigfoot}[2015/08/30]

2 \RequirePackage{manyfoot}
3 \RequirePackage{perpage}
4
5 \def\RestyleFootnote#1#2{}
6 \def\FooterSpecific#1{}
7 \def\DefineFootnoteStack#1{}
8 \def\PushFootnoteMark#1{}
9 \def\PopFootnoteMark#1{}

```

```

10 \def\hfootfraction{0.9}
11 \def\vttypefraction{0.7}
12 \def\FootnoteMinimum{1sp}
13 \def\FootnoteMainMinimum{0pt}
14 \newcount\bigfoottolerance
15 \bigfoottolerance=100
16 \providecommand\footnotecarryratio{2}

```

File 50 **lwarp-bigstrut.sty**

§ 162 Package **bigstrut**

(Emulates or patches code by PIET VAN OOSTRUM, ØYSTEIN BACHE, JERRY LEICHTER.)

`bigstrut` (*Pkg*) `bigstrut` is used as-is for print or `lateximage`, and patched for HTML.

for HTML output:

```

1 \LWR@ProvidesPackagePass{bigstrut}[2018/08/03]

2 \LetLtxMacro\LWR@origbigstrut\bigstrut
3
4 \renewcommand\bigstrut[1][x]{}
5
6 \appto\LWR@restoreorigformatting{%
7 \LetLtxMacro\bigstrut\LWR@origbigstrut%
8 }
9

10 \begin{warpMathJax}
11 \CustomizeMathJax{\newcommand{\bigstrut}[1][x]{}%
12 \end{warpMathJax}

```

File 51 **lwarp-bitpattern.sty**

§ 163 Package **bitpattern**

(Emulates or patches code by JEAN-MARC BOURGUET.)

`bitpattern` (*Pkg*) `bitpattern` is patched for use by `lwarp`.

for HTML output:

```

1 \LWR@ProvidesPackagePass{bitpattern}[2015/12/11]

2 \VerifyCommand[lwarp][bitpattern]{\bitpattern}{379A39416C9C5E48DBCEEF730D51C5BF}
3
4 \xpatchcmd{\bitpattern}
5   {\begingroup}
6   {\begin{lateximage}[-bitpattern~\PackageDiagramAltText]?}%
7   {}
8   {\LWR@patcherror{bitpattern}{bitpattern}}
9
10 \VerifyCommand[lwarp][bitpattern]{\bp@Done}{4F2F6DDB41FE31051ACA3CA9F58E3395}
11
12 \xpatchcmd{\bp@Done}
13   {\endgroup}

```



```

14   {\end{lateximage}}
15   {}
16   {\LWR@patcherror{bitpattern}{bp@Done}}

```

File 52 **lwarp-blowup.sty**

§ 164 Package **blowup**

`blowup` (*Pkg*) `blowup` is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{blowup}[2018/01/02]
 2 \newcommand*\blowUp[1]{}
 3

File 53 **lwarp-bm.sty**

§ 165 Package **bm**

(Emulates or patches code by DAVID CARLISLE, FRANK MITTELBACH.)

`bm` (*Pkg*) `bm` is patched for use by `lwarp`.

for HTML output: 1 \LWR@ProvidesPackagePass{bm}[2019/07/24]
 2
 3 \DeclareBoldMathCommand must only be used in the preamble, since it adds to
 4 the MATHJAX setup code.
 5
 6 2 \begin{warpMathJax}
 7 3 \LetLtxMacro\LWR@orig@DeclareBoldMathCommand\DeclareBoldMathCommand
 8 4
 9 5 \renewcommand\DeclareBoldMathCommand[3][bold]{%
 10 6 \LWR@orig@DeclareBoldMathCommand[#1]{#2}{#3}%
 11 7 \CustomizeMathJax{\newcommand{#2}{\boldsymbol{#3}}}%
 12 8 }
 13 9
 14 10 \@onlypreamble\DeclareBoldMathCommand
 15 11
 16 12 \CustomizeMathJax{\newcommand{\bm}[1]{\boldsymbol{#1}}}
 17 13 \end{warpMathJax}

File 54 **lwarp-booklet.sty**

§ 166 Package **booklet**

(Emulates or patches code by PETER WILSON.)

`booklet` (*Pkg*) `booklet` is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{booklet}[2009/09/02]
 2

```

2 \newdimen\pageseplength
3 \newdimen\pagesewidth
4 \newdimen\pagesepoffset
5 \newif\ifsidebyside \sidebysidetrue
6 \newif\ifuselandscape \uselandscapefalse
7 \newif\ifprintoption \printoptionfalse
8 \newcommand*\pagespersignature}[1]{}
9 \def\magstepminus#1{}
10 \newcommand*\target}[3]{}
11 \newcommand*\source}[3]{}
12 \newcommand*\setpdftargetpages{}
13 \newcommand*\setdvipstargetpages{}
14 \newcommand*\targettopbottom{}
15 \newcommand*\twoupemptypage{}
16 \newcommand*\twoupclearpage{}
17 \newcommand*\checkforlandscape{}

```

File 55 **lwarp-bookmark.sty**

§ 167 Package **bookmark**

(Emulates or patches code by HEIKO OBERDIEK.)

bookmark (*Pkg*) **bookmark** is ignored.

for HTML output: Discard all options for **lwarp-bookmark**:

```

1 \LWR@ProvidesPackageDrop{bookmark}[2016/05/17]

2 \newcommand*\bookmarksetup}[1]{}
3 \newcommand*\bookmarksetupnext}[1]{}
4 \newcommand*\bookmark}[2][]{}
5 \newcommand*\bookmarkdefinestyle}[2]{}
6 \newcommand*\bookmarkget}[1]{}
7 \newcommand*\BookmarkAtEnd}[1]{}


```

File 56 **lwarp-booktabs.sty**

§ 168 Package **booktabs**

(Emulates or patches code by SIMON FEAR.)

booktabs (*Pkg*) **booktabs** is emulated during HTML output, and used as-is during print output and inside an HTML `lateximage`.

 `\cmidrule` For MATHJAX, emulation is provided in math mode, but `\cmidrule trim` must not be used.

for HTML output: If **booktabs** has already been loaded before **lwarp**, such as by **memoir**, use it as-is. If not, the **lwarp** core will have placed some dummy macros which should be removed before loading the actual **booktabs** definitions.

```

1 \IfPackageLoadedTF{booktabs}{}{
2   \LetLtxMacro\toprule\relax
3   \LetLtxMacro\midrule\relax

```

```

4 \LetLtxMacro\cmidrule\cline
5 \LetLtxMacro\bottomrule\relax
6 \LetLtxMacro\addlinespace\relax
7 \LetLtxMacro\morecmidrules\relax
8 \LetLtxMacro\specialrule\relax
9 }

```

Next, load the `booktabs` package:

```
10 \LWR@ProvidesPackagePass{booktabs}[2019/10/08]
```

Adjust to work even if `xltabular` is loaded:

```

11 % \def\LWR@HTML@BLTrule{\@BTnormal}
12 %
13 % \LWR@formatted{@BLTrule}
14 \LetLtxMacro@BLTrule\@BTnormal

15 \DeclareDocumentCommand{\LWR@HTML@toprule}{o d()}%
16   {%
17     \IfValueTF{#1}%
18       {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
19     {%
20       \ifbool{FormatWP}%
21         {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
22       {\booltrue{LWR@doingtbrule}}}%
23     }%
24   \LWR@getmynexttoken}
25
26 \LWR@expandableformatted{toprule}
27
28 \DeclareDocumentCommand{\LWR@HTML@midrule}{o d()}%
29   {%
30     \IfValueTF{#1}%
31       {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
32     {%
33       \ifbool{FormatWP}%
34         {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
35       {\defaddtocounter{LWR@hlines}{1}}}%
36     }%
37   \LWR@getmynexttoken}
38
39 \LWR@expandableformatted{midrule}
40
41 \DeclareDocumentCommand{\LWR@HTML@cmidrule}{O{\LWR@cmidrulewidth} d() m}{%
42   \LWR@docmidrule[#1](#2){#3}%
43   \LWR@getmynexttoken%
44 }%
45
46 \LWR@expandableformatted{cmidrule}
47
48 \DeclareDocumentCommand{\LWR@HTML@bottomrule}{o d()}%
49   \IfValueTF{#1}%
50     {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
51     {%
52       \ifbool{FormatWP}%
53         {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
54       {\booltrue{LWR@doingtbrule}}}%
55     }%

```

```

56   \LWR@getmynexttoken%
57 }%
58
59 \LWR@expandableformatted{bottomrule}
60
61 \DeclareDocumentCommand{\LWR@HTML@addlinespace}{o}{}%
62
63 \LWR@expandableformatted{addlinespace}
64
65 \DeclareDocumentCommand{\LWR@HTML@morecmidrules}{}{}%
66
67 \LWR@expandableformatted{morecmidrules}
68
69 \DeclareDocumentCommand{\LWR@HTML@specialrule}{m m m d()}%
70   {\LWR@docmidrule[#1]}(1-\arabic{\LWR@tabletotalLaTeXcols})\LWR@getmynexttoken}%
71
72 \LWR@expandableformatted{specialrule}

```

For MATHJAX:

```

73 \begin{warpMathJax}
74 \CustomizeMathJax{\newcommand{\toprule}[1][\hline]}
75 \CustomizeMathJax{\let\midrule\toprule}
76 \CustomizeMathJax{\let\bottomrule\toprule}
77 \CustomizeMathJax{\def\LWRbooktabscmidruleparen(#1)#2{}}
78 \CustomizeMathJax{\newcommand{\LWRbooktabscmidrulenoparen}[1]{}}
79 \CustomizeMathJax{\newcommand{\cmidrule}[1][{}%
80   \ifnextchar{\LWRbooktabscmidruleparen\LWRbooktabscmidrulenoparen%
81 }}}
82 \CustomizeMathJax{\newcommand{\morecmidrules}{}}
83 \CustomizeMathJax{\newcommand{\specialrule}[3]{\hline}}
84 \CustomizeMathJax{\newcommand{\addlinespace}[1][{}]}
85 \end{warpMathJax}

```

File 57 **lwarp-bophook.sty**

§ 169 Package **bophook**

bophook (*Pkg*) bophook is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{bophook}[2001/03/29]

2 \newcommand*{\AtBeginPage}[1]{}

3 \newcommand*{\PageLayout}[1]{}

File 58 **lwarp-bounddvi.sty**

§ 170 Package **bounddvi**

bounddvi (*Pkg*) bounddvi is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{bounddvi}[2016/12/28]

File 59 **lwarp-boxedminipage.sty**§ 171 Package **boxedminipage***(Emulates or patches code by SCOTT PAKIN.)*boxedminipage (*Pkg*) boxedminipage is emulated for HTML, and used as-is for lateximages.**for HTML output:** 1 \LWR@ProvidesPackagePass{boxedminipage}[2020/04/19]

```

2 \newenvironment{LWR@HTML@boxedminipage}{%
3   \LWR@stoppars%
4   \begin{BlockClass}{framebox}%
5   \minipage%
6 }
7 {%
8   \endminipage%
9   \end{BlockClass}%
10  \LWR@startpars%
11 }
12 \LWR@formattedenv{boxedminipage}

```

File 60 **lwarp-boxedminipage2e.sty**§ 172 Package **boxedminipage2e***(Emulates or patches code by SCOTT PAKIN.)*boxedminipage2e (*Pkg*) boxedminipage2e has been renamed boxedminipage by the author.**for HTML output:** Automatically loads boxedminipage:

```

1 \LWR@ProvidesPackagePass{boxedminipage2e}

```

File 61 **lwarp-braket.sty**§ 173 Package **braket***(Emulates or patches code by DONALD ARSENEAU.)*braket (*Pkg*) braket works as-is for HTML with SVG math. For MATHJAX, the MATHJAX extension is used.**for HTML output:** 1 \LWR@ProvidesPackagePass{braket}% No date is provided by the file.

```

2 \begin{warpMathJax}
3   \CustomizeMathJax{\require{braket}}
4 \end{warpMathJax}

```

File 62 **lwarp-breakurl.sty**§ 174 Package **breakurl**

(Emulates or patches code by VILAR CAMARA NETO.)

breakurl (*Pkg*) breakurl is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{breakurl}[2013/04/10]

```

2 \LetLtxMacro\url\LWR@url
3
4 \NewDocumentCommand{\LWR@urlaltb}{O{} +m m}{%
5   \LWR@ensuredoingapar%
6   \LWR@subhyperref{#2}%

```

If use `\LWR@subhyperreftext@sanitized` here, some forms of text may not expand correctly, and thus break.

```


7   \LWR@subhyperreftext@unsanitized{#3}%
8   \endgroup% restore catcodes
9 }
10
11 \newrobustcmd*{\urlalt}{%
12   \begingroup%
13   \LWR@linkcatcodes%
14   \LWR@urlaltb%
15 }
16
17 \LetLtxMacro\urlalt\urlalt

```

File 63 **lwarp-breqn.sty**§ 175 Package **breqn**

(Emulates or patches code by MICHAEL J. DOWNES, MORTEN HØGHOLM.)

breqn (*Pkg*) breqn is patched for use by lwarp.

 **darray** darray is not supported, and in fact does not work in the print version either.

While using MATHJAX, breqn objects are converted to svg images.

for HTML output: 1 \LWR@ProvidesPackagePass{breqn}[2017/01/27]

```

2 \setkeys{breqn}{spread={5pt}}
3
4 \def\eqnumside{R}
5 % \def\eqnumplace{T}
6
7 \BeforeBeginEnvironment{dmath}{
8   \begin{BlockClass}{displaymathnumbered}

```

```
9 \LWR@newautoidanchor%
10 \booltrue{LWR@indisplaymathimage}%
11 \begin{lateximage}[-breqn dmath- \MathImageAltText]?%
12 }
13
14 \AfterEndEnvironment{dmath}{
15 \end{lateximage}\end{BlockClass}
16 }
17
18 \BeforeBeginEnvironment{dmath*}{
19 \begin{BlockClass}{displaymath}
20 \LWR@newautoidanchor%
21 \booltrue{LWR@indisplaymathimage}%
22 \begin{lateximage}[-breqn dmath*- \MathImageAltText]?%
23 }
24
25 \AfterEndEnvironment{dmath*}{
26 \end{lateximage}\end{BlockClass}
27 }
28
29 \BeforeBeginEnvironment{dseries}{
30 \begin{BlockClass}{displaymathnumbered}
31 \LWR@newautoidanchor%
32 \booltrue{LWR@indisplaymathimage}%
33 \begin{lateximage}[-breqn dseries- \MathImageAltText]?%
34 }
35
36 \AfterEndEnvironment{dseries}{
37 \end{lateximage}\end{BlockClass}
38 }
39
40 \BeforeBeginEnvironment{dseries*}{
41 \begin{BlockClass}{displaymath}
42 \LWR@newautoidanchor%
43 \booltrue{LWR@indisplaymathimage}%
44 \begin{lateximage}[-breqn dseries*- \MathImageAltText]?%
45 }
46
47 \AfterEndEnvironment{dseries*}{
48 \end{lateximage}\end{BlockClass}
49 }
50
51 \BeforeBeginEnvironment{dgroup}{
52 \begin{BlockClass}{displaymath}
53 \LWR@newautoidanchor%
54 \booltrue{LWR@indisplaymathimage}%
55 \begin{lateximage}[-breqn dgroup- \MathImageAltText]?%
56 }
57
58 \AfterEndEnvironment{dgroup}{
59 \end{lateximage}\end{BlockClass}
60 }
61
62 \BeforeBeginEnvironment{dgroup*}{
63 \begin{BlockClass}{displaymath}
64 \LWR@newautoidanchor%
65 \booltrue{LWR@indisplaymathimage}%
66 \begin{lateximage}[-breqn dgroup*- \MathImageAltText]?%
67 }
68
```

```

69 \AfterEndEnvironment{dgroup*}{
70   \end{lateximage}\end{BlockClass}
71 }

```

File 64 **lwarp-bsheaders.sty**

§ 176 Package **bsheaders**

`bsheaders` (*Pkg*) `bsheaders` is ignored.


for HTML output: 1 \LWR@ProvidesPackageDrop{bsheaders}[1997/10/06]

File 65 **lwarp-bussproofs.sty**

§ 177 Package **bussproofs**

(Emulates or patches code by SAMUEL R. BUSS.)

`bussproofs` (*Pkg*) `bussproofs` is used as-is for HTML, and emulated by MATHJAX's extension.

 `\DisplayProof` If not using MATHJAX, inline proofs with `\DisplayMath` must be placed inside a math expression.

If using MATHJAX, only the `prooftree` environment may be used, not `\DisplayProof`.

for HTML output: 1 \LWR@ProvidesPackagePass{bussproofs}% no date in file

```

2 \ifbool{mathjax}{
3   \CustomizeMathJax{\require{bussproofs}}
4
5   \NewEnviron{LWR@HTML@prooftree}%
6     {%
7       \boolfalse{LWR@HTML@sanitize@tmpb@removebackslash}%
8       \LWR@doequation{\BODY}{prooftree}%
9     }%
10    [\LWR@doendequation{prooftree}]
11    \LWR@formattedenv{prooftree}
12 }{% SVG HTML
13   \BeforeBeginEnvironment{prooftree}{%
14     \begin{lateximage}[-bussproofs-~\PackageDiagramAltText]?%
15   }
16   \AfterEndEnvironment{prooftree}{\end{lateximage}}
17 }

```

File 66 **lwarp-bxpapersize.sty**

§ 178 Package **bxpapersize**

`bxpapersize` (*Pkg*) `bxpapersize` is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{bxpapersize}[2017/10/08]

```
2 \providecommand*\papersizesetup{\bxpapersizesetup}
3 \newcommand*\bxpapersizesetup[1]{}
```

File 67 **lwarp-bytefield.sty**§ 179 Package **bytefield**

(Emulates or patches code by SCOTT PAKIN.)

bytefield (*Pkg*) bytefield is patched for use by lwarp.

for HTML output:

```
1 \LWR@ProvidesPackagePass{bytefield}[2017/09/15]

2 \BeforeBeginEnvironment{bytefield}{%
3   \begin{lateximage}[-bytefield-~\PackageDiagramAltText]?%
4 }
5
6 \AfterEndEnvironment{bytefield}{\end{lateximage}}
```

File 68 **lwarp-cancel.sty**§ 180 Package **cancel**

cancel (*Pkg*) cancel is used as-is for SVG math, and emulated for HTML text output.

for HTML output:

```
1 \LWR@origRequirePackage{lwarp-xcolor}% for \convertcolorspec
2 \LWR@ProvidesPackagePass{cancel}[2013/04/12]
```

\cancelto is math-only, so is used as-is.

```
\LWR@cancelcolor      {<text>} {<color>} {<class>} {<colorstyle>} {<FormatWPstyle>}
Add colors if not empty:
3 \newcommand{\LWR@cancelcolor}[5]{%
4   \ifcempty{#2}%
5   {\InlineClass{#5}{#3}{#1}}%
6   {\LWR@htmlspanclass[#5;#4:\LWR@origpound\LWR@tempcolor]{#3}{#1}}%
7 }

\cancel                {<text>}

8 \DeclareRobustCommand{\LWR@HTML@cancel}[1]{%
9   \begingroup%
10  \CancelColor%
11  \LWR@findcurrenttextcolor%
12  \color{black}%
13  \LWR@cancelcolor{#1}{\LWR@tempcolor}{sout}{text-decoration-color}%
14    {text-decoration:line-through}%
15  \endgroup%
16 }
17 \LWR@formatted{cancel}%
18
19 \LetLtxMacro\bcancel\cancel
20 \LetLtxMacro\xcancel\cancel
```

For MATHJAX:

```
21 \begin{warpMathJax}
22 \PackageNoteNoLine{lwarp, cancel}{The MathJax v3 extension will be used}
23 \CustomizeMathJax{\require{cancel}}
24 \end{warpMathJax}
```

File 69 **lwarp-canonlayout.sty**

§ 181 Package **canoniclayout**

canoniclayout (*Pkg*) canoniclayout is ignored.

for HTML output: §\LWR@ProvidesPackageDrop{canoniclayout}[2011/11/05]

```
2 \newcommand*\currentfontletters{}
3 \newcommand*\charactersperpage{}
```

File 70 **lwarp-caption.sty**

§ 182 Package **caption**

(Emulates or patches code by AXEL SOMMERFELDT.)

caption (*Pkg*) caption is patched for use by lwarp.

for HTML output:

```
1 \typeout{---}
2 \typeout{Packages lwarp and caption:}
3 \typeout{If a ``Missing \protect\begin\protect{document\protect}'' error occurs here,}
4 \typeout{try using: \space \protect\usepackage\protect{caption\protect}\space%
5   \protect\captionsetup{options}}
6 \typeout{instead of: \protect\usepackage[options]\protect{caption\protect}.}
7 \typeout{---}
8
9 \LWR@ProvidesPackagePass{caption}[2023/08/05]

10 \VerifyCommand[lwarp][caption]{\caption@iibox@}{AD79C5FACDA9F8F9977188D922E8AC12}
11
12 \long\def\caption@iibox@#1#2#3#4{%
13   \setbox\@tempboxa\hbox{#4}%
14   \caption@iibox{#1}{#2}{#3}%
15   [\wd\@tempboxa]%
16   [%
17   [\captionbox@innerpos@default]%
18   {\unhbox\@tempboxa}%
19   {#4}}%
20   lwarp

21 \VerifyCommand[lwarp][caption]{\caption@iiiibox@}{62FC9237FCA80F5A607BF02D88C61601}
22
23 \long\def\caption@iiiibox#1#2#3#4#5[#6][#7]#8{%
24   \begingroup
25   #1*% set \caption@position
26   \caption@iftop{%
27     \endgroup
```

```

28 \minipagefullwidth%          lwarp
29 \parbox[t]{\linewidth}{%
30   #1\relax
31   \caption@setposition t%
32 %   #2%
33     {\caption#4{#5}}%
34 %   \captionbox@hrule
35 %   \csname caption@justification@#7\endcsname
36     #8%
37   }%
38 }{%
39 \endgroup

40 %   \parbox[b]{#6}{%
41 \minipagefullwidth%          lwarp
42 \parbox[b]{\linewidth}{%
43   #1\relax
44   \caption@setposition b%
45 %   \csname caption@justification@#7\endcsname
46     #8%
47 %   \captionbox@hrule
48 %   #3
49     {\caption#4{#5}}%
50   }%
51 }%
52 }

```

\caption@makecaption

```

53 \VerifyCommand[lwarp][caption]{\caption@makecaption}{9E0A92DF71E248B2C7A3B4BB5190A2C5}
54
55 \long\def\caption@makecaption#1#2{%
56   \caption@make@above
57   \caption@@make{#1}{#2}%
58   \caption@make@below
59 }
60
61 \AtBeginDocument{
62   \let\@makecaption\caption@makecaption
63 }

```

Appended to look ahead to the next token for \centering, etc:

```

64 \AtBeginDocument{
65   \xapptocmd{\@xfloat}
66     {\LWR@futurenonpacelet\LWR@mynexttoken\LWR@floatalignment}
67     {}
68     {\LWR@patcherror{caption}{@xfloat}}
69
70   \xapptocmd{\@xdblfloat}
71     {\LWR@futurenonpacelet\LWR@mynexttoken\LWR@floatalignment}
72     {}
73     {\LWR@patcherror{caption}{@xdblfloat}}
74 }

75 \VerifyCommand[lwarp][caption]{\caption@@@text}{C7253081E4F8EA695FF193E21855AA0A}
76
77 \long\def\caption@@@text#1#2#3[#4]#5{%
78   \begin{BlockClass}{figurecaption}%          lwarp

```

```

79 \begingroup
80   #3{\csname c@#1\endcsname #4\relax}%
81   #2{\caption@fnum{#1}}{#5}%
82 \endgroup%
83   \end{BlockClass}%           lwarp
84 }

```

Updates for late patches for scrextend:

```

85 \caption@AtBeginDocument{
86 \IfPackageLoadedTF{lwarp-scrextend}{
87   \LetLtxMacro\captionbelow\caption
88   \LetLtxMacro\captionabove\caption
89   \LetLtxMacro\captionofbelow\captionof
90   \LetLtxMacro\captionofabove\captionof
91 }{}
92 }

```

File 71 **lwarp-caption3.sty**

§ 183 Package **caption3**

(Emulates or patches code by AXEL SOMMERFELDT.)

caption3 (*Pkg*) **caption3** is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{caption3}[2023/07/31]

```

\caption@@@make

    {<caption label>} {<caption text>}

2 \IfPackageAtLeastTF{caption3}{2020/08/23}{
3 %
4 \VerifyCommand[lwarp][caption3]{\caption@@@make}{F09A9BB05CE4EDF5A477D3CC2AE04F81}
5 %
6 \renewcommand\caption@@@make[2]{%
7 \LWR@traceinfo{caption@@@make}%

8   \LWR@stoppars%           lwarp

9%   \ifx\caption@fmt\undefined\caption@format\fi
10%  \let\caption@lfmt\caption@labelformat
11%  \global\def\caption@tempa{gobbletwo}%
12%  \global\def\caption@tempb{ }%
13%  \sbox\@tempboxa{%
14%    \let\caption@ignorespaces\ignorespaces
15%    \def\ignorespaces{%
16%      \global\def\caption@tempb{two}% "gobble" -> "gobbletwo"
17%      % if \ignorespaces is used additionally
18%      \caption@ignorespaces}%
19%    #1%
20%    {\global\let\caption@tempa\undefined\aftergroup\@gobble}%
21%    {\global\def\caption@tempa{gobble\caption@tempb}}}%
22%  \ifdim\wd\@tempboxa=\z@
23%    \gdef\caption@tempa{none}%
24%  \fi
25%  \ifx\caption@tempa\undefined \else
26%    \expandtwoargs\caption@set{labelseparator}{\caption@tempa}%

```

```

27% \fi
28 \caption@ifempty{#2}{%
29   \caption@set{labelseparator}{none}%
30   \caption@set{textformat}{simple}%
31 }%
32 \caption@labelseparator % defines \caption@iflabelfont,
33   \caption@labelsep and \caption@labelsep@name
34   (the latter is needed by \caption@fmt)
35%

36% \setpar{\@@par\caption@@par}\caption@@par
37 \caption@applyfont

\caption@fmt with plain format is defined as {#1#2#3\par}:

38% \caption@fmt
39 {\ifcaption@star\else
40   \begingroup
41     \captionlabelfont

42     \LWR@isolate{#1}%                lwarp
43   \endgroup
44   \fi}%
45 {\ifcaption@star\else
46   \begingroup
47     \caption@iflabelfont\captionlabelfont
48     \relax\caption@labelsep
49   \endgroup
50   \fi}%
51 {{\captiontextfont

52   \let\\\newline%                    lwarp
53%
54   \caption@textstart

55%   \caption@ifstrut
56%     {\vrule\@height\ht\strutbox\@width\z@}%
57%     {}}%
58%   \nobreak\hskip\z@skip % enable hyphenation

59   \LWR@isolate{\caption@textformat{#2}}%  lwarp

60%   \caption@ifstrut
61%     {\ifhmode\@finalstrut\strutbox\fi}%
62%     {}}%
63   \caption@textend}}%

64 \LWR@startpars%                      lwarp
65 \LWR@traceinfo{caption@@@make done}%
66 }
67}% later than 2020/08/23
68{% earlier than 2020/08/23
69 \renewcommand\caption@@@make[2]{%
70 \LWR@traceinfo{caption@@@make}%
71   \LWR@stoppars%                      lwarp
72%   \sbox\@tempboxa{#1}%
73%   \ifdim\wd\@tempboxa=\z@
74%     \let\caption@lsep\relax
75%   \fi
76 \caption@ifempty{#2}{%
77   \let\caption@lsep\@empty
78   \let\caption@tfmt\@firstofone
79 }%

```

```

80 % \setpar{\@@par\caption@@par}\caption@@par
81 \caption@applyfont

\caption@fmt with plain format is defined as {#1#2#3\par}:

82 % \caption@fmt
83 {\ifcaption@star\else
84 \begingroup
85 \caption@labelfont
86 \LWR@isolate{#1}% lwarp
87 \endgroup
88 \fi}%
89 {\ifcaption@star\else
90 \begingroup
91 \caption@iflf\caption@labelfont
92 \relax
93 \caption@lsep
94 \endgroup
95 \fi}%
96 {%
97 \caption@textfont
98 \let\\\newline% lwarp
99 %
100 % \caption@ifstrut
101 % {\vrule\@height\ht\strutbox\@width\z@}%
102 % {}%
103 % \nobreak\hskip\z@skip % enable hyphenation
104 % \LWR@isolate{\caption@tfmt{#2}}% lwarp
105 % \caption@ifstrut
106 % {\ifhmode\@finalstrut\strutbox\fi}%
107 % {}%
108 % }%
109 % \LWR@startpars% lwarp
110 % \LWR@traceinfo{\caption@@@make done}%
111 % }
112 % earlier than 2020/08/23

```

\caption@@make@

```

{\langle} {\langle}

112 \VerifyCommand[lwarp][caption3]{\caption@@make@}{AD348E907B8F8B0BCAE57E72DE4A2035}
113 %
114 \renewcommand{\caption@@make@[2]}{%
115 \caption@stepthecounter%
116 \caption@beginhook%
117 \caption@box\hsize%
118 \caption@singlelinecheck{\caption@slc{#1}{#2}\caption@singleline\caption@multiline}{\caption@mu
119 \caption@calcmargin
120 \caption@make@leftmargin
121 \caption@make@parbox%
122 \caption@make@indentation
123 \caption@@@make{#1}{#2}%
124 % }
125 \caption@make@rightmargin
126 % }%
127 \caption@endhook%
128 }

129 \DeclareCaptionBox{none}{#2}
130 \DeclareCaptionBox{parbox}{%
131 #2%
132 }

```

```

133 \DeclareCaptionBox{colorbox}{%
134     #2%
135 }

```

File 72 **lwarp-cases.sty**

§ 184 Package **cases**

(Emulates or patches code by DONALD ARSENEAU.)

`cases` (*Pkg*) `cases` is patched for use by `lwarp`.

While using `MATHJAX`, `cases` objects are converted to `svg` math images. The `MathJax 3.2 cases` package does not yet work with `lwarp`.

for HTML output:

```

1 \LWR@ProvidesPackagePass{cases}[2020/03/29]

2 \BeforeBeginEnvironment{numcases}{
3   \begin{BlockClass}{displaymathnumbered}
4   \LWR@newautoidanchor%
5   \booltrue{LWR@indisplaymathimage}%
6   \begin{lateximage}[-cases- \MathImageAltText]?%
7 }
8
9 \AfterEndEnvironment{numcases}{
10  \end{lateximage}\end{BlockClass}
11 }
12
13 \BeforeBeginEnvironment{subnumcases}{
14   \begin{BlockClass}{displaymathnumbered}
15   \LWR@newautoidanchor%
16   \booltrue{LWR@indisplaymathimage}%
17   \begin{lateximage}[-cases- \MathImageAltText]?%
18 }
19
20 \AfterEndEnvironment{subnumcases}{
21  \end{lateximage}\end{BlockClass}
22 }

```

File 73 **lwarp-ccicons.sty**

§ 185 Package **ccicons**

(Emulates or patches code by MICHAEL UMMELS.)

`ccicons` (*Pkg*) `ccicons` is used as `svg` images for `HTML`.

for HTML output:

Discard all options for `lwarp-ccicons`:

```

1 \LWR@ProvidesPackagePass{ccicons}[2017/10/30]

2 \newcommand{\LWR@ccicons}[2]{%
3   {\begin{lateximage}*[#1]?ccicons@font\char#2\end{lateximage}}%
4 }

```

```

5 \renewcommand{\ccicons@logo}{\LWR@ccicons{ccLogo}{0}}
6 \renewcommand{\ccicons@by}{\LWR@ccicons{ccAttribution}{1}}
7 \renewcommand{\ccicons@sa}{\LWR@ccicons{ccShareAlike}{2}}
8 \renewcommand{\ccicons@end}{\LWR@ccicons{ccNoDerivatives}{3}}
9 \renewcommand{\ccicons@nc}{\LWR@ccicons{ccNonCommercial}{4}}
10 \renewcommand{\ccicons@nceu}{\LWR@ccicons{ccNonCommercialEU}{5}}
11 \renewcommand{\ccicons@ncjp}{\LWR@ccicons{ccNonCommercialJP}{6}}
12 \renewcommand{\ccicons@pd}{\LWR@ccicons{ccPublicDomain}{7}}
13 \renewcommand{\ccicons@zero}{\LWR@ccicons{ccZero}{8}}
14 \renewcommand{\ccicons@sampling}{\LWR@ccicons{ccSampling}{9}}
15 \renewcommand{\ccicons@share}{\LWR@ccicons{ccShare}{10}}
16 \renewcommand{\ccicons@remix}{\LWR@ccicons{ccRemix}{11}}
17 \renewcommand{\ccicons@copy}{\LWR@ccicons{ccCopy}{12}}
18 \renewcommand{\ccicons@pdalt}{\LWR@ccicons{ccPublicDomainAlt}{13}}

```

File 74 **lwarp-centerlastline.sty**

§ 186 Package **centerlastline**

centerlastline (*Pkg*) centerlastline is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{centerlastline}[2020/10/12]

```

2 \providecommand{\centerlastline}{}
3 \def\endcenterlastline{\par}

```

File 75 **lwarp-centernot.sty**

§ 187 Package **centernot**

(Emulates or patches code by HEIKO OBERDIEK.)

centernot (*Pkg*) centernot is used as-is for SVG math, and emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{centernot}[2016/05/16]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\require{centernot}}
4 \end{warpMathJax}

```

File 76 **lwarp-changebar.sty**

§ 188 Package **changebar**

changebar (*Pkg*) changebar is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{changebar}[2018/03/09]

```

2 \newcommand*{\cbstart}{}
3 \newcommand*{\cbend}{}
4 \newenvironment*{\changebar}{}{}

```



```

5 \newcommand*\cbdelete{}
6 \newcommand*\nochnagebars{}
7 \newcommand*\cbcolor[1]{}
8 \newlength{\changebarwidth}
9 \newlength{\deletebarwidth}
10 \newlength{\changebarsep}
11 \newcounter{changebargrey}

```

File 77 **lwarp-changelayout.sty**

§ 189 Package **changelayout**

(Emulates or patches code by AHMED MUSA.)

changelayout (*Pkg*) changelayout is patched for use by lwarp.

for HTML output:

```

1 \LWR@ProvidesPackagePass{changelayout}[2009/10/07]

2 \renewrobustcmd\cpl@backtodefaults{}
3
4 \renewrobustcmd\cpl@checkifoddpagelayout{%
5   \cpl@oddpagelayoutfalse%
6 }
7
8 \renewrobustcmd\changepagelayout[1]{%
9   \setkeys[KV]{changelayout}{#1}%
10 }
11
12 \renewrobustcmd{\changetextlayout}[1]{\changepagelayout{#1}}
13
14 \renewrobustcmd\adjustpagelayout[1]{%
15   \setkeys[KV@X]{changelayout}{#1}%
16 }
17
18 \renewrobustcmd{\adjusttextlayout}[1]{\adjustpagelayout{#1}}
19
20 \renewrobustcmd\adjusttextwidth[1]{%
21   \setkeys[KV]{changelayout}{#1}%
22   \begin{BlockClass}[color:\LWR@colorstyle{named}\cpl@textcolor]{changelayout}
23     \color\cpl@textcolor%
24     \cpl@content
25   \end{BlockClass}
26 }

```

File 78 **lwarp-changepage.sty**

§ 190 Package **changepage**

(Emulates or patches code by PETER WILSON.)

changepage (*Pkg*) changepage is ignored.

for HTML output:

Discard all options for lwarp-changepage:

```

1 \LWR@ProvidesPackageDrop{changepage}[2009/10/20]

```

```

2 \newif\ifoddpag
3 \DeclareRobustCommand{\checkoddpag}{\oddpagtrue}
4 \DeclareRobustCommand{\changetext}[5]{}
5 \DeclareRobustCommand{\changeag}[9]{}
6
7 \@ifundefined{adjustwidth}{
8 \newenvironment{adjustwidth}[2]{}{}
9 \newenvironment{adjustwidth*}[2]{}{}
10 }{
11 \renewenvironment{adjustwidth}[2]{}{}
12 \renewenvironment{adjustwidth*}[2]{}{}
13 }

14 \DeclareDocumentCommand{\strictpagecheck}{}{}
15 \DeclareDocumentCommand{\easypagecheck}{}{}


```

File 79 **lwarp-changes.sty**

§ 191 Package **changes**

(Emulates or patches code by EKKART KLEINOD.)

changes (*Pkg*) changes is patched for use by lwarp.

 `\comment` Use `commandnameprefix=ifneeded` to avoid a conflict with the `\comment` command when using lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{changes}[2021/07/15]

\BaseJobname is added to the label in case `xr` or `xr-hyper` are used.

```

2 \renewcommand{\ChangesListline}[4]{%
3   \IfIsInList{#1}{\Changes@loc@show}{%
4     \LWR@startpars%
5     #2: #3 \qqquad
6     \nameref{\BaseJobname-autopage-#4}%
7     \LWR@stoppars%
8   }{}%
9 }
10
11 \VerifyCommand[lwarp][changes]{\listofchanges}{CDE77F21854A8C807FDF2CF756286B55}
12
13 \renewcommand{\listofchanges}[1][\@empty]{%
14 \setkeys{Changes@loc}{#1}%
15 \ifbool{Changes@optiondraft}%
16 {%
17 \IfIsInList{\Changes@loc@style}{list|summary|compactsummary}%
18 }{}%
19 }%
20 \PackageWarning{changes}{Wrong style for list of changes:%
21   '\Changes@loc@style', using 'list' instead.}%
22 \def\Changes@loc@style{}%
23 }%
24 \IfIsEmpty{\Changes@loc@style}%
25 {\def\Changes@loc@style{list}}%
26 }%

```

```

27 \IfStrEq{\Changes@loc@show}{all}%
28 {\def\Changes@loc@show{added|deleted|replaced|highlight|comment}}%
29 {}%
30 \IfIsInList{\Changes@loc@show}{added|deleted|replaced|highlight|comment}%
31 {}%
32 {}%
33 \PackageWarning{changes}{Wrong show-value for list of changes: '\Changes@loc@show', using 'all' instead}%
34 \def\Changes@loc@show{}%
35 }%
36 \IfIsEmpty{\Changes@loc@show}%
37 {\def\Changes@loc@show{added|deleted|replaced|highlight|comment}}%
38 {}%
39 \IfIsEmpty{\Changes@loc@title}%
40 {}%
41 \IfStrEq{\Changes@loc@style}{list}%
42 {\def\Changes@heading{\listofchangesname}}{}%
43 \IfStrEq{\Changes@loc@style}{summary}%
44 {\def\Changes@heading{\summaryofchangesname}}{}%
45 \IfStrEq{\Changes@loc@style}{compactsummary}%
46 {\def\Changes@heading{\compactsummaryofchangesname}}{}%
47 }%
48 {\def\Changes@heading{\Changes@loc@title}}%
49 \section*{\Changes@heading}
50 \IfIsInList{\Changes@loc@style}{list}%
51 {}%
52 \IfFileExists{\jobname.\Changes@loc@extension}%
53 {}%
54 \newread\Changes@InFile%
55 \openin\Changes@InFile=\jobname.\Changes@loc@extension%
56 \loop\unless\ifeof\Changes@InFile%
57 \read\Changes@InFile to \Changes@Line%
58 \ifeof\Changes@InFile\else%
59 \Changes@Line%
60 \fi
61 \repeat
62 \closein\Changes@InFile%
63 }{}%
64 \emph{\changesnoloc}%
65 \PackageWarning{changes}{LaTeX rerun needed for list of changes}%
66 }%
67 }{}%
68 \IfIsInList{\Changes@loc@style}{summary|compactsummary}%
69 {}%
70 \IfFileExists{\jobname.\Changes@soc@extension}%
71 {}%
72 \newread\Changes@InFile%
73 \openin\Changes@InFile = \jobname.\Changes@soc@extension%
74 \loop\unless\ifeof\Changes@InFile%
75 \read\Changes@InFile to \Changes@Line%
76 \ifeof\Changes@InFile\else%
77 \expandafter\changes@chopline\Changes@Line\\%
78 \textbf{}%
79 \IfIsColored%
80 {\color{\Changes@Incolor}}%
81 {}%
82 \IfIsAnonymous{\Changes@Inid}%
83 {}%
84 \LWR@textcurrentcolor{} lwarp
85 \changesauthorname: \changesanonymousname%
86 }% lwarp

```

```

87 }%
88 {%
89   \LWR@textcurrentcolor{%   lwarp
90 \changesauthorname: \Changes@Inid%
91   }% lwarp
92 \IfIsEmpty{\Changes@Inname}%
93 {}%
94 { %
95   \LWR@textcurrentcolor{%   lwarp
96 (\Changes@Inname)%
97   }% lwarp
98 }%
99 }%
100 }%%
101 \numdef{\Changes@InSum}{0}%
102 \renewcommand*\do}[1]{%
103 \numdef{\Changes@InSum}{\Changes@InSum + \csuse{Changes@In#####1}}%
104 }%
105 \expandafter\dopsvlist\expandafter{\Changes@loc@show}%
106 \ifnumcomp{\Changes@InSum}{=}{0}%
107 {%
108 % \parbox{\Changes@summary@width}{% lwarp
109   \changesnochanges%
110 % }% lwarp
111 % \[1ex]% lwarp
112   \par% \lwarp
113 }%
114 {%
115 \numdef{\Changes@InCount}{0}%
116 \renewcommand*\do}[1]{%
117 \numdef{\Changes@InCount}{\Changes@InCount + \csuse{Changes@In#####1}}%
118 \ifboolexpr{%
119 not test {\IfStrEq{\Changes@loc@style}{compactsummary}} or%
120 test {\ifnumgreater{\csuse{Changes@In#####1}}{0}}%
121 }%
122 {%
123 % \parbox{\Changes@summary@width}{% lwarp
124 \csuse{changes#####1name}~%
125 % \let\cleaders\leaders\dotfill~% lwarp
126 \dotfill~% \lwarp
127 \csuse{Changes@In#####1}%
128 % }% lwarp
129 % \ifnumless{\Changes@InCount}{\Changes@InSum}% lwarp
130 }%%
131 % {\[1ex]}% lwarp
132 }%
133 {}%
134 }%
135 \expandafter\dopsvlist\expandafter{\Changes@loc@show}%
136   \par% lwarp
137 }%
138 \fi%
139 \repeat
140 \closein\Changes@InFile%
141 }{%
142 \emph{\changesnosoc}%
143 \PackageWarning{changes}{LaTeX rerun needed for summary of changes}%
144 }%
145 }{%
146 }{%

```

```
147 }
148
149 \VerifyCommand[lwarp][changes]{\Changes@Markup@comment}{23057A40141C9D1A0A173DCF1BD5DE55}
150
151 \renewcommand{\Changes@Markup@comment}[3]{%
152 \IfStrEq{\Changes@optioncommentmarkup}{todo}%
153 {%
154 \IfIsColored%
155 {\colorlet{Changes@todocolor}{authorcolor}}%
156 {\colorlet{Changes@todocolor}{black}}%
157 \todo[color=Changes@todocolor!10, bordercolor=Changes@todocolor, linecolor=Changes@todocolor!70, nol
158 ]{}}%
159 \IfStrEq{\Changes@optioncommentmarkup}{margin}%
160 {%
161 \marginpar{%
162 \IfIsColored%
163 {\leavevmode\color{authorcolor}}%
164 }%
165 \LWR@textcurrentcolor{% lwarp
166 \textbf{[\IfIsAnonymous{#2}]{#3~}\arabic{Changes@commentCount#2}]:} #1%
167 }% lwarp
168 }%
169 }%
170 \IfStrEq{\Changes@optioncommentmarkup}{footnote}%
171 {%
172 \footnote{%
173 \LWR@textcurrentcolor{% lwarp
174 \textbf{[\IfIsAnonymous{#2}]{#3~}\arabic{Changes@commentCount#2}]:} #1%
175 }% lwarp
176 }%
177 }%
178 \IfStrEq{\Changes@optioncommentmarkup}{uwave}%
179 {%
180 {%
181 \IfIsColored%
182 {\color{authorcolor}}%
183 }%
184 \allowbreak%
185 \uwave{%
186 \textbf{[\IfIsAnonymous{#2}]{#3~}\arabic{Changes@commentCount#2}]:} #1%
187 }%
188 }%
189 }%
190 }
191
192 \VerifyCommand[lwarp][changes]{\Changes@output}{BD1ACDECB4BBA2D9181885F9EDC87F77}
193
194 \renewrobustcmd{\Changes@output}[7]{%
195 \ifbool{Changes@optiondraft}%
196 {%
197 \Changes@check@author{#2}%
198 \Changes@set@color{#2}%
199 {%
200 \IfIsInList{#1}{added|deleted|replaced|highlight}%
201 {%
202 \IfIsEmpty{#5}%
203 {%
204 \IfIsAuthorEmptyAtPosition{#2}{left}%
205 }%
206 }%

```

```
207 \IfIsColored%
208 {\color{authorcolor}}%
209 {}%
210 \LWR@textcurrentcolor{% lwarp
211 \Changes@Markup@author{\Changes@output@author@position{#2}{left}}%
212 }% lwarp
213 }}%
214 }{}%
215 {%
216 \IfStrEq{#1}{highlight}%
217 }{}%
218 \IfIsColored%
219 {\color{authorcolor}}%
220 {}%
221 }%
222 \LWR@textcurrentcolor{% lwarp
223 \IfStrEq{#1}{added}{\Changes@Markup@added{#3}}{}%
224 \IfStrEq{#1}{deleted}{\Changes@Markup@deleted{#4}}{}%
225 \IfStrEq{#1}{replaced}{\Changes@Markup@added{#3}\allowbreak\Changes@Markup@deleted{#4}}{}%
226 \IfStrEq{#1}{highlight}{\Changes@Markup@highlight{#3}}{}%
227 }% lwarp
228 }%
229 \IfIsEmpty{#5}%
230 {}%
231 \IfIsAuthorEmptyAtPosition{#2}{right}%
232 {}%
233 {}{}%
234 \IfIsColored%
235 {\color{authorcolor}}%
236 {}%
237 \LWR@textcurrentcolor{% lwarp
238 \Changes@Markup@author{\Changes@output@author@position{#2}{right}}%
239 }% lwarp
240 }}%
241 }{}%
242 \stepcounter{Changes@#1Count#2}%
243 }{}%
244 \IfIsEmpty{#5}%
245 {}%
246 {%
247 \stepcounter{Changes@commentCount#2}%
248 \Changes@set@commentcount{#2}%
249 \Changes@Markup@comment%
250 {#5}%
251 {#2}%
252 {\Changes@output@author-#2}}%
253 }%
254 }%
255 \IfIsEmpty{#2}%
256 {\def\Changes@locid{}}%
257 {\def\Changes@locid{~(#2)}}%
258 \addtocontents{\Changes@locextension}{\protect\ChangesListline{#1}{#6\Changes@locid}{#7}{\thepage}}%
259 }%
260 {%
261 \IfIsEmpty{#3}%
262 {\@sphack\@esphack}%
263 {#3}%
264 }%
265 }
```

File 80 **lwarp-chappg.sty**

§ 192 Package **chappg**

(Emulates or patches code by ROBIN FAIRBAIRNS.)

chappg (*Pkg*) chappg is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{chappg}[2006/05/09]
 2 \renewcommand{\pagenumbering}[2][{}]{
 3 \providecommand{\chappgsep}{--}}

File 81 **lwarp-chapterbib.sty**

§ 193 Package **chapterbib**

(Emulates or patches code by DONALD ARSENEAU.)

chapterbib (*Pkg*) chapterbib is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{chapterbib}[2010/09/18]
 2 \xdef\@savedjobname{\BaseJobname}
 3 \let\@currentipfile\@savedjobname

File 82 **lwarp-chemfig.sty**

§ 194 Package **chemfig**

(Emulates or patches code by CHRISTIAN TELLECHEA.)

chemfig (*Pkg*) chemfig is patched for use by lwarp.

If using `\polymerdelim` to add delimiters to a `\chemfig`, wrap both inside a single `lateximage`:

```
\begin{lateximage}[-chemfig-~\PackageDiagramAltText]
\chemfig{. . . }
\polymerdelim[. . . ]{. . . }
\end{lateximage}
```

The images are not hashed because they depend on external settings which may be changed at any time, and are unlikely to be reused inline anyhow.

for HTML output: 1 \LWR@ProvidesPackagePass{chemfig}[2021/02/28]
 2 \catcode`_ =11
 3
 4 \IfPackageAtLeastTF{chemfig}{2020/03/05}

```

5 {
6   \xpretocmd\charge{\begin{lateximage}[-chemfig~\PackageDiagramAltText]?%
7     }{\LWR@patcherror{chemfig}{charge}}
8   \xpretocmd\Charge{\begin{lateximage}[-chemfig~\PackageDiagramAltText]?%
9     }{\LWR@patcherror{chemfig}{Charge}}
10  \xapptocmd\charge_c{\end{lateximage}}
11    {}{\LWR@patcherror{chemfig}{charge_c}}
12 }{}
13
14 \IfPackageAtLeastTF{chemfig}{2019/04/18}%
15 {% 2019/04/18 or newer

16   \xpretocmd{\CF_chemfiga}
17     {\begin{lateximage}[-chemfig~\PackageDiagramAltText]?%
18       }{\LWR@patcherror{chemfig}{CF_chemfiga}}
19
20   \VerifyCommand[lwarp][chemfig]{\CF_chemfigb}{7B199210755F37B1BCD036567614BA34}
21
22   \xpatchcmd{\CF_chemfigb}
23     {\let\CF_flipstate\CF_zero}
24     {\end{lateximage}\let\CF_flipstate\CF_zero}
25     {}{\LWR@patcherror{chemfig}{CF_chemfigb}}
26
27   \GlobalLetLtxMacro\LWR@chemfig@origCF_lewisc\CF_lewisc
28   \gdef\CF_lewisc#1,#2\_nil{%
29     \begin{lateximage}[-chemfig~\PackageDiagramAltText]?%
30     \LWR@chemfig@origCF_lewisc#1,#2\_nil
31     \end{lateximage}
32   }
33
34   \gpreto{\schemestart}{%
35     \begin{lateximage}[-chemfig~\PackageDiagramAltText]?%
36   }
37   \gappto{\CF_schemestop}{\end{lateximage}}
38
39 }% 2019/04/18 or newer
40 {% older than 2019/04/18
41
42   \LetLtxMacro\LWR@chemfig@origchemfig\chemfig
43
44   \DeclareDocumentCommand\chemfig{s O{} O{} m}{%
45     \begin{lateximage}[-chemfig~\PackageDiagramAltText]?%
46     \IfBooleanTF{#1}{%
47       \LWR@chemfig@origchemfig*[#2][#3][#4]%
48     }{%
49       \LWR@chemfig@origchemfig[#2][#3][#4]%
50     }
51     \end{lateximage}%
52   }
53
54   \LetLtxMacro\LWR@chemfig@origCF@lewis@b\CF@lewis@b
55
56   \def\CF@lewis@b#1#2{%
57     \begin{lateximage}[-chemfig~\PackageDiagramAltText]?%
58     \LWR@chemfig@origCF@lewis@b{#1}{#2}%
59     \end{lateximage}%
60   }
61
62   \preto{\schemestart}{%
63     \begin{lateximage}[-chemfig~\PackageDiagramAltText]?%

```



```

64   }
65   \appto{\CF@schemestop}{\end{lateximage}}
66
67 }% older than 2019/04/18
68
69 \catcode`\_ =8%
70
71
72
73 \LetLtxMacro\LWR@chemfig@origchemleft\chemleft
74
75 \def\chemleft#1#2\chemright#3{%
76 \begin{lateximage}[-chemfig~\PackageDiagramAltText]?%
77 \LWR@chemfig@origchemleft#1#2\chemright#3%
78 \end{lateximage}%
79 }
80
81 \LetLtxMacro\LWR@chemfig@origchemup\chemup
82
83 \def\chemup#1#2\chemdown#3{%
84 \begin{lateximage}[-chemfig~\PackageDiagramAltText]?%
85 \LWR@chemfig@origchemup#1#2\chemdown#3%
86 \end{lateximage}%
87 }

```


File 83 **lwarp-chemformula.sty**

§ 195 Package **chemformula**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

`chemformula` (*Pkg*) `chemformula` is patched for use by `lwarp`.

The SVG images are hashed according to contents and local options. Global options are assumed to be constant document-wide.

 **chemformula with MATHJAX** `chemformula` works best without MATHJAX. If MATHJAX is used, `\displaymathother` must be used before `array`, and then `\displaymathnormal` may be used after. (The `chemformula` package adapts to `array`, but does not know about MATHJAX, and MATHJAX does not know about `chemformula`.)

While using MATHJAX, `\displaymathother` may also be used for other forms of display and inline math which contain `chemformula` expressions.

for HTML output: `1 \LWR@ProvidesPackagePass{chemformula}[2022/01/23]`

`2 \ExplSyntaxOn`

`\ch` Enclose in an inline SVG image or MATHJAX. The `alt` tag is the contents of the `\ch` expression. The filename is hashed, and also has additional hashing information based on the local options.

```

3 \VerifyCommand[\lwarp][chemformula]{\ch}{6D4331F95E9FF2E011E310B1F8C5487E}
4
5 \RenewDocumentCommand \ch { O{}m }
6   {%

```

To work inside `align` with `\displaymath` other, a simple version must be used to work with `chemformula`'s adaptation to `align`.

```

7   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}% lwarp
8   {%
9     \chemformula_ch:nn {#1} {#2}% original
10  }%

```

If used as the outer level, must temporarily ensure `MATHJAX` is disabled:

```

11  {%
12    \begingroup%
13    \boolfalse{mathjax}%

```

An inline image is used, adjusted for the baseline:

```

14    \LWR@subsingledollar*{% lwarp
15      \textbackslash}%
16      ch%
17      \{%
18        \LWR@HTMLsanitizedetokenized{\detokenize{#2}}%
19      \}% alt text
20    }{%
21      \protect\LWR@HTMLsanitizedetokenized{%
22        \detokenize\expandafter{#1}%
23      }% add'l hashing
24    }%
25    {%
26      \chemformula_ch:nn {#1} {#2}% original
27    }%
28    \endgroup%
29  }%
30 }

```

`\chcpd`

Similar to `\ch`.

```

31 \IfPackageAtLeastTF{chemformula}{2019/10/13}{
32
33 \VerifyCommand[lwarp][chemformula]{\chemformula_chcpd:nn}
34   {C1E882F2C1137D429AE4F789C84E7428}
35
36 \cs_gset_protected:Npn \chemformula_chcpd:nn #1#2
37   {
38     \begingroup%
39     \boolfalse{mathjax}%
40     \LWR@subsingledollar*{% lwarp
41       \textbackslash}% alt tag
42       chcpd%
43       \{%
44         \LWR@HTMLsanitizedetokenized{\detokenize{#2}}%
45       \}%
46     }{%
47       \protect\LWR@HTMLsanitizedetokenized{\detokenize\expandafter{#1}}%
48     }{% original
49     \group_begin:
50       \tl_if_blank:nF {#2}
51       {
52         \keys_set:nn {chemformula} {#1}
53         \__chemformula_save_catcodes:
54         \__chemformula_sanitize:Nn
55           \l__chemformula_chemformula_tmpa_tl
56           {#2}

```

```

57     \__chemformula_input_compound_no_check:NV
58     \l__chemformula_compound_tl
59     \l__chemformula_chemformula_tmpa_tl
60     \__chemformula_prepare_output:NV
61     \l__chemformula_compound_tl
62     \l__chemformula_catcodes_tl
63     \chemformula_write:V \l__chemformula_compound_tl
64   }
65 \group_end:
66 }
67 \endgroup
68 }
69}% later than 2019/10/13
70{% earlier than 2019/10/13
71% \changes{v0.903}{2021/12/18}{\pkg{chemformula}: Improved alt tag sanitization.}
72 \cs_gset_protected:Npn \chemformula_chcpd:nn #1#2
73 {
74   \begingroup%
75   \boolfalse{mathjax}%
76   \LWR@subsingleddollar*{% lwarp
77     \textbackslash{}}% alt tag
78     chcpd%
79     \{%
80       \LWR@HTMLsanitizedetokenized{\detokenize{#2}}%
81     \}%
82   }{%
83     \protect\LWR@HTMLsanitizedetokenized{\detokenize\expandafter{#1}}%
84   }{% original
85   \group_begin:
86     \tl_if_blank:nF {#2}
87     {
88       \keys_set:nn {chemformula} {#1}
89       \__chemformula_save_catcodes:
90       \__chemformula_sanitiz:Nn
91         \l__chemformula_chemformula_tmpa_tl
92         {#2}
93       \__chemformula_input_compound_no_check:NV
94       \l__chemformula_compound_tl
95       \l__chemformula_chemformula_tmpa_tl
96       \__chemformula_prepare_output:N \l__chemformula_compound_tl
97       \chemformula_write:V \l__chemformula_compound_tl
98     }
99   \group_end:
100 }
101 \endgroup
102 }
103}% earlier than 2019/10/13

```

\charrow

If standalone, appears in a regular lateximage.

```

104 \VerifyCommand[lwarp][chemformula]{\charrow}
105   {31D2B3405541C0B128504C94C5046713}
106
107 \RenewDocumentCommand \charrow { m0{}0{} }
108 {
109   \begin{lateximage}[-chemformula- charrow]
110   \group_begin:
111     \__chemformula_draw_arrow:nnn {#1} {#2} {#3}
112   \group_end:
113   \end{lateximage}

```

114 }

`\chname` If standalone, appears in a regular `lateximage`, hashed according to contents.

```

115 \VerifyCommand[lwarp][chemformula]{\chname}
116   {3C697C09415EE601DE035EEDD6D3BA4D}
117
118 \RenewDocumentCommand \chname { R(){}R(){} }
119   {
120     \begin{lateximage}*[%
121       \textbackslash{}%
122       chname%
123       (\LWR@HTMLsanitizedetokenized{\detokenize{#1}})%
124       (\LWR@HTMLsanitizedetokenized{\detokenize{#2}})%
125     ]*?%
126     \chemformula_chwritebelow:nn {#1} {#2}%
127     \end{lateximage}%
128   }

```

`\chlewis` Placed inline, hashed according to contents and options.

```

129 \VerifyCommand[lwarp][chemformula]{\chlewis}
130   {371F2DD32AA98170F43CFDA71177226B}
131
132 \RenewDocumentCommand \chlewis { O{}mm }
133   {
134     \begingroup%
135     \boolfalse{mathjax}%
136     \LWR@subsingledollar*{\textbackslash{}chlewis\{#2\}\{#3\}}%
137     {
138       \protect\LWR@HTMLsanitizedetokenized{\detokenize\expandafter{#1}}%
139     }{
140       \chemformula_lewis:nnn {#1} {#2} {#3}
141     }
142     \endgroup%
143   }

```

`lwarp` redefines the `$` character, so special handling is required to escape math expressions inside `\ch`.

This boolean tracks a new kind of escaped math:

```
144 \bool_new:N \l__chemformula_first_last_LWRdollar_bool
```

`\chemformula_input_escape_math`

Adds additional escaping for the new dollar definition:

```

145 \VerifyCommand[lwarp][chemformula]{\__chemformula_input_escape_math:n}
146   {5318E84E9168C2F123781D2EA8CFA871}
147
148 \cs_gset_protected:Npn \__chemformula_input_escape_math:n #1
149   {
150     \__chemformula_first_last_math:n {#1}
151     \bool_if:NT \l__chemformula_first_last_dollar_bool
152     {
153       \bool_set_true:N \l__chemformula_first_last_math_bool
154       \__chemformula_read_escape_dollar:w #1 \q_nil
155     }

```

```

156 \bool_if:NT \l__chemformula_first_last_mathbraces_bool
157 {
158   \bool_set_true:N \l__chemformula_first_last_math_bool
159   \__chemformula_read_escape_mathbraces:w #1 \q_nil
160 }

```

Added by lwarp:

```

161 \bool_if:NT \l__chemformula_first_last_LWRdollar_bool% lwarp
162 {
163   \bool_set_true:N \l__chemformula_first_last_math_bool% lwarp
164   \__chemformula_read_escape_LWRdollar:w #1 \q_nil% lwarp
165 }
166 }

```

`\chemformula_read_escape_LWRdollar`

The following parses the contents inside the new dollars.

`lwarp` keeps the dollar as its original math shift until the document starts. While `chemmacros` is being patched, the dollar must temporarily be set to its new meaning during the following definition.

```

167 \begingroup
168 \catcode`\$=\active
169
170 \cs_new_protected:Npn \__chemformula_read_escape_LWRdollar:w $#1$ \q_nil
171 {
172   \__chemformula_read_escape_math:n {#1}
173 }
174
175 \endgroup

```

`\chemformula_bool_set_if_first_last`

The following looks at the first and last tokens for delimiters to escape math inside `\ch`. The original definition is modified to look for the control sequences which are used by the new meaning of `$`.

```

176 \cs_new_protected:Npn \__chemformula_bool_cs_set_if_first_last:NnNN #1#2#3#4
177 {
178   \int_zero:N \l__chemformula_tmpa_int
179   \int_zero:N \l__chemformula_tmpb_int
180   \int_set:Nn \l__chemformula_tmpa_int { \tl_count:n {#2} }
181   \tl_map_inline:nn {#2}
182   {
183     \int_incr:N \l__chemformula_tmpb_int
184     \int_compare:nT { \l__chemformula_tmpb_int = 1 }
185     {

```

At the start, the `cs_` version compares control sequences:

```

186       \ifdefstrequal{##1}{#3}% lwarp
187       {
188         \bool_set_true:N #1
189       }% lwarp
190       {}
191     }

```

At the end, compare more control sequences:

```

192     \int_compare:nT { \l__chemformula_tmpb_int = \l__chemformula_tmpa_int }
193     {
194         \ifdefstrequal{##1}{#4}
195             {}
196             {
197                 \bool_set_false:N #1
198             }
199     }
200 }
201 }

```

\chemformula_first_last_math

Modified to check for the new meaning of \$ at first/last:

```

202 \VerifyCommand[lwarp][chemformula]{\__chemformula_first_last_math:n}
203 {B464BC6E81CAC84BE00FEE988970CE96}
204
205 \cs_gset_protected:Npn \__chemformula_first_last_math:n #1
206 {
207     \bool_set_false:N \l__chemformula_first_last_math_bool
208     \bool_set_false:N \l__chemformula_first_last_dollar_bool
209     \bool_set_false:N \l__chemformula_first_last_LWRdollar_bool%   lwarp
210     \bool_set_false:N \l__chemformula_first_last_mathbraces_bool
211     \__chemformula_bool_set_if_first_last:Nnnn
212     \l__chemformula_first_last_dollar_bool
213     {#1}
214     { $ } { $ }
215     \bool_if:NF \l__chemformula_first_last_dollar_bool
216     {
217         \__chemformula_bool_set_if_first_last:Nnnn
218         \l__chemformula_first_last_mathbraces_bool
219         {#1}
220         { \ ( ) { \ ) }

```

Added by lwarp:

```

221     \bool_if:NF \l__chemformula_first_last_mathbraces_bool%   lwarp
222     {
223         \__chemformula_bool_cs_set_if_first_last:NnNN
224         \l__chemformula_first_last_LWRdollar_bool
225         {#1}
226         { \LWR@newsingledollar } { \LWR@newsingledollar }
227     }%   lwarp
228 }
229 }

230 \ExplSyntaxOff

```

File 84 **lwarp-chemgreek.sty**

§ 196 Package **chemgreek**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

chemgreek (*Pkg*) chemgreek is patched for use by lwarp.

Greek symbols To use text-mode symbols, use packages `textalpha` or `textgreek`. Using the other

⚠ **package selection** packages supported by `chemgreek` will result in math-mode greek characters, which will result in svg images being used. These images will be hashed.

⚠ **X_YL^AT_EX, Lua^AT_EX** If using X_YL^AT_EX or Lua^AT_EX, select the fontspec mapping:

```
\selectchemgreekmapping{fontspec}
```

for HTML output: 1 \LWR@ProvidesPackagePass{chemgreek}[2020/01/16]

```
2 \ExplSyntaxOn
3
4 \cs_gset_protected:Npn \chemgreek_text:n #1
5 { { \text {#1} } }
6
7 \appto\LWR@restoreorigformatting{%
8 \cs_set_protected:Npn \chemgreek_text:n #1%
9 { \ensuremath { \text {#1} } }%
10 }
11
12 \ExplSyntaxOff
```

File 85 **lwarp-chemmacros.sty**

§ 197 Package **chemmacros**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

`chemmacros` (*Pkg*) `chemmacros` is patched for use by `lwarp`.

for HTML output: 1 \LWR@ProvidesPackagePass{chemmacros}[2022/02/13]

svg file hashing assumes that the relevant options are constant for the entire document.

§ 197.1 **Changes to the user's document**

⚠ **\makepolymerdelims** When using `\makepolymerdelims`, enclose the entire expression inside a `polymerdelims` environment, such as (from the `chemmacros` manual):

```
\begin{polymerdelims}
\chemfig{-[O{op,.75}]CH_2-CH(-[6]Cl)-[O{cl,0.25}]}
\makepolymerdelims{5pt}[27pt]{op}{cl}
\end{polymerdelims}
```

⚠ **redox reactions** Redox reactions must be enclosed inside a `redoxreaction` environment. For print output, extra space must be included above and/or below the result, so they are declared as arguments to the environment, instead of being manually entered as per the `chemmacros` manual. For HTML output, the extra space is ignored and a `lateximage` is used instead.

```
\begin{redoxreaction}{7mm}{7mm}
\OX{a,Na} $\rightarrow$ \OX{b,Na}\pch{redox(a,b){oxidation}
\end{redoxreaction}
```

§ 197.2 Code

```
2 \ExplSyntaxOn
```

§ 197.3 Loading packages

Also accept the `lwarp` version. `\VerifyCommand` not used here because it doesn't work with the conditional.

```
3 \prg_set_conditional:Npnn \chemmacros_if_package_loaded:n #1 {p,T,F,TF}
4 {
5   \cs_if_exist:cTF {ver@#1.sty}
6     { \prg_return_true: }
7     {
8       \cs_if_exist:cTF {ver@lwarp-#1.sty}
9         { \prg_return_true: }
10        { \prg_return_false: }
11      }
12 }
```

Nullify hyperref detection:

```
13 \hook_gput_code:nnn {begindocument/end} {chemmacros}
14 {
15   \bool_set_false:N \l__chemmacros_hyperref_bool
16 }
```

§ 197.4 Loading modules

Patching `chemmacros` modules must be done `\AtBeginDocument`, since modules are invoked by the user in the preamble, and each patch is only done if the module is loaded.

§ 197.5 New environments

`\makepolymerdelims` and redox reactions must be enclosed in a `lateximage` during HTML output. These environments are provided here in HTML mode, and in the `lwarp` core in print mode, as a high-level semantic syntax which automatically embeds the contents in a `lateximage` with an appropriate `alt` tag.

Env `polymerdelims`

```
17 \DeclareDocumentEnvironment{polymerdelims}{}
18 {\begin{lateximage}[-chemmacros- polymer]}
19 {\end{lateximage}}
```

Env `redoxreaction`

{<space above>} {<space below>}

For HTML output, the above and below space is ignored, and a `lateximage` is used instead. For the print output version, see section 92.

```
20 \DeclareDocumentEnvironment{redoxreaction}{m m}
21 {\begin{lateximage}[-chemmacros- redoxreaction]}
22 {\end{lateximage}}
```


§ 197.6 **Acid-base**

```

23 \AtBeginDocument{
24 \chemmacros_module_if_loaded:nTF{{acid-base}}{
25 \PackageInfo{lwarp}{Patching~chemmacros~module~acid-base}
26
27 \VerifyCommand[lwarp][chemmacros]{\chemmacros_p:n}
28   {D95080E9783CB80E34C51221236CF370}
29
30 \cs_gset_protected:Npn \chemmacros_p:n #1
31   {
32     \begingroup
33     \boolfalse{mathjax}
34     \LWR@subsingledollar*{
35       \textbackslash}%
36       p%
37       \{%
38         \LWR@HTMLsanitizedetokenized{\detokenize{#1}}%
39       \}
40     }{
41       chemmacrosp%
42       \protect\LWR@HTMLsanitizedetokenized{\detokenize\expandafter{#1}}%
43     }{
44     \group_begin:
45     \mbox
46     {
47       \chemmacros_p_style:n {p}
48       \ensuremath {#1}
49     }
50     \group_end:
51   }
52 \endgroup
53 }
54
55 \VerifyCommand[lwarp][chemmacros]{\pH}
56   {BA70E24367521CBBF282F40F65758016}
57
58 \RenewDocumentCommand \pH {} {
59   \begingroup
60   \boolfalse{mathjax}
61   \LWR@subsingledollar*{\textbackslash}pH}{chemmacros}{
62     \chemmacros_p:n { \chemmacros_formula:n {H} }
63   }
64 \endgroup
65 }
66
67 \VerifyCommand[lwarp][chemmacros]{\pOH}
68   {EFBC86417A28B1777F8A783D68225A3C}
69
70 \RenewDocumentCommand \pOH {} {
71   \begingroup
72   \boolfalse{mathjax}
73   \LWR@subsingledollar*{\textbackslash}pOH}{chemmacros}{
74     \chemmacros_p:n { \chemmacros_formula:n {OH} }
75   }
76 \endgroup
77 }
78
79 \VerifyCommand[lwarp][chemmacros]{\pKa}
80   {C4141E480C360A8EDA38B65F71F5B1F}

```

```
81
82 \RenewDocumentCommand \pKa {0{}}
83 {
84   \begingroup
85   \boolfalse{mathjax}
86   \LWR@subsingledollar*{\textbackslash}pKa{[]#1{}}{chemmacros #1}{
87     \chemmacros_p:n
88     {
89       \Ka \ifblank {#1} {}
90       { } \c_math_subscript_token { \chemmacros_bold:n {#1} } }
91     }
92   }
93   \endgroup
94 }
95
96 \VerifyCommand[lwarp][chemmacros]{\pKb}
97 {00A20E25465C2E0D2E3731634F39B0FA}
98
99 \RenewDocumentCommand \pKb {0{}}
100 {
101   \begingroup
102   \boolfalse{mathjax}
103   \LWR@subsingledollar*{\textbackslash}pKb{[]#1{}}{chemmacros #1}{
104     \chemmacros_p:n
105     {
106       \Kb \ifblank {#1} {}
107       { } \c_math_subscript_token { \chemmacros_bold:n {#1} } }
108     }
109   }
110   \endgroup
111 }
112
113 \LetLtxMacro\LWR@chemmacros@origKa\Ka
114 \renewcommand*{\Ka}{%
115   \begingroup
116   \boolfalse{mathjax}
117   \LWR@subsingledollar*{\textbackslash}Ka}{chemmacros}{%
118     \LWR@chemmacros@origKa%
119   }%
120   \endgroup
121 }
122
123 \LetLtxMacro\LWR@chemmacros@origKb\Kb
124 \renewcommand*{\Kb}{%
125   \begingroup
126   \boolfalse{mathjax}
127   \LWR@subsingledollar*{\textbackslash}Kb}{chemmacros}{%
128     \LWR@chemmacros@origKb%
129   }%
130   \endgroup
131 }
132
133 \LetLtxMacro\LWR@chemmacros@origKw\Kw
134 \renewcommand*{\Kw}{%
135   \begingroup
136   \boolfalse{mathjax}
137   \LWR@subsingledollar*{\textbackslash}Kw}{chemmacros}{
138     \LWR@chemmacros@origKw
139   }
140   \endgroup
```

```

141 }
142
143 }{}% module loaded
144 }% AtBeginDocument

```

§ 197.7 Charges

```

145 \AtBeginDocument{
146 \chemmacros_module_if_loaded:nTF{{charges}}{
147 \PackageInfo{lwarp}{Patching~chemmacros~module~charges}
148
149 \VerifyCommand[lwarp][chemmacros]{\fplus}
150   {F6F7137115BC798D4CA779782DCCEB6D}
151
152 \cs_gset_protected:Npn \fplus {
153   \begingroup
154   \boolfalse{mathjax}
155   \LWR@subsingledollar*{\textbackslash}fplus{chemmacros}
156   { \LWR@origensuredmath{\chemformula_fplus:} }
157   \endgroup
158 }
159
160 \VerifyCommand[lwarp][chemmacros]{\fminus}
161   {A7ED8520C49A794F33AA6122E2411746}
162
163 \cs_gset_protected:Npn \fminus {
164   \begingroup
165   \boolfalse{mathjax}
166   \LWR@subsingledollar*{\textbackslash}fminus{chemmacros}
167   { \LWR@origensuredmath{\chemformula_fminus:} }
168   \endgroup
169 }
170
171 }{}% Module loaded.
172 }% AtBeginDocument

```

§ 197.8 Nomenclature

```

173 \AtBeginDocument{
174 \chemmacros_module_if_loaded:nTF{{nomenclature}}{
175 \PackageInfo{lwarp}{Patching~chemmacros~module~nomenclature}
176
177 \VerifyCommand[lwarp][chemmacros]{\chemmacros_charge:n}
178   {258D97BF6FF3FA5C995D4FDCC44B0E63}
179
180 \cs_gset_protected:Npn \chemmacros_charge:n #1
181   {
182     \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}
183     {\chemmacros_formula:n { }^{#1} }}
184   {
185     \ifmmode
186       {\chemmacros_formula:n { }^{#1} }}
187     \else
188       { \textsuperscript{\ensuremath{#1}} }
189     \fi
190   }
191 }

```

192

```

193 \hook_gput_code:nnn {begindocument/end} {chemmacros}
194 {
195 \protected\def\LWR@HTML@chemprime { \HTMLunicode{2032} }
196 \LWR@formatted{chemprime}
197 }

198 \VerifyCommand[lwarp][chemmacros]{\chemmacros_cip:n}
199   {EEF7D8AF4D975C2D11D879A77ABDF88}
200
201 \cs_gset_protected:Npn \__chemmacros_cip:n #1
202   {
203     \tl_set:Nn \l__chemmacros_tmpa_tl {#1}
204     \int_step_inline:nnnn {0} {1} {9}
205     {
206       \tl_replace_all:Nnn \l__chemmacros_tmpa_tl
207         {##1}
208         { { \l__chemmacros_cip_number_tl ##1} }
209     }
210     {
211       \l__chemmacros_cip_inner_tl
212       \LWR@textcurrentcolor{\LWR@textcurrentfont{% lwarp
213         \l__chemmacros_tmpa_tl
214       }}% lwarp
215     }
216   }

217 \VerifyCommand[lwarp][chemmacros]{\Sconf}
218   {D7A87543D1C944168CBAC59E9F45DF9A}
219
220 \RenewDocumentCommand \Sconf { O{S} } {
221 \begin{lateximage}[\textbackslash{}Sconf{[]#1[]}]*?%
222   \chemmacros_sconf:n {#1}%
223 \end{lateximage}
224 }
225
226 \VerifyCommand[lwarp][chemmacros]{\Rconf}
227   {AB922016338B2F2C2635E6104311DAF2}
228
229 \RenewDocumentCommand \Rconf { O{R} } {
230 \begin{lateximage}[\textbackslash{}Rconf{[]#1[]}]*?%
231   \chemmacros_rconf:n {#1}%
232 \end{lateximage}
233 }

234 \VerifyCommand[lwarp][chemmacros]{\chemmacros_hapto:n}
235   {FCEEDAB3292A95E65B69F4F8C8849B26}
236
237 \cs_gset_protected:Npn \chemmacros_hapto:n #1
238   {
239     \begingroup
240     \boolfalse{mathjax}
241     \LWR@subsingledollar*{\textbackslash{}hapto\{#1\}}{chemmacros}{
242       \chemmacros_coordination_symbol:nnnn
243       { \l__chemmacros_coord_use_hyphen_bool }
244       {
245         { \c_true_bool }
246       }
247       { \chemeta }
248       {#1}
249     }

```

```

250 \endgroup
251 }
252
253 \VerifyCommand[lwarp][chemmacros]{\chemmacros_dento:n}
254 {E85BBDEF5A35F37215EBAD87AFCB99E8}
255
256 \cs_gset_protected:Npn \chemmacros_dento:n #1
257 {
258   \begingroup
259   \boolfalse{mathjax}
260   \LWR@subsingledollar*{\textbackslash}dento\{#1\}\{chemmacros}{
261     \chemmacros_coordination_symbol:nnnn
262     { \l__chemmacros_coord_use_hyphen_bool }
263     {
264       { \c_true_bool }
265     }
266     { \chemkappa }
267     {#1}
268   }
269   \endgroup
270 }
271
272 \VerifyCommand[lwarp][chemmacros]{\chemmacros_bridge:n}
273 {5E5D0EA9045A41FF30D4AB315E547B25}
274
275 \cs_gset_protected:Npn \chemmacros_bridge:n #1
276 {
277   \begingroup
278   \boolfalse{mathjax}
279   \LWR@subsingledollar*{\textbackslash}bridge\{#1\}\{chemmacros}{
280     \chemmacros_coordination_symbol:nnnn
281     { \l__chemmacros_coord_use_hyphen_bool }
282     { \l__chemmacros_bridge_super_bool }
283     { \chemmu }
284     {#1}
285   }
286   \endgroup
287 }
288 }{\}% Module loaded.
289 }{\}% AtBeginDocument

```

§ 197.9 Particles

```

290 \AtBeginDocument{
291 \chemmacros_module_if_loaded:nTF{{particles}}{
292 \PackageInfo{lwarp}{Patching~chemmacros~module~particles}
293
294 \VerifyCommand[lwarp][chemmacros]{\chemmacros_declare_nucleophile:Nn}
295 {ED9AA7471C8638CEF0757A10A2E3935E}
296
297 \cs_gset_protected:Npn \chemmacros_declare_nucleophile:Nn #1#2
298 {
299   \cs_set_protected:cpn {__chemmacros_ \chemmacros_remove_backslash:N #1:}
300   {
301     \bool_if:NTF \l__chemmacros_nucleophile_elpair_bool
302     {
303       \chemmacros_elpair:n { #2 }
304       { \skip_horizontal:N \l__chemmacros_nucleophile_dim }
305       \chemmacros_formula:n { {}^{}- } }
306     }

```

```

307     { \chemmacros_formula:n { #2^{ - } } }
308   }
309   \DeclareDocumentCommand #1 {o}
310     {%
311     \begin{lateximage}%
312     \group_begin:%
313     \IfNoValueF {##1}%
314       { \chemmacros_set_keys:nn {particles} {##1} }%
315     \use:c {__chemmacros_ \chemmacros_remove_backslash:N #1:}%
316     \group_end:%
317     \end{lateximage}%
318   }
319 }
320
321 \RenewChemNucleophile \Nuc {Nu}
322 \RenewChemNucleophile \ba {ba}
323
324 }{}% Module loaded.
325 }% AtBeginDocument

```

§ 197.10 Phases

```

326 \AtBeginDocument{
327 \chemmacros_module_if_loaded:nTF{{phases}}{
328 \PackageInfo{lwarp}{Patching~chemmacros~module~phases}
329
330 \VerifyCommand[lwarp][chemmacros]{\chemmacros_phase:n}
331   {83788F1FCBEDA21B495E919E36DD90A5}
332
333 \cs_undefine:N \chemmacros_phase:n
334 \cs_new_protected:Npn \chemmacros_phase:n #1
335   {
336     \mode_leave_vertical:
337
338     \bool_if:NTF \l__chemmacros_phases_sub_bool
339       {
340         \ifnumequal{\value{LWR@lateximagedepth}}{0}
341         {
342           \textsubscript{ (#1) }
343         }
344         {
345           \chemformula_subscript:n { (#1) }
346         }
347       }
348     \skip_horizontal:N \l__chemmacros_phases_space_dim
349     \chemmacros_text:n { (#1) }
350   }
351 }
352
353 }{}% Module loaded.
354 }% AtBeginDocument

```

§ 197.11 Mechanisms

```

355 \AtBeginDocument{
356 \chemmacros_module_if_loaded:nTF{{mechanisms}}{
357 \PackageInfo{lwarp}{Patching~chemmacros~module~mechanisms}
358

```

```
359 \chemmacros_define_keys:nn {textmechanisms}
360 {
361   type      .choice: ,
362   type /    .code:n   =
363   {
364     \__chemmacros_set_mechanisms:nnn { S }
365     {
366       \textsubscript{N}
367     }
368     { }
369   } ,
370   type / 1  .code:n   =
371   {
372     \__chemmacros_set_mechanisms:nnn { S }
373     {
374       \textsubscript{N}
375       1
376     }
377     { }
378   } ,
379   type / 2  .code:n   =
380   {
381     \__chemmacros_set_mechanisms:nnn { S }
382     {
383       \textsubscript{N}
384       2
385     }
386     { }
387   } ,
388   type / se .code:n   =
389   {
390     \__chemmacros_set_mechanisms:nnn { S }
391     {
392       \textsubscript{E}
393     }
394     { }
395   } ,
396   type / 1e .code:n   =
397   {
398     \__chemmacros_set_mechanisms:nnn { S }
399     {
400       \textsubscript{E}
401       1
402     }
403     { }
404   } ,
405   type / 2e .code:n   =
406   {
407     \__chemmacros_set_mechanisms:nnn { S }
408     {
409       \textsubscript{E}
410       2
411     }
412     { }
413   } ,
414   type / ar .code:n   =
415   {
416     \__chemmacros_set_mechanisms:nnn { S }
417     {
418       \textsubscript{E}
```

```

419     }
420     { Ar - }
421   } ,
422   type / e .code:n =
423   { \chemmacros_set_mechanisms:nnn { E } { } { } } ,
424   type / e1 .code:n =
425   { \chemmacros_set_mechanisms:nnn { E } { 1 } { } } ,
426   type / e2 .code:n =
427   { \chemmacros_set_mechanisms:nnn { E } { 2 } { } } ,
428   type / cb .code:n =
429   {
430     \chemmacros_set_mechanisms:nnn { E }
431     {
432       1
433       \textsubscript{cb}
434     }
435     { }
436   } ,
437   type .default:n =
438 }
439
440 \VerifyCommand[lwarp][chemmacros]{\chemmacros_mechanisms:n}
441 {2CF049E0C61235166A36565979D79933}
442
443 \cs_gset_protected:Npn \chemmacros_mechanisms:n #1
444 {
445   \tl_if_blank:nTF {#1}
446   { \chemmacros_set_keys:nn {textmechanisms} { type } }
447   { \chemmacros_set_keys:nn {textmechanisms} { type = #1 } }
448   \mbox
449   {
450     \tl_use:N \l__chemmacros_mechanisms_ar_tl
451     \tl_use:N \l__chemmacros_mechanisms_type_tl
452     \tl_use:N \l__chemmacros_mechanisms_mol_tl
453   }
454 }
455
456 \appto\LWR@restoreorigformatting{%
457 \cs_set_protected:Npn \chemmacros_mechanisms:n #1%
458 {%
459   \tl_if_blank:nTF {#1}%
460   { \chemmacros_set_keys:nn {mechanisms} { type } }%
461   { \chemmacros_set_keys:nn {mechanisms} { type = #1 } }%
462   \mbox%
463   {%
464     \tl_use:N \l__chemmacros_mechanisms_ar_tl%
465     \tl_use:N \l__chemmacros_mechanisms_type_tl%
466     \tl_use:N \l__chemmacros_mechanisms_mol_tl%
467   }%
468 }%
469 }
470
471 }{}% Module loaded.
472 }% AtBeginDocument

```

§ 197.12 Newman

There are so many options that it is hard to hash these images for reuse.

```
473 \AtBeginDocument{
```



```

474 \chemmacros_module_if_loaded:nTF{{newman}}{
475 \PackageInfo{lwarp}{Patching~chemmacros~module~newman}
476
477 \VerifyCommand[lwarp][chemmacros]{\newman}
478   {45E815D161E8467A51F5B04150DEC20C}
479
480 \RenewDocumentCommand \newman {od()m}%
481   {
482     \IfValueTF{#2}
483     {\begin{lateximage}[\textbackslash}newman(#2)\{#3\}}*?}%
484     {\begin{lateximage}[\textbackslash}newman\{#3\}}*?}%
485     \group_begin:
486       \IfNoValueF {#1} { \chemmacros_set_keys:nn {newman} {#1} }
487       \IfNoValueTF {#2}
488         { \chemmacros_newman:nn { } {#3} }
489         { \chemmacros_newman:nn {#2} {#3} }
490     \group_end:
491     \end{lateximage}
492   }%
493
494 }{}% Module loaded.
495 }% AtBeginDocument

```

§ 197.13 **Orbital**

```

496 \AtBeginDocument{
497 \chemmacros_module_if_loaded:nTF{{orbital}}{
498 \PackageInfo{lwarp}{Patching~chemmacros~module~orbital}
499
500 \VerifyCommand[lwarp][chemmacros]{\orbital}
501   {F8E338F96B2EBF6AFE4A91D37A58CD90}
502
503 \RenewDocumentCommand \orbital {om}
504   {
505     \IfValueTF{#1}
506     {
507       \begin{lateximage}[%
508         \textbackslash}%
509         orbital{[%
510           \LWR@HTMLsanitizedetokenized{\detokenize{#1}}}%
511           ]}\{#2\}%
512       ]*?[[margin-left: 1em ; margin-right: 1em]%
513     }
514     {
515       \begin{lateximage}[%
516         \textbackslash}orbital\{#2\}%
517       ]*?[[margin-left: 1em ; margin-right: 1em]%
518     }
519     \group_begin:
520       \chemmacros_set_keys:nn {orbital/type} {#2}
521       \IfNoValueTF {#1}
522         { \chemmacros_orbital:n { } }
523         { \chemmacros_orbital:n {#1} }
524     \group_end:
525     \end{lateximage}
526   }
527
528 }{}% Module loaded.
529 }% AtBeginDocument

```

§ 197.14 **Reactions**

```

\chemmacros_declare_reaction_env  {<chem>} {<math>} {<args number>} {<argument list ({#2}{#3}...)}

530 \AtBeginDocument{
531 \chemmacros_module_if_loaded:nTF{{reactions}}{
532 \PackageInfo{lwarp}{Patching~chemmacros~module~reactions}
533
534 \VerifyCommand[lwarp][chemmacros]{\__chemmacros_declare_reaction_env:nnnn}
535   {E52CE623404E664FD0647E3A874F2702}
536
537 % #1: chem
538 % #2: math
539 % #3: args number
540 % #4: argument list ({#2}{#3}...)
541 \cs_gset_protected:Npn \__chemmacros_declare_reaction_env:nnnn #1#2#3#4
542   {
543     \exp_args:Nnx \DeclareDocumentEnvironment {#1}
544       { \int_compare:nT { #3+0 = 0 } {!} 0{} \prg_replicate:nn {#3+0} {m} }
545       {
546         \boolfalse{mathjax}%                lwarp
547         \ifdefvoid{\LWR@ThisAltText}{%       lwarp
548           \ThisAltText{-chemmacros~reaction}% lwarp
549         }{}%                                  lwarp
550         \chemmacros_add_reaction_description:n {##1}
551         \__chemmacros_begin_reaction:
552         \__chemmacros_reaction_read:nnw {#2} {#4}
553       }
554     {
555       \__chemmacros_end_reaction:
556       \gdef\LWR@ThisAltText{}%              lwarp
557       \ignorespacesafterend
558     }
559   }
560
561 \cs_generate_variant:Nn \chemmacros_declare_reaction_env:nnnn {nnnV}
562
563 \RenewChemReaction {reaction} {equation}
564 \RenewChemReaction {reaction*} {equation*}
565 \RenewChemReaction {reactions} {align}
566 \RenewChemReaction {reactions*} {align*}
567
568 }{}% Module loaded.
569 }% AtBeginDocument

```

§ 197.15 **Reactants**

Recompiled for tabular ampersand processing, with the only change being `\StartDefiningTabulars`. `\xpatchcmd` does not work here.

```

570 \VerifyCommand[lwarp][chemmacros]{\printreactants}
571   {18AD32DCD3F2F49C0369DA9ED9974CD7}
572
573 \StartDefiningTabulars%    lwarp
574
575 % #1: star: include ID in table
576 \RenewDocumentCommand \printreactants {s}
577   {
578     \group_begin:
579     \chemmacros_set_keys:nn {reactants} { switch = false }

```

```

580 \int_step_variable:nNn
581 { \seq_count:N \g_chemnum_initiated_compounds_seq }
582 \l__chemmacros_reactants_tmpa_tl
583 {
584   \seq_put_right:Nx
585     \l__chemmacros_reactants_tmpa_seq
586     {
587       \chemnum_cmpd:nne { \c_false_bool } { \c_true_bool } {}
588       {
589         \seq_item:NV
590           \g_chemnum_initiated_compounds_seq
591           \l__chemmacros_reactants_tmpa_tl
592       }
593       &
594       \bool_if:nT {#1}
595       {
596         \seq_item:NV
597           \g_chemnum_initiated_compounds_seq
598           \l__chemmacros_reactants_tmpa_tl
599         &
600       }
601       % TODO: expl3-command ??
602       \solvent
603       {
604         \seq_item:NV
605           \g_chemnum_initiated_compounds_seq
606           \l__chemmacros_reactants_tmpa_tl
607       }
608       \tabularnewline
609     }
610   \tl_set:Nx
611     \l__chemmacros_reactants_tmpb_tl
612     {
613       \seq_item:NV
614         \g_chemnum_initiated_compounds_seq
615         \l__chemmacros_reactants_tmpa_tl
616     }
617   \chemmacros_reactants_list_subreactant:Vn
618     \l__chemmacros_reactants_tmpb_tl
619     {#1}
620 }
621 % TODO: longtable ?
622 %   table customizable?
623 % first draft of two styles
624 \par
625 \noindent
626 \bool_if:NTF \l__chemmacros_reactants_printreactants_style_bool
627 {
628   \str_case:Vn \l__chemmacros_reactants_printreactants_style_str
629   {
630     {xltabular}
631     {
632       \chemmacros_if_package_loaded:nTF {xltabular}
633       {
634         \bool_if:nTF {#1}
635         {
636           \begin {xltabular}
637             { \textwidth }
638             { @{}ll>{\raggedright\arraybackslash}X@{} }
639           }

```

```

640         {
641             \begin {xltabular}
642             { \textwidth }
643             { @{}l>{\raggedright\arraybackslash}X@{} }
644         }
645         \seq_use:Nn \l__chemmacros_reactants_tmpa_seq { }
646         \end{xltabular}
647     }
648     {
649         \msg_expandable_error:nnnn
650         {chemmacros}
651         {package-not-loaded}
652         { \printreactants }
653         {xltabular}
654     }
655 }
656 {longtable}
657 {
658     \chemmacros_if_package_loaded:nTF {longtable}
659     {
660         \bool_if:nTF {#1}
661         {
662             \begin {longtable}[l]
663             { @{}ll>{\raggedright\arraybackslash}p{0.6\textwidth}@{} }
664             }
665             {
666                 \begin {longtable}[l]
667                 { @{}l>{\raggedright\arraybackslash}p{0.9\textwidth}@{} }
668                 }
669                 \seq_use:Nn \l__chemmacros_reactants_tmpa_seq { }
670                 \end{longtable}
671             }
672         }
673         \msg_expandable_error:nnnn
674         {chemmacros}
675         {package-not-loaded}
676         { \printreactants }
677         {longtable}
678     }
679 }
680 }
681 }
682 {
683     \msg_warning:nn {chemmacros} {missing-printreactants-style}
684 }
685 \group_end:
686 }
687
688 \VerifyCommand[lwarp][chemmacros]{\chemmacros_reactants_list_subreactant:nn}
689     {50553A53C2149BD3ADA8AE0FAB0C79C4}
690
691 % #1: full ID
692 % #2: star, include ID in table
693 \cs_gset_protected:Npn \chemmacros_reactants_list_subreactant:nn #1#2
694 {
695     \chemnum_if_subcompounds:nT {#1}
696     {
697         \int_step_variable:nNn
698         { \chemnum_count_subcompounds:n {#1} }
699         \l__chemmacros_reactants_tmpa_tl

```

```

700     {
701       \seq_put_right:Nx
702       \l__chemmacros_reactants_tmpa_seq
703       {
704         \chemnum_cmpd:nne { \c_false_bool } { \c_true_bool } {}
705         {
706           \exp_not:n {#1}
707           \exp_not:V \l_chemnum_compound_separator_tl
708           \chemnum_get_subcompound:nV
709             {#1}
710           \l__chemmacros_reactants_tmpa_tl
711         }
712       &
713       \bool_if:nT {#2}
714       {
715         #1
716         \l_chemnum_compound_separator_tl
717         \chemnum_get_subcompound:nV
718           {#1}
719         \l__chemmacros_reactants_tmpa_tl
720       &
721       }
722       % TODO: expl3-command ??
723       \solvent
724       {
725         #1
726         \l_chemnum_compound_separator_tl
727         \chemnum_get_subcompound:nV
728           {#1}
729         \l__chemmacros_reactants_tmpa_tl
730       }
731       \tabularnewline
732     }
733   }
734 }
735 }
736 \cs_generate_variant:Nn \chemmacros_reactants_list_subreactant:nV {V}
737
738 \StopDefiningTabulars%      lwarp

```

§ 197.16 Redox

```

739 \AtBeginDocument{
740 \chemmacros_module_if_loaded:nTF{{redox}}{
741 \PackageInfo{lwarp}{Patching~chemmacros~module~redox}
742
743 \NewDocumentCommand \LWR@chemmacros@ox { s m >{\SplitArgument{1}{,}}m }
744 {
745   \IfBooleanTF {#1}
746     { \chemmacros_ox:nnnn {#1} {#2} #3 }
747     { \chemmacros_ox:nnnn { } {#2} #3 }
748 }
749
750 \VerifyCommand[lwarp][chemmacros]{\ox}
751   {06B84CC6B38302F75169D5B90D8D29AA}
752
753 \RenewDocumentCommand \ox { s O{ } m }
754 {
755   \begingroup
756   \boolfalse{mathjax}

```

```

757 \IfBooleanTF {#1}
758 {
759   \LWR@subsingledollar*{% yes hash
760     \textbackslash}%
761     ox*%
762     \{%
763       \LWR@HTMLsanitizedetokenized{\detokenize{#3}}%
764     \}% alt
765   }{%
766     star \protect\LWR@HTMLsanitizedetokenized{\detokenize\expandafter{#2}}%
767   }{%
768     \LWR@chemmacros@ox* {#2} {#3}% contents
769   }%
770 }
771 {
772   \LWR@subsingledollar*{% yes hash
773     \textbackslash}%
774     ox%
775     \{%
776       \LWR@HTMLsanitizedetokenized{\detokenize{#3}}%
777     \}% alt
778   }{%
779     \protect\LWR@HTMLsanitizedetokenized{\detokenize\expandafter{#2}}%
780   }{%
781     \LWR@chemmacros@ox {#2} {#3}% contents
782   }%
783 }
784 \endgroup
785 }
786
787 }{% Module loaded.
788 }% AtBeginDocument

```

§ 197.17 Scheme

Fix for chemmacros as of v5.8b, when using newfloat and babel:

```

789 \AtBeginDocument{
790 \chemmacros_module_if_loaded:nTF{{scheme}}{
791 \PackageInfo{lwarp}{Patching~chemmacros~module~scheme}
792
793 \ifdefstring{\schemename}{los}{
794 \SetupFloatingEnvironment{scheme}{
795 name = \chemmacros_translate:n {scheme-name}
796 }
797 }{}
798
799 }{% Module loaded.
800 }% AtBeginDocument

```

§ 197.18 Spectroscopy

```

801 \AtBeginDocument{
802 \chemmacros_module_if_loaded:nTF{{spectroscopy}}{
803 \PackageInfo{lwarp}{Patching~chemmacros~module~spectroscopy}
804
805 \VerifyCommand[lwarp][chemmacros]{\__chemmacros_nmr_base:nn}
806   {EDE669CC90B085080E3F96DB754836D5}
807
808 \cs_gset_protected:Npn \__chemmacros_nmr_base:nn #1#2
809   {
810   \group_begin:
811     \tl_use:N \l__chemmacros_nmr_base_format_tl
812     \tl_if_blank:VF \g__chemmacros_nmr_element_coupled_tl
813     {
814       \tl_put_left:Nn \g__chemmacros_nmr_element_coupled_tl { \{ }
815       \tl_put_right:Nn \g__chemmacros_nmr_element_coupled_tl { \} }
816     }
817     \tl_put_left:Nn \g__chemmacros_nmr_element_coupled_tl {#2}
818 %   \chemmacros_formula:n { ^{#1} }
819     \textsuperscript{#1}
820     \tl_if_blank:VF \g__chemmacros_nmr_element_coupled_tl
821     {
822       \bool_if:NTF \l__chemmacros_nmr_parse_bool
823       { \chemformula_ch:nV {} } \g__chemmacros_nmr_element_coupled_tl }
824       { \chemmacros_formula:V \g__chemmacros_nmr_element_coupled_tl }
825     }
826     \tl_use:N \l__chemmacros_nmr_element_method_connector_tl
827     \tl_use:N \l__chemmacros_nmr_method_tl
828   \group_end:
829   }
830
831
832 \VerifyCommand[lwarp][chemmacros]{\chemmacros_nmr_position:n}
833   {637FDE0E801CF4052274FF60A12A38F0}
834
835 \cs_gset_protected:Npn \chemmacros_nmr_position:n #1
836   {
837     \chemmacros_formula:x
838     {
839       \exp_not:V \g__chemmacros_nmr_element_tl
840       \bool_if:NF \l__chemmacros_nmr_position_side_bool
841       {
842         \tl_if_eq:NnTF \l__chemmacros_nmr_position_tl {^}% lwarp
843         { \textsuperscript{\exp_not:n { #1} }} % lwarp
844         { \textsubscript{\exp_not:n { #1} }} % lwarp
845 %       \exp_not:V \l__chemmacros_nmr_position_tl
846 %       \exp_not:n { #1 }
847       }
848     }
849     \bool_if:NT \l__chemmacros_nmr_position_side_bool
850     {
851       \tl_use:N \l__chemmacros_nmr_position_tl
852       \__chemmacros_nmr_position:n {#1}
853     }
854   }
855
856 \VerifyCommand[lwarp][chemmacros]{\__chemmacros_nmr_coupling:w}
857   {4D1E7321CA2F8C7EA2E4F56FB3A26EED}
858

```

```

859 \cs_gset_protected:Npn \__chemmacros_nmr_coupling:w (#1;#2)
860 {
861   \tl_set:Nn \l__chemmacros_nmr_coupling_bonds_tl
862     {
863       \l__chemmacros_nmr_coupling_bonds_pre_tl
864       #1
865       \l__chemmacros_nmr_coupling_bonds_post_tl
866     }
867   \bool_if:NTF \l__chemmacros_nmr_coupling_nuclei_sub_bool
868     {
869       \tl_set:Nn \l__chemmacros_nmr_coupling_nuclei_tl
870         {
871 %         \c_math_subscript_token
872         \textsubscript% lwarp
873         {
874           \l__chemmacros_nmr_coupling_nuclei_pre_tl
875           \chemmacros_formula:n {#2}
876           \l__chemmacros_nmr_coupling_nuclei_post_tl
877         }
878       }
879     }
880     {
881       \tl_set:Nn \l__chemmacros_nmr_coupling_nuclei_tl
882         {
883           \l__chemmacros_nmr_coupling_nuclei_pre_tl
884           \chemmacros_formula:n {#2}
885           \l__chemmacros_nmr_coupling_nuclei_post_tl
886         }
887     }
888   \__chemmacros_nmr_coupling_aux_i:w
889 }
890 \AfterEndPreamble{% After \AtBeginDocument
891
892 \VerifyCommand[lwarp][chemmacros]{\chemmacros_nmr:n}
893   {FD67505420F044B2CA8E7CBD05B1ECEB}
894
895 % \NMR{<num>,<elem>}<num>,<unit>[<solvent>] ALL arguments are optional
896 % \NMR* same but without ": $\delta$" at end
897 \cs_gset_protected:Npn \chemmacros_nmr:n} #1#2#3#4
898   {
899     \bool_if:NT \l__chemmacros_nmr_list_bool { \item \scan_stop: }
900     \group_begin:

901     \mode_leave_vertical:

902     \bool_set_false:N \l__chemmacros_nmr_frequency_bool
903     \bool_set_false:N \l__chemmacros_nmr_solvent_bool
904     \tl_if_empty:nF {#3}
905     { \bool_set_true:N \l__chemmacros_nmr_frequency_bool }
906     \tl_if_empty:nF {#4}
907     { \bool_set_true:N \l__chemmacros_nmr_solvent_bool }
908     \bool_if:nT
909     {
910       \l__chemmacros_nmr_frequency_bool
911       ||
912       \l__chemmacros_nmr_solvent_bool
913     }
914     { \bool_set_true:N \l__chemmacros_nmr_delimiters_bool }
915     \bool_if:nT
916     {

```



```

917         \l__chemmacros_nmr_frequency_bool
918         &&
919         \l__chemmacros_nmr_solvent_bool
920     }
921     { \bool_set_true:N \l__chemmacros_nmr_comma_bool }
922     \tl_if_empty:nTF {#2}
923     {
924         \__chemmacros_nmr_nucleus:VV
925         \l__chemmacros_nmr_isotope_default_tl
926         \l__chemmacros_nmr_element_default_tl
927     }
928     { \__chemmacros_nmr_nucleus:w #2 \q_stop }
929     \mode_if_math:TF
930     {
931         \text
932         {
933             \group_begin:
934             \tl_use:N \l__chemmacros_nmr_format_tl
935             \LWR@textcurrentcolor{\LWR@textcurrentfont{% lwarp
936             \__chemmacros_nmr_base:VV
937             \g__chemmacros_nmr_isotope_tl
938             \g__chemmacros_nmr_element_tl
939             \bool_if:NT \l__chemmacros_nmr_delimiters_bool
940             { ~ ( ) }
941             \bool_if:NT \l__chemmacros_nmr_frequency_bool
942             { \__chemmacros_nmr_frequency:n {#3} }
943             \bool_if:NT \l__chemmacros_nmr_comma_bool
944             { , ~ }
945             \bool_if:NT \l__chemmacros_nmr_solvent_bool
946             { \chemmacros_formula:n {#4} }
947             \bool_if:NT \l__chemmacros_nmr_delimiters_bool
948             { ) }
949             \tl_if_blank:nT {#1} {:#~}
950 }}}% lwarp
951         \group_end:
952     }
953     \tl_if_blank:nT {#1}
954     {
955         \delta
956         \text { \l__chemmacros_nmr_delta_tl }
957         \bool_if:NT \l__chemmacros_nmr_use_equal_bool {=}
958     }
959 }
960 {
961     \group_begin:
962     \tl_use:N \l__chemmacros_nmr_format_tl
963     \LWR@textcurrentcolor{\LWR@textcurrentfont{% lwarp
964     \__chemmacros_nmr_base:VV
965     \g__chemmacros_nmr_isotope_tl
966     \g__chemmacros_nmr_element_tl
967     \bool_if:NT \l__chemmacros_nmr_delimiters_bool
968     {~(}
969     \bool_if:NT \l__chemmacros_nmr_frequency_bool
970     { \__chemmacros_nmr_frequency:n {#3} }
971     \bool_if:NT \l__chemmacros_nmr_comma_bool
972     {,~}
973     \bool_if:NT \l__chemmacros_nmr_solvent_bool
974     {
975         \bool_if:NTF \l__chemmacros_nmr_parse_bool

```

```

976 %           { \chemformula_ch:nn { } {#4} }% original
977             {\ch{#4}}% lwarp
978             {#4}
979           }
980           \bool_if:NT \l__chemmacros_nmr_delimiters_bool
981             {}
982 }}% lwarp
983           \tl_if_blank:nT {#1} {:}
984           \group_end:
985           \tl_if_blank:nT {#1}
986           {
987             \tl_use:N \c_space_tl
988             \c_math_toggle_token
989             \delta
990             \c_math_toggle_token
991             \l__chemmacros_nmr_delta_tl
992             \bool_if:NT \l__chemmacros_nmr_use_equal_bool {~=}
993           }
994         }
995       \group_end:
996     }
997 }% AfterEndPreamble
998
999
1000 \VerifyCommand[lwarp][chemmacros]{\chemmacros_data:w}
1001   {30A6134DE00E9850E074854B48644833}
1002
1003 \RenewDocumentCommand \chemmacros_data:w { smo }
1004 {
1005   \bool_if:NT \l__chemmacros_nmr_list_bool { \item }
1006   {
1007 %     \tl_use:N \l__chemmacros_nmr_format_tl #2
1008     \tl_use:N \l__chemmacros_nmr_format_tl
1009     \LWR@textcurrentcolor{\LWR@textcurrentfont{% lwarp
1010       #2
1011       \IfNoValueF {#3} { ~ ( #3 ) }
1012       \IfBooleanT {#1} { \bool_if:NT \l__chemmacros_nmr_use_equal_bool { : } }
1013     }}% lwarp
1014   }
1015   \IfBooleanF {#1} { \bool_if:NT \l__chemmacros_nmr_use_equal_bool { ~ = } }
1016 }
1017
1018 }{}% Module loaded.
1019 }% AtBeginDocument

```

§ 197.19 Thermodynamics

```

1020 \AtBeginDocument{
1021 \chemmacros_module_if_loaded:nTF{{thermodynamics}}{
1022 \PackageInfo{lwarp}{Patching~chemmacros~module~thermodynamics}
1023
1024 \VerifyCommand[lwarp][chemmacros]{\chemmacros_state:nnnnn}
1025   {C5B35D9405E380ABE9A9CE849F46EE6D}
1026
1027 \cs_gset_protected:Npn \chemmacros_state:nnnnn #1#2#3#4#5#6
1028 {
1029   \group_begin:
1030     \chemmacros_set_keys:ne {thermodynamics}
1031     {
1032       \exp_not:n {#1} ,

```

```

1033     \tl_if_novalue:nF {#2} { subscript-left = \exp_not:n {#2} , }
1034     \tl_if_novalue:nF {#3} { superscript-left = \exp_not:n {#3} , }
1035     \tl_if_novalue:nF {#5} { subscript-right = \exp_not:n {#5} , }
1036     \tl_if_novalue:nF {#6} { superscript-right = \exp_not:n {#6} }
1037   }
1038   \LWR@subsingledollar*{% yes hashing
1039     \textbackslash{ }state%
1040     \{\LWR@HTMLsanitizedetokenized{\detokenize{#4}}\}% alt
1041   }{%
1042     chemmacros_state% add'l hashing
1043     #1% options
1044     LSP \tl_use:N \l__chemmacros_state_sp_left_tl% super/subscripts
1045     LSB \tl_use:N \l__chemmacros_state_sb_left_tl
1046     RSP \tl_use:N \l__chemmacros_state_sp_right_tl
1047     RSB \tl_use:N \l__chemmacros_state_sb_right_tl
1048   }
1049   {
1050     \LWR@origensuredmath
1051     {
1052       \chemmacros_text:V \l__chemmacros_state_pre_tl
1053       \c_math_superscript_token
1054       { \chemmacros_text:V \l__chemmacros_state_sp_left_tl }

```

Only add the subscripts if they are being used. This avoids causing an incorrect depth, as the empty subscript will be measured by TeX but cropped out by *pdfcrop*.

```

1055     \tl_if_empty:NTF \l__chemmacros_state_sb_left_tl
1056     {}
1057     {
1058       \c_math_subscript_token
1059       { \chemmacros_text:V \l__chemmacros_state_sb_left_tl }
1060     }
1061     #4
1062     \c_math_superscript_token
1063     { \chemmacros_text:V \l__chemmacros_state_sp_right_tl }
1064     \tl_if_empty:NTF \l__chemmacros_state_sb_right_tl
1065     {}
1066     {
1067       \c_math_subscript_token
1068       { \chemmacros_text:V \l__chemmacros_state_sb_right_tl }
1069     }
1070     \chemmacros_text:V \l__chemmacros_state_post_tl
1071     }
1072   }
1073   \group_end:
1074 }
1075 \cs_generate_variant:Nn \chemmacros_state:nnnnn { nVVVVV }
1076
1077 \VerifyCommand[lwarp][chemmacros]{\chemmacros_declare_state:Nn}
1078   {3C1386935B85ED732A283627DA403FBE}
1079
1080 \cs_gset_protected:Npn \chemmacros_declare_state:Nn #1#2
1081 {
1082   \chemmacros_define_keys:xn
1083     {thermodynamics/\chemmacros_remove_backslash:N #1}
1084     {
1085       pre           .meta:nn = {chemmacros/thermodynamics} { pre = ##1 } ,
1086       post          .meta:nn = {chemmacros/thermodynamics} { post = ##1 } ,
1087       superscript-left .meta:nn = {chemmacros/thermodynamics} { superscript-left = ##1 } ,
1088       superscript-right .meta:nn = {chemmacros/thermodynamics} { superscript-right = ##1 } ,

```

```

1089     superscript      .meta:n = { superscript-right = ##1 } ,
1090     subscript-left   .meta:nn = {chemmacros/thermodynamics} { subscript-left = ##1 } ,
1091     subscript-right  .meta:nn = {chemmacros/thermodynamics} { subscript-right = ##1 } ,
1092     subscript        .meta:n = { subscript-left = ##1 } ,
1093     subscript-pos    .choices:nn =
1094     { left , right }
1095     { \tl_set_eq:NN \l__chemmacros_state_sb_pos_tl \l_keys_choice_tl } ,
1096     symbol           .tl_set:N = \l__chemmacros_state_symbol_tl ,
1097     unit             .tl_set:N = \l__chemmacros_state_unit_tl
1098   }
1099   \DeclareDocumentCommand #1 { s0{}D(){}m }
1100   {
1101     \group_begin:
1102     \chemmacros_set_keys:en
1103     {thermodynamics/\chemmacros_remove_backslash:N #1}
1104     {##2}
1105     \tl_if_blank:nF {##3}
1106     {
1107       \chemmacros_set_keys:ne {thermodynamics}
1108       { subscript-\l__chemmacros_state_sb_pos_tl = \exp_not:n {##3} }
1109     }
1110   % \LWR@origensuredmath
1111   % {
1112     \chemmacros_state:nVVVVV
1113     {##2}
1114     \c_novalue_tl
1115     \c_novalue_tl
1116     \l__chemmacros_state_symbol_tl
1117     \c_novalue_tl
1118     \c_novalue_tl
1119     \chemmacros_set_keys_groups:nnn {thermodynamics} {variables} {##2}
1120     \IfBooleanF {##1} { = \qty {##4} { \l__chemmacros_state_unit_tl } }
1121   % }
1122   \group_end:
1123   }
1124 }

```

The pre-existing macros are redefined with the new definition:

```

1125 \RenewChemState \enthalpy { symbol = H , unit = \kilo\joule\per\mole }
1126 \RenewChemState \entropy { symbol = S , unit = \joule\per\kelvin\per\mole , pre = }
1127 \RenewChemState \gibbs { symbol = G , unit = \kilo\joule\per\mole }
1128
1129 }{}% Module loaded.
1130 }{}% AtBeginDocument

1131 \ExplSyntaxOff

```

File 86 **lwarp-chemnum.sty**

§ 198 Package **chemnum**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

chemnum (*Pkg*) chemnum is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{chemnum}[2016/04/14]

```

2 \ExplSyntaxOn
3
4 \VerifyCommand[lwarp][chemnum]{\chemnum_compound_write:n}
5   {E47ACDCCC4D90FAC40B75B53721EC218}
6
7 \cs_gset_protected:Npn \chemnum_compound_write:n #1
8   {
9     \chemnum_get_compound_property:nn {#1} {pre-main-label-code}
10    \group_begin:
11      \bool_if:NTF \l__chemnum_compound_local_bool
12        { \l__chemnum_local_label_format_tl }
13        { \chemnum_get_compound_property:nn {#1} {label-format} }
14      {
15        \LWR@textcurrentfont{
16          \chemnum_get_compound_property:nn {#1} {counter-representation}
17        }
18      }
19    \group_end:
20    \chemnum_get_compound_property:nn {#1} {post-main-label-code}
21  }
22
23 \VerifyCommand[lwarp][chemnum]{\chemnum_subcompound_write:nn}
24   {F6BB883B91A1FA330EF3B89924BF3679}
25
26 \cs_gset_protected:Npn \chemnum_subcompound_write:nn #1#2
27   {
28     \group_begin:
29       \bool_if:NTF \l__chemnum_compound_local_bool
30         { \l__chemnum_local_label_format_tl }
31         { \chemnum_get_compound_property:nn {#1} {label-format} }
32       {
33         \LWR@textcurrentfont{
34           \chemnum_get_subcompound_property:nnn {#1} {#2}
35           {counter-representation}
36         }
37       }
38     \group_end:
39   }
40
41 \ExplSyntaxOff

```

File 87 **lwarp-chkfloat.sty**

§ 199 Package **chkfloat**

chkfloat (*Pkg*) chkfloat is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{chkfloat}[2012/08/19]

File 88 **lwarp-chngpage.sty**

§ 200 Package **chngpage**

(Emulates or patches code by PETER WILSON.)

chnpage (*Pkg*) chnpage is ignored.

for HTML output: Discard all options for lwarp-chnpage:

```
1 \LWR@ProvidesPackageDrop{chnpage}[2009/10/20]
2 \LWR@origRequirePackage{lwarp-changepage}
```

File 89 **lwarp-cite.sty**

§ 201 Package **cite**

(Emulates or patches code by DONALD ARSENEAU.)

cite (*Pkg*) cite is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{cite}[2015/02/27]

For the [super] option, the \kern must be removed:

```
2 \def\LWRCT@biblabel#1{\@citess{#1}\kern-\labelsep\,}
3
4 \ifdefstrequal{\@biblabel}{\LWRCT@biblabel}
5 {
6   \def\@biblabel#1{\@citess{#1}}
7 }{}
```

For the [super] option, \textsuperscript is used instead of math superscript:

```
8 \def\@citess#1{\textsuperscript{#1}}
9
10 \DeclareDocumentCommand\citepunct{}{,\,\, \relax}
```

File 90 **lwarp-citeref.sty**

§ 202 Package **citeref**

(Emulates or patches code by BJÖRN BRIEL.)

citeref (*Pkg*) citeref is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{citeref}[1999/27/05]

```
2 \def\@cprwrite#1={%
3   \write\@auxout{\string\citepageref{#1}{\theLWR@previousautopagelabel}}%
4 }
5
6 \VerifyCommand[lwarp][citeref]{\citepageref}
7   {F5E07AE6603C65E9398417D6D392825D}
8
9 \def\citepageref#1#2{%
10   \xdef\cpr@testa{\@nameuse{cpr@last@#1}}%letzte Zitatstelle
11   \xdef\cpr@testb{#2}% Seite dieser Zitatstelle
12   \ifx\cpr@testa\cpr@testb%
13     \relax% Konsekutive identische Seitenangaben weglassen
```

```

14 \else%
15 \@namexdef{cpr@last@#1}{#2}%
16 \@ifundefined{cpr@#1}%
17 {\@namexdef{cpr@#1}{\LWR@refwithsection{\BaseJobname-autopage-#2}}}% lwarp
18     {% lwarp
19         \@namexdef{cpr@#1}{\@nameuse{cpr@#1}, % space
20             \LWR@refwithsection{\BaseJobname-autopage-#2}}%
21     }%
22 \fi
23 }

```

File 91 **lwarp-CJK.sty**

§ 203 Package **CJK**

CJK (*Pkg*) CJK does not work with lwarp unless called from ctex.

for HTML output:

```

1 \IfPackageLoadedTF{xeCJK}{%
2   \LWR@Loadnever{CJK}{ctex, xeCJK}
3 }
4
5 \LWR@ProvidesPackagePass{CJK}[2015/04/18]

```

File 92 **lwarp-CJKutf8.sty**

§ 204 Package **CJKutf8**

CJKutf8 (*Pkg*) CJKutf8 does not work with lwarp unless called from ctex.

for HTML output:

```

1 \IfPackageLoadedTF{xeCJK}{%
2   \LWR@Loadnever{CJKutf8}{ctex, xeCJK}
3 }
4
5 \LWR@ProvidesPackagePass{CJKutf8}[2015/04/18]

```

File 93 **lwarp-classicthesis.sty**

§ 205 Package **classicthesis**

(Emulates or patches code by ANDRÉ MIEDE AND IVO PLETIKOSIĆ.)

classicthesis (*Pkg*) classicthesis is emulated.

for HTML output: Discard all options for lwarp-classicthesis:

```

1 \LWR@ProvidesPackageDrop{classicthesis}[2018/06/03]

2 \RequirePackage{scrlayer-scrpage} % provides headers and footers (KOMA Script)
3 \RequirePackage{scrttime} % time access
4 \PassOptionsToPackage{titles}{tocloft}
5 \RequirePackage{textcase} % for \MakeTextUppercase
6 \RequirePackage[newparttoc]{titlesec} % newparttoc to write \part to .toc with \numberline

```

```

7 \RequirePackage{tocloft}
8 \PassOptionsToPackage{headinclude,footinclude}{typearea} % for classes other than KOMA
9 \RequirePackage{typearea}
10 \PassOptionsToPackage{marginal}{footmisc}% marginal flushmargin
11 \RequirePackage{footmisc}%
12 \RequirePackage{prelim2e}
13 \RequirePackage{remreset}%
14
15 \DeclareRobustCommand{\spacedallcaps}[1]{\textsc{\MakeTextUppercase{#1}}}
16 \DeclareRobustCommand{\spacedlowsmallcaps}[1]{\textsc{\MakeTextLowercase{#1}}}
17 \newcommand{\ctparttext}[1]{}
18 \newcommand{\tocEntry}[1]{}
19 \DeclareRobustCommand*\deactivateaddvspace{}{}%
20 \newlength{\beforebibskip}

```

File 94 **lwarp-cleveref.sty**

§ 206 Package **cleveref**

(Emulates or patches code by TOBY CUBITT.)

cleveref (*Pkg*) cleveref is patched for HTML, and limited MATHJAX emulation is added.

⚠ **cleveref page numbers** cleveref and varioref are supported, but printed page numbers do not map to HTML, so a section name or a text phrase are used for `\pageref` and `\pagerefrange`. This phrase includes `\pagerefFor`, which defaults to “for”.

Ex:

```

\pageref{tab:first,tab:second}
in html becomes:
“pages for table 4.1 and for table 4.2”

```

See `\pagerefFor` at page 753 to redefine the message which is printed for page number references.

Table 16 on page 505 shows the data structure of the label/reference system as revised by `lwarp` and `cleveref`.

For MATHJAX, each references is printed as an `\eqref`, without `cleveref`’s description text. Page references are also printed as simple `\eqrefs`. Multiple labels in a single `\cref` will print as (???) in MATHJAX.

⚠ **multiple labels**

for HTML output: `1 \LWR@ProvidesPackagePass{cleveref}[2018/03/27]`

The following patches are applied. Print-mode versions are not required since they all come down to `\ref` eventually, and `\ref` has a print-mode version.

```
\@@@setcref {<kindofref>} {<label>}
```

For HTML, `\@templabel` is replaced by the section number.

```

2 \def\LWR@orig@@@setcref#1#2{\cref@getlabel{#2}{\@templabel}#1{\@templabel}{}}%
3
4 \ifdefequal{\@@@setcref}{\LWR@orig@@@setcref}{% before v0.21
5   \renewcommand*\@@@setcref}[2]{#1{\ref{#2}}{}}

```



```

6 }{
7   \ifdefequal{\@@@setcref}\LWR@orig@@@setcref}{% as of v0.21
8     \renewcommand*\@@@setcref}[2]{%
9       #1{\ref{#2}}{}}
10  }{
11    \PackageWarningNoLine{lwarp-cleveref}{
12      Unknown version of cleveref.
13      \protect\cref\space will fail.
14    }%
15  }
16 }

```

`\@@@setcrefrange` $\langle text \rangle$ $\langle label \rangle$ $\langle label \rangle$

```

17 \def\LWR@orig@@@setcrefrange#1#2#3{%
18   \cref@getlabel{#2}\@labela}%
19   \cref@getlabel{#3}\@labelb}%
20   #1{\@labela}\@labelb}{}}}%
21
22 \ifdefequal{\@@@setcrefrange}\LWR@orig@@@setcrefrange}{
23   \renewcommand{\@@@setcrefrange}[3]{%
24     #1{\ref{#2}}{\ref{#3}}{}}}%
25   }
26 }{
27   \ifdefequal{\@@@setcrefrange}\LWR@orig@@@setcrefrange}{
28     \renewcommand{\@@@setcrefrange}[3]{%
29       #1{\ref{#2}}{\ref{#3}}{}}}%
30     }
31   }{
32     \PackageWarningNoLine{lwarp-cleveref}{
33       Unknown version of cleveref.
34       \protect\crefrange\space will fail.
35     }
36   }
37 }

```

`\cpagerefFor` Redefinable word between “page(s)” and the page numbers.

```

38 \newcommand*\cpagerefFor{for}

```

`\@@@setcpageref` $\langle typeofref \rangle$ $\langle label \rangle$, where `typeofref` is “page” or “pages”

```

39 \def\LWR@orig@@@setcpageref#1#2{% before v0.21
40   \cref@getpageref{#2}\@temppage}#1{\@temppage}{}}}%
41
42 \def\LWR@orig@@@setcpageref#1#2{% as of v0.21
43   \cpageref@getlabel{#2}\@temppage}#1{\@temppage}{}}}%
44
45 \ifdefequal{\@@@setcpageref}\LWR@orig@@@setcpageref}{
46   \renewcommand*\@@@setcpageref}[2]{%
47     #1{\cpagerefFor\ \cref{#2}}{}}}%
48   }
49 }{
50   \ifdefequal{\@@@setcpageref}\LWR@orig@@@setcpageref}{
51     \renewcommand*\@@@setcpageref}[2]{%
52       #1{\cpagerefFor\ \cref{#2}}{}}}%
53   }

```

```

54   }
55   {
56     \PackageWarningNoLine{lwarp-cleveref}{
57       Unknown version of cleveref.
58       \protect\cpageref\space will fail.
59     }
60   }
61 }

62 \def\LWR@orig@@setcpagerefrange#1#2#3{% before v0.21
63   \cref@getpageref{#2}{\@pagea}%
64   \cref@getpageref{#3}{\@pageb}%
65   #1{\@pagea}{\@pageb}{\@pagec}{\@paged}%
66
67 \def\LWR@orig@@@setcpagerefrange#1#2#3{% as of v0.21
68   \cpageref@getlabel{#2}{\@pagea}%
69   \cpageref@getlabel{#3}{\@pageb}%
70   #1{\@pagea}{\@pageb}{\@pagec}{\@paged}%
71
72 \ifdefequal{\@@setcpagerefrange}{\LWR@orig@@setcpagerefrange}{
73   \renewcommand*\@@setcpagerefrange}[3]{%
74     #1{\cpagerefFor\ \cref{#2}}{\cref{#3}}{\@pagec}{\@paged}%
75   }
76 }{
77   \ifdefequal{\@@@setcpagerefrange}{\LWR@orig@@@setcpagerefrange}{
78     \renewcommand*\@@@setcpagerefrange}[3]{%
79       #1{\cpagerefFor\ \cref{#2}}{\cref{#3}}{\@pagec}{\@paged}%
80     }
81   }
82   {
83     \PackageWarningNoLine{lwarp-cleveref}{
84       Unknown version of cleveref.
85       \protect\cpagerefrange\space will fail.
86     }
87   }
88 }

```

If `hyperref` is loaded, `cleveref` defines starred versions of the following, but since `hyperref` is only emulated, starred versions are defined here:

```

89 \LWR@absorbstar{cref}
90 \LWR@absorbstar{Cref}
91 \LWR@absorbstar{crefrange}
92 \LWR@absorbstar{Crefrange}
93 \LWR@absorbstar{cpageref}
94 \LWR@absorbstar{Cpageref}
95 \LWR@absorbstar{cpagerefrange}
96 \LWR@absorbstar{Cpagerefrange}
97 \LWR@absorbstar{labelcref}
98 \LWR@absorbstar{labelcpageref}

```

If `hyperref` is loaded, `cleveref` also defines starred versions of `varioref` macros, so they are defined here.

```

99 \IfPackageLoadedTF{varioref}{
100   \LWR@absorbstar{vref}
101   \LWR@absorbstar{Vref}
102   \LWR@absorbstar{vrefrange}
103   \LWR@absorbstar{Vrefrange}

```

```

104 \LWR@absorbstar{fullref}
105 \LWR@absorbstar{Fullref}
106 }{}% varioref

107 \IfClassLoadedTF{memoir}{
108 \AtBeginDocument{
109 \def\sf@memsub@label(#1)#2{%
110 \protected@edef\mem@currentlabelname{#1}%
111 \sf@memsub@label{#2}}
112 }
113 }{}

114 \IfPackageLoadedTF{subfig}{
115 \def\sf@sub@label(#1)#2{%
116 \ifhyperrefloaded
117 \protected@edef\@currentlabelname{%
118 \expandafter\strip@period #1\relax.\relax\@@}%
119 \fi
120 \sf@sub@label{#2}}
121 }{}

```

File 95 **lwarp-clrdblpg.sty**

§ 207 Package **clrdblpg**

clrdblpg (*Pkg*) clrdblpg is ignored.


for HTML output: 1 \LWR@ProvidesPackageDrop{clrdblpg}[2018/04/21]

File 96 **lwarp-cmbright.sty**

§ 208 Package **cmbright**

(Emulates or patches code by WALTER SCHMIDT.)

cmbright (*Pkg*) cmbright is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except slantedGreek is honored, and \mathbold is available.

The dedicated macros for upright Greek letters do work correctly.

SVG math should appear the same as the printed output.

for HTML output:

```

1 \LWR@ProvidesPackagePass{cmbright}[2005/04/13]
2
3 \LWR@infoprocessingmathjax{cmbright}

4 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
5
6 \begin{warpMathJax}
7
8 \IfPackageLoadedWithOptionsTF{cmbright}{slantedGreek}

```

```

9 {
10   \LWR@mathjax@addgreek@u@it*{}{}
11 }
12 {}
13
14 \LWR@mathjax@addgreek@u@up*{up}{}
15
16 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
17
18 \end{warpMathJax}

```

File 97 **lwarp-cmdtrack.sty**

§ 209 Package **cmdtrack**

cmdtrack (*Pkg*) cmdtrack is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{cmdtrack}[2012/12/18]

2 \newcommand{\untrack}[1]{}

File 98 **lwarp-colonequals.sty**

§ 210 Package **colonequals**

(Emulates or patches code by HEIKO OBERDIEK.)

colonequals (*Pkg*) colonequals is used as-is for SVG math, and is emulated for MATHJAX.

Since UNICODE symbols are not available for each of the following, only two are used for the single and double colons, and the other symbols are derived in a consistent manner. Occasional negative space is added as well. This may need to be undone for some fonts.

for HTML output: 1 \LWR@ProvidesPackagePass{colonequals}[2016/05/16]

```

2 \begin{warpMathJax}
3 \LWR@inprocessingmathjax{colonequals}
4
5 \CustomizeMathJax{\newcommand{\ratio}{\mathrel{\unicode{x2236}}}}
6 \CustomizeMathJax{\newcommand{\coloncolon}{\mathrel{\unicode{x2237}}}}
7 \CustomizeMathJax{\newcommand{\colonequals}{\mathrel{\unicode{x2236}\! =}}}
8 \CustomizeMathJax{\newcommand{\coloncolonequals}{\mathrel{\unicode{x2237}\! =}}}
9 \CustomizeMathJax{\newcommand{\equalscolon}{\mathrel{=!\unicode{x2236}}}}
10 \CustomizeMathJax{\newcommand{\equalscoloncolon}{\mathrel{=!\unicode{x2237}}}}
11 \CustomizeMathJax{\newcommand{\colonminus}{\mathrel{\unicode{x2236}-}}}
12 \CustomizeMathJax{\newcommand{\coloncolonminus}{\mathrel{\unicode{x2237}-}}}
13 \CustomizeMathJax{\newcommand{\minuscolon}{\mathrel{-\unicode{x2236}}}}
14 \CustomizeMathJax{\newcommand{\minuscoloncolon}{\mathrel{-\unicode{x2237}}}}
15 \CustomizeMathJax{\newcommand{\colonapprox}{\mathrel{\unicode{x2236}\! \approx}}}
16 \CustomizeMathJax{\newcommand{\coloncolonapprox}{\mathrel{\unicode{x2237}\! \approx}}}
17 \CustomizeMathJax{\newcommand{\approxcolon}{\mathrel{\approx!\unicode{x2236}}}}
18 \CustomizeMathJax{\newcommand{\approxcoloncolon}{\mathrel{\approx!\unicode{x2237}}}}
19 \CustomizeMathJax{\newcommand{\colonsim}{\mathrel{\unicode{x2236}\! \sim}}}

```

```

20 \CustomizeMathJax{\newcommand{\coloncolonsim}{\mathrel{\unicode{x2237}\!\sim}}}
21 \CustomizeMathJax{\newcommand{\simcolon}{\mathrel{\sim\!\unicode{x2236}}}}
22 \CustomizeMathJax{\newcommand{\simcoloncolon}{\mathrel{\sim\!\unicode{x2237}}}}
23 \end{warpMathJax}

```

File 99 **lwarp-color.sty**

§ 211 Package **color**

`color` (*Pkg*) Allowed but ignored. `xcolor` is then required as well.

`color` is superceded by `xcolor`, and `lwarp` requires several of the features of `xcolor`. When `color` is requested, `xcolor` is loaded as well.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{color}[2016/07/10]
2 \RequirePackage{xcolor}

```

`\color@endgroup`'s `\endgraf` was conflicting with `lwarp`'s paragraph handling.

```

3 \let\color@endgroup\endgroup

```

File 100 **lwarp-colortbl.sty**

§ 212 Package **colortbl**

`colortbl` (*Pkg*) `colortbl` is used as-is for print output, and emulated for HTML.

 **row/cell color** Only use `\rowcolor` and `\cellcolor` at the start of a row, in that order.

`colortbl` ignores the overhang arguments.

colored tables `\rowcolors` is supported, except that the optional argument is ignored so far.

for HTML output: A placeholder definition is forgotten first:

```

1 \let\rowcolor\relax
2
3 \LWR@ProvidesPackagePass{colortbl}[2022/06/20]

```

The following `\LWR@HTML` versions are used inside an HTML `tabular`.

`\columncolor`

```

[<model>] {<color>} [<left overhang>] [<right overhang>]

```

`\LWR@getmynexttoken` is not used here because `\columncolor` is not used inside the data area of the `tabular`.

`\columncolor` is provided here to satisfy `\LWR@formatted`'s test for the existence of the print-mode macro.

```

4 \ProvideDocumentCommand{\columncolor}{O{named} m o o}{}%
5
6 \NewDocumentCommand{\LWR@HTML@columncolor}{O{named} m o o}{%
7   \convertcolorspec{#1}{#2}{HTML}\LWR@columnHTMLcolor%
8   \LWR@addtabularcellcolor%
9 }

```

10
 11 \AtBeginDocument{\LWR@formatted{columncolor}}

\LWR@getmynexttoken is used for \rowcolor because it is used inside the data area of the tabular.

\rowcolor [*model*] {*color*} [*left overhang*] [*right overhang*]

12 \NewDocumentCommand{\LWR@HTML@rowcolor}{O{named} m o o}{%
 13 \convertcolorspec{#1}{#2}{HTML}\LWR@rowHTMLcolor%
 14 \LWR@getmynexttoken%
 15 }
 16
 17 \AtBeginDocument{\LWR@expandableformatted{rowcolor}}

\cellcolor [*model*] {*color*} [*left overhang*] [*right overhang*]

18 \NewDocumentCommand{\LWR@HTML@cellcolor}{O{named} m o o}{%
 19 \convertcolorspec{#1}{#2}{HTML}\LWR@cellHTMLcolor%
 20 \LWR@addtabularcellcolor%
 21 }
 22
 23 \AtBeginDocument{\LWR@formatted{cellcolor}}

\arrayrulecolor [*model*] {*color*}

The HTML version for use outside a tabular. Inside a tabular, \LWR@HTML@arrayrulecolornexttoken is used instead.

24 \newcommand{\LWR@HTML@arrayrulecolor}[2][named]{%
 25 \convertcolorspec{#1}{#2}{HTML}\LWR@ruleHTMLcolor%
 26 }
 27
 28 \AtBeginDocument{\LWR@expandableformatted{arrayrulecolor}}

[*model*] {*color*}

\LWR@arrayrulecolornexttoken The HTML version for use inside a tabular.

29 \newcommand{\LWR@HTML@arrayrulecolornexttoken}[2][named]{%
 30 \convertcolorspec{#1}{#2}{HTML}\LWR@ruleHTMLcolor%
 31 \LWR@getmynexttoken%
 32 }
 33
 34 \AtBeginDocument{\LWR@expandableformatted{arrayrulecolornexttoken}}

\doublerulesepcolor [*model*] {*color*}

The version for use outside a tabular.

35 \newcommand{\LWR@HTML@doublerulesepcolor}[2][named]{%
 36
 37 \AtBeginDocument{\LWR@expandableformatted{doublerulesepcolor}}

[*model*] {*color*}

\LWR@doublerulesepcolornexttoken The version for use inside a tabular.

38 \newcommand{\LWR@HTML@doublerulesepcolornexttoken}[2][named]{\LWR@getmynexttoken}
 39

```
40 \AtBeginDocument{\LWR@expandableformatted{doublerulesepcolornexttoken}}
```

```
\rowcol@ers
```

```
[<cmds>] {\startrow} {\odd color} {\even color}
```

```
41 \newcommand*\LWR@xcolortempcolor{}
```

```
42
```

```
43 \VerifyCommand[lwarp][colortbl]{\rowcol@ers}{A66C3974E0C5BD5C3DDE033367D197A4}
```

```
44
```

```
45 \def\rowcol@ers[#1]#2#3#4%
```

```
46 {%
```

The lwarp emulation starts at row 1 instead of 0.

```
47 % \global\rownum=\z@
```

```
48 \global\rownum=1% lwarp
```

```
49 \global\@rowcolorstrue%
```

```
50 \@ifxempty{#3}%
```

```
51 {\def\@oddrowcolor{\@norowcolor}}%
```

```
52 {%
```

```
53 \convertcolorspec{named}{#3}{HTML}\LWR@xcolortempcolor% lwarp
```

```
54 \edef\@oddrowcolor{%
```

```
55 \csdef{LWR@xcolorrowHTMLcolor}{\LWR@xcolortempcolor}% lwarp
```

```
56 }%
```

```
57 }%
```

```
58 \@ifxempty{#4}%
```

```
59 {\def\@evenrowcolor{\@norowcolor}}%
```

```
60 {%
```

```
61 \convertcolorspec{named}{#4}{HTML}\LWR@xcolortempcolor% lwarp
```

```
62 \edef\@evenrowcolor{%
```

```
63 \csdef{LWR@xcolorrowHTMLcolor}{\LWR@xcolortempcolor}% lwarp
```

```
64 }%
```

```
65 }%
```

```
66 \if@rowcmd
```

```
67 \def\@rowcolors
```

```
68 {%
```

```
69 % #1%
```

```
70 \if@rowcolors
```

```
71 % \noalign{%
```

```
72 \relax\ifnum\rownum<#2\@norowcolor\else
```

```
73 \ifodd\rownum\@oddrowcolor\else\@evenrowcolor\fi\fi%
```

```
74 % }%
```

```
75 \fi%
```

```
76 }%
```

```
77 \else
```

```
78 \def\@rowcolors
```

```
79 {%
```

```
80 \if@rowcolors
```

```
81 \ifnum\rownum<#2%
```

```
82 % \noalign{%
```

```
83 \@norowcolor
```

```
84 % }
```

```
85 \else
```

```
86 % #1%
```

```
87 % \noalign{%
```

```
88 \ifodd\rownum\@oddrowcolor\else\@evenrowcolor\fi%
```

```
89 % }%
```

```
90 \fi%
```

```
91 \fi%
```

```
92 }%
```

```
93 \fi
```

```
94 \ignorespaces%
95 }
```

`\@norowcolor`

Turns off color for this row.

```
96 \def\@norowcolor{%
97   \renewcommand{\LWR@excolorrowHTMLcolor}{}%
98 }
```

`\@rowcolors`

Executed at the end of each row.

```
99 \def\@rowcolors{%
100 %   \noalign{%
101     \advance\rownum\@ne%
102 %   }%
103   \@rowcolors%
104 }
```

For MATHJAX, use the MATHJAX package. The unused macro options are ignored.

```
105 \begin{warpMathJax}
106
107 \CustomizeMathJax{\require{colortbl}}
108 \CustomizeMathJax{\let\LWRorigcolumnncolor\columnncolor}
109 \CustomizeMathJax{\renewcommand{\columnncolor}[2][named]{%
110   \LWRorigcolumnncolor[#1]{#2}%
111   \LWRabsorbtwooptions%
112 }}
113
114 \CustomizeMathJax{\let\LWRorigrowcolor\rowcolor}
115 \CustomizeMathJax{\renewcommand{\rowcolor}[2][named]{%
116   \LWRorigrowcolor[#1]{#2}%
117   \LWRabsorbtwooptions%
118 }}
119
120 \CustomizeMathJax{\let\LWRorigcellcolor\cellcolor}
121 \CustomizeMathJax{\renewcommand{\cellcolor}[2][named]{%
122   \LWRorigcellcolor[#1]{#2}%
123   \LWRabsorbtwooptions%
124 }}
125
126 \end{warpMathJax}
```

File 101 **lwarp-continue.sty**

§ 213 Package **continue**

`continue (Pkg)` `continue` is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{continue}}[2018/12/09]

```
2 \newcommand*{\flagcont}{}
3 \newcommand*{\flagend}{}
4 \newcommand*{\flagword}{}
5 \newcommand*{\preflagword}{}
6 \newcommand*{\postflagword}{}
7 \newlength\contsep
```

```
8 \newlength\contdrop
```

File 102 **lwarp-copyrightbox.sty**

§ 214 Package **copyrightbox**

(Emulates or patches code by THOMAS FISCHER, IVES VAN DER FLAAS.)

copyrightbox (*Pkg*) **copyrightbox** is emulated for use by **lwarp**.

The entire copyright box is placed inside a `<div>` of class `copyrightbox`.

The contents are placed inside a `<div>` of class `copyrightboxcontents`.

The copyright notice is placed inside a `<div>` of class `copyrightboxnote`.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{copyrightbox}[2011/11/27]

2 \newcommand{\copyrightbox}[3][r]{%
3 \begin{BlockClass}[
4   display: inline-flex;
5   flex-direction: column ;
6 ]{copyrightbox}
7 \begin{BlockClass}{copyrightboxcontents}
8 #2
9 \end{BlockClass}
10 \begin{BlockClass}{copyrightboxnote}
11 #3
12 \end{BlockClass}
13 \end{BlockClass}
14 }
15
16 \newcommand{\CRB@setcopyrightfont}{}
17 \newcommand{\CRB@setcopyrightparagraphstyle}{}

```

File 103 **lwarp-crop.sty**

§ 215 Package **crop**

(Emulates or patches code by MELCHIOR FRANZ.)

crop (*Pkg*) **crop** is ignored.

for HTML output:

Discard all options for **lwarp-crop**:

```
1 \LWR@ProvidesPackageDrop{crop}[2003/05/20]

2 \newcommand*\crop}[1][{}
3 \newcommand*\cropdef}[6][{}


```

File 104 **lwarp-ctable.sty**

§ 216 Package **ctable**

(Emulates or patches code by WYBO DEKKER.)

ctable (*Pkg*) ctable is patched for use by lwarp.

 **Misplaced alignment tab character &** Use `\StartDefiningTabulars` before one or more `\ctables`, and `\StopDefiningTabulars` after. These change the meaning of the ampersand & character.

for HTML output: 1 \LWR@ProvidesPackagePass{ctable}[2015/10/17]

The following is in the original:

```

2 \newcommand{\LWR@HTML@ctable}[4][[%
3   \let\@CTaborfig \@df\CTaborfig
4   \let\@CTalign   \@df\CTalign
5   \let\@CTsideways \@df\CTsideways
6   \let\@CTcontinued \empty
7   \let\@CTpos      \@df\CTpos
8   \let\@CTcaption  \empty
9   \let\@CTcap      \undefined
10  \let\@CTlabel     \empty
11  \let\@CTbotcap    \@df\CTbotcap
12  \let\@CTstarred   \@df\CTstarred
13  \let\@CTsuper     \@df\CTsuper
14  \let\@CTnotespar  \@df\CTnotespar
15  \let\@CTdoinside  \@df\CTdoinside
16  \let\@CTbgopacity \@df\CTbgopacity
17  \@CTframerule     \@df\CTframerule
18  \@CTcaptionskip   \@df\CTcaptionskip
19  \@CTframesep      \@df\CTframesep
20  \@CTwidth         \@df\CTwidth
21  \@CTmaxwidth      \@df\CTmaxwidth
22  \@CTmincapwidth   \@df\CTmincapwidth
23  \@CTfooterwidth   \@df\CTfooterwidth
24  \def\@CTfgactual  {\@df\CTframefg}%
25  \def\@CTbgactual  {\@df\CTframebg}%
26  \def\@CTbeg       {\begin{\@CTsideways\@CTaborfig\@CTstarred}}%
27  \def\@CTbegin     {\@CTbeg}%
28  \def\@CTend       {\end{\@CTsideways\@CTaborfig\@CTstarred}}%
29  \setkeys{CT}{#1}%
30  \ifx\@CTcap\undefined\let\@CTcap\@CTcaption\fi
31  \ifx\@CTcap\empty
32    \if@CTcaptionloaded\else
33      \PackageWarningNoLine{lwarp-ctable}{\MessageBreak
34        An empty cap= option prevents lot/loc entry only\MessageBreak
35        if the caption package is loaded!}
36    \fi
37  \fi
38  \if@CTinmemoir\else
39    \ifx\@CTbotcap\undefined
40      \PackageError{lwarp-ctable}{\MessageBreak
41        You can, currently, use the sidecap option only with\MessageBreak
42        memoir documents. Use topcap or botcap only}

```

```

43     {}
44     \fi
45     \fi
46     \ifdim\@CTwidth=0pt\else
47     \ifdim\@CTmaxwidth=0pt\else
48     \PackageError{lwarp-ctable}{\MessageBreak
49     You may not use the width and maxwidth options together\MessageBreak
50     Use either width or maxwidth}
51     {}
52     \fi
53     \fi
54     \ifx\@CTpos\empty
55     \ifx\@CTsideways\empty\else
56     \PackageError{lwarp-ctable}{\MessageBreak
57     You may not use the pos and sideways options together\MessageBreak
58     Rotated tables and figures are always typeset on a separate page}
59     {}
60     \fi
61     \fi
62     \ifx\@CTcaption\empty
63     \ifx\@CTlabel\empty\else
64     \PackageError{lwarp-ctable}{\MessageBreak
65     You may not label a captionless table\MessageBreak
66     Such a label can't be referenced}
67     {}
68     \fi
69     \fi

```

Some of the original, regarding computing the width of \CT@t, is removed here.

```

70     \@CTbegin
71     \ifx\@CTcontinued\empty\else\addtocounter{\@CTtaborfig}{-1}\fi
72     \@CTalign

```

lwarp's patches begin here:

```

73     \begin{center}
74     \setlength{\fboxrule}{\@CTframerule}
75     \setlength{\fboxsep}{\@CTframesep}
76     \LWR@forceminwidth{\fboxrule}% lwarp
77     \convertcolorspec{named}{\@CTbgactual}{HTML}\LWR@tempcolor% lwarp
78     \begin{BlockClass}[%
79     border:
80     \LWR@printlength{\LWR@atleastonept}
81     solid
82     \LWR@colorstyle{named}{\@CTfgactual} ; %
83     padding:\LWR@printlength{\fboxsep} ; %
84     \ifdefstring{\LWR@tempcolor}{FFFFFF}{%
85     background: \LWR@colorstyle{named}{\@CTbgactual} ; %
86     }%
87     ]{fminipage}% lwarp
88     \ifx\@CTbotcap\@CTfalse\@CTCaption\vskip\@CTcaptionskip\fi
89     \ifx\@CTbotcap\undefined%
90     \begin{sidecaption}[\@CTcap]{\@CTcaption}[\@CTlabel]
91     \fi
92     \@CTdoinside
93     \begin{tabularx}{\linewidth}{#2}% lwarp
94     #4%
95     \end{tabularx}% lwarp

```

```

96     \def\@CTfootnotes{#3}%
97     \ifx#3\empty\else{% append footnotes, if any
98         \begin{BlockClass}{tnotes}%     lwarp
99         #3
100        \end{BlockClass}%             lwarp
101    }
102    \fi
103    \ifx\@CTbotcap\undefined\end{sidecaption}\fi
104    \ifx\@CTbotcap\@CTtrue\vskip\@CTcaptionskip\@CTcaption\fi
105    \end{BlockClass}
106    \end{center}
107    \@CTend
108 }
109 \LWR@formatted{ctable}

```

Required to properly detect the toprule:

```
110 \LetLtxMacro\FL\toprule
```

Table notes are redefined for HTML:

```

111 \newcommand{\LWR@HTML@tmark}[1][a]{%
112     \textsuperscript{\textrm{\textit{#1}}}}
113 }
114 \LWR@formatted{tmark}
115
116 \newcommand{\LWR@HTML@tnote}[2][a]{%
117     \tmark[#1]\,#2\par
118 }
119 \LWR@formatted{tnote}

```

File 105 **lwarp-cuted.sty**

§ 217 Package **cuted**

(Emulates or patches code by SIGITAS TOLUŠIS.)

cuted (Pkg) **cuted** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{cuted}[2021/10/04]

```

2 \newenvironment{strip}{}{}
3 \newskip\stripsep
4 \newtoks\preCutedStrip \preCutedStrip{}
5 \newtoks\postCutedStrip \postCutedStrip{}
6 \def\oldcolsbreak#1{}

```

File 106 **lwarp-cutwin.sty**

§ 218 Package **cutwin**

(Emulates or patches code by PETER WILSON AND ALAN HOENIG.)

cutwin (Pkg) **cutwin** is emulated.

for HTML output: Discard all options for `lwarp-cutwin`:

```

1 \LWR@ProvidesPackageDrop{cutwin}[2010/09/29]

2 \newcommand*\opencutleft{}
3 \newcommand*\opencutright{}
4 \newcommand*\opencutcenter{}
5 \newcommand*\cutfuzz{}
6
7 \newenvironment{cutout}[4]
8 {\marginpar{\windowpagestuff}}
9 {}
10
11 \newcommand*\windowpagestuff{}
12
13 \newcommand*\pageinwindow{%
14 % \begin{minipage}{.3\linewidth}
15 \windowpagestuff
16 % \end{minipage}
17 }
18
19 \newenvironment{shapedcutout}[3]
20 {\marginpar{\picinwindow}}
21 {}
22
23 \newcommand*\putstuffinpic{}
24
25 \newcommand*\picinwindow{%
26 \begin{picture}(0,0)
27 \putstuffinpic
28 \end{picture}}

```

File 107 **lwarp-dblfloatfix.sty**

§ 219 Package **dblfloatfix**

`dblfloatfix (Pkg)` `dblfloatfix` is ignored.

for HTML output: `1 \LWR@ProvidesPackageDrop{dblfloatfix}[2012/12/31]`

File 108 **lwarp-dblfnote.sty**

§ 220 Package **dblfnote**

(Emulates or patches code by HIROSHI NAKASHIMA.)

`dblfnote (Pkg)` `dblfnote` is ignored.

for HTML output: `1 \LWR@ProvidesPackageDrop{dblfnote}[1999/07/14]`

```

2 \newcounter{DFNsloppiness}
3 \newdimen\DFNcolumnsep
4 \newdimen\DFNcolumnwidth
5 \def\DFNallowcbreak{}

```

```

6 \def\DFNinhibitcbreak{}
7 \def\DFNtrysingle{}
8 \def\DFNalwaysdouble{}
9 \def\DFNruleboth{}
10 \def\DFNruleleft{}

```

File 109 **lwarp-dcolumn.sty**

§ 221 Package **dcolumn**

`dcolumn` (*Pkg*) `dcolumn` is used as-is in a `lateximage`, and is emulated by the `lwarp` core.

`dcolumn` used to be `\LWR@ProvidesPackageDrop` in prior versions of `lwarp`, but is now supported for print mode.

```
1 \LWR@ProvidesPackagePass{dcolumn}[2014/10/28]
```

Due to how the D column is created, cannot use `\HTMLnewcolumn` type here. An HTML version neutralizes the lower-level macros, leaving a c column type.

```

2 \newcommand*\LWR@HTML@DC@[3]{}
3 \LWR@formatted{DC@}
4
5 \providecommand*\DC@end{}{}
6
7 \newcommand*\LWR@HTML@DC@end{}{}
8 \LWR@formatted{DC@end}

```

File 110 **lwarp-decimal.sty**

§ 222 Package **decimal**

(Emulates or patches code by A. SYROPOULOS AND R. W. D. NICKALLS.)

`decimal` (*Pkg*) `decimal` works as-is for `SVG math`, and is emulated for `MATHJAX`.

for HTML output: `1 \LWR@ProvidesPackagePass{decimal}[2011/06/03]`

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\def\.\{\mbox{.}\}}
4 \end{warpMathJax}

```

File 111 **lwarp-decorule.sty**

§ 223 Package **decorule**

(Emulates or patches code by PETER FLYNN.)

`decorule` (*Pkg*) `decorule` is patched for use by `lwarp`.

for HTML output: `1 \LWR@ProvidesPackagePass{decorule}[2020/04/01]`

```

2 \xpretocmd{\decorule}
3   {\begin{lateximage}*[decorule]}
4   {}
5   {\LWR@patcherror{decorule}{decorule A}}
6
7 \xapptocmd{\decorule}
8   {\end{lateximage}}
9   {}
10  {\LWR@patcherror{decorule}{decorule B}}

```

File 112 **lwarp-diagbox.sty**

§ 224 Package **diagbox**

(Emulates or patches code by LEO LIU.)

diagbox (*Pkg*) **diagbox** is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{diagbox}[2016/12/28]

To restore print-mode inside a lateximage:

```

2 \LetLtxMacro\LWR@origdiagbox@double\diagbox@double
3 \LetLtxMacro\LWR@origdiagbox@triple\diagbox@triple
4
5 \appto\LWR@restoreorigformatting{%
6 \LetLtxMacro\diagbox@double\LWR@origdiagbox@double%
7 \LetLtxMacro\diagbox@triple\LWR@origdiagbox@triple%
8 }

```

\LWR@diagbox@AB

$\langle E/W \rangle \langle A \rangle \langle E/W \rangle \langle B \rangle$

```

9 \newcommand{\LWR@diagbox@AB}[4]{
10 \begingroup%
11 \LetLtxMacro\\\newline%
12 \BlockClassSingle{diagbox#1}{#2}%
13 \BlockClassSingle{diagbox#3}{#4}%
14 \endgroup%
15 \LWR@stoppars%
16 }

```

\LWR@diagboxNW

$\langle A \rangle \langle B \rangle$

```

17 \newcommand{\LWR@diagboxNW}[2]{%
18 \LWR@diagbox@AB{E}{#2}{W}{#1}%
19 }

```

Likewise for NE, SW, SE:

```

20 \newcommand{\LWR@diagboxNE}[2]{%
21 \LWR@diagbox@AB{W}{#1}{E}{#2}%
22 }
23
24 \let\LWR@diagboxSW\LWR@diagboxNE
25 \let\LWR@diagboxSE\LWR@diagboxNW

```

```

\diagbox@double      {<keys> } {<A>} {<B>}

26 \def\diagbox@double#1#2#3{%
27 \setkeys{diagbox}{dir=NW,#1}%
28 \nameuse{LWR@diagbox\diagbox@dir}{#2}{#3}%
29 }

```

```

\LWR@diagboxTNW      {<title>} {<A>} {<B>}

30 \newcommand{\LWR@diagboxTNW}[3]{%
31 \BlockClassSingle{diagboxtitleN}{#1}
32 \LWR@diagboxNW{#2}{#3}
33 }

```

Likewise for NE, SW, SE:

```

34 \newcommand{\LWR@diagboxTNE}[3]{%
35 \BlockClassSingle{diagboxtitleN}{#1}
36 \LWR@diagboxNE{#2}{#3}
37 }
38
39 \newcommand{\LWR@diagboxTSW}[3]{%
40 \LWR@diagboxSW{#2}{#3}
41 \BlockClassSingle{diagboxtitleS}{#1}
42 \LWR@stoppars%
43 }
44
45 \newcommand{\LWR@diagboxTSE}[3]{%
46 \LWR@diagboxSE{#2}{#3}
47 \BlockClassSingle{diagboxtitleS}{#1}
48 \LWR@stoppars%
49 }

```

```

\diagbox@triple      {<keys> } {<A>} {<T>} {<B>}

50 \def\diagbox@triple#1#2#3#4{%
51 \setkeys{diagbox}{dir=NW,#1}%
52 \nameuse{LWR@diagboxT\diagbox@dir}{#3}{#2}{#4}%
53 }

```

File 113 **lwarp-dingbat.sty**

§ 225 Package **dingbat**

(Emulates or patches code by SCOTT PAKIN.)

dingbat (*Pkg*) **dingbat** is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{dingbat}[2001/04/27]

```

2 \newcommand*\LWR@dingbatsymbol[1]{\HTMLUnicode{#1}}
3
4 \newcommand{\LWR@HTML@rightpointright}{\LWR@dingbatsymbol{261E}}
5 \newcommand{\LWR@HTML@leftpointright}{\LWR@dingbatsymbol{261E}}
6 \newcommand{\LWR@HTML@leftthumbsdown}{\LWR@dingbatsymbol{1F44E}}
7 \newcommand{\LWR@HTML@leftthumbsup}{\LWR@dingbatsymbol{1F44D}}

```



```

8 \newcommand{\LWR@HTML@rightpointleft}{\LWR@dingbatsymbol{261C}}
9 \newcommand{\LWR@HTML@rightthumbsdown}{\LWR@dingbatsymbol{1F44E}}
10 \newcommand{\LWR@HTML@rightthumbsup}{\LWR@dingbatsymbol{1F44D}}
11 \newcommand{\LWR@HTML@squarewithdots}{\LWR@dingbatsymbol{25C7}}
12 \newcommand{\LWR@HTML@filledsquarewithdots}{\LWR@dingbatsymbol{25C6}}
13 \newcommand{\LWR@HTML@Sborder}{\LWR@dingbatsymbol{271A}}
14 \newcommand{\LWR@HTML@Zborder}{\LWR@dingbatsymbol{274B}}
15 \newcommand{\LWR@HTML@largepencil}{\LWR@dingbatsymbol{270E}}
16 \newcommand{\LWR@HTML@anchor}{\LWR@dingbatsymbol{2693}}
17 \newcommand{\LWR@HTML@carriagereturn}{\LWR@dingbatsymbol{23CE}}
18 \newcommand{\LWR@HTML@checkmark}{\LWR@dingbatsymbol{2713}}
19 \newcommand{\LWR@HTML@eye}{\LWR@dingbatsymbol{1F441}}
20 \newcommand{\LWR@HTML@satellitedish}{\LWR@dingbatsymbol{1F4E1}}
21 \newcommand{\LWR@HTML@smallpencil}{\LWR@dingbatsymbol{270E}}
22
23 \LWR@formatted{rightpointright}
24 \LWR@formatted{leftpointright}
25 \LWR@formatted{leftthumbsdown}
26 \LWR@formatted{leftthumbsup}
27 \LWR@formatted{rightpointleft}
28 \LWR@formatted{rightthumbsdown}
29 \LWR@formatted{rightthumbsup}
30 \LWR@formatted{squarewithdots}
31 \LWR@formatted{filledsquarewithdots}
32 \LWR@formatted{Sborder}
33 \LWR@formatted{Zborder}
34 \LWR@formatted{largepencil}
35 \LWR@formatted{anchor}
36 \LWR@formatted{carriagereturn}
37 \LWR@formatted{checkmark}
38 \LWR@formatted{eye}
39 \LWR@formatted{satellitedish}
40 \LWR@formatted{smallpencil}

```

File 114 **lwarp-doipubmed.sty**

§ 226 Package **doipubmed**

(Emulates or patches code by NICOLA TALBOT.)

doipubmed (*Pkg*) doipubmed is patched for use by lwarp.

for HTML output:

```

1 \LWR@ProvidesPackagePass{doipubmed}[2007/08/20]
2 \VerifyCommand[lwarp][doipubmed]{\doi}{13FFCBAF4F1414B838B6C3AD344117A8}
3
4 \renewcommand*{\doi}[1]{%
5 \def\@doi@code{%
6 \@doi@linksubs#1#\@@\@doi@code
7 \@onelevel@sanitize{\@doi@code}%
8 \def\@doi@text{%
9 \@doi@textsubs#1\nil\@@\@doi@text%
10 \xpretocmd{\@doi@code}{http://dx.doi.org/}{}}%
11 \expandafter\href\expandafter{\@doi@code}{\doitext{\@doi@text}}

```

Must not modify catcodes before using \url:

```

12 \DeclareDocumentCommand{\LWR@citeurlb}{m}{%
13   \LWR@ensuredoingapar%
14   \textless%
15   \LWR@href@sanitized{#1}{#1}%
16   \textgreater%
17   \endgroup%
18 }
19
20 \renewrobustcmd*{\citeurl}{%
21   \begingroup%
22   \LWR@linkcatcodes%
23   \LWR@citeurlb%
24 }

```

File 115 **lwarp-DotArrow.sty**

§ 227 Package **DotArrow**

(Emulates or patches code by SVEN SCHNEIDER.)

DotArrow (*Pkg*) **DotArrow** is patched for use by **lwarp**, and emulated for **MATHJAX**.

for HTML output: 1 \LWR@ProvidesPackagePass{DotArrow}[2007/02/12]

The width must be recomputed each time, depending on print or HTML output.

```

2 \xpretocmd{\dotarrow}{\settowidth{\oneWidth}{\onePartX}}{}{}
3
4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\dotarrow}[1]{\stackrel{#1}{\unicode{x21E2}}}}
6 \end{warpMathJax}


```

File 116 **lwarp-dotlessi.sty**

§ 228 Package **dotlessi**

(Emulates or patches code by JAVIER BEZOS.)

dotlessi (*Pkg*) **dotlessi** is used as-is for SVG math, and is emulated for **MATHJAX**.

 **HTML \dotlessj** Use `\usepackage{cmap}` if `\dotlessj` does not appear in HTML in text mode. See section 7.4.

 **not bold** For **MATHJAX**, use `\boldsymbol` instead of `\mathbf`.

for HTML output: 1 \LWR@ProvidesPackagePass{dotlessi}[1999/10/12]

For **MATHJAX**:

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\let\dotlessi\imath}
4 \CustomizeMathJax{\let\dotlessj\jmath}
5 \end{warpMathJax}

```

File 117 **lwarp-dprogress.sty**

§ 229 Package **dprogress**

`dprogress (Pkg)` `dprogress` is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{dprogress}[2008/02/21]

File 118 **lwarp-draftcopy.sty**

§ 230 Package **draftcopy**

`draftcopy (Pkg)` `draftcopy` is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{draftcopy}[2002/02/25]

```

2 \newcommand{\draftcopyVersion}[1]{}
3 \newcommand{\draftcopySetGrey}[1]{}
4 \newcommand{\draftcopySetScale}[1]{}
5 \newcommand{\draftcopySetScaleFactor}[1]{}
6 \newcommand{\draftcopyFirstPage}[1]{}
7 \newcommand{\draftcopyLastPage}[1]{}
8 \newcommand{\draftcopyName}[2]{}
9 \newcommand{\draftcopyPageTransform}[1]{}
10 \newcommand{\draftcopyBottomTransform}[1]{}
11 \newcommand{\draftcopyPageX}[1]{}
12 \newcommand{\draftcopyPageY}[1]{}
13 \newcommand{\draftcopyBottomX}[1]{}
14 \newcommand{\draftcopyBottomY}[1]{}

```

File 119 **lwarp-draftfigure.sty**

§ 231 Package **draftfigure**

`draftfigure (Pkg)` `draftfigure` is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{draftfigure}[2017/07/19]
2 \RequirePackage{xkeyval}

```

3 \define@key{draftfigure}{code}{}
4 \define@key{draftfigure}{noframe}[true]{}
5 \define@key{draftfigure}{filename}[true]{}
6 \define@key{draftfigure}{content}[]{}
7 \define@key{draftfigure}{style}[normal]{}
8 \define@key{draftfigure}{position}[left]{}
9 \define@key{draftfigure}{size}[normal]{}
10 \newcommand\setdf[1]{\setkeys{draftfigure}{#1}}

```

File 120 **lwarp-draftwatermark.sty**

§ 232 Package **draftwatermark**

(Emulates or patches code by SERGIO CALLEGARI.)

draftwatermark (*Pkg*) draftwatermark is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{draftwatermark}[2020/03/14]

```

2 \newcommand{\DraftwatermarkOptions}[1]{}
3 \newcommand{\DraftwatermarkStdMark}{}
4 \newcommand{\SetWatermarkAngle}[1]{}
5 \newcommand{\SetWatermarkColor}[1]{}
6 \newcommand{\SetWatermarkLightness}[1]{}
7 \newcommand{\SetWatermarkFontSize}[1]{}
8 \newcommand{\SetWatermarkScale}[1]{}
9 \newcommand{\SetWatermarkHorCenter}[1]{}
10 \newcommand{\SetWatermarkVertCenter}[1]{}
11 \newcommand{\SetWatermarkText}[1]{}

```

File 121 **lwarp-drftcite.sty**

§ 233 Package **drftcite**

(Emulates or patches code by DONALD ARSENEAU.)

drftcite (*Pkg*) drftcite is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{drftcite}[1995/01/23]

```

2 \VerifyCommand[lwarp][drftcite]{\@lbibitem}{43265BD7F1B9C9818D873D651C19485C}
3
4 \def\@lbibitem[#1]#2{\g@lbal\@HighCite\z@
5 \item[
6 \textsuperscript{\@nameuse{DCN@#2\@extra@b@citeb}}~% lwarp
7 \@biblabel{\@ifundefined{DCN@#2\@extra@b@citeb}{\@warning
8 {Reference `#2' on page \thepage\space was never cited}}{}%
9 % \DC@LLap{$^\@nameuse{DCN@#2\@extra@b@citeb}}$\ \ }%o
10 \@citeverb{#2}}\hfil]\if@filesw{\def\protect##1{\string ##1\space}%
11 \immediate\write\@auxout{\string\bibcite{#2}{#1}}}\fi\ignorespaces}

```

File 122 **lwarp-easy-todo.sty**

§ 234 Package **easy-todo**

(Emulates or patches code by JUAN RADA-VILELA.)

easy-todo (*Pkg*) easy-todo is patched for use by lwarp.

To remove the “P.” heading for HTML:

```
\warpHTMLOnly{\renewcommand{\todoindexpagetitle}{}}
```

for HTML output: 1 \LWR@ProvidesPackagePass{easy-todo}[2014/01/01]

\listoftodos

Modified to correct buggy use of \flushright.

```
2 \let\LWR@easytodo@origlistoftodos\listoftodos
3
4 \renewcommand{\listoftodos}{%
5 \begingroup
6 \renewcommand{\flushright}{}
7 \LWR@easytodo@origlistoftodos
8 \endgroup
9 }
```

\todoii

Modified to use \textcolor instead of \color.

```
10 \VerifyCommand[lwarp][easy-todo]{\todoii}{04C63A894C30C706AC60DD6B58FDEDA2}
11
12 \renewcommand{\todoii}[2]{%
13 \ifthenelse{\equal{\@todoobeyfinal}{true}}%
14   {%
15     \ifoptionfinal{\todoenable{false}}{\todoenable{true}}%
16   }%
17   {}%
18 \ifthenelse{\equal{\@todoenable}{true}}%
19   {%
20     \refstepcounter{todos}%
21     \noindent{%
22       \todocolor%
23       \LWR@textcurrentcolor{%
24         \normalfont\scriptsize{\bfseries{\thetodos.#1}}%
25       }%
26     }%
27     \addcontentsline{lod}{todos}{\protect{\thetodos. } \LWR@isolate{#2}}%
28   }%
29   {}%
30 }
```

File 123 **lwarp-ebook.sty**

§ 235 Package **ebook**

(Emulates or patches code by JØRGEN STEENSGAARD.)

ebook (*Pkg*) **ebook** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{ebook}

```
2 \setcounter{secnumdepth}{0}
3 \setcounter{tocdepth}{2}
4
5 \providecommand{\pagefill}[1][0.001mm]{\noindent}
6
7 \providecommand{\ebook}{
8 \setcounter{secnumdepth}{0}
```

```

9 \setcounter{tocdepth}{2}
10 }

```

File 124 **lwarp-econometrics.sty**

§ 236 Package **econometrics**

(Emulates or patches code by ERIK KOLE.)

econometrics (*Pkg*) econometrics is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output:

```

1 \LWR@ProvidesPackagePass{econometrics}% no date specified in the original
2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{econometrics}
6
7 \CustomizeMathJax{\newcommand{\SC}{\mathbb{C}}}
8 \CustomizeMathJax{\newcommand{\SN}{\mathbb{N}}}
9 \CustomizeMathJax{\newcommand{\SQ}{\mathbb{Q}}}
10 \CustomizeMathJax{\newcommand{\SR}{\mathbb{R}}}
11 \CustomizeMathJax{\newcommand{\SZ}{\mathbb{Z}}}
12
13 \CustomizeMathJax{\newcommand{\calA}{\mathcal{A}}}
14 \CustomizeMathJax{\newcommand{\calB}{\mathcal{B}}}
15 \CustomizeMathJax{\newcommand{\calC}{\mathcal{C}}}
16 \CustomizeMathJax{\newcommand{\calD}{\mathcal{D}}}
17 \CustomizeMathJax{\newcommand{\calE}{\mathcal{E}}}
18 \CustomizeMathJax{\newcommand{\calF}{\mathcal{F}}}
19 \CustomizeMathJax{\newcommand{\calG}{\mathcal{G}}}
20 \CustomizeMathJax{\newcommand{\calH}{\mathcal{H}}}
21 \CustomizeMathJax{\newcommand{\calI}{\mathcal{I}}}
22 \CustomizeMathJax{\newcommand{\calJ}{\mathcal{J}}}
23 \CustomizeMathJax{\newcommand{\calK}{\mathcal{K}}}
24 \CustomizeMathJax{\newcommand{\calL}{\mathcal{L}}}
25 \CustomizeMathJax{\newcommand{\calM}{\mathcal{M}}}
26 \CustomizeMathJax{\newcommand{\calN}{\mathcal{N}}}
27 \CustomizeMathJax{\newcommand{\calO}{\mathcal{O}}}
28 \CustomizeMathJax{\newcommand{\calP}{\mathcal{P}}}
29 \CustomizeMathJax{\newcommand{\calQ}{\mathcal{Q}}}
30 \CustomizeMathJax{\newcommand{\calR}{\mathcal{R}}}
31 \CustomizeMathJax{\newcommand{\calS}{\mathcal{S}}}
32 \CustomizeMathJax{\newcommand{\calT}{\mathcal{T}}}
33 \CustomizeMathJax{\newcommand{\calU}{\mathcal{U}}}
34 \CustomizeMathJax{\newcommand{\calV}{\mathcal{V}}}
35 \CustomizeMathJax{\newcommand{\calW}{\mathcal{W}}}
36 \CustomizeMathJax{\newcommand{\calX}{\mathcal{X}}}
37 \CustomizeMathJax{\newcommand{\calY}{\mathcal{Y}}}
38 \CustomizeMathJax{\newcommand{\calZ}{\mathcal{Z}}}
39
40 \LWR@mathjax@addlatin@u@bfit{m}% uppercase Latin, bold italic
41 \LWR@mathjax@addlatin@l@bfit{v}% lowercase Latin, bold italic
42
43 \LWR@mathjax@addgreek@l@bfit{v}{% lowercase Greek bold italic
44 \LWR@mathjax@addgreek@u@bfit*{m}{% uppercase Greek bold italic, capitalized macro names
45

```

```

46 \CustomizeMathJax{\newcommand{\rb}{\mathrm{b}}}
47 \CustomizeMathJax{\newcommand{\rB}{\mathrm{B}}}
48 \CustomizeMathJax{\newcommand{\rC}{\mathrm{C}}}
49 \CustomizeMathJax{\newcommand{\rD}{\mathrm{D}}}
50 \CustomizeMathJax{\newcommand{\rf}{\mathrm{f}}}
51 \CustomizeMathJax{\newcommand{\rF}{\mathrm{F}}}
52 \CustomizeMathJax{\newcommand{\rH}{\mathrm{H}}}
53 \CustomizeMathJax{\newcommand{\rL}{\mathrm{L}}}
54 \CustomizeMathJax{\newcommand{\rN}{\mathrm{N}}}
55 \CustomizeMathJax{\newcommand{\rt}{\mathrm{t}}}
56 \CustomizeMathJax{\newcommand{\rU}{\mathrm{U}}}
57 \CustomizeMathJax{\newcommand{\rGam}{\mathrm{Gam}}}
58 \CustomizeMathJax{\newcommand{\rBeta}{\mathrm{Beta}}}
59
60 \CustomizeMathJax{\newcommand{\Bin}{\mathrm{Bin}}}
61 \CustomizeMathJax{\newcommand{\eu}{\mathrm{e}}}
62 \CustomizeMathJax{\newcommand{\iu}{\mathrm{i}}}
63 \CustomizeMathJax{\newcommand{\LN}{\mathrm{LN}}}
64 \CustomizeMathJax{\newcommand{\IN}{\mathrm{IN}}}
65
66 \CustomizeMathJax{\newcommand{\Poi}{\mathrm{Poi}}}
67
68 \CustomizeMathJax{\newcommand{\ped}[1]{_{} \mathrm{#1}}}
69 \CustomizeMathJax{\newcommand{\ap}[1]{^{} \mathrm{#1}}}
70 \CustomizeMathJax{\renewcommand{\Re}{\mathrm{Re}}{\nolimits}}
71 \CustomizeMathJax{\renewcommand{\Im}{\mathrm{Im}}{\nolimits}}
72
73 \CustomizeMathJax{\newcommand{\deriv}[3][]{%
74   \frac{\mathrm{d}^{\#1}\#2}{\mathrm{d}\, \#3^{\#1}}%
75 }}
76 \CustomizeMathJax{\newcommand{\pderiv}[3][]{%
77   \frac{\partial^{\#1}\#2}{\partial \ #3^{\#1}}%
78 }}
79
80 \CustomizeMathJax{\newcommand{\bias}{\operatorname{bias}}}
81 \CustomizeMathJax{\newcommand{\col}{\operatorname{col}}}
82 \CustomizeMathJax{\newcommand{\corr}{\operatorname{corr}}}
83 \CustomizeMathJax{\newcommand{\cov}{\operatorname{cov}}}
84 \CustomizeMathJax{\newcommand{\dg}{\operatorname{dg}}}
85 \CustomizeMathJax{\newcommand{\diag}{\operatorname{diag}}}
86 \CustomizeMathJax{\newcommand{\E}{\operatorname{E}}}
87 \CustomizeMathJax{\newcommand{\etr}{\operatorname{etr}}}
88 \CustomizeMathJax{\newcommand{\ip}{\mathrm{int}}{\nolimits}}
89 \CustomizeMathJax{\newcommand{\kur}{\operatorname{kur}}}
90 \CustomizeMathJax{\newcommand{\MSE}{\operatorname{MSE}}}
91 \CustomizeMathJax{\newcommand{\MSFE}{\operatorname{MSFE}}}
92 \CustomizeMathJax{\newcommand{\OLS}{\operatorname{OLS}}}
93 \CustomizeMathJax{\newcommand{\plim}{\operatorname{plim}}}
94 \CustomizeMathJax{\newcommand{\resid}{\operatorname{resid}}}
95 \CustomizeMathJax{\newcommand{\rk}{\operatorname{rk}}}
96 \CustomizeMathJax{\newcommand{\SE}{\operatorname{SE}}}
97 \CustomizeMathJax{\newcommand{\sgn}{\operatorname{sgn}}}
98 \CustomizeMathJax{\newcommand{\tr}{\operatorname{tr}}}
99 \CustomizeMathJax{\newcommand{\var}{\operatorname{var}}}
100 \CustomizeMathJax{\renewcommand{\vec}{\operatorname{vec}}}
101 \CustomizeMathJax{\newcommand{\vech}{\operatorname{vech}}}
102
103 \CustomizeMathJax{\newcommand{\distr}{\sim}}
104 \CustomizeMathJax{\newcommand{\adistr}{\stackrel{a}{\distr}}}
105 \CustomizeMathJax{\newcommand{\diff}{\Delta}}

```

```

106 \CustomizeMathJax{\newcommand{\fdiff}{\diff_{\rf}}}
107 \CustomizeMathJax{\newcommand{\bdiff}{\diff_{\rb}}}
108
109 \CustomizeMathJax{\newcommand{\eps}{\epsilon}}
110 \CustomizeMathJax{\newcommand{\epsi}{\varepsilon}}
111
112 \CustomizeMathJax{\newcommand{\longto}{\longrightarrow}}
113 \CustomizeMathJax{\newcommand{\pto}{\stackrel{p}{\longrightarrow}}}
114 \CustomizeMathJax{\newcommand{\dto}{\stackrel{d}{\longrightarrow}}}
115 \CustomizeMathJax{\newcommand{\wto}{\stackrel{w}{\longrightarrow}}}
116
117 \CustomizeMathJax{\newcommand{\Infmat}{\bm\cal I}}
118 \CustomizeMathJax{\newcommand{\Hesmat}{\bm\cal H}}
119 \CustomizeMathJax{\newcommand{\bcdot}{\bullet}}
120
121 \CustomizeMathJax{\newcommand{\vones}{\bm\imath}}
122 \CustomizeMathJax{\newcommand{\vzeros}{\boldsymbol{0}}}
123 \CustomizeMathJax{\newcommand{\mZeros}{\mathbf{0}}}
124
125 \CustomizeMathJax{\newcommand{\e}{\eu}}
126 \CustomizeMathJax{\newcommand{\mply}{\cdot}}
127 \CustomizeMathJax{\newcommand{\rW}{\ensuremath{\mathrm{W}}}}
128 \end{warpMathJax}

```

File 125 **lwarp-ed.sty**

§ 237 Package **ed**

(Emulates or patches code by MICHAEL KOHLHASE.)

ed (*Pkg*) **ed** is patched for use by **lwarp**.

for HTML output: 1 \LWR@ProvidesPackagePass{ed}[2012/01/29]

Bugs:

1. todo list fails with the hide option, as does \edexplanation.
2. \edstubURI is actually \edstuURI.

```

2 \RequirePackage{xcolor}
3
4 \renewenvironment{edstub}[2][The following blue text]
5 {%
6   \def\@test{#1}%
7   \begin{center}%
8     \huge%
9     \textcolor{red}{%
10      #1 is only a provisional stub\\Large
11      the Office document
12      \ifx\ed@stubURI\@empty{#2}\else\LWR@href{\ed@stubURI}{#2}\fi\
13      contains more text\\which will be merged for the final document%
14    }%
15  \end{center}%
16  \BlockClass[color:blue]{edstub}%
17 }
18 \endBlockClass}

```

File 126 **lwarp-ellipsis.sty**

§ 238 Package **ellipsis**

(Emulates or patches code by PETER J. HESLIN.)

ellipsis (*Pkg*) ellipsis is emulated.

```
1 \LWR@ProvidesPackageDrop{ellipsis}[2004/09/28]
2
3 \newcommand{\ellipsisgap}{0.1em}
4
5 \newcommand*{\midwordellipsis}{\,\textellipsis\,}
```

File 127 **lwarp-embrac.sty**

§ 239 Package **embrac**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

embrac (*Pkg*) embrac is patched for HTML and used as-is for print.

for HTML output:

```
1 \LWR@ProvidesPackagePass{embrac}[2021/02/20]
2
3 \ExplSyntaxOn
4 \ExplSyntaxOff
5 \LetLtxMacro\LWR@orig@HTML@emph\LWR@HTML@emph
6 \RenewDocumentCommand{\LWR@HTML@emph}{s m}{\LWR@orig@HTML@emph{#2}}
7
8 \LetLtxMacro\LWR@orig@HTML@textit\LWR@HTML@textit
9 \RenewDocumentCommand{\LWR@HTML@textit}{s m}{\LWR@orig@HTML@textit{#2}}
10
11 \LetLtxMacro\LWR@orig@HTML@textsl\LWR@HTML@textsl
12 \RenewDocumentCommand{\LWR@HTML@textsl}{s m}{\LWR@orig@HTML@textsl{#2}}
13
14 \AtBeginDocument{
15   \LWR@formatted{emph}
16   \LWR@formatted{textit}
17   \LWR@formatted{textsl}
18   \ifdef{\textsi}
19   {
20     \LetLtxMacro\LWR@orig@HTML@textsi\LWR@HTML@textsi
21     \RenewDocumentCommand{\LWR@HTML@textsi}{s m}{%
22       \LWR@orig@HTML@textsi{#2}%
23     }
24     \LWR@formatted{textsi}
25   }{}
26 }
27
28 \newcommand{\LWR@HTML@EmbracOff}{}
```

```

29 \LWR@formatted{EmbracOff}
30
31 \newcommand{\LWR@HTML@EmbracOn}{}
32 \LWR@formatted{EmbracOn}

```

File 128 **lwarp-emptypage.sty**

§ 240 Package **emptypage**

emptypage (*Pkg*) emptypage is ignored.

for HTML output: Discard all options for lwarp-emptypage:

```
1 \LWR@ProvidesPackageDrop{emptypage}[2010/05/30]
```

File 129 **lwarp-endfloat.sty**

§ 241 Package **endfloat**

endfloat (*Pkg*) endfloat is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{endfloat}[2019/04/15]

```

2 \newcommand\figureplace{}
3 \newcommand\tableplace{}
4 \newcommand\floatplace[1]{}
5 \newcounter{posttable}
6 \newcounter{postfigure}
7 \newcommand*\theposttbl{}
8 \newcommand*\thepostfig{}
9 \newcommand{\AtBeginFigures}[1]{}
10 \newcommand{\AtBeginTables}[1]{}
11 \newcommand{\AtBeginDelayedFloats}[1]{}
12 \newcommand*\processdelayedfloats{}
13 \newcommand*\efloatseparator{}
14 \def\efloattype{}
15 \providecommand\efloatheading[1]{}
16 \providecommand\efloatpreamble{}
17 \providecommand\efloatpostamble{}
18 \NewDocumentCommand{\addtodelayedfloat}{s m m}{}
19 \providecommand{\efloatbegin}{}
20 \providecommand{\efloatend}{}
21 \providecommand{\efloatbeginlist}{}
22 \providecommand{\efloatendlist}{}

```

File 130 **lwarp-endheads.sty**

§ 242 Package **endheads**

endheads (*Pkg*) endheads is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{endheads}[2017/04/06]

```

2 \newcommand{\changesinglepageabbrev}[1]{}
3 \newcommand{\changemultiplepageabbrev}[1]{}
4 \newcommand{\changenotesname}[1]{}
5 \newcommand{\changenotesheader}[1]{}
6 \newcommand{\changenotescontentsname}[1]{}
7 \newcommand{\changechapternotesline}[1]{}
8 \newcommand{\checknoteheaders}{}
9 \newif\ifnotesincontentson \notesincontentsonfalse
10 \newcommand{\notesincontents}{\notesincontentsontrue}
11 \newif\ifendnoteheaderson \endnoteheadersonfalse
12 \newcommand{\setupendnoteheaders}{%
13   \endnoteheadersontrue%
14 }
15 \newif\iftitleinnotes \titleinnotestrue
16 \newcommand{\styleforchapternotebegin}{}
17 \newcommand{\styleforchapternoteend}{}
18 \newcommand{\setstyleforchapternotebegin}[1]{%
19   \renewcommand{\styleforchapternotebegin}{#1}%
20 }
21 \newcommand{\setstyleforchapternoteend}[1]{%
22   \renewcommand{\styleforchapternoteend}{#1}%
23 }
24 \newcommand{\resetendnotes}{}
25 \newif\ifnotesbychapteron \notesbychapteronfalse
26 \newcommand{\notesbychapter}{\notesbychapterontrue}

```

File 131 **lwarp-endnotes.sty**

§ 243 Package **endnotes**

(Emulates or patches code by JOHN LAVAGNINO.)

endnotes (*Pkg*) Patched for HTML.

If using `cleveref`, `endnotes` displays as a link to an endnote, rather than a section. A comma-separated list of end notes does not work with `\cref` and related. (In print mode, such as `list simply` displays a link to the section.)

[table of contents](#) To place the endnotes in the TOC, use:

```

\usepackage{endnotes}
\appto\enoteheading{\addcontentsline{toc}{section}{\notesname}}
\renewcommand*{\notesname}{Endnotes} % optional


```

[HTML page](#) To additionally have the endnotes on their own HTML page, if `FileDepth` allows:

```

\ForceHTMLPage
\theendnotes

```

 [\endnotemark numbering](#) If using `MATHJAX`, see section 8.5.4 regarding the use of `\endnotemark` and `\endnotetext`.

for HTML output: 1 \LWR@ProvidesPackagePass{endnotes}[2020-01-02]

```

2 \def\enoteformat{%
3 % \rightskip\z@ \leftskip\z@ \parindent=1.8em

```

```

4 \leavevmode
5 % \llap{
6 \makeenmark
7 % }
8 }

9 \def\LWR@HTML@makeenmark{\hbox{\LWR@htmlspan{sup}\normalfont\theenmark}}
10 \LWR@formatted{@makeenmark}
11
12 \def\makeenmark{@makeenmark}

```

To nullify the endnotes:

```

13 \apptocmd{\LWR>nullifyfootnotes}{%
14   \renewcommand{\endnote}[2][{}]{%
15     \renewcommand{\endnotemark}[1]{%
16   }}{}

```

Modified for updated L^AT_EX labels.

```

17 \def\theendnotes{\immediate\closeout{@enotes \global{@enotesopenfalse
18   \begingroup
19     \makeatletter
20     %
21     % The machinery with \@ResetGT and > here ensures that
22     % \@doanote works properly even if > is an active character
23     % at the point where \theendnotes is invoked. > needs to have
24     % catcode 12 when the arguments of \@doanote are scanned, so
25     % that the > in the string "macro:->" is matched. The actual
26     % footnote text is not an argument to \@doanote, but just
27     % follows it in the .ent file; so \@ResetGT can reset the
28     % category code for > that should be used when processing
29     % that text. That resetting takes place within a
30     % \begingroup-\endgroup block set up by \@doanote and
31     % \@endanote, so the catcode for > is back to 12 for the
32     % next note.
33     %
34     \edef@tempa{\string >}%
35     \ifnum\catcode@tempa=12%
36       \let@ResetGT\relax
37     \else
38       \edef@ResetGT{\noexpand\catcode@tempa=\the\catcode@tempa}%
39       \@makeother\>%
40     \fi
41     \def@doanote##1##2>{\def@theenmark{##1}\par\begingroup
42       \@ResetGT

43       \def@currentcounter{endnote}%

44       \edef@currentlabel{\csname p@endnote\endcsname@theenmark}%
45       \enoteformat}
46     \def@endanote{\par\endgroup}%
47     \noteheading
48     \notesize
49     \InputIfFileExists{\jobname.ent}{%
50       \PackageWarning{endnotes}{No endnotes found (file \jobname.ent does not exist)}\MessageBreak}
51     }%
52   \endgroup}

```

For MATHJAX:

```

53 \begin{warpMathJax}
54 \def\endnotename{endnote}
55 \appto\LWR@syncnotenumbers{\LWR@synconenotenummer{LWRendnote}{\theendnote}}
56 \appto\LWR@syncnotenames{\LWR@synconenotename{LWRendnote}{\endnotename}}
57 \CustomizeMathJax{\def\LWRendnote{1}}
58 \CustomizeMathJax{\newcommand{\endnote}[2][\LWRendnote]{{}^{\mathrm{#1}}}}
59 \CustomizeMathJax{\newcommand{\endnotemark}[1][\LWRendnote]{{}^{\mathrm{#1}}}}
60 \end{warpMathJax}

```

File 132 **lwarp-engt1c.sty**

§ 244 Package **engt1c**

(Emulates or patches code by CLAUDIO FIANDRINO.)

engt1c (Pkg) engt1c is patched for use by lwarp. MATHJAX is emulated.



For MATHJAX, \sight, \signf, \signn, and \signz do not force letter case as they do in SVG math.

for HTML output:

```

1 \LWR@ProvidesPackagePass{engt1c}[2012/12/18]

2 \newcommand{\LWR@HTML@fines}{%
3   \begin{BlockClass}[text-align:right]{exerend}%
4   \HTMLunicode{220E}%
5   \end{BlockClass}%
6 }
7 \LWR@formatted{fines}
8
9 \newcommand{\LWR@HTML@exerend}{\fines}
10 \LWR@formatted{exerend}
11
12 \begin{warpMathJax}
13 \LWR@infoprocessingmathjax{engt1c}
14
15 \CustomizeMathJax{\newcommand{\unit}[1]{\,\mathrm{#1}}}
16 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\unicode{x00B5}}}}
17 %
18 \CustomizeMathJax{\newcommand{\ho}{\unit{h}}}
19 \CustomizeMathJax{\newcommand{\s}{\unit{s}}}
20 \CustomizeMathJax{\newcommand{\ms}{\unit{ms}}}
21 \CustomizeMathJax{\newcommand{\us}{\unit{\micro s}}}
22 \CustomizeMathJax{\newcommand{\ns}{\unit{ns}}}
23 \CustomizeMathJax{\newcommand{\ps}{\unit{ps}}}
24 %
25 \CustomizeMathJax{\newcommand{\um}{\unit{\micro m}}}
26 \CustomizeMathJax{\newcommand{\mm}{\unit{mm}}}
27 \CustomizeMathJax{\newcommand{\cm}{\unit{cm}}}
28 \CustomizeMathJax{\newcommand{\dm}{\unit{dm}}}
29 \CustomizeMathJax{\newcommand{\m}{\unit{m}}}
30 \CustomizeMathJax{\newcommand{\km}{\unit{km}}}
31 %
32 \CustomizeMathJax{\newcommand{\MA}{\unit{MA}}}
33 \CustomizeMathJax{\newcommand{\kA}{\unit{kA}}}
34 \CustomizeMathJax{\newcommand{\A}{\unit{A}}}

```

```
35 \CustomizeMathJax{\newcommand{\mA}{\unit{mA}}}
36 \CustomizeMathJax{\newcommand{\uA}{\unit{\micro A}}}
37 \CustomizeMathJax{\newcommand{\nA}{\unit{nA}}}
38 %
39 \CustomizeMathJax{\newcommand{\MV}{\unit{MV}}}
40 \CustomizeMathJax{\newcommand{\kV}{\unit{kV }}}}
41 \CustomizeMathJax{\newcommand{\V}{\unit{V}}}
42 \CustomizeMathJax{\newcommand{\mV}{\unit{mV}}}
43 \CustomizeMathJax{\newcommand{\uV}{\unit{\micro V}}}
44 %
45 \CustomizeMathJax{\newcommand{\mohm}{\unit{m\Omega}}}
46 \CustomizeMathJax{\newcommand{\ohm}{\unit{\Omega}}}
47 \CustomizeMathJax{\newcommand{\kohm}{\unit{k\Omega}}}
48 \CustomizeMathJax{\newcommand{\Mohm}{\unit{M\Omega}}}
49 %
50 \CustomizeMathJax{\newcommand{\pSi}{\unit{pS}}}
51 \CustomizeMathJax{\newcommand{\nSi}{\unit{nS}}}
52 \CustomizeMathJax{\newcommand{\uSi}{\unit{\micro S}}}
53 \CustomizeMathJax{\newcommand{\mSi}{\unit{mS}}}
54 \CustomizeMathJax{\newcommand{\Si}{\unit{S}}}
55 \CustomizeMathJax{\newcommand{\kSi}{\unit{kS}}}
56 \CustomizeMathJax{\newcommand{\MSi}{\unit{MS}}}
57 %
58 \CustomizeMathJax{\newcommand{\fFa}{\unit{fF}}}
59 \CustomizeMathJax{\newcommand{\pFa}{\unit{pF}}}
60 \CustomizeMathJax{\newcommand{\nFa}{\unit{nF}}}
61 \CustomizeMathJax{\newcommand{\uFa}{\unit{\micro F}}}
62 \CustomizeMathJax{\newcommand{\mFa}{\unit{mF}}}
63 \CustomizeMathJax{\newcommand{\Fa}{\unit{F}}}
64 %
65 \CustomizeMathJax{\newcommand{\fHe}{\unit{fH}}}
66 \CustomizeMathJax{\newcommand{\pHe}{\unit{pH}}}
67 \CustomizeMathJax{\newcommand{\nHe}{\unit{nH}}}
68 \CustomizeMathJax{\newcommand{\uHe}{\unit{\micro H}}}
69 \CustomizeMathJax{\newcommand{\mHe}{\unit{mH}}}
70 \CustomizeMathJax{\newcommand{\He}{\unit{H}}}
71 %
72 \CustomizeMathJax{\newcommand{\dB}{\unit{dB}}}
73 \CustomizeMathJax{\newcommand{\dBm}{\unit{dBm}}}
74 %
75 \CustomizeMathJax{\newcommand{\uW}{\unit{\micro W}}}
76 \CustomizeMathJax{\newcommand{\mW}{\unit{mW}}}
77 \CustomizeMathJax{\newcommand{\W}{\unit{W}}}
78 \CustomizeMathJax{\newcommand{\kW}{\unit{kW}}}
79 \CustomizeMathJax{\newcommand{\MW}{\unit{MW}}}
80 %
81 \CustomizeMathJax{\newcommand{\Hz}{\unit{Hz}}}
82 \CustomizeMathJax{\newcommand{\kHz}{\unit{kHz}}}
83 \CustomizeMathJax{\newcommand{\MHz}{\unit{MHz}}}
84 \CustomizeMathJax{\newcommand{\GHz}{\unit{GHz}}}
85 \CustomizeMathJax{\newcommand{\THz}{\unit{THz}}}
86 %
87 \CustomizeMathJax{\newcommand{\bit}{\unit{bit}}}
88 \CustomizeMathJax{\newcommand{\kbit}{\unit{Kib}}}
89 \CustomizeMathJax{\newcommand{\Mbit}{\unit{Mib}}}
90 \CustomizeMathJax{\newcommand{\Byte}{\unit{B}}}
91 \CustomizeMathJax{\newcommand{\kByte}{\unit{KiB}}}
92 \CustomizeMathJax{\newcommand{\MByte}{\unit{Mib}}}
93 \CustomizeMathJax{\newcommand{\GByte}{\unit{GiB}}}
94 \CustomizeMathJax{\newcommand{\TByte}{\unit{TiB}}}
```

```

95 \CustomizeMathJax{\newcommand{\bits}{\unit{bit/s}}}
96 \CustomizeMathJax{\newcommand{\kbits}{\unit{Kib/s}}}
97 \CustomizeMathJax{\newcommand{\Mbits}{\unit{Mib/s}}}
98 \CustomizeMathJax{\newcommand{\Bytes}{\unit{B/s}}}
99 \CustomizeMathJax{\newcommand{\kBytes}{\unit{KiB/s}}}
100 \CustomizeMathJax{\newcommand{\MBytes}{\unit{MiB/s}}}
101 \CustomizeMathJax{\newcommand{\GBytes}{\unit{GiB/s}}}
102 \CustomizeMathJax{\newcommand{\TBytes}{\unit{TiB/s}}}
103 \CustomizeMathJax{\newcommand{\chips}{\unit{chip/s}}}
104 \CustomizeMathJax{\newcommand{\kchips}{\unit{Ki\mkern2mu chip/s}}}
105 \CustomizeMathJax{\newcommand{\Mchips}{\unit{Mi\mkern2mu chip/s}}}
106 \CustomizeMathJax{\newcommand{\chipsunit}{\unit{chip/bit}}}
107 %
108 \CustomizeMathJax{\newcommand{\frecciadex}[1][0.5]{%
109   \hspace{.25cm}\Longrightarrow \hspace{.25cm}}%
110 }
111 \CustomizeMathJax{\newcommand{\varianzarumore}{\frac{N_0}{2}}}
112 %
113 \CustomizeMathJax{\newcommand{\etsymbolbracearg}[2]{%
114   #1\mathopen{}}\left\lbrace#2\right\rbrace\mathclose{}}%
115 }
116 \CustomizeMathJax{\newcommand{\fourier}[1]{\etsymbolbracearg{\mathcal{F}}{#1}}}
117 \CustomizeMathJax{\newcommand{\invfourier}[1]{\etsymbolbracearg{\mathcal{F}}^{-1}{#1}}}
118 \CustomizeMathJax{\newcommand{\partereale}[1]{\etsymbolbracearg{\textbf{Re}}{#1}}}
119 \CustomizeMathJax{\newcommand{\parteimm}[1]{\etsymbolbracearg{\textbf{Im}}{#1}}}
120 \CustomizeMathJax{\newcommand{\Info}[1]{I\left(#1\right)}}
121 \CustomizeMathJax{\newcommand{\versore}[1]{\hat{#1}}}
122 \CustomizeMathJax{\newcommand{\vettore}[1]{\overrightarrow{#1}}}
123 \CustomizeMathJax{\newcommand{\coseno}[1]{\cos\left(2\pi#1t\right)}}
124 \CustomizeMathJax{\newcommand{\seno}[1]{\sin\left(2\pi#1t\right)}}
125 \CustomizeMathJax{\newcommand{\venergia}[1]{\mathcal{E}_{#1}}}
126 \CustomizeMathJax{\newcommand{\moduloexp}[2]{\left\vert\left\vert#1\right\right\vert^{\#2}}}
127 \CustomizeMathJax{\newcommand{\modulo}[1]{\left\vert\left\vert#1\right\right\vert}}
128 \CustomizeMathJax{\newcommand{\indB}[1]{%
129   \mathopen{}}\left.#1\right\vert\left\vert_{\mathrm{dB}}\right\mathclose{}}%
130 }
131 \CustomizeMathJax{\newcommand{\for}[2]{\left.#1\right\vert\left\vert_{\#2}}}
132 \CustomizeMathJax{\newcommand{\massimo}[1]{\etsymbolbracearg{\max}{#1}}}
133 \CustomizeMathJax{\newcommand{\minimo}[1]{\etsymbolbracearg{\min}{#1}}}
134 \CustomizeMathJax{\newcommand{\valc}{3\cdot 10^8}}
135 \CustomizeMathJax{\newcommand{\loga}[2]{\log_{#1}\#2}}
136 \CustomizeMathJax{\newcommand{\analitic}[1]{\mathring{#1}}}
137 \CustomizeMathJax{\newcommand{\diff}{\mathop{\mathopen{\mathrm{d}}}}}
138 \CustomizeMathJax{\newcommand{\intinf}[1]{\int_{-\infty}^{+\infty}{#1}}}
139 \CustomizeMathJax{\newcommand{\deltain}[1]{\delta\left(#1\right)}}
140 \CustomizeMathJax{\newcommand{\iu}{\mathrm{j}}}
141 \CustomizeMathJax{\newcommand{\ex}[1]{\mathrm{e}^{\#1}}}
142 %
143 \CustomizeMathJax{\newcommand{\gammatens}{\{\}^{\mathrm{V}}\Gamma}}
144 \CustomizeMathJax{\newcommand{\gammacor}{\{\}^{\mathrm{I}}\Gamma}}
145 \CustomizeMathJax{\newcommand{\gammatensin}[1]{\{\}^{\mathrm{V}}\Gamma_{\mathrm{#1}}}}
146 \CustomizeMathJax{\newcommand{\gammacorin}[1]{\{\}^{\mathrm{I}}\Gamma_{\mathrm{#1}}}}
147 \CustomizeMathJax{\newcommand{\gammamain}[1]{\Gamma_{\mathrm{#1}}}}
148 %
149 \CustomizeMathJax{\newcommand{\lbvt}{\lambda_0}}
150 \CustomizeMathJax{\newcommand{\lbg}{\lambda_g}}
151 \CustomizeMathJax{\newcommand{\lbgvt}{\lambda_{g_0}}}
152 %
153 \CustomizeMathJax{\newcommand{\potin}[1]{P_{\mathrm{#1}}}}
154 \CustomizeMathJax{\newcommand{\potdisp}[1][P_{\mathrm{disp}}^{\#1}}}

```

```

155 \CustomizeMathJax{\newcommand{\potDC}[1][P_{\mathrm{DC}}^{\#1}}
156 \CustomizeMathJax{\newcommand{\potCC}[1][P_{\mathrm{CC}}^{\#1}}
157 \CustomizeMathJax{\newcommand{\potirr}[1][P_{\mathrm{irr}}^{\#1}}
158 \CustomizeMathJax{\newcommand{\potdiss}[1][P_{\mathrm{diss}}^{\#1}}
159 \CustomizeMathJax{\newcommand{\potinc}[1][P_{\mathrm{inc}}^{\#1}}
160 %
161 \CustomizeMathJax{\newcommand{\z}[1]{Z_{\mathrm{\#1}}}
162 \CustomizeMathJax{\newcommand{\znorm}[1]{z_{\mathrm{\#1}}}
163 \CustomizeMathJax{\newcommand{\y}[1]{Y_{\mathrm{\#1}}}
164 \CustomizeMathJax{\newcommand{\ynorm}[1]{y_{\mathrm{\#1}}}
165 \CustomizeMathJax{\newcommand{\zinf}[1][Z_{\infty\#1}}
166 \CustomizeMathJax{\newcommand{\zinfn}[1]{zinf[\#1]}
167 \CustomizeMathJax{\newcommand{\yinf}[1][Y_{\infty\#1}}
168 \CustomizeMathJax{\newcommand{\yinfn}[1]{yinf[\#1]}
169 \CustomizeMathJax{\newcommand{\zvt}{Z_0}}
170 \CustomizeMathJax{\newcommand{\yvt}{Y_0}}
171 %
172 \CustomizeMathJax{\newcommand{\campoe}{\underline{\mathcal{E}}(\underline{r},t)}}
173 \CustomizeMathJax{\newcommand{\campoe fas}{\underline{E}(\underline{r})}}
174 \CustomizeMathJax{\newcommand{\campoh}{\underline{\mathcal{H}}(\underline{r},t)}}
175 \CustomizeMathJax{\newcommand{\campoh fas}{\underline{H}(\underline{r})}}
176 %
177 \CustomizeMathJax{\newcommand{\sigt}[1][\#1(t)}
178 \CustomizeMathJax{\newcommand{\signf}[1][\#1(f)}
179 \CustomizeMathJax{\newcommand{\signn}[1][\#1(n)}
180 \CustomizeMathJax{\newcommand{\signz}[1][\#1(z)}
181 %
182 \CustomizeMathJax{\newcommand{\prob}[1]{\mathcal{P}\left(\#1\right)}}
183 \CustomizeMathJax{\newcommand{\valatt}[1]{\mathbb{E}\left[\#1\right]}}
184 \CustomizeMathJax{\newcommand{\var}[1]{\mathrm{Var}\left[\#1\right]}}
185 \CustomizeMathJax{\newcommand{\comma}{\ , \ , \ ,}}
186 \CustomizeMathJax{\newcommand{\dato}{\ , \ , \ ,}}
187 %
188 \CustomizeMathJax{\let\bfRe\partereale}
189 \CustomizeMathJax{\let\bfIm\parteimm}
190 \CustomizeMathJax{\let\noisevar\varianzarumore}
191 % \CustomizeMathJax{\let\exerend\finees}
192 \CustomizeMathJax{\let\Spimplies\frecciadex}
193 \CustomizeMathJax{\let\Downimplies\frecciadown}
194 \CustomizeMathJax{\let\unitvec\versore}
195 \CustomizeMathJax{\let\vector\vettore}
196 \CustomizeMathJax{\let\cosine\coseno}
197 \CustomizeMathJax{\let\sine\seno}
198 \CustomizeMathJax{\let\energy\energia}
199 \CustomizeMathJax{\let\Abs\modulo}
200 \CustomizeMathJax{\let\AbsPow\moduloexp}
201 \CustomizeMathJax{\let\Max\massimo}
202 \CustomizeMathJax{\let\Min\minimo}
203 \CustomizeMathJax{\let\clight\valc}
204 \CustomizeMathJax{\let\Log\loga}
205 \CustomizeMathJax{\let\analytic\analitic}
206 \CustomizeMathJax{\let\infint\intinf}
207 \CustomizeMathJax{\let\deltaimp\deltaain}
208 \CustomizeMathJax{\let\Vgamma\gammatens}
209 \CustomizeMathJax{\let\Cgamma\gammacorr}
210 \CustomizeMathJax{\let\Vgammain\gammatensin}
211 \CustomizeMathJax{\let\Cgammain\gammacorrin}
212 \CustomizeMathJax{\let\Kgamma\gammak}
213 \CustomizeMathJax{\let\powerin\potin}
214 \CustomizeMathJax{\let\availpow\potdisp}

```



```

215 \CustomizeMathJax{\let\irrpow\potirr}
216 \CustomizeMathJax{\let\disppow\potdiss}
217 \CustomizeMathJax{\let\incpow\potinc}
218 \CustomizeMathJax{\let\potlim\potCC}
219 \CustomizeMathJax{\let\potDC\potCC}
220 \CustomizeMathJax{\let\Efield\campoe}
221 \CustomizeMathJax{\let\Hfield\campoh}
222 \CustomizeMathJax{\let\phasorEfield\campoe}
223 \CustomizeMathJax{\let\phasorHfield\campoh}
224 \CustomizeMathJax{\let\given\dato}
225 \CustomizeMathJax{\let\expval\valatt}
226 \CustomizeMathJax{\let\rmexp\ex}
227 \end{warpMathJax}

```

File 133 **lwarp-enotez.sty**

§ 245 Package **enotez**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

enotez (*Pkg*) enotez is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{enotez}[2020/12/13]

Hyperref is emulated by lwarp, so it is forced on for enotez:

```

2 \ExplSyntaxOn
3 \AtBeginDocument{
4   \bool_set_true:N \l__enotez_hyperref_bool
5   \bool_set_true:N \l__enotez_hyperfootnotes_bool
6 }

```

Do not move or \hbox the \hypertarget:

```

7 % typeset the actual mark:
8 % #1: id
9 % #2: mark
10 \VerifyCommand[lwarp][enotez]{\enotez_write_mark:nn}{61DA2A7B03A7D9F55E3E2E2D2498FB32}
11
12 \cs_gset_protected:Npn \enotez_write_mark:nn #1#2
13 {
14   \bool_if:NTF \l__enotez_hyperfootnotes_bool
15     {
16       \enotezwritemark { \hyperlink {enz.#1} { \enmarkstyle #2 } }
17       \bool_if:NT \l__enotez_hyperbackref_bool
18         {
19 %         \box_move_up:nn {1em} {
20 %           \hbox:n {
21 %             \hypertarget {enz.#1.backref} { }
22 %           }
23 %         }
24       }
25     }
26   { \enotezwritemark { \enmarkstyle #2 } }
27 }
28 \cs_generate_variant:Nn \enotez_write_mark:nn {x}

```

Do not move or \hbox the \hypertarget:

```

29 \VerifyCommand[lwarp][enotez]{\enotez_write_list_number:n}{9793BEC2766E17864C6391209599DD84}
30
31 \cs_gset_protected:Npn \enotez_write_list_number:n #1
32 {
33   \bool_if:NT \l__enotez_hyperfootnotes_bool
34   {
35     \box_move_up:nn {1em} { \hbox:n {
36       \hypertarget {enz.#1} { }
37     } }
38   }
39   \tl_use:N \l__enotez_list_number_format_tl
40   \tl_if_eq:nxTF {a} { \prop_item:Nn \g__enotez_endnote_man_prop {#1} }
41   {
42     \bool_if:nTF
43     { \l__enotez_hyperfootnotes_bool && \l__enotez_hyperbackref_bool }
44     {
45       \exp_args:Nnx
46       \hyperlink {enz.#1.backref}
47       { \exp_not:V \l__enotez_endnote_mark_tl }
48     }
49     { \prop_item:Nn \g__enotez_endnote_mark_prop {#1} }
50   }
51   {
52     \bool_if:nTF
53     { \l__enotez_hyperfootnotes_bool && \l__enotez_hyperbackref_bool }
54     {
55       \exp_args:Nnx
56       \hyperlink {enz.#1.backref}
57       { \exp_not:V \l__enotez_endnote_mark_tl }
58     }
59     { \tl_use:N \l__enotez_endnote_mark_tl }
60   }
61 }

```

Do not move the label to the left:

```

62 \DeclareTemplateCode {enotez-list} {paragraph} {1}
63 {
64   heading      = \enotez_list_heading:n      ,
65   format       = \l__enotez_list_format_tl   ,
66   number       = \enotez_list_number:n      ,
67   number-format = \l__enotez_list_number_format_tl ,
68   notes-sep    = \l__enotez_list_notes_sep_dim
69 }
70 {
71   \AssignTemplateKeys
72   \enotez_set_totoc:
73   \enotez_list_heading:n { \l__enotez_list_name_tl }
74   \enotez_list_preamble:
75   \enotez_build_print_list:nnnn {#1}
76   {}
77   {
78     \par\noindent
79     \group_begin:
80     \tl_use:N \l__enotez_list_format_tl
81     \hbox_overlap_left:n
82     {
83       \enotez_list_number:n

```

```

84         { \enotez_write_list_number:n {##1} }
85         \tl_use:N \c_space_tl
86 %     }
87     % \cs_set:cpn {@currentlabel}
88     % { \p@endnote \l__enotez_endnote_mark_tl }
89     \tl_use:N \g__enotez_endnote_text_tl
90     \par
91     \dim_compare:nT { \l__enotez_list_notes_sep_dim != 0pt }
92     { \addvspace { \l__enotez_list_notes_sep_dim } }
93     \group_end:
94 }
95 {}
96 \enotez_list_postamble:
97 }
98
99 \ExplSyntaxOff

```

For MATHJAX:

```

100 \begin{warpMathJax}
101 \def\endnotename{endnote}
102 \appto\LWR@syncnotenumbers{\LWR@synconenotenummer{LWRendnote}{\theendnote}}
103 \appto\LWR@syncnotenames{\LWR@synconenotename{LWRendnote}{\endnotename}}
104 \CustomizeMathJax{\def\LWRendnote{1}}
105 \CustomizeMathJax{\newcommand{\endnote}[2][\LWRendnote]{{}^{\mathrm{#1}}}}
106 \CustomizeMathJax{\newcommand{\endnotemark}[1][\LWRendnote]{{}^{\mathrm{#1}}}}
107 \end{warpMathJax}

```

File 134 **lwarp-enumerate.sty**

§ 246 Package **enumerate**

`enumerate (Pkg)` `enumerate` is supported with no changes.

This package is only required because it was used in the past to drop and then emulate the package. It cannot be removed because an older version which dropped the package may still remain, for example in a local vs. distribution directory, but it is now supported directly by `lwarp` and thus must no longer be dropped.

for HTML output: 1 \LWR@ProvidesPackagePass{enumerate}[2015/07/23]

File 135 **lwarp-enumitem.sty**

§ 247 Package **enumitem**

(Emulates or patches code by JAVIER BEZOS.)

`enumitem (Pkg)` `enumitem` is supported with minor adjustments.

for HTML output: 1 \LWR@ProvidesPackagePass{enumitem}[2018/11/30]

```

\newlist {<name>} {<type>} {<maxdepth>}
\renewlist {<name>} {<type>} {<maxdepth>}

```

For `enumitem` lists, new lists must have the start and end actions assigned to the new environment. Renewed lists already have their actions assigned, and thus need no changes.

```

2 \let\LWR@enumitem@orignewlist\newlist
3
4 \renewcommand*\newlist}[3]{%
5 \LWR@enumitem@orignewlist{#1}{#2}{#3}%
6 \AtBeginEnvironment{#1}{\@nameuse{LWR@#2start}}%
7 \AtEndEnvironment{#1}{\@nameuse{LWR@#2end}}%
8 }
9
10 \def\DrawEnumitemLabel{}

```

File 136 **lwarp-epigraph.sty**

§ 248 Package **epigraph**

(Emulates or patches code by PETER WILSON.)

`epigraph` (*Pkg*) `epigraph` is emulated for HTML, and used as-is for print output.

Use CSS to format epigraphs.

for HTML output:

```

1 \LWR@ProvidesPackagePass{epigraph}[2020/01/02]
2
3 \DeclareDocumentCommand{\LWR@HTML@qitem}{m m}
4 {%
5   \begin{BlockClass}{qitem}%
6   #1%
7   \LWR@stoppars%
8   \ifbool{FormatWP}%
9     {\begin{BlockClass}[border-top:1px solid gray]{epigraphsource}}%
10    {\begin{BlockClass}{epigraphsource}}%
11   #2%
12   \end{BlockClass}%
13 }
14 \LWR@formatted{qitem}

```

`epigraph`: Added ARIA role.

```

15 \DeclareDocumentCommand{\LWR@HTML@epigraph}{m m}
16 {%
17   \begin{LWR@BlockClassWP}{\LWR@print@mbbox{text-align:right}}{(note){epigraph}}%
18   \qitem{#1}{#2}%
19   \end{LWR@BlockClassWP}%
20 }
21 \LWR@formatted{epigraph}
22
23 \DeclareDocumentEnvironment{LWR@HTML@epigraphs}{}
24 { \LWR@BlockClassWP{\LWR@print@mbbox{text-align:right}}{(note){epigraph}}%
25   \endLWR@BlockClassWP}
26 \LWR@formattedenv{epigraphs}

```

The following cannot be used in print mode while generating HTML:

```

27 \renewcommand{\epigraphhead}[2][0]{#2}
28 \renewcommand{\dropchapter}[1]{ }
29 \renewcommand*\undodrop{}

```

File 137 **lwarp-epsf.sty**

§ 249 Package **epsf**

(Emulates or patches code by TOM ROKICKI.)

epsf (*Pkg*) **epsf** is patched for use by **lwarp**.

for HTML output:

```

1 \LWR@ProvidesPackagePass{epsf}% not date given


2 \xpretocmd{\epsfsetgraph}
3   {\begin{lateximage}}
4   {}
5   {\LWR@patcherror{lwarp-epsf}{epsfsetgraph-begin}}
6
7 \xapptocmd{\epsfsetgraph}
8   {\end{lateximage}}
9   {}
10  {\LWR@patcherror{lwarp-epsf}{epsfsetgraph-end}}

```

File 138 **lwarp-epsfig.sty**

§ 250 Package **epsfig**

epsfig (*Pkg*) **epsfig** is emulated for use by **lwarp**.

 Only the L^AT_EX₂ε syntax is emulated.

for HTML output:

```

1 \LWR@ProvidesPackagePass{epsfig}[2017/06/25]

```

A few additional keys to capture the filename:

```

2 \RequirePackage{graphics}
3
4 \define@key{igraph}{file}{%
5   \xdef\LWR@epsfig@filename{#1}%
6 }
7
8 \define@key{igraph}{figure}{%
9   \xdef\LWR@epsfig@filename{#1}%
10 }
11
12 \define@key{igraph}{prolog}{}
13
14 \define@key{igraph}{silent}[]{}

```

The captured filename is used as the argument to `\includegraphics`:

```

15 \newcommand{\LWR@HTML@epsfig}[1]{\includegraphics[#1]{\LWR@epsfig@filename}}
16 \LWR@formatted{epsfig}

```

```

17
18 \newcommand{\LWR@HTML@psfig}[1]{\includegraphics[#1]{\LWR@psfig@filename}}
19 \LWR@formatted{psfig}

```

File 139 **lwarp-epstopdf.sty**

§ 251 Package **epstopdf**

epstopdf (*Pkg*) Previous versions of lwarp had a nullfied version, but now epstopdf-base is supported. lwarp-epstopdf becomes a placeholder to overwrite previous versions.

See package epstopdf-base for details.

for HTML output: 1 \LWR@ProvidesPackagePass{epstopdf}[2020-01-24]

File 140 **lwarp-epstopdf-base.sty**

§ 252 Package **epstopdf-base**

epstopdf-base (*Pkg*)

 **convert to .svg** Images with an .eps extension will be converted to .pdf. The HTML output uses the .svg version, so use

```
Enter => lwarpmk pdftosvg <listofPDFfiles>
```

to generate .svg versions.

for HTML output: 1 \LWR@ProvidesPackagePass{epstopdf-base}[2020-01-24]

Redefine to remember the image filename, replacing .pdf with .svg. Use the epstopdf print version inside a lateximage.

```

2 \newcommand*\LWR@HTML@ETE@OrgGin@setfile}[3]{%
3   \edef\LWR@tempone{#3}%
4   \StrSubstitute{\LWR@tempone}{.pdf}{.svg}[\LWR@tempone]%
5   \StrSubstitute{\LWR@tempone}{.PDF}{.SVG}[\LWR@tempone]%
6   \xdef\LWR@parsedfilename{\LWR@tempone}%
7 }
8
9 \LWR@formatted{ETE@OrgGin@setfile}

```

\includegraphics in HTML mode redefines \Gin@setfile to be \LWR@HTML@Gin@setfile, which is now redirected to epstopdf's version:

```

10 \renewcommand*\LWR@HTML@Gin@setfile}[3]{%
11   \ETE@Gin@setfile{#1}{#2}{#3}%
12 }

```

Allow .eps images to be found if a suffix is not provided:

```

13 \AtBeginDocument{
14 \DeclareGraphicsExtensions{%
15   .eps, .EPS, .svg, .SVG, .gif, .GIF, .png, .PNG, .jpg, .JPG, .jpeg, .JPEG%

```

```

16 }
17 \DeclareGraphicsRule{.svg}{svg}{.svg}{}
18 \DeclareGraphicsRule{.SVG}{svg}{.SVG}{}
19 }

```

Likewise when inside a lateximage:

```

20 \appto\LWR@restoreorigformatting%
21 \DeclareGraphicsExtensions%
22   .eps, .EPS, .pdf, .PDF, .gif, .GIF, .png, .PNG, .jpg, .JPG, .jpeg, .JPEG%
23 }%
24 }

```

File 141 **lwarp-eqlist.sty**

§ 253 Package **eqlist**

eqlist (*Pkg*) eqlist is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{eqlist}[2002/08/15]

```

2 \newenvironment{eqlist}[1][\description]{\enddescription}
3 \newenvironment{eqlist*}[1][\description]{\enddescription}
4 \newenvironment{Eqlist}[2][\description]{\enddescription}
5 \newenvironment{Eqlist*}[2][\description]{\enddescription}
6 \newcommand*\longitem[1][\item[#1]]
7 \newcommand*\eqlistinit{}
8 \newcommand*\eqliststarinit{}
9 \newcommand*\eqlistinitpar{}
10 \def\eqlistlabel#1{#1}
11 \newcommand{\eqlistauto}[1]{}
12 \newcommand{\eqlistnoauto}{}

```

File 142 **lwarp-eqparbox.sty**

§ 254 Package **eqparbox**

(Emulates or patches code by SCOTT PAKIN.)

eqparbox (*Pkg*) eqparbox is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{eqparbox}[2017/09/03]

```

2 \NewDocumentCommand{\LWR@HTML@eqparbox}{O{t} O{} O{t} m +m}{%
3   {%
4     \minipagefullwidth%
5     \parbox[#1][#2][#3]{\linewidth}{#5}%
6   }%
7 }
8 \LWR@formatted{eqparbox}
9
10 \NewDocumentCommand{\LWR@HTML@eqmakebox}{o o m}{%
11   \makebox[#2][#3]%
12 }

```

```

13 \LWR@formatted{eqmakebox}
14
15 \NewDocumentCommand{\LWR@HTML@eqframebox}{o o m}{%
16   \framebox[#2]{#3}%
17 }
18 \LWR@formatted{eqframebox}
19
20 \NewDocumentEnvironment{LWR@HTML@eqminipage}{O{t} O{} O{t} m}
21 {%
22   \begingroup%
23   \minipagefullwidth%
24   \minipage[#1][#2][#3]{\linewidth}%
25 }%
26 {%
27   \endminipage%
28   \endgroup%
29 }
30
31 \newcommand*\LWR@HTML@eqboxwidth[1]{.25\linewidth}
32 \LWR@formatted{eqboxwidth}
33
34 \newcommand*\LWR@HTML@eqsetminwidth[2]{}
35 \newcommand*\LWR@HTML@eqsetmaxwidth[2]{}
36
37 \newcommand*\LWR@HTML@eqsetminwidthto[2]{}
38 \newcommand*\LWR@HTML@eqsetmaxwidthto[2]{}

```

File 143 **lwarp-errata.sty**

§ 255 Package **errata**

(Emulates or patches code by MICHAEL KOHLHASE.)

errata (Pkg) **errata** is patched for use by **lwarp**.

This is for v0.3 of **errata**. A newer version of **errata** with more features is under development, at which time the **lwarp** version will have to be updated.

for HTML output:

Macros are being defined with the math dollar, so enable the HTML version during package loading:

```
1 \StartDefiningMath
```

Now load the package:

```
2 \LWR@ProvidesPackagePass{errata}[2006/11/12]
```

Patches for dynamic inline math:

```

3 \VerifyCommand[lwarp][errata]{\erratumAdd}{777B919444DA9C70140B71E0C9EDEEBF}
4
5 \xpatchcmd{\erratumAdd}
6   {$_a^{\arabic{erratum}}$}
7 %   {\inlinemathother$_a^{\arabic{erratum}}$\inlinemathnormal}
8   {\textsubscript{a}\textsuperscript{\arabic{erratum}}}
9   {}
10  {\LWR@patcherror{erratum}{erratumAdd}}

```



```

11
12 \VerifyCommand[lwarp][errata]{\erratumDelete}{057CF8E4B6A0DBECF95C009E9DC44FBA}
13
14 \xpatchcmd{\erratumDelete}
15   {$_d^{\arabic{erratum}}$}
16 %   {\inlinemathother$_d^{\arabic{erratum}}$\inlinemathnormal}
17   {\textsubscript{d}\textsuperscript{\arabic{erratum}}}
18   {}
19   {\LWR@patcherror{erratum}{erratumDelete}}
20
21 \VerifyCommand[lwarp][errata]{\erratumReplace}{0E24E5FE5415E6038089ABF21C6933D7}
22
23 \xpatchcmd{\erratumReplace}
24   {$_r^{\arabic{erratum}}$}
25 %   {\inlinemathother$_r^{\arabic{erratum}}$\inlinemathnormal}
26   {\textsubscript{r}\textsuperscript{\arabic{erratum}}}
27   {}
28   {\LWR@patcherror{erratum}{erratumReplace}}
29
30 \VerifyCommand[lwarp][errata]{\erratum}{A430F080689BC6FF47E7C905800D2028}
31
32 \xpatchcmd{\erratum}
33   {$_a$}
34 %   {\inlinemathother$_a$\inlinemathnormal}
35   {\textsubscript{a}}
36   {}
37   {\LWR@patcherror{erratum}{erratumDelete}}
38 \xpatchcmd{\erratum}
39   {$_d^{\@thefnmark}$}
40 %   {\inlinemathother$_d^{\@thefnmark}}$\inlinemathnormal}
41   {\textsubscript{d}\textsuperscript{\@thefnmark}}
42   {}
43   {\LWR@patcherror{erratum}{eDelete}}
44 \xpatchcmd{\erratum}
45   {$_r^{\@thefnmark}}$}
46 %   {\inlinemathother$_r^{\@thefnmark}}$\inlinemathnormal}
47   {\textsubscript{r}\textsuperscript{\@thefnmark}}
48   {}
49   {\LWR@patcherror{erratum}{eReplace}}

```

Finish the current page's errata before closing and reloading the list:

```
50 \preto\PrintErrata{\LWR@maybe@orignewpage}
```

No longer defining math macros with the HTML \$:

```
51 \StopDefiningMath
```

File 144 **lwarp-eso-pic.sty**

§ 256 Package **eso-pic**

(Emulates or patches code by ROLF NIEPRASCHK.)

eso-pic (*Pkg*) eso-pic is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{eso-pic}[2018/04/12]

```

2 \newcommand*\LenToUnit{}
3 \newcommand{\AtPageUpperLeft}[1]{}
4 \newcommand{\AtPageLowerLeft}[1]{}
5 \newcommand{\AtPageCenter}[1]{}
6 \newcommand{\AtStockLowerLeft}[1]{}
7 \newcommand{\AtStockUpperLeft}[1]{}
8 \newcommand{\AtStockCenter}[1]{}
9 \newcommand{\AtTextUpperLeft}[1]{}
10 \newcommand{\AtTextLowerLeft}[1]{}
11 \newcommand{\AtTextCenter}[1]{}
12 \NewDocumentCommand{\AddToShipoutPictureBG}{s +m}{}

13 \newcommand{\AddToShipoutPicture}{\AddToShipoutPictureBG}
14 \NewDocumentCommand{\AddToShipoutPictureFG}{s +m}{}
15 \newcommand*\ClearShipoutPictureBG{}
16 \newcommand*\ClearShipoutPicture{}
17 \newcommand*\ClearShipoutPictureFG{}
18 \newcommand{\gridSetup}[6][1]{}

```

File 145 **lwarp-esvect.sty**

§ 257 Package **esvect**

(Emulates or patches code by EDDIE SAUDRAIS.)

esvect (*Pkg*) **esvect** is used as-is for SVG math, and emulated for MATHJAX.

for HTML output:

```

1 \LWR@ProvidesPackagePass{esvect}% no date given


2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\LWRResvectv}[1]{\overrightarrow{#1}}}
4 \CustomizeMathJax{\newcommand{\LWRResvectvstar}[2]{\overrightarrow{#1}\!_{#2}}}
5 \CustomizeMathJax{\newcommand{\vv}{\ifstar\LWRResvectvstar\LWRResvectv}}
6 \end{warpMathJax}

```

File 146 **lwarp-etoc.sty**

§ 258 Package **etoc**

etoc (*Pkg*) **etoc** is ignored. All commands are nullified.


 **\tableofcontents with \ref** The etoc package uses a non-standard syntax which looks ahead after a `\tableofcontents` for a following `\ref`. These `\refs` appear in the HTML result unless they are removed. Where a `\tableofcontents` is followed by `\ref`, and perhaps also `\label` as well, enclose all of them inside `\warpprintonly`:

```

\warpprintonly{\tableofcontents \ref{toc:abc}
\label{toc:def}}

```

or place all code related to a local `\tableofcontents` inside a `warpprint` environment.

 **home page** Be sure to keep the initial `\tableofcontents` on the home page, perhaps in its own `\warpHTMLonly` macro or `warpHTML` environment.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{etoc}[2019/11/17]

2 \def\etocsetlevel#1#2{}
3 \def\etocskipfirstprefix{}
4 \let\etocthename \@empty
5 \let\etocthenumber \@empty
6 \let\etocthepage \@empty
7 \let\etocthelinkedname \@empty
8 \let\etocthelinkednumber \@empty
9 \let\etocthelinkedpage \@empty
10 \let\etocthelink \@firstofone % prior to 1.08j its was \let to \@empty
11 \DeclareRobustCommand*\etocname {}
12 \DeclareRobustCommand*\etocnumber {}
13 \DeclareRobustCommand*\etocpage {}
14 \DeclareRobustCommand*\etoclink {\@firstofone}
15 \DeclareRobustCommand*\etocifnumbered {\@firstoftwo}
16 \DeclareRobustCommand*\etociffirst {\@firstoftwo}
17 \DeclareRobustCommand*\etocifwasempty {\@firstoftwo}
18 \let\etocaftertitlehook \@empty
19 \let\etocaftercontentshook \@empty
20 \def\etoctableofcontents{}
21 \newcommand*\localtableofcontents{}
22 \newcommand*\localtableofcontentswithrelativedepth[1]{}
23 \newcommand\etocsettocstyle[2]{}
24 \long\def\etocsetstyle#1#2#3#4#5{}
25 \def\etocfontminustwo {\normalfont \LARGE \bfseries}
26 \def\etocfontminusone {\normalfont \large \bfseries}
27 \def\etocfontzero {\normalfont \large \bfseries}
28 \def\etocfontone {\normalfont \normalsize \bfseries}
29 \def\etocfonttwo {\normalfont \normalsize}
30 \def\etocfontthree {\normalfont \footnotesize}
31 \def\etocsepminustwo {4ex \@plus .5ex \@minus .5ex}
32 \def\etocsepminusone {4ex \@plus .5ex \@minus .5ex}
33 \def\etocsepzero {2.5ex \@plus .4ex \@minus .4ex}
34 \def\etocsepone {1.5ex \@plus .3ex \@minus .3ex}
35 \def\etocseptwo {.5ex \@plus .1ex \@minus .1ex}
36 \def\etocseptthree {.25ex \@plus .05ex \@minus .05ex}
37 \def\etocbaselinespreadminustwo {1}
38 \def\etocbaselinespreadminusone {1}
39 \def\etocbaselinespreadzero {1}
40 \def\etocbaselinespreadone {1}
41 \def\etocbaselinespreadtwo {1}
42 \def\etocbaselinespreadthree {.9}
43 \def\etocminustwoleftmargin {1.5em plus 0.5fil}
44 \def\etocminustworightmargin {1.5em plus -0.5fil}
45 \def\etocminustwooneleftmargin {1em}
46 \def\etocminustwoonewrightmargin {1em}
47 \def\etococlineleaders
48     {\hbox{\normalfont\normalsize\hb@xt@2ex {\hss.\hss}}}
49 \def\etocabbrevpagename {p.~}
50 \def\etocpartname {Part}% modified 1.08b
51 \def\etocbookname {Book}
52 \def\etocdefaultlines{}
53 \def\etocabovetocskip{3.5ex \@plus 1ex \@minus .2ex}
54 \def\etocbelowtocskip{3.5ex \@plus 1ex \@minus .2ex}
55 \def\etoccolumnsep{2em}
56 \def\etocmulticolsep{0ex}
57 \def\etocmulticolpretolerance{-1}
58 \def\etocmulticoltolerance{200}
59 \def\etocdefaultnbcot{2}

```

```

60 \def\etocinnertopsep{2ex}
61 \newcommand\etocmulticolstyle[2][{}]{
62 \def\etocinnerbottomsep{3.5ex}
63 \def\etocinnerleftsep{2em}
64 \def\etocinnerrightsep{2em}
65 \def\etocoprul{\hrule}
66 \def\etocleftrule{\vrule}
67 \def\etocrihrule{\vrule}
68 \def\etocbottomrule{\hrule}
69 \def\etocoprulecolorcmd{\relax}
70 \def\etocbottomrulecolorcmd{\relax}
71 \def\etocleftrulecolorcmd{\relax}
72 \def\etocrihrulecolorcmd{\relax}
73 \newcommand*\etocruledstyle[2][{}]{
74 \def\etocframedmphook{\relax}
75 \long\def\etocbkgcolorcmd{\relax}
76 \newcommand*\etocframedstyle[2][{}]{
77 \def\etocmulticol{}
78 \def\etocruled{}
79 \def\etocframed{}
80 \def\etoclocalmulticol{}
81 \def\etoclocalruled{}
82 \def\etoclocalframed{}
83 \def\etocarticlestyle{}
84 \def\etocarticlestylenomarks{}
85 \def\etocbookstyle{}
86 \def\etocbookstylenomarks{}
87 \let\etocreportstyle\etocbookstyle
88 \let\etocreportstylenomarks\etocbookstylenomarks
89 \def\etocmemoirtoc\tocfmt #1#2{}
90 \def\etocmemoirstyle{}
91 \def\etocscrartclstyle{}
92 \let\etocscrbookstyle\etocscrartclstyle
93 \let\etocscrreprtstyle\etocscrartclstyle
94 \def\etocstandarddisplaystyle{\etocarticlestyle}
95 \newcommand*\etocmarkboth[1]{}
96 \newcommand*\etocmarkbothnouc[1]{}
97 \newcommand\etococstyle[3][section]{}
98 \newcommand\etococstylewithmarks[4][section]{}
99 \newcommand\etococstylewithmarksnouc[4][section]{}
100 \def\etocignoretocdepth{}
101 \def\etocsettocdepth[1]{}
102 \def\etocdepthtag #1#{\Etoc@depthtag }
103 \def\Etoc@depthtag #1{}
104 \def\etocignoredepthtags {}
105 \def\etocobeydepthtags {}
106 \def\etocsettagdepth #1#2{}
107 \def\invisibletableofcontents {}
108 \def\invisiblelocaltableofcontents{}
109 \def\etocsetnexttocdepth #1{}
110 \def\etocsetlocaltop #1#{\Etoc@set@localtop}
111 \def\Etoc@set@localtop #1{}
112 \def\etocstandardlines {}
113 \def\etococlines {}
114 \let\etocaftertohook \empty
115 \let\etocbeforetitlehook \empty
116 \appto\tableofcontents{\def\tableofcontents{}}

```

File 147 **lwarp-eurosym.sty**

§ 259 Package **eurosym**

(Emulates or patches code by HENRIK THEILING.)

eurosym (*Pkg*) eurosym is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{eurosym}[1998/08/06]

```

2 \renewrobustcmd\officialeuro{\HTMLentity{euro}}
3 \let\geneuro\officialeuro
4 \let\geneuronarrow\officialeuro
5 \let\geneurowide\officialeuro
6 \let\euro\officialeuro
7 \renewrobustcmd\eurobars{}
8 \renewrobustcmd\eurobarsnarrow{}
9 \renewrobustcmd\eurobarswide{}

```

File 148 **lwarp-everypage.sty**

§ 260 Package **everypage**

(Emulates or patches code by SERGIO CALLEGARI.)

everypage (*Pkg*) everypage is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{everypage}[2007/06/20]

```

2 \newcommand*\AddEverypageHook}[1]{}
3 \newcommand*\AddThispageHook}[1]{}

```

File 149 **lwarp-everyshi.sty**

§ 261 Package **everyshi**

(Emulates or patches code by MARTIN SCHRÖDER.)

everyshi (*Pkg*) ignored.

for HTML output: Discard all options for lwarp-everyshi:

```

1 \LWR@ProvidesPackageDrop{everyshi}[2001/05/15]

2 \let\EveryShipout\relax
3 \newcommand*\EveryShipout}[1]{}
4
5 \let\AtNextShipout\relax
6 \newcommand*\AtNextShipout}[1]{}

```

File 150 **lwarp-extarrows.sty**

§ 262 Package **extarrows**

(Emulates or patches code by HUYNH KY ANH.)

extarrows (*Pkg*) extarrows is used as-is for SVG math, and emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{extarrows}[2008/05/15]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\Newextarrow\xLongleftarrow{10,10}{0x21D0}}
4 \CustomizeMathJax{\Newextarrow\xLongrightarrow{10,10}{0x21D2}}
5 \CustomizeMathJax{\Newextarrow\xLongleftrightarrow{10,10}{0x21D4}}
6 \CustomizeMathJax{\Newextarrow\xLeftrightarrow{10,10}{0x21D4}}
7 \CustomizeMathJax{\Newextarrow\xlongleftrightarrow{10,10}{0x2194}}
8 \CustomizeMathJax{\Newextarrow\xleftrightharrow{10,10}{0x2194}}
9 \CustomizeMathJax{\let\xlongleftarrow\xleftarrow}
10 \CustomizeMathJax{\let\xlongrightarrow\xrightarrow}
11 \end{warpMathJax}

```

File 151 **lwarp-extramarks.sty**

§ 263 Package **extramarks**

(Emulates or patches code by PIET VAN OOSTRUM.)

extramarks (*Pkg*) extramarks is ignored.

for HTML output: Discard all options for lwarp-extramarks:

1 \LWR@ProvidesPackageDrop{extramarks}[2025/01/07]

```

2 \newcommand*\extramarks[2]{}
3 \newcommand\extramarksleft[1]{}
4 \newcommand\extramarksright[1]{}
5 \newcommand*\firstleftxmark{}
6 \newcommand*\lastleftxmark{}
7 \newcommand*\firstrightxmark{}
8 \newcommand*\lastrightxmark{}
9 \newcommand*\firstxmark{}
10 \newcommand*\lastxmark{}
11 \newcommand*\topxmark{}
12 \newcommand*\topleftxmark{}
13 \newcommand*\toprightxmark{}
14 \newcommand*\firstleftmark{}
15 \newcommand*\lastrightmark{}
16 \newcommand*\firstrightmark{}
17 \newcommand*\lastleftmark{}

```

File 152 **lwarp-fancybox.sty**

§ 264 Package **fancybox**

(Emulates or patches code by TIMOTHY VAN ZANDT.)

fancybox (*Pkg*) fancybox is supported with some patches.


framed equation example fancybox's documentation has an example FramedEqn environment which combines math, \Sbox, a minipage, and an \fbox. This combination requires that the entire environment be enclosed inside a lateximage, which is done by adding \lateximage at the very start of FramedEqn's beginning code, and \endlateximage at the very end of the ending code. Unfortunately, the HTML alt attribute is not used here.

```
\newenvironmentFramedEqn
{
\lateximage% NEW
\setlength{\fboxsep}{15pt}
... }{...
\[\fbox{\TheSbox}\]
\endlateximage% NEW
}
```

framing alternatives \fbox works with fancybox. Also see lwarp's \fboxBlock macro and fminipage environment for alternatives to \fbox for framing environments.

framed table example The fancybox documentation's example of a framed table using an \fbox containing a tabular does not work with lwarp, but the FramedTable environment does work if \fbox is replaced by \fboxBlock. This method does lose some HTML formatting. A better method is to enclose the table's contents inside a fminipage environment. The caption may be placed either inside or outside the fminipage:

```
\begin{table}
\begin{fminipage}{\linewidth}
\begin{tabular}{lr}
...
\end{tabular}
\end{fminipage}
\end{table}
```

 **framed verbatim** lwarp does not support the verbatim environment inside a span, box, or fancybox's \Sbox, but a verbatim may be placed inside a fminipage. The fancybox documentation's example FramedVerb may be defined as:

```
\newenvironment{FramedVerb}[1] % width
{
\VerbatimEnvironment
\fminipage{#1}
\beginVerbatim
}{
\endVerbatim
\endfminipage
}
```

framed `\VerbBox` `fancybox`'s `\VerbBox` may be used inside `\fbox`.

indented alignment `LVerbatim`, `\LVerbatimInput`, and `\LUseVerbatim` indent with horizontal space which may not line up exactly with what *pdftotext* detects. Some lines may be off slightly in their left edge.

`lwarp` sanitizes HTML for `fancybox` verbatims, except for the contents of `\VerbBox` and any `\verb` inside.

fancybox, fancyvrb If using `fancybox` or `fancyvrb` with `\VerbatimFootnotes`, and using footnotes in a sectioning command or display math, use `\footnotemark` and `\footnotetext`:

```
\VerbatimFootnotes
sectioning or
displaymath
\subsection[Subsection Name]
{Subsection Name\protect\footnotemark}
\footnotetext{A footnote with \verb+verbtim+.}
```

and likewise for equations or display math.

```
1 \LWR@ProvidesPackagePass{fancybox}[2010/05/15]
```

After the preamble is loaded, after any patches to `Verbatim`:

```
2 \AfterEndPreamble{
3 \LWR@traceinfo{Patching fancybox.}
```

`\VerbatimFootnotes` Patched to use the new version.

```
4 \def\VerbatimFootnotes{%
5 \let\@footnotetext\V@footnotetext%
6 \let\LWR@footnotetext\V@footnotetext% lwarp
7 }
```

`\V@@footnotetext` Patches in a subset of `lwarp`'s `\LWR@footnotetext` to the `fancyvrb` version of `\V@@footnotetext`.

```
8 \def\V@@footnotetext{%
9 \LWR@traceinfo{V@footnotetext}%
```

Place an autopage marker so that back references to citations inside a footnote will link closer to the footnote text, if possible.

```
10 \LWR@newautopagelabel{page}%
```

Take the current footnote box, then append:

```
11 \global\setbox\LWR@footnotebox=\vbox\bgroup%
```

Add to any current footnotes:

```
12 \unvbox\LWR@footnotebox%
```

Remember the footnote number for `\ref`:

```
13 \protected@edef\@currentlabel{%
14 \csname p@footnote\endcsname\@thefnmark%
15 }% @currentlabel
16 \ifdef{cref@currentlabel}{% cleveref
17 % \protected@edef\cref@currentlabel{%
18 % [footnote]%
19 % [\arabic{footnote}]}%
20 % [%
```



```

21 %          \csname p@footnote\endcsname\@thefnmark}%
22 %          \cref@constructprefix{footnote}{\cref@result}%
23 %          \ifundefined{cref@footnote@alias}%
24 %            {\def\@tempa{footnote}}%
25 %            {\def\@tempa{\csname cref@footnote@alias\endcsname}}%
26 %          \protected@edef\cref@currentlabel{%
27 %            [\@tempa][\arabic{footnote}][\cref@result]%
28 %            \csname p@footnote\endcsname\csname thefootnote\endcsname}%
29 %          }{}%

```

Use HTML superscripts in the footnote even inside a lateximage:

```
30 \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%
```

Use paragraph tags if in a tabular data cell or a lateximage:

```
31 \LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline%
```

Append the footnote to the list:

```
32 \@makefnctext{}%
```

The footnote text will follow after \V@@@footnotetext has completed.

```
33 \bgroup%
34 \aftergroup\V@@@footnotetext%
```

Do not generate autopages inside the footnotes, since they are accumulated at the moment before finally being used perhaps on a later page.

```
35 \let\LWR@newautopagelabel\LWR@null@newautopagelabel%
36 \ignorespaces%
37 }%
```

\V@@@footnotetext

```

38 \def\V@@@footnotetext{%
39   \LWR@orignobreakspace\LWR@orignewline%
40   \LWR@htmltagc{/\LWR@tagregularparagraph}\LWR@orignewline%
41   \strut\egroup%
42 }

43 }% AfterEndPreamble

44 \renewcommand*\@shadowbox}[1]{%
45 \ifbool{FormatWP}%
46 {\InlineClass[border:1px solid black]{shadowbox}{#1}}%
47 {\InlineClass{shadowbox}{#1}}%
48 }
49
50 \renewcommand*\@doublebox}[1]{%
51 \ifbool{FormatWP}%
52 {\InlineClass[border:1px double black]{doublebox}{#1}}%
53 {\InlineClass{doublebox}{#1}}%
54 }
55
56 \renewcommand*\@ovalbox}[2]{%
57 \ifbool{FormatWP}%
58 {\InlineClass[border:1px solid black; border-radius:1ex]{ovalbox}{#2}}%
59 {%
60   \ifthenelse{\isequivalentto{#1}{\thinlines}}%
61     {\InlineClass{ovalbox}{#2}}%
62     {\InlineClass{Ovalbox}{#2}}%

```

```
63 }%
64 }
```

Convert minipages, parboxes, and lists into linear text using the LWR@nestspan environment:

```
65 \let\LWR@origSbox\Sbox
66
67 \def\Sbox{\LWR@origSbox\LWR@nestspan}
68
69
70 \let\LWR@origendSbox\endSbox
71
72 \def\endSbox{\endLWR@nestspan\LWR@origendSbox}
```

Beqarray is adapted for MATHJAX or enclosed inside a lateximage:

```
73 \RenewEnviron{Beqarray}
74 {\LWR@eqnarrayfactor}
75
76 \csgpreto{Beqarray*}{\boolfalse{LWR@numbereqnarray}}
```

\GenericCaption is enclosed in an HTML block:

```
77 \renewcommand{\GenericCaption}[1]{%
78   \LWR@figcaption%
79   \LWR@isolate{#1}%
80   \endLWR@figcaption%
81 }
```

Btrivlist is enclosed in an HTML block. This is a tabular, and does not use \item.

\trivlist

```
{\lcr} [\tcb]
```

```
82 \RenewDocumentEnvironment{Btrivlist}{m o}
83 {%
84   \LWR@stoppars%
85   \begin{BlockClass}{Btrivlist}%
86   \tabular{#1}%
87 }
88 {%
89   \endtabular%
90   \end{BlockClass}%
91   \LWR@startpars%
92 }
```

Btrivlist is also neutralized when used inside a span:

```
93 \AtBeginEnvironment{LWR@nestspan}{%
94   \RenewDocumentEnvironment{Btrivlist}{m o}{\}{\}%
95 }
```

lwarp's handling of \item is patched to accept fancybox's optional arguments:

```
96 \let\LWRFB@origitemizeitem\LWR@itemizeitem
97 \let\LWRFB@origdescitem\LWR@descitem
98
```

```

99 \RenewDocumentCommand{\LWR@itemizeitem}{d()o}{%
100   \IfValueTF{#2}{%
101     \LWRFB@origitemizeitem[#2]%
102   }{%
103     \LWRFB@origitemizeitem%
104   }%
105 }
106
107 \RenewDocumentCommand{\LWR@descitem}{d()o}{%
108   \IfValueTF{#2}{%
109     \LWRFB@origdescitem[#2]~%
110   }{%
111     \LWRFB@origdescitem%
112   }%
113 }

114 \RenewDocumentCommand{\LWR@nestspanitem}{d()}{%
115   \if@newlist\else{
116     \LWR@htmltagc{br /}%
117     \LWR@orignewline%
118   }\fi%
119   \LWR@origitem%
120 }

```

The various boxed lists become regular lists:

```

121 \renewenvironment{Bitemize}[1][]
122   {%
123     \LWR@spanwarnformat{Bitemize}%
124     \booltrue{LWR@starting@fancybox}%
125     \begin{itemize}%
126     \boolfalse{LWR@starting@fancybox}%
127   }
128   {\end{itemize}}
129
130 \renewenvironment{Benumerate}[1][]
131   {%
132     \LWR@spanwarnformat{Benumerate}%
133     \booltrue{LWR@starting@fancybox}%
134     \begin{enumerate}%
135     \boolfalse{LWR@starting@fancybox}%
136   }
137   {\end{enumerate}}
138
139 \renewenvironment{Bdescription}[1][]
140   {%
141     \LWR@spanwarnformat{Bdescription}%
142     \booltrue{LWR@starting@fancybox}%
143     \begin{description}%
144     \boolfalse{LWR@starting@fancybox}%
145   }
146   {\end{description}}

```

`\boxput` simply prints one then the other argument, side-by-side instead of above and behind:

```

147 \RenewDocumentCommand{\boxput}{s d() m m}{%
148   \IfBooleanTF{#1}{#3\quad#4}{#4\quad#3}%
149 }

```

Neutralized commands:

```

150 \RenewDocumentCommand{\fancyput}{s d() m}{}
151 \RenewDocumentCommand{\thisfancyput}{s d() m}{}
152
153 \RenewDocumentCommand{\fancypage}{m m}{}
154 \RenewDocumentCommand{\thisfancypage}{m m}{}
155
156 \def\LandScape#1{}
157 \def\endLandScape{}
158 \def\@Landscape#1#2#3{}
159 \def\endLandscape{}

```

Low-level patches for UseVerbatim and friends:

```

160 \VerifyCommand[lwarp][fancybox]{\Verbatim@List}{A85522266594F8C0D846AEB1F72232FF}
161
162 \def\Verbatim@List#1{%
163   \if@minipage\else\vskip\parskip\fi
164   \leftskip\@totalleftmargin
165   \@rightskip\@flushglue \rightskip\@rightskip
166   \parindent\z@
167   \parskip\z@
168   \parfillskip\@flushglue
169   \hfuzz\VerbatimFuzz\relax
170   \@@par
171   \global\@inlabelfalse %Prevents vspace from being inserted when
172   \Verbatim@Prep          %first line exceeds \hsize.
173 % #1%
174   \expandafter\def\expandafter\tmpb\expandafter{#1}% lwarp
175   \LWR@HTMLSanitize@tmpb% lwarp
176   \tmpb% lwarp
177   \Verbatim@Par}%
178
179 \VerifyCommand[lwarp][fancybox]{\Verbatim@@Input}{3DCC957D04BC5060FF70DD0FF2928D55}
180
181 \def\Verbatim@@Input{%
182   \let\protect\noexpand
183   \LetLtxMacro\tmpb\The@Verbatim% lwarp
184   \LWR@HTMLSanitize@tmpb% lwarp
185   \edef\The@Verbatim{%
186     \noexpand\Every@VerbatimLine
187 %   \The@Verbatim
188     \tmpb% lwarp
189     \ifeof\Verbatim@Infile\else\noexpand\Verbatim@Par\fi}%
190   \let\protect\relax
191   \The@Verbatim
192   \ifeof\Verbatim@Infile\else
193     \let\The@Verbatim\The@GVerbatim
194     \def\The@GVerbatim{\Verbatim@NextLine
195       \expandafter\Verbatim@@Input
196       \fi}%
197
198
199
200 \let\LWRFB@UseVerbatim\UseVerbatim
201 \renewcommand*\UseVerbatim}[1]{%
202   \LWR@atbeginverbatim{Verbatim}%
203   \LWRFB@UseVerbatim{#1}%

```

```

204 \LWR@afterendverbatim%
205 }
206
207 \let\LWRFB@LUseVerbatim\LUseVerbatim
208
209 \renewcommand*\LUseVerbatim[1]{%
210 \LWR@atbeginverbatim{LVerbatim}%
211 \noindent%
212 \LWRFB@LUseVerbatim{#1}%
213 \LWR@afterendverbatim%
214 }
215
216 \def\@BUseVerbatim[#1]#2{%
217 \LWR@atbeginverbatim{BVerbatim}%
218 \LWRFB@UseVerbatim{#2}%
219 \LWR@afterendverbatim%
220 }

```

File 153 **lwarp-fancyhdr.sty**

§ 265 Package **fancyhdr**

(Emulates or patches code by PIET VAN OOSTRUM.)

fancyhdr (*Pkg*) fancyhdr is ignored.

for HTML output: Discard all options for lwarp-fancyhdr:

```

1 \LWR@ProvidesPackageDrop{fancyhdr}[2025/01/07]

2 \newcommand*\fancyhead[2][]{ }
3 \newcommand*\fancyfoot[2][]{ }
4 \newcommand*\fancyhf[2][]{ }
5
6 \newcommand*\lhead[2][]{ }
7 \newcommand*\chead[2][]{ }
8 \newcommand*\rhead[2][]{ }
9 \newcommand*\lfoot[2][]{ }
10 \newcommand*\cfoot[2][]{ }
11 \newcommand*\rfoot[2][]{ }
12 \newcommand*\headrulewidth{}
13 \newcommand*\footrulewidth{}
14 \providecommand{\headruleskip}{0pt}
15 \providecommand{\footruleskip}{0pt}
16 \newcommand{\plainheadrulewidth}{0pt}
17 \newcommand{\plainfootrulewidth}{0pt}
18 \def\fancyplain#1#2{#1}
19 \newcommand*\headrule{}
20 \newcommand*\footrule{}
21 \newlength{\headwidth}
22 \newcommand*\fancycenter[1][1em]{ }
23 \newcommand*\fancyheadoffset[2][]{ }
24 \newcommand*\fancyfootoffset[2][]{ }
25 \newcommand*\fancyhfoffset[2][]{ }
26 \newcommand{\fancyheadinit}[1]{ }
27 \newcommand{\fancyfootinit}[1]{ }
28 \newcommand{\fancyhfinit}[1]{ }

```

```

29 \newcommand*\iffloatpage}[2]{#2}
30 \newcommand*\ifftopfloat}[2]{#2}
31 \newcommand*\iffbotfloat}[2]{#2}
32 \newcommand*\iffootnote}[2]{#2}
33
34 \NewDocumentCommand{\fancypagestyle}{s m o m}{}
35
36 \newcommand\fancyhdrsettoheight[2]{}
37 \newcommand{\fancyfootalign}[1]{}
38 \NewDocumentCommand{\fancyhdrbox}{_ O{cl} o m }{}
39 \newcommand\fancypagestyleassign[2]{}
40 \newcommand{\fancyheadwidth}[2][{}]{
41 \newcommand{\fancyfootwidth}[2][{}]{
42 \newcommand{\fancyhfwidth}[2][{}]{

```

File 154 **lwarp-fancypar.sty**

§ 266 Package **fancypar**

(Emulates or patches code by GONZALO MEDINA.)

fancypar (*Pkg*) fancypar is used as-is for print output, and emulated for HTML.

⚠ **css classes** \NotebookPar and related are used as-is inside a lateximage, but for HTML these are emulated as a <div> of class NotebookPar, etc. For HTML, the package options and the macro optional arguments are ignored. The user must provide custom css for each if visual effects are required. See section 7.7.

⚠ **custom styles** If using a custom paragraph style, such as \MyStylePar from the documentation, use the following to generate an HTML <div> of class MyStylePar:

```

... (existing definiton of \MyStylePar, print version) ...
\begin{warpHTML}
\AddFancyparClass{MyStyle}
\end{warpHTML}

```

\MyStylePar is then modified to emulate HTML. An optional argument is allowed, which is ignored.

for HTML output: 1 \LWR@ProvidesPackagePass{fancypar}[2019/01/18]

```

2 \begin{warpHTML}
3 \makeatletter
4
5 \newcommand{\LWR@fancypar}[2]{%
6   \begin{BlockClass}{#1Par}
7     #2
8   \end{BlockClass}
9 }
10
11 \newcommand{\LWR@HTML@NotebookPar}[2][{}]{\LWR@fancypar{Notebook}{#2}}
12 \LWR@formatted{NotebookPar}
13
14 \newcommand{\LWR@HTML@ZebraPar}[2][{}]{\LWR@fancypar{Zebra}{#2}}
15 \LWR@formatted{ZebraPar}
16

```

```

17 \newcommand{\LWR@HTML@DashedPar}[2][\LWR@fancy@par{Dashed}{#2}]
18 \LWR@formatted{DashedPar}
19
20 \newcommand{\LWR@HTML@MarkedPar}[2][\LWR@fancy@par{Marked}{#2}]
21 \LWR@formatted{MarkedPar}
22
23 \newcommand{\LWR@HTML@UnderlinedPar}[2][\LWR@fancy@par{Underlined}{#2}]
24 \LWR@formatted{UnderlinedPar}
25
26
27 \newcommand{\LWR@HTML@add@fancy@format}{}
28 \LWR@formatted{add@fancy@format}
29
30
31 \newcommand{\AddFancy@par@Class}[1]{%
32   \expandafter\newcommand\csname LWR@HTML@#1Par\endcsname[2][\LWR@fancy@par{#1}{##2}]%
33   \LWR@formatted{#1Par}
34 }
35 \LWR@formatted{#1Par}
36 }
37
38 \makeatother
39 \end{warpHTML}

```

File 155 **lwarp-fancyref.sty**

§ 267 Package **fancyref**

(Emulates or patches code by AXEL REICHERT.)

fancyref (*Pkg*) fancyref is modified for HTML output.

for HTML output: 1 \LWR@ProvidesPackagePass{fancyref}[1999/02/03]

\fancyrefhook (*Hook*) [fancyref] To remove the margin option, if \fancyrefhook is anything other than the paren option, then force it to the default instead. (Comparing to the margin option was not possible since lwarp has revised the meaning of \mbox so the comparison failed.)

```

2 \newcommand*\LWR@fref@parenfancyrefhook[1]{(#1)}
3
4 \ifdefstrequal{\fancyrefhook}{\LWR@fref@parenfancyrefhook}
5 {}{
6   \renewcommand*\fancyrefhook[1]{#1}%
7 }

```

File 156 **lwarp-fancytabs.sty**

§ 268 Package **fancytabs**

fancytabs (*Pkg*) fancytabs is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fancytabs}[2016/03/29]

```

2 \newcommand{\fancytab}[3][RIGHT]{
3 \newcommand{\fancytabsStyle}[1]{
4 \newcommand{\fancytabsHeight}[1]{
5 \newcommand{\fancytabsWidth}[1]{
6 \newcommand{\fancytabsCount}[1]{
7 \newcommand{\fancytabsLeftColor}[1]{
8 \newcommand{\fancytabsRightColor}[1]{
9 \newcommand{\fancytabsTop}[1]{
10 \newcommand{\fancytabsTextVPos}[1]{
11 \newcommand{\fancytabsTextHPos}[1]{
12 \newcommand{\fancytabsGap}[1]{
13 \newcommand{\fancytabsFloor}[1]{
14 \newcommand{\fancytabsRotate}[1]{

```

File 157 **lwarp-fancyvrb.sty**

§ 269 Package **fancyvrb**

(Emulates or patches code by TIMOTHY VAN ZANDT.)

fancyvrb (*Pkg*) fancyvrb is supported with some patches.

HTML classes The fancy verbatim environment is placed inside a `<div>` of class fancyvrb. The label is placed inside a `<div>` of class fancyvrblabel. The verbatim text itself is placed inside a `<div>` of class verbatim.

For an inline `\Verb`, the verbatim is placed inside a `` of class fancyvrb.

fancybox, fancyvrb

⚠ `\VerbatimFootnotes`
 ⚠ sectioning or
 displaymath

If using fancybox or fancyvrb with `\VerbatimFootnotes`, and using footnotes in a sectioning command or display math, use `\footnotemark` and `\footnotetext`:

```

\subsection[Subsection Name]
  {Subsection Name\protect\footnotemark}
\footnotetext{A footnote with \verb+verbatim+.}

```

and likewise for equations or display math.

```

1 \AtBeginDocument{\RequirePackage{xcolor}}% for \convertcolorspec
2
3 \LWR@ProvidesPackagePass{fancyvrb}[2024/01/20]

```

For `fvextra`, to support background colors.

```

4 \newcommand*{\LWR@currentFVbackstyle}{}
5
6 \newcommand*{\LWR@find@currentFVbackstyle}{%
7   \renewcommand*{\LWR@currentFVbackstyle}{}%
8 }%

```

Initial default patch for fancyvrb:

```

9 \fvset{frame=none}%

```

Gobble does not work with HTML sanitization, so if gobbling is non-zero then turn off HTML sanitization.


```

10 \define@key{FV}{gobble}{%
11   \@tempcnta=#1\relax
12   \ifnum\@tempcnta<\@ne
13     \let\FV@Gobble\relax
14   \else
15     \ifnum\@tempcnta>9
16       \FV@Error{gobble parameter must be less than 10}\FV@eha
17     \else
18       \renewcommand{\FV@@@Gobble}[\@tempcnta]{}%
19       \let\FV@Gobble\FV@@@Gobble%
20       \boolfalse{LWR@HTMLsanitize@tmpb@enable}%      lwarp
21     \fi
22   \fi}

```

\FancyVerbSpace

Force the use of a visible space instead of an empty box.

```

23 \ifxetexorluatex
24 \def\LWR@HTML@FancyVerbSpace{\textvisiblespace}
25 \else
26 \@ifundefined{verbvisiblespace}%
27   {%
28     \@ifundefined{textvisiblespace}%
29     {\begingroup\catcode`\ =12 \gdef\LWR@HTML@FancyVerbSpace{\tt } \endgroup}
30     {\def\LWR@HTML@FancyVerbSpace{\textvisiblespace}}
31   }%
32   {\def\LWR@HTML@FancyVerbSpace{\verbvisiblespace}}
33 \fi
34 \LWR@formatted{FancyVerbSpace}

```

\FancyVerbTab

Set the visible tab. Unicode 240B (SYMBOL FOR HORIZONTAL TABULATION) and 21E5 (RIGHTWARDS ARROW TO BAR) both gave unindented new lines at each tab, so a simple pipe character is used instead.

For the print mode, the `fancyvrb` definition does not copy, so a simplified version is used.

```

35 \def\LWR@print@FancyVerbTab{ | }
36 \def\LWR@HTML@FancyVerbTab{ | }%
37 \LWR@formatted{FancyVerbTab}

38 \fvset{tabsize=8,showtabs=false}

```

\FV@CatCodes

```

39 \VerifyCommand[lwarp][fancyvrb]{\FV@CatCodes}{BF2C1F38D5FEF0658C18B636ACBDA40E}
40
41 \def\FV@CatCodes{%
42   \let\do\@makeother\dospecials % The usual stuff.
43   \FV@ActiveWhiteSpace % See below.
44   \FV@FontScanPrep % See below.
45   \FV@CatCodesHook % A style hook.
46   \FancyVerbCodes % A user-defined hook.
47   \catcode`\>=12% % lwarp
48   \catcode`\<=12% % lwarp
49 }

```

\FV@GetLine

Added the catcode changes for < and > to avoid the effect of \@noligs for these

characters. They were being made active and thus would not be sensed by the search/replace to sanitize.



This code is sensitive to the use of %, and for some reason does not work if `\expandafter` immediately follows the `< catcode` change.

```
50 \VerifyCommand[lwarp][fancyvrb]{\FV@GetLine}{9B86134119C575F099B5B567A9B65A9F}
51
52 \def\FV@GetLine{%
53   \@noligs%
54   \catcode\>=12%   lwarp, and the next line as well
55 % for some reason, there must not be a % after the following 12:
56   \catcode\<=12
57 %
58   \expandafter\FV@CheckScan\FancyVerbGetLine%
59 }
```

Modified to sanitize HTML. `\LWR@HTMLsanitize@tmpb` is included in `\FV@Line`, so it will adjust if used inside an `lateximage`.

```
60 \VerifyCommand[lwarp][fancyvrb]{\FancyVerbGetLine}{498B88BACBD0811BAC0791BDF4F3B335}
61
62 \begingroup
63 \catcode\^^M=\active%
64 \gdef\FancyVerbGetLine#1^^M{%
65   \@nil%
66   \FV@CheckEnd{#1}%
67   \ifx\@tempa\FV@EnvironName%           % True if end is found
68     \ifx\@tempb\FV@@@CheckEnd\else\FV@BadEndError\fi%
69     \let\next\FV@EndScanning%
70   \else%
71     \ifbool{LWR@HTMLsanitize@tmpb@enable}%           lwarp
72       {\def\FV@Line{LWR@HTMLsanitize@use@tmpb{#1}}}%   lwarp
73       {\def\FV@Line{#1}}}%                             lwarp
74     \def\next{\FV@PreProcessLine\FV@GetLine}%
75   \fi%
76   \next}%
77 \endgroup
```

`\FV@List`

`{\RL margin 0/1}`

Modified to always allow line wrapping because added HTML tags may make run off the end of the line in the PDF output file before conversion to HTML.

```
78 \VerifyCommand[lwarp][fancyvrb]{\FV@List}{8FB649FAF7C9487B257B76AF4FFB27D1}
79
80 \def\FV@List#1{%
81   \begingroup
82   \FV@UseKeyValues
83   \FV@LeaveVMode
84   \ifinlabel\else\setbox\@labels=\box\voidb@x\fi
85   \FV@ListNesting{#1}%
86   \FV@ListParameterHook
87   \FV@ListVSpace
88   \FV@SetLineWidth
89   \FV@InterLinePenalty
90 % \let\FV@ProcessLine\FV@ListProcessLine@i
91   \let\FV@ProcessLine\FV@ListProcessLine%           lwarp
92   \FV@CatCodes
93   \FV@FormattingPrep
94   \FV@ObeyTabsInit
95   \FV@BeginListFrame}
```

`\FV@ListProcessLine``{\text}`

Processes each line, adding optional line numbers. Modified to always allow line wrapping because added HTML tags may make run off the end of the line in the PDF output file before conversion to HTML.

```

96 \VerifyCommand[lwarp][fancyvrb]{\FV@ListProcessLine}{660F9938234FC1043ACF7B02B3F37372}
97
98 \def\FV@ListProcessLine#1{%
99   \hbox to \hsize{%
100     \kern\leftmargin
101     \hbox to \VerbatimHTMLWidth {%
102       \ifcvoid\FV@LeftListNumber}{\kern 2.5em}%
103       \FV@LeftListNumber%
104     } \FV@LeftListFrame
105     \FancyVerbFormatLine{#1}%
106     \hss%
107   } \FV@RightListFrame
108   \FV@RightListNumber%
109 }%
110   \hss% required to avoid underfull hboxes
111 }
112 }

```

`\FVC@SaveVerb``{\name} {\character}`

Modified to sanitize HTML when stored. Sanitizing on use would be too late to adjust catcodes. `\LWR@HTMLsanitize@tmpb` is included in the saved macro, so if inside a `lateximage`, `\LWR@HTMLsanitize@tmp` does nothing.

```

113 \VerifyCommand[lwarp][fancyvrb]{\FVC@SaveVerb}{68373ED055890622906844A5611810C8}
114
115 \begingroup
116 \catcode\^^M=\active%
117 \gdef\FVC@SaveVerb#1#2{%
118   \@namedef{FV@SV@#1}{%
119     \begingroup%
120     \FV@UseKeyValues%
121     \FV@CatCodes%
122     \outer\def^^M{\FV@EOL}%
123     \global\let\@tempg\FancyVerbAfterSave%
124     \catcode\#2=12%
125     \def\@tempa{\def\FancyVerbGetVerb####1####2}%
126     \expandafter\@tempa\string#2\endgroup\@namedef{FV@SV@#1}{##2}\@tempg}%
127     \expandafter\@tempa\string#2{%
128       \endgroup%
129       \@namedef{FV@SV@#1}{%
130         ##2%
131         \LWR@HTMLsanitize@use@tmpb{##2} \lwarp
132       }\@tempg%
133     }%
134     \FancyVerbGetVerb\FV@EOL}%
135 \endgroup

```

`\FV@UseVerb``{\macro}`

Adds a ``.

```

136 \VerifyCommand[lwarp][fancyvrb]{\FV@UseVerb}{A3A9D802CCDBEC8D2FDAB626346B5EDD}
137

```

```

138 \def\FV@UseVerb#1{%
139   \ifbool{LWR@verbtags}%           lwarp
140   {\LWR@htmltag{span class=\textquotedbl{}fancyvrb\textquotedbl}}% lwarp
141   }%                               lwarp
142   \mbox{\FV@UseKeyValues\FV@FormattingPrep#1}%
143   \ifbool{LWR@verbtags}%           lwarp
144   {\LWR@htmltag{/span}}%          lwarp
145   }%                               lwarp
146 }

```

\FVC@Verb

{character}

Modified to sanitize HTML.

```

147 \VerifyCommand[lwarp][fancyvrb]{\FVC@Verb}{806B03D5A78CAB39E0514667991695C9}
148
149 \begingroup
150 \catcode\^^M=\active%
151 \gdef\FVC@Verb#1{%
152   \begingroup%
153   \FV@UseKeyValues%
154   \FV@FormattingPrep%
155   \FV@CatCodes%
156   \outer\def^^M{%
157     \catcode#1=12%
158     \def\@tempa{\def\FancyVerbGetVerb####1####2}%
159     \expandafter\@tempa\string#1{%
160       \ifbool{LWR@verbtags}%           lwarp
161       {%                               lwarp
162         \LWR@htmltag{span class=\textquotedbl{}fancyvrb\textquotedbl}% lwarp
163         \def\tmpb{##2}%               lwarp
164         \LWR@HTMLSanitize@tmpb%       lwarp
165         \mbox{\tmpb}%                 lwarp
166         \LWR@htmltag{/span}%         lwarp
167       }% lwarp
168       {\mbox{##2}}%
169     \endgroup%
170   }%
171   \FancyVerbGetVerb\FV@EOL%
172 }%
173 \endgroup

```

\FV@ReadLine

Modified to sanitize HTML.

```

174 \VerifyCommand[lwarp][fancyvrb]{\FV@ReadLine}{3C3481D735295DAEB5B30DDE9152287D}
175
176 \begingroup
177 \catcode\^^M=\active
178 \gdef\FV@ReadLine{%
179   \ifeof\FV@InFile\else
180 %   \immediate\read\FV@InFile to\@tempa%
181 %   \expandafter\FV@@ReadLine\@tempa^^M\relax^^M\@nil%
182   \immediate\read\FV@InFile to\tmpb%
183   \LWR@HTMLSanitize@tmpb%
184   \expandafter\FV@@ReadLine\tmpb^^M\relax^^M\@nil%
185   \fi}
186 \endgroup

```

\LWR@FVstyle

Holds the style of the verbatim.

```
187 \newcommand*\LWR@FVstyle{}
```

`\LWR@new@FVstyle` Starts a new style for the next verbatim.

```
188 \newcommand*\LWR@new@FVstyle{\renewcommand*\LWR@FVstyle{}}
```

`\LWR@addto@FVstyle` `{<style text>}` Adds to the style for the next verbatim.

```
189 \newcommand*\LWR@addto@FVstyle[1]{%
190   \apptocmd{\LWR@FVstyle}{\protect\LWR@indentHTMLtwo#1}%
191   }%
192   {%
193     \PackageWarning{lwarp}{%
194       \string\LWR@addto@FVstyle\space was not
195       able to patch an HTML style.\MessageBreak
196       Patching !#!\MessageBreak%
197       Currently is !\LWR@FVstyle!\MessageBreak%
198       HTML styles may be not be complete%
199     }%
200   }%
201 }
```

`\LWR@addFVtextcolorstyle` Adds a color style for the current color.

```
202 \newcommand*\LWR@addFVtextcolorstyle{%
203   \LWR@findcurrenttextcolor%
204   \ifdefstring{\LWR@tempcolor}{000000}%
205   }%
206   {\LWR@addto@FVstyle{color: \LWR@origpound\LWR@tempcolor ; }}%
207 }
```

`\LWR@addFVbackgroundstyle`

```
208 \newcommand*\LWR@addFVbackgroundstyle{%
209   \ifdefempty{\LWR@currentFVbackstyle}%
210   }%
211   {\LWR@addto@FVstyle{\LWR@currentFVbackstyle}}%
212 }
```

`\LWR@addFVborderstyle` `{<edge>}`

```
213 \newcommand*\LWR@addFVborderstyle[1]{%
214   \LWR@addto@FVstyle{\LWR@FVborderstyle{#1}}%
215 }
```

`\LWR@addFVborderstyles` Redefined on the fly to do `\LWR@addFVborderstyle`, possibly several times, each with its own edge argument.

```
216 \newcommand*\LWR@addFVborderstyles{}
```

After the preamble is loaded, after any patches to Verbatim, such as by `fvextra`:

```
217 \AfterEndPreamble{
218
219 \LWR@traceinfo{Patching fancyvrb.}
```

`\VerbatimFootnotes` Patched to use the new version.

```

220 \VerifyCommand[lwarp][fancyvrb]{\VerbatimFootnotes}{931C9BE6284EB9D8B1516D566C997A87}
221
222 \def\VerbatimFootnotes{%
223   \let\@footnotetext\V@footnotetext%
224   \let\footnote\V@footnote%
225   \let\LWR@footnotetext\V@footnotetext% lwarp
226 }

```

\V@@footnotetext

Patches in a subset of lwarp's \LWR@footnotetext to the fancyvrb version of \V@@footnotetext.

```

227 \VerifyCommand[lwarp][fancyvrb]{\V@@footnotetext}{89E1586855997F951F57C3936CBDF87E}
228
229 \def\V@@footnotetext{%
230 \LWR@traceinfo{V@footnotetext}%

```

Place an autopage marker so that back references to citations inside a footnote will link closer to the footnote text, if possible.

```
231 \LWR@newautopagelabel{page}%
```

Take the current footnote box, then append:

```
232 \global\setbox\LWR@footnotebox=\vbox\bgroup%
```

Add to any current footnotes:

```
233 \unvbox\LWR@footnotebox%
```

Remember the footnote number for \ref:

```

234 \protected@edef\@currentlabel{%
235   \csname p@footnote\endcsname\@thefnmark%
236 }% @currentlabel

```

Use HTML superscripts in the footnote even inside a lateximage:

```
237 \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%
```

Verbatim tags and HTML sanitization will have been turned off inside a lateximage, such as in SVG math, so turn them on here so they will be active in the HTML footnotes.

```

238 \booltrue{LWR@verbtags}%
239 \booltrue{LWR@HTMLsanitize@tmp@enable}%

```

Use paragraph tags if in a tabular data cell or a lateximage:

```
240 \LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewLine%
```

Append the footnote mark to the list:

```
241 \@makefnmark{}%
```

The footnote text will follow after \V@@@footnotetext has completed.

```

242 \bgroup%
243 \aftergroup\V@@@footnotetext%

```

Do not generate autopages inside the footnotes, since they are accumulated at the moment before finally being used perhaps on a later page.

```

244 \let\LWR@newautopagelabel\LWR@null@newautopagelabel%
245 \ignorespaces%
246 }%

```

`\V@@@footnotetext`

Improves <par>.

```

247 \def\V@@@footnotetext{%
248   \LWR@orignobreakspace\LWR@orignewline%
249   \LWR@htmltagc{/\LWR@tagregularparagraph}\LWR@orignewline%
250   \strut\egroup%
251 }

```

`\FVB@Verbatim``\FVB@LVerbatim`

Prevents unexpected page break in the PDF output before HTML conversion.

```

252 \preto\FVB@Verbatim{\LWR@forcenewpage}
253 \preto\FVB@LVerbatim{\LWR@forcenewpage}
254 % \preto\FVB@BVerbatim{\LWR@forcenewpage}% Fails, so done below.

```

Simplified to remove PDF formatting:

```

255 \def\LWR@HTML@FV@BeginListFrame@Single{%
256   \FV@SingleFrameLine{\z@}%
257 }
258 \LWR@formatted{FV@BeginListFrame@Single}
259
260 \def\LWR@HTML@FV@EndListFrame@Single{%
261   \FV@SingleFrameLine{\@ne}%
262 }
263 \LWR@formatted{FV@EndListFrame@Single}
264
265 \def\LWR@HTML@FV@BeginListFrame@Lines{%
266   \FV@SingleFrameLine{\z@}%
267 }
268 \LWR@formatted{FV@BeginListFrame@Lines}
269
270 \def\LWR@HTML@FV@EndListFrame@Lines{%
271   \FV@SingleFrameLine{\@ne}%
272 }
273 \LWR@formatted{FV@EndListFrame@Lines}
274
275 \newcommand*{\LWR@HTML@FV@SingleFrameSep}{}%
276 \LWR@formatted{FV@SingleFrameSep}

```

The following patches to Verbatim are executed at the start and end of the environment, depending on the choice of frame.

`\LWR@fvstartnone`

Wraps label in a <div> of class fancyvrblabel.

```

277 \newcommand*{\LWR@fvstartnone}{%
278 \LWR@traceinfo{fvstartnone}%
279 % \hbox to\z@{

```

Accumulate the style settings. Text color, background color, and background style are detected now. Border styles are selected earlier by the choice of verbatim frames.

If the current text style is empty, do not print an HTML style.

```

280   \LWR@find@currentFVbackstyle%   lwarp
281   \LWR@new@FVstyle%               lwarp
282   \LWR@addFVtextcolorstyle%      lwarp
283   \LWR@addFVbackgroundstyle%     lwarp

```

```

284 \LWR@addFVborderstyles%          lwarp
285 \ifdefempty{\LWR@FVstyle}%
286   {\BlockClass{fancyvrb}}%
287   {\BlockClass[\LWR@FVstyle]{fancyvrb}}%

288 \LWR@stoppars
289 \ifx\FV@LabelPositionTopLine\relax\else
290   \ifx\FV@LabelBegin\relax\else
291     \FancyVerbRuleColor{\LWR@FVfindbordercolor}
292     \ifbool{LWR@verbtags}%          lwarp
293     {%                               lwarp
294       \LWR@findcurrenttextcolor%
295       \LWR@htmltagc{%          lwarp
296         div class=\textquotedbl{}fancyvrblabel\textquotedbl\ % space
297           style=\textquotedbl{}%
298             color: \LWR@origpound\LWR@tempcolor%
299             \textquotedbl%
300           }%
301         \LWR@orignewline%      lwarp
302       }%                          lwarp
303     }%                              lwarp
304     \LWR@print@textrm{\FV@LabelBegin}% \textrm preserves emdash
305     \LWR@orignewline%          lwarp
306     \ifbool{LWR@verbtags}%      lwarp
307     {%                          lwarp
308       \LWR@htmltagc{/div}%      lwarp
309       \LWR@orignewline%          lwarp
310     }%                          lwarp
311     }%                          lwarp
312 \fi
313 \fi
314 \LWR@atbeginverbatim{verbatim}%
315 % }% hbox
316 }

```

\LWR@fvendnone

Wraps label in a <div> of class fancyvrblabel.

```

317 \newcommand*{\LWR@fvendnone}{%
318 \LWR@traceinfo{fvendnone}%
319 % \hbox to\z@{
320 \LWR@afterendverbatim%
321 \LWR@stoppars%
322 \ifx\FV@LabelPositionBottomLine\relax\else
323   \ifx\FV@LabelEnd\relax\else
324     \FancyVerbRuleColor{\LWR@FVfindbordercolor}%          lwarp
325     \ifbool{LWR@verbtags}%          lwarp
326     {%                               lwarp
327       \LWR@findcurrenttextcolor%
328       \LWR@htmltagc{%          lwarp
329         div class=\textquotedbl{}fancyvrblabel\textquotedbl\ % space
330           style=\textquotedbl{}%
331             color: \LWR@origpound\LWR@tempcolor%
332             \textquotedbl%
333           }%
334         \LWR@orignewline%          lwarp
335       }%                          lwarp
336     }%                              lwarp
337     \LWR@print@textrm{\FV@LabelEnd}%          lwarp
338     \LWR@orignewline%          lwarp
339     \ifbool{LWR@verbtags}%          lwarp

```



```

340          {%                               lwarp
341          \LWR@htmltag{/div}%              lwarp
342          \LWR@orignewline%                lwarp
343          }%                               lwarp
344          }%                               lwarp
345  \fi
346 \fi
347 \endBlockClass%      lwarp
348 % }% hbox
349 }

350 \newcommand*\LWR@fvstartsingle}{%
351 \LWR@traceinfo{fvstartsingle}%
352 \LWR@fvstartnone%
353 \FV@BeginListFrame@Single%
354 }
355
356 \newcommand*\LWR@fvendsingle}{%
357 \LWR@traceinfo{fvendsingle}%
358 \FV@endListFrame@Single%
359 \LWR@fvendnone%
360 }
361
362 \newcommand*\LWR@fvstartline}{%
363 \LWR@traceinfo{fvstartline}%
364 \LWR@fvstartnone%
365 % \setlength{\LWR@templengthone}{\baselineskip}%
366 \FV@BeginListFrame@Lines%
367 % \setlength{\baselineskip}{\LWR@templengthone}%
368 % \setlength{\baselineskip}{5pt}%
369 }
370
371 \newcommand*\LWR@fvendline}{%
372 \LWR@traceinfo{fvendline}%
373 \FV@endListFrame@Lines%
374 \LWR@fvendnone%
375 }

```

The following patches select the start/left/right/end behaviors depending on frame.

```

376 \newcommand*\LWR@FVfindbordercolor}{%
377   \FancyVerbRuleColor%
378   \LWR@findcurrenttextcolor%
379   \color{black}%
380 }

```

\LWR@FVborderstyle

{*edge*} Border width of \FV@FrameRule. Edge is empty, -top, etc.

```

381 \newcommand*\LWR@FVborderstyle}[1]{%
382   padding#1: \strip@pt\dimexpr \FV@FrameSep\relax\relax pt ; % space
383   \LWR@FVfindbordercolor\LWR@indentHTMLtwo%
384   border#1: \strip@pt\dimexpr \FV@FrameRule\relax\relax pt % space
385   solid {\FancyVerbRuleColor{\LWR@origpound\LWR@tempcolor}} ; % space
386 }

387 \VerifyCommand[\lwarp][fancyvrb]{\FV@Frame@none}{C60E1656944AB4C4D2B74410E88FE7C0}
388
389 \def\LWR@HTML@FV@Frame@none{%

```

```

390 \let\FV@BeginListFrame\LWR@fvstartnone%
391 \let\FV@LeftListFrame\relax%
392 \let\FV@RightListFrame\relax%
393 \let\FV@EndListFrame\LWR@fvendnone}
394 \LWR@formatted{FV@Frame@none}
395
396 \FV@Frame@none% default values

397 \VerifyCommand[lwarp][fancyvrb]{\FV@Frame@single}{CDF78DB9C6408F48D05302D07091C629}
398
399 \def\LWR@HTML@FV@Frame@single{%
400 \renewcommand{\LWR@addFVborderstyles}{\LWR@addFVborderstyle{}}% lwarp
401 \let\FV@BeginListFrame\LWR@fvstartsingline%
402 \let\FV@LeftListFrame\FV@LeftListFrame@Single%
403 \let\FV@RightListFrame\FV@RightListFrame@Single%
404 \let\FV@EndListFrame\LWR@fvendsingle}
405
406 \LWR@formatted{FV@Frame@single}

407 \VerifyCommand[lwarp][fancyvrb]{\FV@Frame@lines}{1AADD6691DA93C9A66227F5C5B34EAE4}
408
409 \def\LWR@HTML@FV@Frame@lines{%
410 \renewcommand{\LWR@addFVborderstyles}{%
411   \LWR@addFVborderstyle{-top}%
412   \LWR@addFVborderstyle{-bottom}}%
413 }% lwarp
414 \let\FV@BeginListFrame\LWR@fvstartline%
415 \let\FV@LeftListFrame\relax%
416 \let\FV@RightListFrame\relax%
417 \let\FV@EndListFrame\LWR@fvendline}
418
419 \LWR@formatted{FV@Frame@lines}

420 \VerifyCommand[lwarp][fancyvrb]{\FV@Frame@topline}{7E102D81F4FD367B398B8E85F48A7754}
421
422 \def\LWR@HTML@FV@Frame@topline{%
423 \renewcommand{\LWR@addFVborderstyles}{\LWR@addFVborderstyle{-top}}% lwarp
424 \let\FV@BeginListFrame\LWR@fvstartline%
425 \let\FV@LeftListFrame\relax%
426 \let\FV@RightListFrame\relax%
427 \let\FV@EndListFrame\LWR@fvendnone}
428
429 \LWR@formatted{FV@Frame@topline}

430 \VerifyCommand[lwarp][fancyvrb]{\FV@Frame@bottomline}{A51600F812F57F4211EF9E34F261564A}
431
432 \def\LWR@HTML@FV@Frame@bottomline{%
433 \renewcommand{\LWR@addFVborderstyles}{\LWR@addFVborderstyle{-bottom}}% lwarp
434 \let\FV@BeginListFrame\LWR@fvstartnone%
435 \let\FV@LeftListFrame\relax%
436 \let\FV@RightListFrame\relax%
437 \let\FV@EndListFrame\LWR@fvendline}
438
439 \LWR@formatted{FV@Frame@bottomline}

```

Seems to be required in some situations. Is not \LWR@formatted because it is defined as needed.

```

440 \def\FV@FrameFillLine{}

441 \VerifyCommand[lwarp][fancyvrb]{\FV@Frame@leftline}{2A77982C6520FD64F6DBFA1C03B670BA}
442
443 \def\LWR@HTML@FV@Frame@leftline{%
444 \renewcommand{\LWR@addFVborderstyles}{\LWR@addFVborderstyle{-left}}% lwarp

```

To define the `\FV@FrameFillLine` macro (from `\FV@BeginListFrame`)

```

445 \ifx\FancyVerbFillColor\relax%
446 \let\FV@FrameFillLine\relax%
447 \else%
448 \@tempdima\FV@FrameRule\relax%
449 \multiply\@tempdima-\tw@%
450 \edef\FV@FrameFillLine{%
451 {\noexpand\FancyVerbFillColor{\vrule\@width\@number\@tempdima sp}%
452 \kern-\@number\@tempdima sp}}%
453 \fi%
454 \let\FV@BeginListFrame\LWR@fvstartnone%
455 \let\FV@LeftListFrame\FV@LeftListFrame@Single%
456 \let\FV@RightListFrame\relax%
457 \let\FV@EndListFrame\LWR@fvendnone}
458
459 \LWR@formatted{FV@Frame@leftline}

```

`\FV@SingleFrameLine`

Adds the optional label to the top and bottom edges.

```

460 \VerifyCommand[lwarp][fancyvrb]{\FV@SingleFrameLine}{2D8B1DAED851500F255E357437FF065C}
461
462 \def\LWR@HTML@FV@SingleFrameLine#1{%
463 % \hbox to\z@{%
464 % \kern\leftmargin
465 \ifnum#1=\z@\relax
466 \let\FV@Label\FV@LabelBegin
467 \else
468 \let\FV@Label\FV@LabelEnd
469 \fi
470 \ifx\FV@Label\relax
471 % \FancyVerbRuleColor{\vrule \@width\linewidth \@height\FV@FrameRule}%
472 \else
473 \ifnum#1=\z@
474 % \setbox\z@\hbox{\strut\enspace\FV@LabelBegin\enspace\strut}%
475 \ifx\FV@LabelPositionTopLine\relax
476 \else
477 \fi
478 \else
479 % \setbox\z@\hbox{\strut\enspace\FV@LabelEnd\enspace\strut}%
480 \ifx\FV@LabelPositionBottomLine\relax
481 \else
482 \fi
483 \fi
484 \fi
485 % \hss
486 % }
487 }
488 \LWR@formatted{FV@SingleFrameLine}

```

```

489 \xpretocmd{\FV@BeginVBox}
490   {%
491     \LWR@forcenewpage%
492     \LWR@atbeginverbatim{bverbatim}%
493   }
494   {}
495   {\LWR@patcherror{fancyvrb}{FV@BeginVBox}}
496
497 \xapptocmd{\FV@EndVBox}
498   {%
499     \LWR@afterendverbatim%
500   }
501   {}
502   {\LWR@patcherror{fancyvrb}{FV@EndVBox}}

```

End of the modifications to make at the end of the preamble:

```

503 } % \AfterEndPreamble

504 \VerifyCommand[lwarp][fancyvrb]{\FVB@VerbatimOut}{A0AC591D2DB283DCEBCCC75968FF88CF}
505
506 \def\FVB@VerbatimOut#1{%
507   \@bsphack
508   \begingroup
509   \FV@UseKeyValues
510   \FV@DefineWhiteSpace
511   \def\FV@Space{\space}%
512   \FV@DefineTabOut
513   \def\FV@ProcessLine{\immediate\write\FV@OutFile}%
514   \immediate\openout\FV@OutFile #1\relax
515   \let\FV@FontScanPrep\relax
516 % DG/SR modification begin - May. 18, 1998 (to avoid problems with ligatures)
517   \let\@noligs\relax
518 % DG/SR modification end
519   \boolfalse{\LWR@HTMLsanitize@tmpb@enable}%          lwarp
520   \FV@Scan}

```

File 158 **lwarp-fbox.sty**

§ 270 Package **fbox**

(Emulates or patches code by HERBERT VOSS.)

fbox (*Pkg*) **fbox** is patched for use by **lwarp**.

for HTML output: 1 \LWR@ProvidesPackagePass{fbox}[2022/02/20]

This will be \LWR@formatted when \AtBeginDocument:

```
2 \LetLtxMacro\LWR@HTML@fbox\fbox
```

Instead of using the original, the new version is used with all borders:

```
3 \renewcommand*{\orig@fbox}{\FBox@i[tblr]}
```

```
\WR@fboxpkg@border      <{<1: top/bottom/left/right}> <{<2: t/b/l/r}> <{<3: padding, or empty}>}
```

Accumulates HTML styles for border, and padding if given:

```

4 \newcommand*{\LWR@fboxpkg@border}[3]{%
5   \colorlet{\LWR@border@color}{\csuse{fbox@#2color}}%
6   \protect\convertcolorspec{named}{\LWR@border@color}{HTML}\LWR@tempbordercolor\relax%
7   \appto\LWR@tempone{%
8     border-#1: % space
9     \LWR@printlength{\LWR@atleastonept} % space
10    solid \LWR@origpound%
11  }%
12  \expandafter\appto\expandafter\LWR@tempone\expandafter{\LWR@tempbordercolor}%
13  \appto\LWR@tempone{ ;\LWR@indentHTML}%
14  \ifblank{#3}{}%
15  \appto\LWR@tempone{%
16    padding-#1: \LWR@printlength{#3} ;\LWR@indentHTML
17  }%
18  }%
19 }

```

A hack to reuse the same code for inline and blocks:

```

20 \newbool{\LWR@fboxpkg@ispar}
21 \boolfalse{\LWR@fboxpkg@ispar}

```

Accumulate HTML styles for left and right padding, depending on `\if@fbox@space@left`, `\if@fbox@space@right`:

```

22 \newcommand{\LWR@fboxpkg@lpadding}[1]{%
23   \csuse{\if@fbox@space@#1}%
24   \appto\LWR@tempone{%
25     padding-#1: \LWR@printlength{\fbox@@sep};\LWR@indentHTML
26   }
27   \else%
28     \appto\LWR@tempone{%
29       padding-#1: 0pt;\LWR@indentHTML
30     }
31   \fi%
32 }

```

The HTML version, modified to use HTML styles and either an `\InlineClass` or `BlockClass`:

```

33 \newcommand{\LWR@HTML@FBox@iii}[1]{%

```

Find and set the text color, rule width, margin:

```

34   \LWR@forceminwidth{\fbox@@rule}%
35   \LWR@findcurrenttextcolor%
36   \def\LWR@tempone{%
37     color: \LWR@origpound\LWR@tempcolor ; \LWR@indentHTML
38     margin: 1ex ; \LWR@indentHTML
39   }%

```

Add left/right padding:

```

40   \LWR@fboxpkg@lpadding{left}%
41   \LWR@fboxpkg@lpadding{right}%

```

Per the original to decode the borders, in a new way:

```

42 \ifnum\the\@tempcntb>8\relax
43   \advance\@tempcntb by -8\relax
44   \LWR@fboxpkg@border{top}{t}{\fbox@sep}%
45 \fi
46 \ifnum\@tempcntb>3
47   \advance\@tempcntb by -4\relax
48   \LWR@fboxpkg@border{left}{l}{}%
49 \fi
50 \ifnum\@tempcntb>1\relax
51   \LWR@fboxpkg@border{right}{r}{}%
52 \fi
53 \ifodd\@tempcntb
54   \LWR@fboxpkg@border{bottom}{b}{\fbox@sep}%
55 \fi

```

Generate a BlockClass or \InlineClass with the contents:

```

56 \color@begingroup
57 \ifbool{LWR@fboxpkg@ispar}%
58   {%
59     \begin{BlockClass}[LWR@tempone]{fboxpkg}%
60     #1%
61     \end{BlockClass}%
62   }%
63   {%
64     \InlineClass[LWR@tempone]{fboxpkg}{%
65     #1%
66     }%
67   }%
68 \color@endgroup
69 \boolfalse{LWR@fboxpkg@ispar}% globally
70 }
71 \LWR@formatted{FBox@iii}

```

For \fparbox, set the use of BlockClass, then reuse the above:

```

72 \long\def\LWR@HTML@FParBox@i[#1]#2{%
73   \booltrue{LWR@fboxpkg@ispar}%
74   \FBox@i[#1]{#2}
75 }
76 \LWR@formatted{FParBox@i}
77
78 \long\def\LWR@HTML@FParBox@ii#1{%
79   \booltrue{LWR@fboxpkg@ispar}%
80   \FBox@i[tblr]{#1}%
81 }
82 \LWR@formatted{FParBox@ii}

```

For MATHJAX, absorb and ignore star and optional arguments:

```

83 \CustomizeMathJax{\let\LWRorigfbox\fbox}
84 \CustomizeMathJax{\newcommand{LWRfboxpkgtwo}[2][LWRorigfbox{#2}}
85 \CustomizeMathJax{\renewcommand{fbox}{\ifstar\LWRfboxpkgtwo\LWRfboxpkgtwo}}
86 \CustomizeMathJax{\newcommand{fparbox}{fbox}}

```

File 159 **lwarp-fewerfloatpages.sty**

§ 271 Package **fewerfloatpages**

fewerfloatpages (*Pkg*) fewerfloatpages is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fewerfloatpages}[2020/02/14]

```
2 \newcommand\floatpagekeepfraction{\textfraction}
3 \newcounter{floatpagedeferlimit}
4 \newcounter{floatpagekeeplimit}
```

File 160 **lwarp-figcaps.sty**

§ 272 Package **figcaps**

(Emulates or patches code by PATRICK W. DALY.)

figcaps (*Pkg*) figcaps is ignored.

for HTML output: Discard all options for lwarp-figcaps:

1 \LWR@ProvidesPackageDrop{figcaps}[1999/02/23]

```
2 \newcommand*\figcapson{}
3 \newcommand*\figcapsoff{}
4 \newcommand*\printfigures{}
5 \newcommand*\figmarkon{}
6 \newcommand*\figmarkoff{}
7 \def\figurecapname{Figure Captions}
8 \def\tablepagename{Tables}
9 \def\figurepagename{Figures}
```

File 161 **lwarp-figsize.sty**

§ 273 Package **figsize**

(Emulates or patches code by ANTHONY A. TANBAKUCHI.)

figsize (*Pkg*) figsize is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{figsize}[2002/03/18]

Emulates a virtual 6×9 inch textsize.

```
2 \newlength{\figwidth}
3 \newlength{\figheight}
4
5 \newcommand{\SetFigLayout}[3][0]{%
```

```

6 \setlength{\figheight}{8in}%
7 \setlength{\figheight}{\figheight / #2}%
8 %
9 \setlength{\figwidth}{5.5in}%
10 \setlength{\figwidth}{\figwidth / #3}%
11 }

```

File 162 **lwarp-fitbox.sty**

§ 274 Package **fitbox**

`fitbox (Pkg)` `fitbox` is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fitbox}[2019/02/20]

```

2 \NewDocumentCommand{\fitbox}{s o m}{%
3   \begin{BlockClass}{fitbox}
4     #3
5   \end{BlockClass}
6 }
7
8 \newcommand*{\fitboxset}[1]{}
9
10 \newdimen\fitboxnatheight
11 \newdimen\fitboxnatwidth
12
13 \newcommand\SetFitBoxLayout[3][[]]{}

```

File 163 **lwarp-fix2col.sty**

§ 275 Package **fix2col**

`fix2col (Pkg)` `fix2col` is ignored.


for HTML output: 1 \LWR@ProvidesPackageDrop{fix2col}[2015/11/13]

File 164 **lwarp-fixmath.sty**

§ 276 Package **fixmath**

(Emulates or patches code by WALTER SCHMIDT.)

`fixmath (Pkg)` `fixmath` is used as-is for SVG math, and emulated for MATHJAX.

 **limitations** MATHJAX does not have full font support for bold italic Greek.

for HTML output: 1 \LWR@ProvidesPackagePass{fixmath}[2000/04/11]

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}

```



```

5 \LWR@mathjax@addgreek@u@it*{}{}
6 \LWR@mathjax@addletter{\BooleanTrue}{up}{}{\delta}{0394}
7 \LWR@mathjax@addletter{\BooleanTrue}{up}{}{\omega}{03A9}
8 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
9 \end{warpMathJax}

```

File 165 **lwarp-fixme.sty**

§ 277 Package **fixme**

(Emulates or patches code by DIDIER VERNA.)

`fixme` (*Pkg*) `fixme` is patched for use by `lwarp`.

⚠ **external layouts** External layouts (`\fxloadlayouts`) are not supported.

Customized layouts are overwritten by `lwarp`'s versions `\AtBeginDocument` in order to provide the HTML conversion. If creating a new layout, see `lwarp`'s changes to provide similar for the new layout, inside a `warpHTML` environment.

User control is provided for setting the HTML styling of the “faces”. The defaults are as follows, and may be changed in the preamble after `fixme` is loaded:

```

\def\FXFaceInlineHTMLStyle{font-weight:bold}
\def\FXFaceEnvHTMLStyle{font-weight:bold}
\def\FXFaceSignatureHTMLStyle{font-style:italic}
\def\FXFaceTargetHTMLStyle{font-style:italic}

```

for HTML output: `1 \LWR@ProvidesPackagePass{fixme}[2019/01/03]`

Restore `lwarp`'s version of `\@wrindex`, ignoring the `fixme` package's target option:

```
2 \let\@wrindex\LWR@wrindex
```

Float-related macros required by `lwarp`:

```

3 \newcommand{\ext@fixme}{lox}
4
5 \renewcommand{\l@fixme}[2]{%
6   \hypertocfloat{1}{fixme}{lox}%
7   {\LWR@nameref{\BaseJobname-autopage-\arabic{LWR@nextautopage}} --- #1}%
8   {#2}
9 }

```

Other modifications. Done `\AtBeginDocument` to hopefully work if the user customizes the layouts.

```

10 \AtBeginDocument{
11
12 \def\FXFaceInlineHTMLStyle{font-weight:bold}
13
14 \renewcommand*\FXLayoutInline[3]{ % space
15   \InlineClass[\FXFaceInlineHTMLStyle]{fixmeinline}%
16   {\@fxttextstd{#1}{#2}{#3}}%
17 }
18

```

```

19 \def\FXFaceEnvHTMLStyle{font-weight:bold}
20
21 \renewcommand*\FXEnvLayoutPlainBegin[2]{%
22   \BlockClass[\FXFaceEnvHTMLStyle]{fixmebold}
23   \ignorespaces#2 \fxnotename{#1}: \ignorespaces%
24 }
25
26 \renewcommand*\FXEnvLayoutPlainEnd[2]{\endBlockClass}
27
28 \renewcommand*\FXEnvLayoutSignatureBegin[2]{%
29   \BlockClass[\FXFaceEnvHTMLStyle]{fixmebold}
30   \fxnotename{#1}: \ignorespaces%
31 }
32
33 \renewcommand*\FXEnvLayoutSignatureEnd[2]{\@fxsiganture{#2}\endBlockClass}
34
35 \def\FXFaceSignatureHTMLStyle{font-style:italic}
36
37 \DeclareRobustCommand*\@fxsiganture[1]{%
38   \ifthenelse{\equal{#1}{}}%
39     {}%
40     { -- {\InlineClass[\FXFaceSignatureHTMLStyle]{fixmesiganture}{#1}}}%
41 }
42
43
44 \def\FXFaceTargetHTMLStyle{font-style:italic}
45
46 \renewcommand\FXTargetLayoutPlain[2]{%
47   \InlineClass[\FXFaceTargetHTMLStyle]{fixmetarget}{#2}%
48 }
49
50 }% \AtBeginDocument

```

File 166 **lwarp-fixmetodonotes.sty**

§ 278 Package **fixmetodonotes**

(Emulates or patches code by GIOELE BARABUCCI.)

fixmetodonotes (*Pkg*) fixmetodonotes is patched for use by lwarp.

for HTML output:

```

1 \LWR@ProvidesPackagePass{fixmetodonotes}[2013/04/28]
2
3
4 \VerifyCommand[lwarp][fixmetodonotes]{\NOTES@addtolist}{C8CA636EF295D370F26A278FFAE28B2F}
5
6 \renewcommand{\NOTES@addtolist}[2]{%
7   \refstepcounter{NOTES@note}%
8   \phantomsection REMOVED
9   \addcontentsline{notes}{NOTES@note}{%
10    \protect\numberline{\theNOTES@note}{#1}: {#2}}%
11 }
12
13 \VerifyCommand[lwarp][fixmetodonotes]{\NOTES@marker}{B5B482E83AB149A1B7F0CCFB4099C61E}
14
15 \renewcommand{\NOTES@marker}[2]{\fbox{%
16   \textcolor{#2}{% WAS \color

```

```

16     \textbf{#1}}%
17   }}
18
19 \VerifyCommand[lwarp][fixmetodonotes]{\NOTES@colorline}{816FF1D31286EA48258FE3F2BA58E99C}
20
21 \renewcommand{\NOTES@colorline}[2]{%
22   \bgroup%
23   \ULon{\LWR@backgroundcolor{#1}{#2}}%
24 }

```

File 167 **lwarp-flafter.sty**

§ 279 Package **flafter**

flafter (*Pkg*) flafter is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{flafter}[2018/01/08]
2 \providecommand\fl@trace[1]{}

File 168 **lwarp-flippdf.sty**

§ 280 Package **flippdf**

flippdf (*Pkg*) flippdf is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{flippdf}[2006/06/30]

2 \newcommand\FlipPDF{}
3 \newcommand\UnFlipPDF{}

File 169 **lwarp-float.sty**


§ 281 Package **float**

(Emulates or patches code by ANSELM LINGNAU.)

float (*Pkg*) float is emulated.

Float styles boxed and ruled are emulated by css and a float class according to style.

The HTML `<figure>` class is set to the float type, so css may also be used to format the float and its caption, according to float type. Furthermore, an additional class is set to the float style: plain, plaintop, boxed, or ruled, so css may be used to format by float style as well. Default formatting by css is provided for ruled and boxed styles.

 **not seem to be a floating environment**
for HTML output:

Always declare a `\newfloat` before modifying it with `\floatname`, etc.

1 \LWR@ProvidesPackageDrop{float}[2001/11/08]

`\LWR@floatstyle` The default float style.

```
2 \newcommand*\LWR@floatstyle}{plain}
```

`\newfloat`

```
{<1: type>} {<2: placement>} {<3: ext>} [ <4: within > ]
```

Emulates the `\newfloat` command from the `float` package.

“placement” is ignored.

```
3 \NewDocumentCommand{\newfloat}{m m m o}{%
4   \IfValueTF{#4}%
5     {\DeclareFloatingEnvironment[fileext=#3,within=#4]{#1}}%
6     {\DeclareFloatingEnvironment[fileext=#3]{#1}}%
```

Remember the float style:

```
7   \csedef{LWR@floatstyle@#1}{\LWR@floatstyle}%
```

`newfloat` package automatically creates the `\listof` command for new floats, but `float` does not, so remove `\listof` here in case it is manually created later.

```
8   \cslet{listof#1s}\relax%
9   \cslet{listof#1es}\relax%
```

Like `size`, `newfloat` also creates `\l@<type>`, but `float` does not, so remove it here:

```
10  \cslet{l@#1}\relax%
11 }
```

`\floatname`

```
{<type>} {<name>}
```

Sets the text name of the float, such as “Figure”. Avoids trying to set a recursive name, from `trivfloat`.

```
12 \NewDocumentCommand{\floatname}{m +m}{%
13   \def\LWR@tempone{#2}%
14   \def\LWR@temptwo{\@nameuse{#1name}}%
15   \ifdefequal{\LWR@tempone}{\LWR@temptwo}{}{%
16     \SetupFloatingEnvironment{#1}{name=#2}%
17   }%
18 }
```

`\floatplacement`

```
{<type>} {<placement>}
```

Float placement is ignored.

```
19 \newcommand*\floatplacement}[2]{%
20   \SetupFloatingEnvironment{#1}{placement=#2}%
21 }
```

`\floatstyle`

```
{<style>}
```

Remember the style for future floats:

```
22 \newcommand{\floatstyle}[1]{%
23   \def\LWR@floatstyle{#1}%
24 }
```

`\restylefloat`

```
* {<type>}
```

Remember the style for this float:

```

25 \NewDocumentCommand{\restylefloat}{s m}{%
26   \csedef{LWR@floatstyle@#2}{\LWR@floatstyle}%
27 }

```

\listof

See section 80.2 for the \LWR@listof command in the lwarp core.

```

28 \newcommand{\listof}{\LWR@listof}

```

File 170 **lwarp-floatflt.sty**

§ 282 Package **floatflt**

(Emulates or patches code by MATS DAHLGREN.)

floatflt (*Pkg*) floatflt is emulated.

for HTML output: Discard all options for lwarp-floatflt:

```

1 \LWR@ProvidesPackageDrop{floatflt}[1997/07/16]

```

Env [⟨⟩]

offset {⟨*type*⟩} {⟨*width*⟩} Borrowed from the lwarp version of keyfloat:

```

2 \NewDocumentEnvironment{KFLTfloatflt@marginfloat}{0{-1.2ex} m m}
3 {%
4   \begin{LWR@setvirtualpage}*%
5   \ifblank{#3}{%
6     \LWR@BlockClassWP{%
7       float:right; %
8       width: 1.5in; % reasonable dummy width for word processor
9       margin:10pt%
10    }{%
11    (note)%
12    {marginblock}%
13  }{%
14    \setlength{\LWR@templengthone}{#3}%
15    \LWR@BlockClassWP{%
16      float:right; %
17      width:\LWR@printlength{\LWR@templengthone}; % extra space
18      margin:10pt%
19    }{%
20      width:\LWR@printlength{\LWR@templengthone}%
21    }%
22    (note)%
23    {marginblock}%
24  }%
25  \renewcommand*{\@capttype}{#2}%
26 }
27 {%
28   \endLWR@BlockClassWP%
29   \end{LWR@setvirtualpage}%
30 }

```

Env floatingfigure

[⟨*placement*⟩] {⟨*width*⟩}

```

31 \DeclareDocumentEnvironment{floatingfigure}{o m}
32   {\begin{KFLTfloatflt@marginfloat}{figure}{#2}}
33   {\end{KFLTfloatflt@marginfloat}}

```

Env floatingtable

[*<placement>*]

```

34 \DeclareDocumentEnvironment{floatingtable}{o}
35   {\begin{KFLTfloatflt@marginfloat}{table}{}}
36   {\end{KFLTfloatflt@marginfloat}}

```

File 171 **lwarp-floatpag.sty**§ 283 Package **floatpag***(Emulates or patches code by VYTAS STATULEVIČIUS AND SIGITAS TOLUŠIS.)*floatpag (*Pkg*) floatpag is ignored.**for HTML output:** Discard all options for lwarp-floatpag:

```

1 \LWR@ProvidesPackageDrop{floatpag}[2012/05/29]

2 \newcommand*{\floatpagestyle}[1]{}
3 \newcommand*{\rotfloatpagestyle}[1]{}
4 \newcommand*{\thisfloatpagestyle}[1]{}

```

File 172 **lwarp-floatrow.sty**§ 284 Package **floatrow***(Emulates or patches code by OLGA LAPKO.)*floatrow (*Pkg*) floatrow is emulated.**for HTML output:** 1 \LWR@ProvidesPackageDrop{floatrow}[2008/08/02]

⚠ **Misplaced alignment tab character &** Use `\StartDefiningTabulars` and `\StopDefiningTabulars` before and after defining macros using `\ttabbox` with a tabular inside. See section 8.10.1.

⚠ **subfig package** When combined with the `subfig` package, while inside a `subfloatrow` `\ffigbox` and `\ttabbox` must have the caption in the first of the two of the mandatory arguments.

⚠ **\FBwidth, \FBheight** The emulation of `floatrow` does not support `\FBwidth` or `\FBheight`. These values are pre-set to `.3\linewidth` and `2in`. Possible solutions include:

- Use fixed lengths. `lwarp` will scale the HTML lengths appropriately.
- Use `warpprint` and `warpHTML` environments to select appropriate values for each case.
- Inside a `warpHTML` environment, manually change `\FBwidth` or `\FBheight` before the `\ffigbox` or `\ttabbox`. Use `\FBwidth` or `\FBheight` normally afterwards; it will be used as expected in print output, and will use your custom-selected value in HTML output. This custom value will be used repeatedly, until it is manually changed to a new value.

After everything has loaded, remember whether subcaption was loaded. If not, it is assumed that subfig is used instead:

```

2 \newbool{LWR@subcaptionloaded}
3
4 \AtBeginDocument{
5 \IfPackageLoadedTF{subcaption}
6   {\booltrue{LWR@subcaptionloaded}}
7   {\boolfalse{LWR@subcaptionloaded}}
8 }

```

\floatbox

$[\langle 1 \text{ preamble} \rangle] \{\langle 2 \text{ capttype} \rangle\} [\langle 3 \text{ width} \rangle] [\langle 4 \text{ height} \rangle] [\langle 5 \text{ vert pos} \rangle] \{\langle 6 \text{ caption} \rangle\} \{\langle 7 \text{ object} \rangle\}$

Only parameters for capttype, width, caption, and object are used.

LWR@insubfloatrow is true if inside a subfloatrow environment.

There are two actions, depending on the use of subcaption or subfig.

```

9 \NewDocumentCommand{\floatbox}{o m o o o +m +m}{%
10 \ifbool{LWR@subcaptionloaded}%
11 {% subcaption

```

For subcaption:

```

12   \ifbool{LWR@insubfloatrow}%
13   {% subcaption in a subfloatrow

```

subfigure and subtable environments take width as an argument.

```

14       \IfValueTF{#3}%
15       {\@nameuse{sub#2}{#3}}%
16       {\@nameuse{sub#2}{\linewidth}}%
17   }% subcaption in a subfloatrow
18   {% subcaption not in subfloatrow

```

figure and table environments do not take a width argument.

```

19       \@nameuse{#2}%
20   }% subcaption not in subfloatrow
21   #6
22
23   #7

```

End the environments:

```

24   \ifbool{LWR@insubfloatrow}%
25   {\@nameuse{endsub#2}}%
26   {\@nameuse{end#2}}%
27 }% subcaption
28 {% assume subfig

```

For subfig:

```

29 \ifbool{LWR@insubfloatrow}%
30 {% subfig in a subfloatrow

```

\subfloat is a macro, not an environment.

Package subfig's \subfloat command takes an optional argument which is the caption, but \floatbox argument #6 contains commands to create the caption and label, not the caption itself. Thus, \caption is temporarily disabled to return its own argument without braces.

```

31   \beginngroup

```

```

32 \let\caption\@firstofone
33 \subfloat[#6]{#7}
34 \endgroup
35 }% subfig in a subfloatrow
36 {% subfig package, but not a subfig

```

figure and table are environments:

```

37 \@nameuse{#2}
38 #6
39
40 #7
41 \@nameuse{end#2}
42 }% subfig package, but not a subfig
43 }% assume subfig
44 }

```

Not used:

```

45 \newcommand*\nocapbeside{}
46 \newcommand*\capbeside{}
47 \newcommand*\captop{}
48 \newlength{\FBwidth}
49 \setlength{\FBwidth}{.3\linewidth}
50 \newlength{\FBheight}
51 \setlength{\FBheight}{2in}
52 \newcommand*\useFCwidth{}
53 \newcommand{\floatsetup}[2][{}]{
54 \newcommand{\thisfloatsetup}[1]{
55 \newcommand{\clearfloatsetup}[1]{
56 \newcommand*\killfloatstyle{}

```

`\newfloatcommand` $\langle 1 \text{ command} \rangle \langle 2 \text{ cotype} \rangle [\langle 3 \text{ preamble} \rangle] [\langle 4 \text{ default width} \rangle]$

Preamble and default width are ignored.

```

57 \NewDocumentCommand{\newfloatcommand}{m m o o}{%
58 \@namedef{#1}{
59 \floatbox{#2}
60 }
61 }

```

`\renewfloatcommand` $\langle 1 \text{ command} \rangle \langle 2 \text{ cotype} \rangle [\langle 3 \text{ preamble} \rangle] [\langle 4 \text{ default width} \rangle]$

Preamble and default width are ignored.

```

62 \NewDocumentCommand{\renewfloatcommand}{m m o o}{%
63 \@namedef{#1}{%
64 \floatbox{#2}
65 }
66 }

```

`\ffigbox` $[\langle width \rangle] [\langle height \rangle] [\langle vposn \rangle] \langle caption \text{ commands} \rangle \langle contents \rangle$

```

67 \newfloatcommand{ffigbox}{figure}[\nocapbeside][

```

`\ttabbox` $[\langle width \rangle] [\langle height \rangle] [\langle vposn \rangle] \langle caption \text{ commands} \rangle \langle contents \rangle$

```

68 \newfloatcommand{ttabbox}{table}[\captop][\FBwidth]

```


`\fcapside`

$$[\langle width \rangle] [\langle height \rangle] [\langle vposn \rangle] \{ \langle caption commands \rangle \} \{ \langle contents \rangle \}$$

```
69 \newfloatcommand{fcapside}{figure}[\capbeside][]
```

`Env floatrow`

$$[\langle numfloats \rangle]$$

The row of floats is placed into a `<div>` of class `floatrow`.

```
70 \newenvironment*{floatrow}[1][2]
71 {%
72   \begin{LWR@setvirtualpage}*%
73   \BlockClass{floatrow}%
74 }
75 {
76   \endBlockClass%
77   \end{LWR@setvirtualpage}%
78 }
```

Keys for `\DeclareNewFloatType`:

```
79 \newcommand*{\LWR@frowkeyplacement}{}
80 \newcommand*{\LWR@frowkeyname}{}
81 \newcommand*{\LWR@frowkeyfileext}{}
82 \newcommand*{\LWR@frowkeywithin}{}
83 \newcommand*{\LWR@frowkeycapstyle}{}
84
85 \define@key{frowkeys}{placement}{}%
86 \define@key{frowkeys}{name}{\renewcommand{\LWR@frowkeyname}{#1}}%
87 \define@key{frowkeys}{fileext}{\renewcommand{\LWR@frowkeyfileext}{#1}}%
88 \define@key{frowkeys}{within}{\renewcommand{\LWR@frowkeywithin}{#1}}%
89 \define@key{frowkeys}{relatedcapstyle}{}%
```

`\DeclareNewFloatType`

$$\{ \langle type \rangle \} \{ \langle options \rangle \}$$

Use `\listof{type}{Title}` to print a list of the floats.

```
90 \newcommand*{\DeclareNewFloatType}[2]{%
```

Reset key values:

```
91 \renewcommand*{\LWR@frowkeyplacement}{}%
92 \renewcommand*{\LWR@frowkeyname}{}%
93 \renewcommand*{\LWR@frowkeyfileext}{}%
94 \renewcommand*{\LWR@frowkeywithin}{}%
95 \renewcommand*{\LWR@frowkeycapstyle}{}%
```

Read new key values:

```
96 \LWR@traceinfo{about to setkeys frowkeys}%
97 \setkeys{frowkeys}{#2}%
98 \LWR@traceinfo{finished setkeys frowkeys}%
```

Create a new float with optional `[within]`:

```
99 \ifthenelse{\equal{\LWR@frowkeywithin}{}%
100 {%
101   \DeclareFloatingEnvironment[
102     placement=\LWR@frowkeyplacement,
103     fileext=\LWR@frowkeyfileext
104   ]{#1}%
105 }%
106 {%
107   \DeclareFloatingEnvironment[
```

```

108     placement=\LWR@frowkeyplacement,
109     fileext=\LWR@frowkeyfileext,
110     within=\LWR@frowkeywithin
111   ][#1]%
112 %   \LWR@traceinfo{finished newfloat #1}%
113 }%

```

Rename the float if a name was given:

```

114 \ifthenelse{\equal{\LWR@frowkeyname}{}}%
115   {}%
116   {%
117     \SetupFloatingEnvironment{#1}{name={\LWR@frowkeyname}}%
118   }%
119 }

```

Not used:

```

120 \newcommand{\buildFBOX}[2]{}
121 \newcommand*\CenterFloatBoxes{}
122 \newcommand*\TopFloatBoxes{}
123 \newcommand*\BottomFloatBoxes{}
124 \newcommand*\PlainFloatBoxes{}
125
126 \newcommand{\capsubrowsettings}{}
127
128 \NewDocumentCommand{\RawFloats}{o o}{}

```

\RawCaption

{<text>}

To be used inside a minipage or parbox.

```

129 \newcommand{\RawCaption}[1]{#1}

```

\floatfoot

{<text>}

Places additional text inside a float, inside a css <div> of class floatfoot.

```

130 \NewDocumentCommand{\floatfoot}{s +m}{%
131   \begin{BlockClass}{floatfoot}
132   #2
133   \end{BlockClass}
134 }

```

Used to compute \linewidth.

```

135 \newbool{LWR@insubfloatrow}
136 \boolfalse{LWR@insubfloatrow}

```

Env subfloatrow

[<num_floats>]

```

137 \newenvironment*{subfloatrow}[1][2]
138 {

```

The row of floats is placed into a <div> of class floatrow:

```

139   \LWR@forcenewpage
140   \BlockClass{floatrow}

```

While inside the floatrow, LWR@insubfloatrow is set true, which tells \floatbox to use \subfigure or \subtable.

```

141 \begingroup%
142 \booltrue{LWR@insubfloatrow}%
143 }
144 {%
145 \endgroup%
146 \endBlockClass%
147 \boolfalse{LWR@insubfloatrow}%
148 }

```

File 173 **lwarp-fltrace.sty**

§ 285 Package **fltrace**

`fltrace` (*Pkg*) `fltrace` is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fltrace}[2018/01/08]

```

2 \def\tracefloats{}
3 \def\tracefloatsoff{}
4 \def\tracefloatvals{}

```

File 174 **lwarp-flushend.sty**

§ 286 Package **flushend**

(Emulates or patches code by SIGITAS TOLUŠIS.)

`flushend` (*Pkg*) `flushend` is ignored.

for HTML output: Discard all options for `lwarp-flushend`:

```

1 \LWR@ProvidesPackageDrop{flushend}[2021/10/04]

2 \newcommand*\flushend{}
3 \newcommand*\raggedend{}
4 \newcommand*\flushcolsend{}
5 \newcommand*\raggedcolsend{}
6 \newtoks\atColsBreak \atColsBreak={ }
7 \newtoks\atColsEnd \atColsEnd={ }
8 \newcommand*\showcolsendrule{}

```

File 175 **lwarp-fnbreak.sty**

§ 287 Package **fnbreak**

`fnbreak` (*Pkg*) `fnbreak` is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fnbreak}[2012/01/01]

```

2 \newcommand*\fnbreakverbose{}
3 \newcommand*\fnbreaknonverbose{}
4 \newcommand*\fnbreaklabel{}
5 \newcommand*\fnbreaknolabel{}

```

File 176 **lwarp-fncychap.sty**

§ 288 Package **fncychap**

(Emulates or patches code by ULF A. LINDGREN.)

fncychap (*Pkg*) fncychap is ignored.

for HTML output: Discard all options for lwarp-fncychap:

```
1 \LWR@ProvidesPackageDrop{fncychap}[2007/07/30]

2 \def\mghrulefill#1{}
3 \def\ChNameLowerCase{}
4 \def\ChNameUpperCase{}
5 \def\ChNameAsIs{}
6 \def\ChTitleLowerCase{}
7 \def\ChTitleUpperCase{}
8 \def\ChTitleAsIs{}
9 \newcommand{\ChRuleWidth}[1]{}
10 \newcommand{\ChNameVar}[1]{}
11 \newcommand{\ChNumVar}[1]{}
12 \newcommand{\ChTitleVar}[1]{}
13 \newcommand{\TheAlphaChapter}{}
14 \newcommand{\DOCH}{}
15 \newcommand{\DOTI}[1]{}
16 \newcommand{\DOTIS}[1]{}
17 \newlength{\mylen}
18 \newlength{\myhi}
19 \newlength{\px}
20 \newlength{\py}
21 \newlength{\pyy}
22 \newlength{\pxx}
23 \newlength{\RW}
24 \newcommand{\FmN}[1]{#1}
25 \newcommand{\FmTi}[1]{#1}
```

File 177 **lwarp-fnlineno.sty**

§ 289 Package **fnlineno**

fnlineno (*Pkg*) fnlineno is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fnlineno}[2011/01/07]

File 178 **lwarp-fnpara.sty**

§ 290 Package **fnpara**

fnpara (*Pkg*) fnpara is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fnpara}

File 179 **lwarp-fnpos.sty**

§ 291 Package **fnpos**

(Emulates or patches code by HIROSHI NAKASHIMA.)

fnpos (*Pkg*) fnpos is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{fnpos}[1999/07/14]

```
2 \newcommand*\makeFNbottom{}
3 \newcommand*\makeFNmid{}
4 \newcommand*\makeFNbelow{}
5 \newcommand*\makeFNabove{}

```


File 180 **lwarp-fontawesome.sty**

§ 292 Package **fontawesome**

(Emulates or patches code by XAVIER DANAUX.)

fontawesome (*Pkg*) fontawesome is patched for use by lwarp.

Hashed inline images are used, as there may not be Unicode support for all icons.

 **poppler syntax warning** If using PDF L^AT_EX, *poppler* may issue a syntax warning regarding parsing a ligature component. X_YL^AT_EX or LuaL^AT_EX may be used to avoid this warning.

In the following, the general strategy is to intercept `\symbol` and embed it inside a `lateximage`. These changes are done inside a local group.

For PDF L^AT_EX, the `alt` tag includes the icon (symbol) number. For X_YL^AT_EX and LuaL^AT_EX, the `alt` tag is generic.

for HTML output: 1 \LWR@ProvidesPackagePass{fontawesome}[2016/05/15]

```
2 \LetLtxMacro\LWR@orig@symbol\symbol
3
4 \ifxetexorluatex
5
6 \newfontfamily{\LWR@orig@FA}{FontAwesome}
7
8 \newcommand*\LWR@fontawesome@xelatex@symbol[1]{%
9   \LWR@findcurrenttextcolor%
10  \begin{lateximage}*[icon]%
11    [fontawesomexetex#1SZ\LWR@font@size{}CL\LWR@tempcolor]%
12  \csuse{\LWR@font@size}%
13  \LWR@orig@FA%
14  \LWR@orig@symbol{#1}%
15  \end{lateximage}%
16 }
17

```


This used to contain code, but now it is split into the related two packages.

File 182 **lwarp-fontawesome5-generic-helper.sty**

§ 294 Package **fontawesome5-generic-helper**

(Emulates or patches code by MARCEL KRÜGER.)

fontawesome5-generic-helper (Pkg) fontawesome5-generic-helper is patched for use by lwarp.

Hashed inline images are used, as there may not be Unicode support for all icons.

The alt tag has the name of the icon.

for HTML output:

```

1 \LWR@ProvidesPackagePass{fontawesome5-generic-helper}[2022/05/02]
2 \ExplSyntaxOn
3
4 \VerifyCommand[lwarp][fontawesome5-generic-helper]{\fontawesome_use_icon:nn}
5   {0260A9C94303C43957AAEBEA2B4D3DB1}
6
7 \cs_set:Nn\fontawesome_use_icon:nn{
8   \LWR@findcurrenttextcolor
9   \cs_if_exist:cTF{c__fontawesome_slot_#2_tl}{
10     \begin{lateximage}*[#2]?%   lwarp
11       [fontawesome5#1SZ\LWR@font@size{}CL\LWR@tempcolor}%   lwarp
12     \csuse{\LWR@font@size}%   lwarp
13     \bool_if:NTF\c__fontawesome_fixed_bool{
14       \makebox[1.5em][c]
15     }{
16       \use:n
17     }
18     {
19       \exp_last_unbraced:Nv
20         \__fontawesome_icon_at:nnnn
21         {c__fontawesome_slot_#2_tl}
22         {#1}{#2}
23     }
24     \end{lateximage}%   lwarp
25   }{
26     \msg_error:nnxx{fontawesome5}{icon-not-found}{#2}{#1}
27   }
28 }
29 \ExplSyntaxOff

```

File 183 **lwarp-fontawesome5-utex-helper.sty**

§ 295 Package **fontawesome5-utex-helper**

(Emulates or patches code by MARCEL KRÜGER.)

fontawesome5-utex-helper (Pkg) fontawesome5-utex-helper is patched for use by lwarp.

Hashed inline images are used, as there may not be Unicode support for all icons.

The alt tag has the name of the icon.

for HTML output:

```

1 \LWR@ProvidesPackagePass{fontawesome5-utex-helper}[2022/05/02]
2 \ExplSyntaxOn
3
4 \VerifyCommand[lwarp][fontawesome5-utex-helper]{\fontawesome_use_icon:nn}
5   {8452FF2BF0A317552B0920628ADD8C18}
6
7 \cs_set:Nn\fontawesome_use_icon:nn{
8   \group_begin:
9     \LWR@findcurrenttextcolor
10    \usefont
11      {TU}
12      {fontawesome\c__fontawesome_kind_tl}
13      {#1}
14      {n}
15    \bool_set:Nn \l__fontawesome_duotone_bool {
16      \str_if_eq_p:ee {#1} {duotone}
17    }
18    \int_set:Nn\l_tmpa_int{
19      \__fontawesome_glyphindex:n{
20        #2
21        \bool_if:NT \l__fontawesome_duotone_bool { -primary }
22      }
23    }
24    \int_compare:nNnT{\l_tmpa_int}={0}{
25      \fontseries{solid}
26      \selectfont
27      \bool_set_false:N \l__fontawesome_duotone_bool
28      \int_set:Nn\l_tmpa_int{\__fontawesome_glyphindex:n{#2}}
29      \int_compare:nNnTF{\l_tmpa_int}={0}{
30        \fontfamily{fontawesomebrands}
31        \fontseries{regular}
32        \selectfont
33        \int_set:Nn\l_tmpa_int{\__fontawesome_glyphindex:n{#2}}
34        \int_compare:nNnT{\l_tmpa_int}={0}{
35          \msg_error:nxxx{fontawesome5}{icon-not-found}{#2}{#1}
36        }
37      }{
38        \msg_warning:nxxx{fontawesome5}{style-substitution}{#2}{#1}
39      }
40    }
41    \begin{lateximage}*[#2]?% lwarp
42      [fontawesome5#1SZ\LWR@font@size{ }CL\LWR@tempcolor]% lwarp
43    \csuse{\LWR@font@size}% lwarp
44    \bool_if:NnTF\c__fontawesome_fixed_bool{
45      \makebox[1.5em][c]
46    }{
47      \use:n
48    }
49    {
50      \bool_if:NnTF \l__fontawesome_duotone_bool {
51        \__fontawesome_glyph:w \l_tmpa_int
52        \int_set:Nn\l_tmpa_int{ \__fontawesome_glyphindex:n{ #2-secondary } }
53        \int_compare:nNnF { \l_tmpa_int } = { 0 } {
54          \llap {
55            \l_fontawesome_duotone_secondary_style_tl
56            { \__fontawesome_glyph:w \l_tmpa_int }
57          }

```



```

58     }
59     % \ooalign {
60     %   \hss \_fontawesome_glyph:w \l_tmpa_int \hss \cr
61     %   \hss
62     %   \int_set:Nn\l_tmpa_int{ \_fontawesome_glyphindex:n{ #2-secondary } }
63     %   \int_compare:nNnF { \l_tmpa_int } = { 0 } {
64     %     \color{gray}\_fontawesome_glyph:w \l_tmpa_int
65     %   }
66     %   \hss \cr
67     % }
68   } {
69     \_fontawesome_glyph:w \l_tmpa_int
70   }
71 }
72 \end{lateximage}% lwarp
73 \group_end:
74 }
75 \ExplSyntaxOff

```

File 184 **lwarp-fontaxes.sty**

§ 296 Package **fontaxes**

(Emulates or patches code by ANDREAS BÜHMANN, MICHAEL UMMELS.)

fontaxes (*Pkg*) fontaxes is emulated for HTML, and used as-is for print output.

Functionality for small caps is in the lwarp core. Swashes and figure styles are ignored for HTML.

for HTML output:

```

1 \LWR@ProvidesPackagePass{fontaxes}[2014/03/23]
2 \ifdef{\LWR@HTML@swshape}{}{% duplicated by nfssect-cfr
3   \newcommand{\LWR@HTML@swshape}{}
4   \LWR@formatted{swshape}
5
6   \newrobustcmd{\LWR@HTML@textsw}[1]{#1}
7   \LWR@formatted{textsw}
8
9   \FilenameNullify{%
10     \LetLtxMacro\swshape\@empty%
11     \LetLtxMacro\textsw\firstofone%
12   }
13 }

```

File 185 **lwarp-fontenc.sty**

§ 297 Package **fontenc**

fontenc (*Pkg*) If using PDF L^AT_EX, lwarp used to require fontenc be loaded before lwarp, but now lwarp itself loads \fontenc with T1 encoding, which lwarp requires. fontenc is now allowed to be loaded with another encoding after lwarp.

lwarp-fontenc is no longer necessary, but is still provided to overwrite older versions.

for HTML output: 1 \LWR@ProvidesPackagePass{fontenc}[2017/04/05]

File 186 **lwarp-footmisc.sty**

§ 298 Package **footmisc**

(Emulates or patches code by ROBIN FAIRBAIRNS.)

footmisc (*Pkg*) footmisc is emulated.

lwarp incidentally happens to emulate the stable option.

1 \LWR@ProvidesPackageDrop{footmisc}[2011/06/06]

Some nullified commands:

```

2 \newcommand{\footnotelayout}{}
3 \newcommand{\setfnsymbol}[1]{}
4 \NewDocumentCommand{\DefineFNsymbols}{s m o m}{}
5
6 \newdimen\footnotemargin
7 \footnotemargin1.8em\relax
8
9 \newcommand*\hangfootparskip{0.5\baselineskip}
10 \newcommand*\hangfootparindent{0em}%
11
12 \let\pagefootnoterule\footnoterule
13 \let\mpfootnoterule\footnoterule
14 \def\splitfootnoterule{\kern-3\p@ \hrule \kern2.6\p@}
15
16 \providecommand*\multiplefootnotemarker}{3sp}
17 \providecommand*\multfootsep}{,}

```

Using `cleveref`. `\labelcref` only prints the number of the object, not its type.

```
18 \providecommand*\footref}[1]{\labelcref{#1}}
```

The following work as-is:

```

19 \newcommand\mpfootnotemark{%
20   \@ifnextchar[%
21     \xmpfootnotemark%
22     {%
23       \stepcounter\@mpfn%
24       \protected@xdef\@thefnmark{\thempfn}%
25       \@footnotemark%
26     }%
27 }
28 \def\@xmpfootnotemark[#1]{%
29   \begingroup%
30   \csname c@\@mpfn\endcsname #1\relax%
31   \unrestored@protected@xdef\@thefnmark{\thempfn}%
32   \endgroup%
33   \@footnotemark%
34 }

```

File 187 **lwarp-footnote.sty**

§ 299 Package **footnote**

(Emulates or patches code by MARK WOODING.)

footnote (*Pkg*) footnote is used with minor patches.

for HTML output: footnote patches `\@makefn`text in a strange way. It must be restored to the expected definition before loading footnote, then replaced again after.

```

1 \long\def\@makefn#1{\textsuperscript{\@thefnmark}~#1}
2
3 \LWR@ProvidesPackagePass{footnote}[1997/01/28]
4
5 \long\def\@makefn#1{\textsuperscript{\@thefnmark}~{#1}}

6 \VerifyCommand[lwarp][footnote]{\spewnotes}{BCC4919F5404BADA8F1CF486E5709072}
7
8 \def\spewnotes{%
9   \endgroup%
10  \if@savingnotes\else\ifvoid\fn@notes\else\beginngroup%
11    \let\@makefn\@empty%
12    \let\@finalstrut\@gobble%
13    \let\rule\@gobbletwo%
14    \booltrue{LWR@spewingnotes}%          lwarp
15    \@footnotetext{\unvbox\fn@notes}%
16  \endgroup\fi\fi%
17 }
18 \let\endsavenotes\spewnotes
19
20 \VerifyCommand[lwarp][footnote]{\fn@fntext}{4C750987515F28FE665A08AB710193BA}
21
22 \def\fn@fntext#1{%
23   \ifx\ifmeasuring@\@undefined%
24     \expandafter\@secondoftwo\else\expandafter\@iden%
25   \fi%
26   {\ifmeasuring@\expandafter\@gobble\else\expandafter\@iden\fi}%
27   {%
28     \global\setbox\fn@notes\ vbox{%
29       \unvbox\fn@notes%
30       \LWR@htmltagc{\LWR@tagregularparagraph}%          lwarp
31       \LWR@originewline%                               lwarp
32       \fn@startnote%
33       \@makefn#1%
34       \rule\z@\footnotesep%
35       \ignorespaces%
36       #1%
37       \@finalstrut\strutbox%
38     }%
39     \fn@endnote%
40   }%
41 }%
42 }

```

Removed print-version formatting:

```

43 \VerifyCommand[lwarp][footnote]{\fn@startnote}{D101A3D1B9653A6FDD7E9CF37BD5A4DD}
44
45 \def\fn@startnote{%
46 %   \@parboxrestore%
47 \protected@edef\@currentlabel{\csname p@\@mpfn\endcsname\@thefnmark}%
48 %   \color@begingroup% *** conflicts with lwarp
49 }
50
51 % \let\fn@endnote\color@endgroup% *** conflicts with lwarp
52 \def\fn@endnote{%
53   \LWR@orignobreakspace\LWR@orignewline%
54   \LWR@htmltagc{/\LWR@tagregularparagraph}\LWR@orignewline%
55   \LWR@orignobreakspace\LWR@orignewline%
56 }

```

Removed print-version formatting:

```

57 \VerifyCommand[lwarp][footnote]{\fn@startfntext}{7270AD27C28391C41DA1FE47C49B5E7A}
58
59 \def\fn@startfntext{%
60   \setbox\z@\vbox\bgroup%
61     \LWR@htmltagc{\LWR@tagregularparagraph}%   lwarp
62     \LWR@orignewline%                         lwarp
63     \fn@startnote%
64     \fn@prefntext% Req'd for numbering.
65 %     \rule\z@\footnotesep%
66     \ignorespaces%
67 }
68

```

Removed print-version formatting, added closing paragraph tag:

```

69 \VerifyCommand[lwarp][footnote]{\fn@endfntext}{17BC1D2CD9A84BAFFBE765CC1618C36D}
70
71 \def\fn@endfntext{%
72   \fn@postfntext%
73   \LWR@orignobreakspace\LWR@orignewline%
74   \LWR@htmltagc{/\LWR@tagregularparagraph}%
75   \LWR@orignewline%
76 \egroup%
77 \begingroup%
78 \let\@makefntext\@empty%
79 \let\@finalstrut\@gobble%
80
81   \LetLtxMacro\rule\@gobbletwo%
82   \booltrue{LWR@spewingnotes}%   lwarp
83   \@footnotetext{\unvbox\z}%
84 }

```

These have been redefined, so re-\let them again:

```

85 \let\endfootnote\fn@endfntext
86 \let\endfootnotetext\endfootnote

```

File 188 **lwarp-footnotebackref.sty**

§ 300 Package **footnotebackref**

footnotebackref (*Pkg*) footnotebackref is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{footnotebackref}[2012/07/01]

File 189 **lwarp-footnotehyper.sty**

§ 301 Package **footnotehyper**

footnotehyper (*Pkg*) footnotehyper is a hyperref-safe version of footnote. For lwarp, footnotehyper is emulated.

for HTML output: Discard all options for lwarp-footnotehyper:

```
1 \RequirePackage{footnote}
2
3 \LWR@ProvidesPackageDrop{footnotehyper}[2018/01/23]
```

File 190 **lwarp-footnoterange.sty**

§ 302 Package **footnoterange**

(Emulates or patches code by H.-MARTIN MÜNCH.)

footnoterange (*Pkg*) footnoterange is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{footnoterange}[2012/02/17]

```
2 \csletcs{footnoterange}{footnoterange*}
3 \csletcs{endfootnoterange}{endfootnoterange*}
```

File 191 **lwarp-footnpag.sty**

§ 303 Package **footnpag**

footnpag (*Pkg*) footnpag is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{footnpag}

File 192 **lwarp-foreign.sty**

§ 304 Package **foreign**

(Emulates or patches code by PHILIP G. RATCLIFFE.)

`foreign` (*Pkg*) `foreign` is patched for use by `lwarp`.


for HTML output: 1 \LWR@ProvidesPackagePass{foreign}[2012/09/25]
2 \renewcommand\foreignabbrfont{\emph}

File 193 **lwarp-forest.sty**

§ 305 Package **forest**

(Emulates or patches code by SAŠO ŽIVANOVIĆ.)

`forest` (*Pkg*) `forest` is patched for use by `lwarp`.

 `\Forest*` The starred version of the macro `\Forest*` is not supported. `lwarp` encases each `\lateximage` in an environment, so the global results of the starred `\Forest*` are lost.

for HTML output: 1 \LWR@ProvidesPackagePass{forest}[2017/07/14]
2 \BeforeBeginEnvironment{forest}{%
3 \begin{lateximage}[-forest~\PackageDiagramAltText]?%
4 }
5
6 \AfterEndEnvironment{forest}{\end{lateximage}}
7
8 \VerifyCommand[lwarp][forest]{\Forest}{D44A6D1EAFFC86653905CC666F563E6D}
9
10 \RenewDocumentCommand{\Forest}{s D(){} m}{%
11 \forest@config{#2}%
12 \IfBooleanTF{#1}{%
13 \PackageError{lwarp-forest}%
14 {\protect\Forest* is not supported}%
15 {\Lwarp uses an environment for images,\MessageBreak
16 but \protect\Forest* cannot work in an environment.}%
17 \let\forest@next\forest@env%
18 }{\let\forest@next\forest@group@env}%
19 \begin{lateximage}[-forest~\PackageDiagramAltText]?% lwarp
20 \forest@next{#3}%
21 \end{lateximage}% lwarp
22 }

File 194 **lwarp-fouridx.sty**

§ 306 Package **fouridx**

(Emulates or patches code by STEFAN KARRMANN.)

`fouridx` (*Pkg*) `fouridx` works as-is with `svg math`, and is emulated for `MATHJAX`.

for HTML output: 1 \LWR@ProvidesPackagePass{fouridx}[2013/11/21]
2 \begin{warpMathJax}
3 \CustomizeMathJax{%

```

4   \newcommand{\fourIdx}[5]{%
5     \vphantom{#5}^{\hphantom{#2}#1}_{\hphantom{#1}#2}{#5}^{\#3}_{#4}%
6   }%
7 }
8 \end{warpMathJax}


```

File 195 **lwarp-fourier.sty**

§ 307 Package **fourier**

(Emulates or patches code by MICHEL BOVANI.)

`fourier` (*Pkg*) `fourier` is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except `sloped` and `upright` are honored for Greek characters, but MATHJAX cannot yet honor these for Latin characters.

The dedicated macros for upright and italic Greek letters do work correctly.

SVG math should appear the same as the printed output.

for HTML output:

```

1 \LWR@ProvidesPackagePass{fourier}[2020/03/03]
2
3 \LWR@infoprocessingmathjax{fourier}

4 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
5
6 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}
7
8 \begin{warpMathJax}
9
10 \IfPackageLoadedWithOptionsTF{fourier}{sloped}
11   {
12     \LWR@mathjax@addgreek@l@up{other}{}
13     \LWR@mathjax@addgreek@u@it*{other}{}
14   }% sloped
15   {% not sloped
16     \IfPackageLoadedWithOptionsTF{fourier}{upright}
17     {% upright option
18       \LWR@mathjax@addgreek@l@up{}{}
19       \LWR@mathjax@addgreek@u@up*{}{}
20       \LWR@mathjax@addgreek@l@it{other}{}
21       \LWR@mathjax@addgreek@u@it*{other}{}
22     }
23     {% neither sloped nor upright
24       \LWR@mathjax@addgreek@l@up{other}{}
25       \LWR@mathjax@addgreek@u@it*{other}{}
26     }
27   }
28
29 \CustomizeMathJax{\newcommand{\othergreek}[1]{#1}}
30 \CustomizeMathJax{\let\varvarrho\varrho}
31 \CustomizeMathJax{\let\varvarpi\varpi}
32 \CustomizeMathJax{\let\othervarvarpi\othervarpi}
33 \CustomizeMathJax{\let\othervarvarrho\othervarrho}
34 \CustomizeMathJax{\let\varpartialdiff\partial}

```

lwarp_mathjax.txt adds \left/\right support for delimiters.

```

35 \CustomizeMathJax{\let\llbracket\lBrack}
36 \CustomizeMathJax{\let\rrbracket\rBrack}
37 \CustomizeMathJax{\let\dblbrackleft\lBrack}
38 \CustomizeMathJax{\let\dblbrackright\rBrack}
39
40 \CustomizeMathJax{\let\VERT|}
41
42 \CustomizeMathJax{\newcommand{\parallelslant}{\mathrel{\unicode{x02AFD}}}}
43 \CustomizeMathJax{\newcommand{\thething}{\mathord{\unicode{x1F60E}}}}
44 \CustomizeMathJax{\newcommand{\nparallelslant}{%
45   \mathrel{\LWROverlaysymbols{-}{\unicode{x02AFD}}}%
46 }}
47 \CustomizeMathJax{\newcommand{\xswordsup}{\mathord{\unicode{x2694}}}}
48 \CustomizeMathJax{\newcommand{\xswordsdwn}{\mathord{\unicode{x2694}}}}% up
49 \CustomizeMathJax{\newcommand{\notowns}{\mathrel{\unicode{x220C}}}}
50
51 \CustomizeMathJax{\newcommand{\iintop}{\mathop{\unicode{x222C}}\limits}}
52 \CustomizeMathJax{\newcommand{\iiintop}{\mathop{\unicode{x222D}}\limits}}
53 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x222F}}\limits}}
54 \CustomizeMathJax{\let\oiintop\oiint}
55 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x2230}}\limits}}
56 \CustomizeMathJax{\let\oiintop\oiint}
57 \CustomizeMathJax{\newcommand{\slashint}{\mathop{\unicode{x2A0D}}\limits}}
58 \CustomizeMathJax{\let\slashintop\slashint}
59
60 \CustomizeMathJax{\let\overgroup\overparen}
61 \CustomizeMathJax{\let\wideparen\overparen}
62 \CustomizeMathJax{\let\widearc\overparen}
63 \CustomizeMathJax{\let\wide0arc\overrightarrow}
64 \CustomizeMathJax{\newcommand{\widering}[1]{\stackrel{\unicode{x2218}}{\overgroup{#1}}}}
65
66 \end{warpMathJax}

```

File 196 **lwarp-framed.sty**

§ 308 Package **framed**

(Emulates or patches code by DONALD ARSENEAU.)

framed (*Pkg*) **framed** is supported and patched by **lwarp**.

for HTML output: Accept all options for **lwarp-framed**:

```

1 \LWR@ProvidesPackagePass{framed}[2011/10/22]
2
3 \AtBeginDocument{\RequirePackage{xcolor}}% for \convertcolorspec

4 \renewenvironment{framed}
5 {%
6   \LWR@forcenewpage
7   \BlockClass{framed}%
8 }
9 \endBlockClass}
10
11 \renewenvironment{oframed}
12 {%

```



```

13   \LWR@forcenewpage
14   \BlockClass{framed}%
15 }
16 {\endBlockClass}
17
18
19 \renewenvironment{shaded}
20 {%
21   \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
22   \LWR@forcenewpage
23   \BlockClass[background: \LWR@origpound\LWR@tempcolor]{shaded}%
24 }
25 {\endBlockClass}
26
27 \renewenvironment{shaded*}
28 {%
29   \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
30   \LWR@forcenewpage
31   \BlockClass[background: \LWR@origpound\LWR@tempcolor]{shaded}%
32 }
33 {\endBlockClass}
34
35
36 \renewenvironment{leftbar}{%
37   \LWR@forcenewpage
38   \BlockClass{framedleftbar}
39   \def\FrameCommand{%
40     \MakeFramed {}
41 }%
42 {\endMakeFramed\endBlockClass}
43
44
45 \renewenvironment{snugshade}
46 {%
47   \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
48   \LWR@forcenewpage
49   \BlockClass[background: \LWR@origpound\LWR@tempcolor]{snugframed}%
50 }
51 {\endBlockClass}
52
53 \renewenvironment{snugshade*}
54 {%
55   \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
56   \LWR@forcenewpage
57   \BlockClass[background: \LWR@origpound\LWR@tempcolor]{snugframed}%
58 }
59 {\endBlockClass}
60
61 \let\oframed\framed
62 \let\endoframed\endframed
63
64
65 \RenewEnviron{titled-frame}[1]{%
66   \CustomFBox{#1}{0pt}{0pt}{0pt}{0pt}{\BODY}
67 }

```

\CustomFBox

{<toptitle>} {<bottitle>} {<thicknesstop>} {<bottom>} {<left>} {<right>} {<text contents>}

```

68 \renewcommand{\CustomFBox}[7]{%
69   \convertcolorspec{named}{TFFrameColor}{HTML}\LWR@tempcolor%
70   \LWR@forcenewpage
71   \begin{BlockClass}[border: 3px solid \LWR@origpound\LWR@tempcolor]{framed}%
72   \ifthenelse{\isempty{#1}}{\}% not empty
73   \begin{BlockClass}[background: \LWR@origpound\LWR@tempcolor]{framedtitle}%
74     \textcolor{TFTitleColor}{\textbf{#1}}%
75     \end{BlockClass}%
76   }% not empty
77
78   #7
79
80   \ifthenelse{\isempty{#2}}{\}% not empty
81     \convertcolorspec{named}{TFFrameColor}{HTML}\LWR@tempcolor%
82     \begin{BlockClass}[background: \LWR@origpound\LWR@tempcolor]{framedtitle}%
83       \textcolor{TFTitleColor}{\textbf{#2}}%
84       \end{BlockClass}%
85     }% not empty
86   \end{BlockClass}%
87 }

```

`\TitleBarFrame``{\langle marker \rangle} {\langle title \rangle} {\langle contents \rangle}`

```

88 \renewcommand\TitleBarFrame[3][{}]{%
89   \CustomFBox%
90     {#2}{}%
91     \fboxrule\fboxrule\fboxrule\fboxrule%
92     {#3}%
93 }

94 \renewcommand{\TF@Title}[1]{#1}

```

`Env MakeFramed``{\langle settings \rangle}`

```

95 \let\MakeFramed\relax
96 \let\endMakeFramed\relax
97
98 \NewEnviron{MakeFramed}[1]{%
99   \FrameCommand{\begin{minipage}{\linewidth}\BODY\end{minipage}}%
100 }

```

`\fb@put@frame``{\langle frame cmd no split \rangle} {\langle frame cmd split \rangle}`

```

101 \renewcommand*\fb@put@frame[2]{%
102   \relax%
103   \@tempboxa%
104 }

```

File 197 **lwarp-froufrou.sty**

§ 309 Package **froufrou**

(Emulates or patches code by NELSON LAGO.)

froufrou (*Pkg*) froufrou is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{froufrou}[2020/12/22]

```

2 \ExplSyntaxOn
3 \xpretocmd{\setfroufrou}
4   {\edef\LWR@latestfroufrou{\detokenize{#1}}}
5   {}
6   {\LWR@patcherror{froufrou}{setfroufrou}}
7 \ExplSyntaxOff
8
9 \VerifyCommand[lwarp][froufrou]{\froufrou}{E60D7F93008BB892149BBBC2E09983D6}
10
11 \RenewDocumentCommand{\froufrou}{s O{}}{%
12   \nopagebreak[4]\par
13
14   \IfBooleanTF{#1}{\@afterindenttrue}{\@afterindentfalse}
15
16   \nopagebreak[4]\@froufrou spacebefore\nopagebreak[4]
17
18   \bgroup
19     \setfroufrou{#2}%
20     \normalsize
21     \ifdefvoid{setstretch}{\setstretch{\setspace@singlespace}}% normally 1
22     \setlength{\parskip}{0pt}
23     \noindent\centering\bgroup%
24       \begin{center}%
25         \begin{lateximage}*[froufrou][\LWR@latestfroufrou]%
26         \@froufrouOrnament%
27         \end{lateximage}%
28         \end{center}%
29     \egroup\par
30   \egroup
31
32   \nopagebreak[4]\@froufrou spaceafter\nopagebreak[4]
33
34   \@froufrouFixSpacingAfter
35
36   \nopagebreak[3]
37
38   \@afterheading
39 }

```

File 198 **lwarp-ftcap.sty**

§ 310 Package **ftcap**

ftcap (*Pkg*) ftcap is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{ftcap}

File 199 **lwarp-ftnright.sty**

§ 311 Package **ftnright**

ftnright (*Pkg*) ftnright is ignored.

for HTML output:

Discard all options for `lwarp-ftnright`:

```
1 \LWR@ProvidesPackageDrop{ftnright}[2014/10/28]
```

File 200 **lwarp-fullminipage.sty**

§ 312 Package **fullminipage**

`fullminipage (Pkg)` `fullminipage` is ignored.

for HTML output: `1 \LWR@ProvidesPackageDrop{fullminipage}[2014/07/06]`

```
2 \newenvironment{fullminipage}[1][{}]{}
```

File 201 **lwarp-fullpage.sty**

§ 313 Package **fullpage**

`fullpage (Pkg)` `fullpage` is ignored.

for HTML output: Discard all options for `lwarp-fullpage`:

```
1 \LWR@ProvidesPackageDrop{fullpage}[1994/06/01]
```

File 202 **lwarp-fullwidth.sty**

§ 314 Package **fullwidth**

(Emulates or patches code by MARCO DANIEL.)

`fullwidth (Pkg)` `fullwidth` is emulated.

A minipage is used, of no HTML width.

for HTML output: `1 \LWR@ProvidesPackageDrop{fullwidth}[2011/11/18]`

```
2 \newenvironment*{fullwidth}[1][]{%
3 \minipagefullwidth%
4 \minipage{\linewidth}%
5 }
6 {%
7 \endminipage%
8 }
```

File 203 **lwarp-fvextra.sty**

§ 315 Package **fvextra**

(Emulates or patches code by GEOFFREY M. POORE.)

fvextra (*Pkg*) fvextra is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{fvextra}[2024/11/17]

If line numbers on the right side are used along with `breaklines`, the line numbers will not be aligned.

```
2 \define@booleankey{FV}{obeytabs}%
3 %   {\let\FV@ObeyTabsInit\FV@@ObeyTabsInit}%
4   {\let\FV@ObeyTabsInit\relax}%   lwarp
5   {\let\FV@ObeyTabsInit\relax}
```

`tabcolor` causes extra HTML tags, destroying the verbatim text alignment, so `tabcolor` is ignored.

```
6 \define@key{FV}{tabcolor}{}%

7 \define@booleankey{FV}{showtabs}%
8   {\def\FV@TabChar{\FV@TabColor{\FancyVerbTab}}}%
9   {\let\FV@TabChar\relax}
10
11 \newbool{LWR@FV@breaklines}
12
13 \define@booleankey{FV}{breaklines}%
14   {\boolfalse{FV@breaklines}%
15     \booltrue{LWR@FV@breaklines}%           lwarp
16 %   \let\FV@ListProcessLine\FV@ListProcessLine@Break}%
17     \let\FV@ListProcessLine\FV@ListProcessLine@NoBreak}%   lwarp
18   {\boolfalse{FV@breaklines}%
19     \boolfalse{LWR@FV@breaklines}%           lwarp
20     \let\FV@ListProcessLine\FV@ListProcessLine@NoBreak}
21 %   \fvset{breaklines}
22
23 \define@key{FV}{breakanywheresymbolpre}{\def\FancyVerbBreakAnywhereSymbolPre{}}
24 \fvset{breakanywheresymbolpre={}}
25
26 \define@key{FV}{breakanywheresymbolpost}{\def\FancyVerbBreakAnywhereSymbolPost{}}
27 \fvset{breakanywheresymbolpost={}}
28
29 \define@key{FV}{breakbeforesymbolpre}{\def\FancyVerbBreakBeforeSymbolPre{}}
30 \fvset{breakbeforesymbolpre={}}
31
32 \define@key{FV}{breakbeforesymbolpost}{\def\FancyVerbBreakBeforeSymbolPost{}}
33 \fvset{breakbeforesymbolpost={}}
34
35 \define@key{FV}{breakaftersymbolpre}{\def\FancyVerbBreakAfterSymbolPre{}}
36 \fvset{breakaftersymbolpre={}}
37
38 \define@key{FV}{breakaftersymbolpost}{\def\FancyVerbBreakAfterSymbolPost{}}
39 \fvset{breakaftersymbolpost={}}
40
41 \define@key{FV}{breaksymbolleft}{\def\FancyVerbBreakSymbolLeft{}}
42
43 \define@key{FV}{breaksymbol}{\fvset{breaksymbolleft={}}}
44
45 \fvset{breaksymbolleft={}}
46
47 \define@key{FV}{breaksymbolright}{\def\FancyVerbBreakSymbolRight{}}
48 \fvset{breaksymbolright={}}
```

Modified to insert a fixed-width space (`\nobreakspace`) to indent the left margin on indented code, but also allow a line break if needed (`\allowbreak`), to allow for break lines.

```

49 \def\FV@DefFVSpace{%
50   \ifbool{FV@showspaces}%
51     {%
52       \def\FV@Space{%
53         \FV@SpaceColor{\FancyVerbSpace}%
54         \allowbreak%
55       }%
56     }%
57   {\def\FV@Space{\nobreakspace\allowbreak}}%
58 }

```

`\FancyVerbSpace`

Force the use of a visible space instead of an empty box. From `fancyvrb`.

```

59 \ifxetexorluatex
60 \def\FancyVerbSpace{\textvisiblespace}
61 \else
62 \@ifundefined{verbvisiblespace}%
63   {%
64     \@ifundefined{textvisiblespace}%
65     {\begingroup\catcode\ =12 \gdef\FancyVerbSpace{\tt } \endgroup}
66     {\def\FancyVerbSpace{\textvisiblespace}}
67   }%
68 {\def\FancyVerbSpace{\verbvisiblespace}}
69 \fi

```

`\LWR@currentFVbackstyle`

Contains the style text for the background of the current environment. This is defined in `lwarp-fancyvrb`.

Figures out the style text for the background of the current environment. This is initially defined in `lwarp-fancyvrb`, and enhanced here.

`\LWR@find@currentFVbackstyle`

```

70 \renewcommand*{\LWR@find@currentFVbackstyle}{%
71   \ifundef{\FancyVerbBackgroundColor}%
72     {%
73       \renewcommand*{\LWR@currentFVbackstyle}{}%
74     }%
75     {%
76       \protect\colorlet{\LWR@current@color}{\FancyVerbBackgroundColor}%
77       \protect\convertcolorspec%
78         {named}{\LWR@current@color}{HTML}%
79         \LWR@currentFVbackcolor\relax%
80       \renewcommand*{\LWR@currentFVbackstyle}{%
81         background:\LWR@origpound\LWR@currentFVbackcolor ; %
82       }%
83     }%
84 }%

```

`\FV@BGColor@List`

```

85 \def\FV@BGColor@List#1{%
86   \ifx\FancyVerbBackgroundColor\relax
87     \expandafter\@firstoftwo
88   \else
89     \expandafter\@secondoftwo

```

```

90 \fi
91  {#1}%
92  {%
93 % \setlength{\FV@TmpLength}{\fboxsep}%
94 % \setlength{\fboxsep}{0pt}%
95 % \colorbox{\FancyVerbBackgroundColor}{%
96 % \setlength{\fboxsep}{\FV@TmpLength}%
97 % #1% lwarp
98 % \rlap{\FancyVerbBackgroundColorVPhantom\strut#1}%
99 % \hspace{\linewidth}%
100 % \ifx\FV@RightListFrame\relax\else
101 % \hspace{-\FV@FrameSep}%
102 % \hspace{-\FV@FrameRule}%
103 % \fi
104 % \ifx\FV@LeftListFrame\relax\else
105 % \hspace{-\FV@FrameSep}%
106 % \hspace{-\FV@FrameRule}%
107 % \fi%
108 % }%
109 % \hss%
110 }}

```

{*text*}

\FV@ListProcessLine@NoBreak

Modified to always allow line wrapping because added HTML tags may make run off the end of the line in the PDF output file before conversion to HTML.

```

111 \VerifyCommand[lwarp][fvextra]{\FV@ListProcessLine@NoBreak}
112   {CF94595D40774FB18D2002C3C9276956}
113
114 \def\FV@ListProcessLine@NoBreak#1{%
115 % \hbox to \hsize{%
116 % \kern\leftmargin
117 % \hbox to \linewidth{%
118 % \FV@LeftListNumber%
119 % \FV@LeftListFrame%
120 % \FV@BGColor@List{%
121 % \FancyVerbFormatLine{%
122 % \FancyVerbHighlightLine{%
123 % \FV@ObeyTabs{\FancyVerbFormatText{#1}}}}}%\hss
124 % \FV@RightListFrame%
125 % \FV@RightListNumber%
126 % }%
127 % \hss}%
128 \null\par% lwarp
129 }

130 \newcommand*\LWR@FV@linethensep{%
131 \ifbool{LWR@FV@breaklines}%
132   {\theFancyVerbLine\kern\FV@NumberSep}%
133   {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}%
134 }
135
136 \newcommand*\LWR@FV@septhenline{%
137 \ifbool{LWR@FV@breaklines}%
138   {\kern\FV@NumberSep\theFancyVerbLine}%
139   {\hbox to\z@{\kern\FV@NumberSep\theFancyVerbLine\hss}}%
140 }
141
142 \VerifyCommand[lwarp][fvextra]{\FV@Numbers@left}

```

```

143     {57A16473A8AA4214529F6BABEC435311}
144
145 \xpatchcmd{\FV@Numbers@left}%
146   {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
147   {\LWR@FV@linethensep}
148   {}
149   {\LWR@patcherror{fvextra}{FV@Numbers@left A}}
150
151 \xpatchcmd{\FV@Numbers@left}%
152   {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
153   {\LWR@FV@linethensep}
154   {}
155   {\LWR@patcherror{fvextra}{FV@Numbers@left B}}
156
157 \xpatchcmd{\FV@Numbers@left}%
158   {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
159   {\LWR@FV@linethensep}
160   {}
161   {\LWR@patcherror{fvextra}{FV@Numbers@left C}}
162
163 \VerifyCommand[lwarp][fvextra]{\FV@Numbers@right}
164   {6D0F98326BCB22695874D94BEC12E32F}
165
166 \xpatchcmd{\FV@Numbers@right}%
167   {\hbox to\z@{\kern\FV@NumberSep\theFancyVerbLine\hss}}
168   {\LWR@FV@septhenline}
169   {}
170   {\LWR@patcherror{fvextra}{FV@Numbers@right A}}
171
172 \xpatchcmd{\FV@Numbers@right}%
173   {\hbox to\z@{\kern\FV@NumberSep\theFancyVerbLine\hss}}
174   {\LWR@FV@septhenline}
175   {}
176   {\LWR@patcherror{fvextra}{FV@Numbers@right B}}
177
178 \xpatchcmd{\FV@Numbers@right}%
179   {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
180   {\LWR@FV@linethensep}
181   {}
182   {\LWR@patcherror{fvextra}{FV@Numbers@right C}}
183
184 \VerifyCommand[lwarp][fvextra]{\FV@Numbers@both}
185   {C349DC2B800D5DD085FFB7620A6289EA}
186
187 \xpatchcmd{\FV@Numbers@both}%
188   {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
189   {\LWR@FV@linethensep}
190   {}
191   {\LWR@patcherror{fvextra}{FV@Numbers@both A}}
192
193 \xpatchcmd{\FV@Numbers@both}%
194   {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
195   {\LWR@FV@linethensep}
196   {}
197   {\LWR@patcherror{fvextra}{FV@Numbers@both B}}
198
199 \xpatchcmd{\FV@Numbers@both}%
200   {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
201   {\LWR@FV@linethensep}
202   {}

```



```

203   {\LWR@patcherror{fvextra}{FV@Numbers@both C}}
204
205 \xpatchcmd{\FV@Numbers@both}%
206   {\hbox to\z@{\kern\FV@NumberSep\theFancyVerbLine\hss}}
207   {\LWR@FV@septhenline}
208   {}
209   {\LWR@patcherror{fvextra}{FV@Numbers@both D}}
210
211 \xpatchcmd{\FV@Numbers@both}%
212   {\hbox to\z@{\kern\FV@NumberSep\theFancyVerbLine\hss}}
213   {\LWR@FV@septhenline}
214   {}
215   {\LWR@patcherror{fvextra}{FV@Numbers@both E}}
216
217 \xpatchcmd{\FV@Numbers@both}%
218   {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
219   {\LWR@FV@linethensep}
220   {}
221   {\LWR@patcherror{fvextra}{FV@Numbers@both F}}

```

\FVC@SaveVerb@Extra@ii

{<name>} {<raw text>} {<text>}

Modified to add \LWR@HTMLsanitize@use@tmb to the stored macro. This is used on recall to sanitize for HTML unless in a lateximage.

```

222 \VerifyCommand[lwarp][fvextra]{\FVC@SaveVerb@Extra@ii}
223   {BCE88217BA577F70BAC8158E110E404C}
224
225 \def\FVC@SaveVerb@Extra@ii#1#2#3{%
226   \global\let\FV@AfterSave\FancyVerbAfterSave
227   \endgroup
228 % \@namedef{FV@SV@#1}{#3}%
229   \@namedef{FV@SV@#1}{\LWR@HTMLsanitize@use@tmpb{#3}}%   lwarp
230 % \@namedef{FV@SVRaw@#1}{#2}%
231   \@namedef{FV@SVRaw@#1}{\LWR@HTMLsanitize@use@tmpb{#2}}%   lwarp
232   \FV@AfterSave}%

```

\FVC@Verb@Extra@ii

{<text>}

Adds the opening and closing tags.

```

233 \VerifyCommand[lwarp][fvextra]{\FVC@Verb@Extra@ii}
234   {C81AC0F7DFE7FBB55CF8B5B7F24FA56A}
235
236 \def\FVC@Verb@Extra@ii#1{%
237   \def\tmpb{#1}%                                     lwarp
238   \ifbool{LWR@verbtags}%                             lwarp
239     {\LWR@htmltag{span class=\textquotedbl{}fancyvrb\textquotedbl}}% lwarp
240     {}%                                               lwarp
241   \LWR@HTMLsanitize@tmpb%                             lwarp
242   \ifx\FancyVerbBackgroundColor\relax
243     \expandafter\@firstoftwo
244   \else
245     \expandafter\@secondoftwo
246   \fi
247   {\ifbool{FV@breaklines}%
248 %   {\FV@InsertBreaks{\FancyVerbFormatInline}{#1}}%
249 %   {\mbox{\FancyVerbFormatInline{#1}}}%
250   {\FV@InsertBreaks{\FancyVerbFormatInline}{\tmpb}}% lwarp
251   {\mbox{\FancyVerbFormatInline{\tmpb}}}%   lwarp

```

```

252   {\setlength{\FV@TmpLength}{\fboxsep}%
253   \ifx\FancyVerbBackgroundColorPadding\relax
254     \setlength{\fboxsep}{0pt}%
255   \else
256     \setlength{\fboxsep}{\FancyVerbBackgroundColorPadding}%
257   \fi
258   \colorbox{\FancyVerbBackgroundColor}{%
259     \setlength{\fboxsep}{\FV@TmpLength}%
260   \FancyVerbBackgroundColorVPhantom\FancyVerbFormatInline{#1}}}%
261   \FancyVerbBackgroundColorVPhantom\FancyVerbFormatInline{\tmpb}}}% lwarp
262   \ifbool{LWR@verbtags}%                lwarp
263     {\LWR@htmltag{/span}}}%            lwarp
264     {}%                                  lwarp
265 \endgroup}

```

\FV@UseVerb@Extra

{<text>}

Adds the opening and closing tags.

```

266 \VerifyCommand[lwarp][fvextra]{\FV@UseVerb@Extra}
267   {C81AC0F7DFE7FBB55CF8B5B7F24FA56A}
268
269 \let\FV@UseVerb@Extra\FVC@Verb@Extra@ii%

```

\FVC@EscVerb@ii

{<text>}

Adds the opening and closing tags.

```

270 \VerifyCommand[lwarp][fvextra]{\FVC@EscVerb@ii}
271   {C81AC0F7DFE7FBB55CF8B5B7F24FA56A}
272
273 \let\FVC@EscVerb@ii\FVC@Verb@Extra@ii%

```

\FVB@VerbatimWrite

Disable santizing HTML while writing the file. HTML will be sanitized on \VerbatimInput.

```

274 \VerifyCommand[lwarp][fvextra]{\FVB@VerbatimWrite}
275   {B092E8AB57DB2ABBA815BC39DB5256DC}
276
277 \xpatchcmd{\FVB@VerbatimWrite}
278   {\FV@Scan}
279   {\boolfalse{LWR@HTMLsanitize@tmpb@enable}\FV@Scan}
280   {}
281   {\LWR@patcherror{fvextra}{FVB@VerbatimWrite}}

```

\FVB@VerbatimBuffer

Disable santizing HTML while writing the buffer. HTML will be sanitized on \VerbatimInsertBuffer.

```

282 \VerifyCommand[lwarp][fvextra]{\FVB@VerbatimBuffer}
283   {151F97F8D2944BDA11300CBF70FB40C9}
284
285 \xpatchcmd{\FVB@VerbatimBuffer}
286   {\FV@Scan}
287   {\boolfalse{LWR@HTMLsanitize@tmpb@enable}\FV@Scan}
288   {}
289   {\LWR@patcherror{fvextra}{FVB@VerbatimBuffer}}

```

\VerbatimInsertBuffer@def@FV@Line

```

290 \VerifyCommand[lwarp][fvextra]{\VerbatimInsertBuffer@def@FV@Line}

```

```

291     {5C6EACB0FB4432BEA081C784456845CD}
292
293 \def\VerbatimInsertBuffer@def@FV@Line#1{%
294     \FVExtraRetokenizeVArg{\def\FV@Line}{\#1}%
295     \LetLtxMacro\tmpb\FV@Line%      lwarp
296     \LWR@HTMLSanitize@tmpb%         lwarp
297     \LetLtxMacro\FV@Line\tmpb%     lwarp
298 }%

```

File 204 **lwarp-fwlw.sty**

§ 316 Package **fwlw**

`fwlw` (*Pkg*) `fwlw` is ignored.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{fwlw}

2 \newbox\FirstWordBox      \global\setbox\FirstWordBox\hbox{}
3 \newbox\NextWordBox      \global\setbox\NextWordBox\hbox{}
4 \newbox\LastWordBox      \global\setbox\LastWordBox\hbox{}
5 \def\ps@fwlwhead{}
6 \def\ps@NextWordFoot{}

```

File 205 **lwarp-gensymb.sty**

§ 317 Package **gensymb**

(Emulates or patches code by WALTER SCHMIDT.)

`gensymb` (*Pkg*) `gensymb` works as-is for SVG math, and uses the MATHJAX package.

for HTML output:

```

1 \LWR@ProvidesPackagePass{gensymb}[2003/07/02]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\require{gensymb}}
4 \end{warpMathJax}

```

File 206 **lwarp-gentombow.sty**

§ 318 Package **gentombow**

`gentombow` (*Pkg*) `gentombow` is ignored.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{gentombow}[2018/05/17]

2 \newcommand{\settombowbanner}[1]{}
3 \newcommand{\settombowbannerfont}[1]{}
4 \newcommand{\settombowwidth}[1]{}
5 \newcommand{\settombowbleed}[1]{}
6 \newcommand{\settombowcolor}[1]{}

```

File 207 **lwarp-geometry.sty**

§ 319 Package **geometry**

(Emulates or patches code by HIDEO UMEKI.)

`geometry (Pkg)` `geometry` is preloaded by `lwarp`, but must be nullified as seen by the user's source code.

for HTML output: Discard all options for `lwarp-geometry`:

```
1 \LWR@ProvidesPackageDropA{geometry}{2018/04/16}
```

If `geometry` is never loaded by the user, it will be loaded by `lwarp \AtBeginDocument`. If this is the case, the page layout should not be changed but the user macros should still be nullified.

```
2 \ifbool{LWR@allowanothergeometry}{%
```

Assign and set the selected geometry with `reset` prepended. `\AtEndPreamble` `lwarp` will save this, then set its own geometry.

```
3 \edef\LWR@tempone{reset,\@ptionlist{\@currname.\@currentt}}%
4 \expandafter\LWR@origgeometry\expandafter{\LWR@tempone}%
5 }{}% LWR@allowanothergeometry
```

The user-level commands are nullified:

```
6 \renewcommand*{\geometry}[1]{}
7 \renewcommand*{\newgeometry}[1]{}
8 \renewcommand*{\restoregeometry}{}
9 \renewcommand*{\savegeometry}[1]{}
10 \renewcommand*{\loadgeometry}[1]{}


```

File 208 **lwarp-ghsystem.sty**

§ 320 Package **ghsystem**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

`ghsystem (Pkg)` `ghsystem` is patched for use by `lwarp`.

 `\ghspic images` Images must be provided in SVG format, unless `JPG` is specified. It is recommended to create a local `images` directory, copy into it the relevant `PDF` `ghsystem` images, and then convert them with

```
Enter => lwarpmk pdftosvg images/*.pdf
```

for HTML output: `1 \LWR@ProvidesPackagePass{ghsystem}[2020/02/17]`

```
2 \ExplSyntaxOn
3
```

```

4 \VerifyCommand[lwarp][ghsystem]{\ghsystem_filler:n}{2B8CCE2EC0EC4AB8FA4C4E4A68FFCE70}
5
6 \cs_set_protected:Npn \ghsystem_filler:n #1
7 { \emph { \textless #1 \textgreater } }
8
9 \VerifyCommand[lwarp][ghsystem]{\ghsystem_pic:n}{950F001D9FCDAFF7A9154739DC8025BB}
10
11 \cs_set_protected:Npn \ghsystem_pic:n #1
12 {
13   \__ghsystem_includegraphics:xn
14   {
15%     scale = \fp_to_tl:N \l__ghsystem_picture_scale_fp
16     width = 1.25cm
17     \exp_not:V \l__ghsystem_picture_includegraphics_tl
18   }
19   { ghsystem_ #1 . \l__ghsystem_picture_type_tl }
20 }
21
22 \ExplSyntaxOff

```

File 209 **lwarp-gindex.sty**

§ 321 Package **gindex**

(Emulates or patches code by JAVIER BEZOS.)

`gindex (Pkg)` `gindex` is patched for use by `lwarp`.

See section [8.6.16](#).

for HTML output: `1 \LWR@ProvidesPackagePass{gindex}[2019/10/07]`

Set the index page and range separators. These are set `\AtBeginDocument` to allow the user to change them. They are then protected so that the `lwarp` core looks for the tokens instead of their expanded contents, since the `*.ind` files will contain `\indexpagesep` and `\indexrangesep` instead of their literal contents. Finally, `lwarp` is told of the `gindex` macros.

```

2 \AtBeginDocument{
3   \robustify{\indexpagesep}
4   \robustify{\indexrangesep}
5   \renewcommand*{\IndexPageSeparator}{\indexpagesep}
6   \renewcommand*{\IndexRangeSeparator}{\indexrangesep}
7 }

```

`\hyperindexref` is added:

```

8 \def\addindexitem#1#2{%
9   \indexflushitem
10  \gix@getspecial#1\indexspecial\indexspecial\@@\indexitem{\hyperindexref{#2}}
11
12 \def\addindexsubitem#1#2{%
13   \stepcounter{indexsubitems}%
14  \gix@getspecial#1\indexspecial\indexspecial\@@\indexsubitem{\hyperindexref{#2}}
15
16 \def\addindexsubsubitem#1#2{%
17  \gix@getspecial#1\indexspecial\indexspecial\@@\indexsubsubitem{\hyperindexref{#2}}

```

Uses a `<div>` of class `indexheading`:

```
18 \renewcommand\indexheading[1]{%
19   \begin{BlockClass}{indexheading}
20   \MakeUppercase{#1}%
21   \end{BlockClass}
22 }
```

File 210 **lwarp-gloss.sty**

§ 322 Package **gloss**

(Emulates or patches code by JOSE LUIS DÍAZ, JAVIER BEZOS.)

`gloss (Pkg)` **gloss** is patched for use by `lwarp`.

To process the HTML glossary:

```
bibtex <projectname>_html.gls
```

for HTML output: 1 \LWR@ProvidesPackagePass{gloss}[2002/07/26]

`\BaseJobname` is added to the label in case `xr` or `xr-hyper` are used.

```
2 \VerifyCommand[lwarp][gloss]{\gls@gloss@iii}{96590CC8FAE12295596B9F664BE4AF8C}
3
4 \xpatchcmd{\gls@gloss@iii}
5   {\thepage}
6   {\theLWR@previousautopagelabel}
7   {}
8   {\LWR@patcherror{gloss}{gls@gloss@iii}}
9
10 \VerifyCommand[lwarp][gloss]{\gls@page@i}{C05FCEACF0A1F96FC09A218684543574}
11
12 \def\gls@page@i#1#2{%
13   \endgroup%
14   \global\@namedef{gls@p@#1}{\nameref{\BaseJobname-autopage-#2}}}%
```

File 211 **lwarp-glossaries.sty**

§ 323 Package **glossaries**


(Emulates or patches code by NICOLA L.C. TALBOT.)

`glossaries (Pkg)` **lwarpmk** has the commands **lwarpmk printglossary** and **lwarpmk htmlglossary**, which process the glossaries created by the `glossaries` package using that package's **makeglossaries** program.

`GlossaryCmd (Opt)` **Default: makeglossaries**

`printglossary (Opt)` [`lwarpmk`] The shell command to execute is set by the `lwarp` option `GlossaryCmd`, which defaults to **makeglossaries**. The print or HTML glossary filename is appended to this command.

`htmlglossary (Opt)` [`lwarpmk`]

 **makeglossaries not found** In some situations it may be required to modify the default command, such as to add the `perl` command in front:

```
\usepackage[
  GlossaryCmd={perl makeglossaries},
] {lwarp}
```

xindy language To set the language to use for processing glossaries with *xindy*:

```
\usepackage[
  GlossaryCmd={makeglossaries -L english},
] {lwarp}
```

Other options for *makeglossaries* may be set as well.

placement and toc options The glossaries may be placed in a numbered or unnumbered section, given a toc entry, and placed inline or on their own HTML page:

Numbered section, on its own HTML page:

```
\usepackage[xindy,toc,numberedsection=nolabel]{glossaries}
...
\printglossaries
```

Unnumbered section, inline with the current HTML page:

```
\usepackage[xindy,toc]{glossaries}
...
\printglossaries
```

Unnumbered section, on its own HTML page:

```
\usepackage[xindy,toc]{glossaries}
...
\ForceHTMLPage
\printglossaries
```

⚠ **glossary style** The default `style=item` option for glossaries conflicts with `lwarp`, so the style is forced to `index` instead.

⚠ **number list** The page number list in the printed form would become `\namerrefs` in HTML, which could become a very long string if many items are referenced. For now, the number list is simply turned off.

print/HTML versions The print and HTML versions of the glossary differ in their internal page numbers. Separate commands for generating print and HTML glossaries are used, even though the page number is currently ignored.

for HTML output:

```
1 \PassOptionsToPackage{xindy}{glossaries}
2
3 \LWR@ProvidesPackagePass{glossaries}[2018/07/23]
4
5 \setupglossaries{nonumberlist}
6 \setglossarystyle{index}
```

Patched to fix toc pointing to the previous page:

```
7 \VerifyCommand[lwarp][glossaries]{\@pglossarysection}{129DC9CFB9484FC34C7B81E32BBB0452}
8
9 \renewcommand*{\@pglossarysection}[2]{%
10 \glsclearpage
11 \LWR@phantomsection
12 \ifdefempty\@pglossarysecstar
13 {%
```

```

14 \csname\@@glossarysec\endcsname{#2}%
15 }%
16 {%

```

In the original, the toc entry was made before the section, thus linking to the phantomsection in the printed version, but for HTML, this caused the link to point to the page before the glossaries, which could be a different HTML file. Here, the toc entry is made after the section is created:

```

17 \csname\@@glossarysec\endcsname*{#2}%
18 \@gls@toc{#1}{\@@glossarysec}% Moved after the previous line.
19 }%
20 \@@glossaryseclabel
21 }

```

lwarp's sectioning commands cannot handle robust macros when splitting HTML into named filenames. glossaries uses \translate in sectioning names, and \translate is robust and cannot be expanded. The following pre-expands the translations at this moment, making use of \translatelet.

```

22 \newcommand*{\LWR@comp@glossaryname}{\translate{Glossary}}
23
24 \ifdefstrequal{\glossaryname}{\LWR@comp@glossaryname}{
25   \translatelet\LWR@translatetemp{Glossary}
26   \edef\glossaryname{\LWR@translatetemp}
27 }{}
28
29 \newcommand*{\LWR@comp@acronymname}{\translate{Acronym}}
30
31 \ifdefstrequal{\acronymname}{\LWR@comp@acronymname}{
32   \translatelet\LWR@translatetemp{Acronym}
33   \edef\acronymname{\LWR@translatetemp}
34 }{}
35
36 \newcommand*{\LWR@comp@glsymbolsgroupname}{\translate{Symbols (glossaries)}}
37
38 \ifdefstrequal{\glsymbolsgroupname}{\LWR@comp@glsymbolsgroupname}{
39   \translatelet\LWR@translatetemp{Symbols (glossaries)}
40   \edef\glsymbolsgroupname{\LWR@translatetemp}
41 }{}
42
43 \newcommand*{\LWR@comp@glsnumbersgroupname}{\translate{Numbers (glossaries)}}
44
45 \ifdefstrequal{\glsnumbersgroupname}{\LWR@comp@glsnumbersgroupname}{
46   \translatelet\LWR@translatetemp{Numbers (glossaries)}
47   \edef\glsnumbersgroupname{\LWR@translatetemp}
48 }{}

```

File 212 **lwarp-gmeometric.sty**

§ 324 Package **gmeometric**

gmeometric (*Pkg*) gmeometric is ignored.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{gmeometric}[2008/11/22]
2 \RequirePackageWithOptions{geometry}

```


File 213 **lwarp-graphics.sty**

§ 325 Package **graphics**

(Emulates or patches code by D. P. CARLISLE.)

graphics (*Pkg*) graphics is emulated.

for HTML output: 1 \LWR@ProvidesPackagePass{graphics}[2020/08/30]

§ 325.1 Graphics extensions

\DeclareGraphicsExtensions {*list*}

\AtBeginDocument allow SVG files instead of PDF:

```
2 \AtBeginDocument{
3 \DeclareGraphicsExtensions{.svg,.SVG,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}
4 \DeclareGraphicsRule{.svg}{svg}{.svg}{}
5 \DeclareGraphicsRule{.SVG}{svg}{.SVG}{}
6 }
```

Inside a lateximage, allow PDF instead of SVG:

```
7 \ifpdf
8 \appto\LWR@restoreorigformatting{%
9 \DeclareGraphicsExtensions{.pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}%
10 }
11 \else% \ifpdf
12     \ifXeTeX
13 \appto\LWR@restoreorigformatting{%
14 \DeclareGraphicsExtensions{.pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}%
15 }
16     \else
17 \appto\LWR@restoreorigformatting{%
18 \DeclareGraphicsExtensions{.eps,.EPS,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}%
19 }
20     \fi
21 \fi
```

§ 325.2 Length conversions and graphics options



whitespace

A scaled image in L^AT_EX by default takes only as much space on the page as it requires, but HTML browsers use as much space as the original unscaled image would have taken, with the scaled image over- or under-flowing the area.

Used to store the user's selected dimensions and HTML class.

The class defaults to “inlineimage” unless changed by a `class=xyx` option.

```
22 \newlength{\LWR@igwidth}
23 \newlength{\LWR@igheight}
24 \newcommand*{\LWR@igwidthstyle}{}
25 \newcommand*{\LWR@igheightstyle}{}
26 \newcommand*{\LWR@igorigin}{}

```

```

27 \newcommand*\LWR@igangle{}
28 \newcommand*\LWR@igxscale}{1}
29 \newcommand*\LWR@igyyscale}{1}
30
31 \newbool{LWR@igkeepaspectratio}
32 \boolfalse{LWR@igkeepaspectratio}
33
34 \newcommand*\LWR@igclass}{inlineimage}

35 \newcommand*\LWR@igalt}{\ImageAltText}

```

Set the actions of each of the key/value combinations for `\includegraphics`. Many are ignored.

If an optional width was given, set an HTML style:

```

36 \define@key{igraph}{width}{%
37 \setlength{\LWR@igwidth}{#1}%
38 \ifthenelse{\lengthtest{\LWR@igwidth > 0pt}}%
39 {%

```

Default to use the converted fixed length given:

```

40 \renewcommand*\LWR@igwidthstyle}{width:\LWR@printlength{\LWR@igwidth}}%

```

If ex or em dimensions were given, use those instead:

```

41 \IfEndWith{#1}{ex}%
42 {\renewcommand*\LWR@igwidthstyle}{width:#1}}% yes ex
43 {}% not ex
44 \IfEndWith{#1}{em}%
45 {\renewcommand*\LWR@igwidthstyle}{width:#1}}% yes em
46 {}% not em
47 \IfEndWith{#1}{\}%
48 {\renewcommand*\LWR@igwidthstyle}{width:#1}}% yes percent
49 {}% not percent
50 \IfEndWith{#1}{px}%
51 {\renewcommand*\LWR@igwidthstyle}{width:#1}}% yes px
52 {}% not px
53 }{}% end of length > 0pt
54 }

```

If an optional height was given, set an HTML style:

```

55 \define@key{igraph}{height}{%
56 \setlength{\LWR@igheight}{#1}%
57 \ifthenelse{\lengthtest{\LWR@igheight > 0pt}}%
58 {%

```

Default to use the converted fixed length given:

```

59 \renewcommand*\LWR@igheightstyle}{%
60 height:\LWR@printlength{\LWR@igheight} % extra space
61 }%

```

If ex or em dimensions were given, use those instead:

```

62 \IfEndWith{#1}{ex}%

```

```

63   {\renewcommand*\LWR@igheightstyle}{height:#1}}% yes ex
64   {}% not ex
65   \IfEndWith{#1}{em}%
66   {\renewcommand*\LWR@igheightstyle}{height:#1}}% yes em
67   {}% not em
68   \IfEndWith{#1}{\}%
69   {\renewcommand*\LWR@igheightstyle}{height:#1}}% yes percent
70   {}% not percent
71   \IfEndWith{#1}{px}%
72   {\renewcommand*\LWR@igheightstyle}{height:#1}}% yes px
73   {}% not px
74 }{}% end of length > 0pt
75 }

```

Handle keepaspectratio key:

```

76 \define@key{igraph}{keepaspectratio}[false]{%
77   \booltrue{LWR@igkeepaspectratio}%
78 }

```

Handle origin key:

```

79 \define@key{igraph}{origin}[c]{%
80   \renewcommand*\LWR@igorigin}{#1}%
81 }

```

Handle angle key:

```

82 \define@key{igraph}{angle}{\renewcommand*\LWR@igangle}{#1}}

```

Handle class key:

```

83 \define@key{igraph}{class}{\renewcommand*\LWR@igclass}{#1}}

```

Handle alt key:

```

84 \define@key{igraph}{alt}{\renewcommand*\LWR@igalt}{#1}}

```

It appears that `graphicx` does not have separate keys for `xscale` and `yscale`. `scale` adjusts both at the same time.

```

85 \define@key{igraph}{scale}{%
86   \ifthenelse{\equal{#1}{1}}{}{}% must expand #1
87   \PackageNote{lwarp}{%
88     It is recommended to use ``[width=xx\protect\linewidth]'\MessageBreak
89     instead of ``[scale=yy]'\,%
90   }%
91 }%
92 \renewcommand*\LWR@igxscale}{#1}%
93 \renewcommand*\LWR@igyscale}{#1}%
94 }

```

Numerous ignored keys:

```

95 \define@key{igraph}{bb}{}
96 \define@key{igraph}{bblx}{}
97 \define@key{igraph}{bblly}{}
98 \define@key{igraph}{bburx}{}

```

```

99 \define@key{igraph}{bbury}{}
100 \define@key{igraph}{natwidth}{}
101 \define@key{igraph}{natheight}{}
102 \define@key{igraph}{hiresbb}[true]{}
103 \define@key{igraph}{viewport}{}
104 \define@key{igraph}{trim}{}
105 \define@key{igraph}{totalheight}{}
106 \define@key{igraph}{clip}[true]{}
107 \define@key{igraph}{draft}[true]{}
108 \define@key{igraph}{type}{}
109 \define@key{igraph}{ext}{}
110 \define@key{igraph}{read}{}
111 \define@key{igraph}{command}{}

```

New in v1.1a:

```

112 \define@key{igraph}{quite}{}
113 \define@key{igraph}{page}{}
114 \define@key{igraph}{pagebox}{}
115 \define@key{igraph}{interpolate}[true]{}

```

New in v1.1b:

```

116 \define@key{igraph}{decodearray}{}

```

§ 325.3 Printing HTML styles

`\LWR@rotstyle`

`{<prefix>}{<degrees>}`

Prints the rotate style with the given prefix.

prefix is `-ms-` or `-webkit-` or nothing, and is used to generate three versions of the `transform: rotate` style.

```

117 \newcommand*\LWR@rotstyle[2]{%
118   \edef\LWR@tempone{#2}%
119   \setcounter{LWR@tempcountone}{-1*\real{\LWR@tempone}} % space
120   #1transform:rotate(\arabic{LWR@tempcountone}deg); % space
121 }

```

`\LWR@scalestyle`

`{<prefix>}{<xscale>}{<yscale>}`

Prints the scale style with the given prefix.

prefix is `-ms-` or `-webkit-` or nothing, and is used to generate three versions of the `transform: scale` style.

```

122 \newcommand*\LWR@scalestyle[3]{%
123   #1transform:scale(#2,#3);
124 }

```

§ 325.4 **\includegraphics**`\LWR@opacity`For HTML, used only for `\includegraphics`.`\LWR@opacity` may be set by the `transparent` package.

```
125 \def\LWR@opacity{1}
```

`\LWR@imagesizebox`

Used to determine the actual image size if needed.

```
126 \newsavebox{\LWR@imagesizebox}
```

`\LWR@HTML@Gin@setfile``{\langle w \rangle}{\langle h \rangle}{\langle filename \rangle}` Sets the parsed filename for HTML output.

```
127 \newcommand*\LWR@HTML@Gin@setfile[3]{%
128   \xdef\LWR@parsedfilename{#3}%
129 }
```

`class (Key) [Gin]` CSS class for the image.Define the new class key for the print-mode version of `\includegraphics`, which is enabled inside a `lateximage`.

```
130 \AtBeginDocument{
131   \define@key{Gin}{class}{}
132 }
```

`\LWR@replaceEPSSVG`Usually, references to EPS files become SVG files, but if the `epstopdf` package is being used, it automatically converts EPS to PDF, and the following must NOT be done.

```
133 \AtBeginDocument{
134   \IfPackageLoadedTF{epstopdf}
135   {
136     \newcommand*\LWR@replaceEPSSVG{}
137   }{%
138     \newcommand*\LWR@replaceEPSSVG{%
139       \StrSubstitute{\LWR@tempone}{.eps}{.svg}[\LWR@tempone]%
140       \StrSubstitute{\LWR@tempone}{.EPS}{.SVG}[\LWR@tempone]%
141     }
142   }%
143 }
```

* [`\langle 2: options \rangle`] [`\langle 3: options \rangle`] [`\langle 4: filename \rangle`]`\LWR@ig@useactualimagesize`

If formatting for a word processor, find and set the actual image size, without rotation, using PDF instead of SVG to find the original bounding box:

```
144 \newcommand*\LWR@ig@useactualimagesize[4]{%
145   \begingroup%
146   \LWR@restoreorigformatting%
147   \ifpdf%
148     \appto\LWR@restoreorigformatting{%
149       \DeclareGraphicsExtensions{%
150         .pdf, .PDF, .gif, .GIF, .png, .PNG, .jpg, .JPG, .jpeg, .JPEG%
151       }%
152     }%
153   \else% \ifpdf
154     \ifXeTeX%
```

```

155 \appto\LWR@restoreorigformatting{%
156   \DeclareGraphicsExtensions{%
157     .pdf, .PDF, .gif, .GIF, .png, .PNG, .jpg, .JPG, .jpeg, .JPEG%
158   }%
159 }%
160   \else%
161 \appto\LWR@restoreorigformatting{%
162   \DeclareGraphicsExtensions{%
163     .eps, .EPS, .gif, .GIF, .png, .PNG, .jpg, .JPG, .jpeg, .JPEG%
164   }%
165 }%
166   \fi%
167 \fi% \ifpdf

```

For a word processor, do not use rotation:

```

168 \ifbool{FormatWP}{\define@key{Gin}{angle}{}}{}%
169 \IfBooleanTF{#1}%
170 {% starred
171   \IfValueTF{#3}%
172   {%
173     \global\abox{\LWR@imagesizebox}{%
174       \LWR@originincludegraphics*[#2][#3]{#4}%
175     }%
176   }%
177   {%
178     \IfValueTF{#2}%
179     {%
180       \global\abox{\LWR@imagesizebox}{%
181         \LWR@originincludegraphics*[#2]{#4}%
182       }%
183     }%
184     \global\abox{\LWR@imagesizebox}{%
185       \LWR@originincludegraphics*{#4}%
186     }%
187   }%
188 }%
189 }% starred
190 {% not starred
191   \IfValueTF{#3}%
192   {%
193     \global\abox{\LWR@imagesizebox}{%
194       \LWR@originincludegraphics[#2][#3]{#4}%
195     }%
196   }%
197   {%
198     \IfValueTF{#2}%
199     {%
200       \global\abox{\LWR@imagesizebox}{%
201         \LWR@originincludegraphics[#2]{#4}%
202       }%
203     }%
204     \global\abox{\LWR@imagesizebox}{%
205       \LWR@originincludegraphics{#4}%
206     }%
207   }%
208 }%
209 }% not starred
210 \endgroup%
211 \settowidth{\LWR@igwidth}{\usebox{\LWR@imagesizebox}}%

```

```

212   \global\renewcommand*\LWR@igwidthstyle}{%
213     width:\LWR@printlength{\LWR@igwidth}%
214   }%
215   \settoheight{\LWR@igheight}{\usebox{\LWR@imagesizebox}}%
216   \global\renewcommand*\LWR@igheightstyle}{%
217     height:\LWR@printlength{\LWR@igheight}%
218   }%
219 }

```

\LWR@ightmltag

For the HTML reference, add the graphicspath, filename, extension, alt tag, style, and class.

```

220 \newcommand*\LWR@ightmltag}{%
221   img\LWR@indentHTML%
222   src=\textquotedbl%

223   \detokenize\expandafter{\LWR@parsedfilename}%

224   \textquotedbl\LWR@indentHTML%

```

Only include a style tag if a width, height, angle, or scale was given:

```

225   \ifthenelse{
226     \NOT\equal{\LWR@igwidthstyle}{} \OR
227     \NOT\equal{\LWR@igheightstyle}{} \OR
228     \NOT\equal{\LWR@igorigin}{} \OR
229     \NOT\equal{\LWR@igangle}{} \OR
230     \NOT\equal{\LWR@igxscale}{1} \OR
231     \NOT\equal{\LWR@igyscale}{1}
232   }%
233   {%
234     style=\textquotedbl\LWR@indentHTML
235     \ifthenelse{\NOT\equal{\LWR@igwidthstyle}{} }%
236       {\LWR@igwidthstyle;\LWR@indentHTML}{}%
237     \ifthenelse{\NOT\equal{\LWR@igheightstyle}{} }%
238       {\LWR@igheightstyle;\LWR@indentHTML}{}%
239     \ifthenelse{\NOT\equal{\LWR@igorigin}{} }%
240       {%
241         transform-origin: \LWR@originnames{\LWR@igorigin};%
242         \LWR@indentHTML%
243       }{}%
244     \ifthenelse{\NOT\equal{\LWR@igangle}{} }%
245     {%
246       \LWR@rotstyle{-ms-}{\LWR@igangle}\LWR@indentHTML
247       \LWR@rotstyle{-webkit-}{\LWR@igangle}\LWR@indentHTML
248       \LWR@rotstyle}{\LWR@igangle }\LWR@indentHTML
249     }{}%
250     \ifthenelse{%
251       \NOT\equal{\LWR@igxscale}{1}\OR%
252       \NOT\equal{\LWR@igyscale}{1}%
253     }%
254     {%
255       \LWR@scalestyle{-ms-}{\LWR@igxscale}{\LWR@igyscale}%
256       \LWR@indentHTML
257       \LWR@scalestyle{-webkit-}{\LWR@igxscale}{\LWR@igyscale}%
258       \LWR@indentHTML
259       \LWR@scalestyle}{\LWR@igxscale}{\LWR@igyscale}%
260       \LWR@indentHTML
261     }{}%
262     %
263     \ifthenelse{\NOT\equal{\LWR@opacity}{1}}%

```

```

264         {opacity:\LWR@opacity;\LWR@indentHTML}{}%
265     %
266     \textquotedbl\LWR@indentHTML%
267 }{%

```

Set the class and alt tag:

```

268     class=\textquotedbl\LWR@igclass\textquotedbl\LWR@indentHTML%
269     alt=\textquotedbl\AltTextOpen\LWR@igalt\AltTextClose\textquotedbl\ \LWR@orignewline%
270 }% end of image tags

```

`\LWR@includegraphicsb`

* [*2: options*] [*3: options*] {*4: filename*}

graphics syntax is `\includegraphics * [llx, lly] [urx, ury] {filename}`

graphicx syntax is `\includegraphics [key values] {filename}`

If #3 is empty, only one optional argument was given, thus `graphicx` syntax.

If using `\epsfig` or `\psfig` from the `epsfig` package, #4 will be `\LWR@epsfig@filename`, which will have been set by the `file` or `figure` keys. Therefore, #4 must not be used until after the keys have been processed.

```

271 \NewDocumentCommand{\LWR@includegraphicsb}{s o o m}
272 {%

```

Start the image tag on a new line, allow PDF output word wrap:

```

273     \LWR@orignobreakspace \LWR@orignewline%

```

Temporarily compute `\linewidth`, `\textwidth`, `\textheight` arguments with a 6x9 inch size until the next `\endgroup`.

```

274     \begin{LWR@setvirtualpage}%

```

For correct em sizing during the width and height conversions:

```

275     \large%

```

Temporarily prevent underfull `\hbox` warnings.

```

276     \hbadness=10000\relax%

```

Reset some defaults, possibly will be changed below if options were given:

```

277     \setlength{\LWR@igwidth}{0pt}%
278     \setlength{\LWR@igheight}{0pt}%
279     \renewcommand*\LWR@igwidthstyle{}%
280     \renewcommand*\LWR@igheightstyle{}%
281     \renewcommand*\LWR@igorigin{}%
282     \renewcommand*\LWR@igangle{}%
283     \renewcommand*\LWR@igxscale}{1}%
284     \renewcommand*\LWR@igyscale}{1}%
285     \renewcommand*\LWR@igclass}{inlineimage}%
286     \boolfalse{LWR@igkeepaspectratio}%

```

```

287     \ifdefvoid{\LWR@ThisAltText}{%
288         \edef\LWR@igalt{\ImageAltText}%
289     }{%
290         \edef\LWR@igalt{\LWR@ThisAltText}%
291     }%

```

If #3 is empty, only one optional argument was given, thus `graphicx` syntax:

```

292     \IfValueF{#3}{%
293         \IfValueTF{#2}%
294         {\setkeys{igraph}{#2}}%

```



```

295     {\setkeys{igraph}{}}%
296   }%

```

Fully expand and detokenize the filename, changing the file extension to .svg if necessary.

Note that uppercase file extensions are detected and reported as lowercase, so `lwarp` can only report to the browser lowercase extensions, so all images must have lowercase file extensions.

```

297   \begingroup%
298   \LetLtxMacro\Gin@setfile\LWR@HTML@Gin@setfile%
299   \edef\LWR@tempone{#4}%

```

PDF extensions are removed to allow a search for another graphics format such as SVG or PNG.

```

300   \StrSubstitute{\LWR@tempone}{.pdf}{}[LWR@tempone]%
301   \StrSubstitute{\LWR@tempone}{.PDF}{}[LWR@tempone]%
302   \LWR@replaceEPSSVG%
303   \xdef\LWR@parsedfilename{\LWR@tempone}%
304   \Gin@include@graphics{\detokenize\expandafter{\LWR@parsedfilename}}%
305   \endgroup%
306   \filename@parse{\LWR@parsedfilename}%

```

Remove doubled // in the directory path, from the 2020/10/01 L^AT_EX kernel change.

```

307   \StrSubstitute{\LWR@parsedfilename}{//}{/}[LWR@parsedfilename]%
308   \LWR@traceinfo{LWR@parsedfilename is \LWR@parsedfilename}%

```

If formatting for a word processor, or if using `keepaspectratio`, find and set the actual image size, without rotation, using PDF instead of SVG to find the original bounding box:

```

309   \ifbool{expr{
310     bool {FormatWP} or
311     bool {LWR@igkeepaspectratio}
312   }}{\LWR@ig@useactualimagesize{#1}{#2}{#3}{#4}}{}%

```

Create the HTML reference with the graphicspath, filename, extension, alt tag, style, and class:

```

313   \LWR@traceinfo{LWR@includegraphicsb: about to create href}%
314   \boolfalse{LWR@HTMLsanitize@tmpb@removebackslash}%
315   \LWR@href@partsanitized{\LWR@parsedfilename}%
316   {% start of href
317     \LWR@traceinfo{LWR@includegraphicsb: about to LWR@htmltag}%
318     \LWR@htmltag{\LWR@ig@htmltag}%
319   }% end of href

```

Return to original page size and font size:

```

320   \end{LWR@setvirtualpage}%

```

Clear the single-use alt text:

```

321   \gdef\LWR@ThisAltText{}%
322   \LWR@traceinfo{LWR@includegraphicsb done}%
323 }

```

`\includegraphics [⟨key=val⟩] {⟨filename⟩}`

Handles width and height, converted to fixed width and heights.

The user should always use no file suffix in the document source.

```

324 \AtBeginDocument{
325
326 \LWR@traceinfo{Patching includegraphics.}
327
328 \LetLtxMacro\LWR@originincludegraphics\includegraphics

329 \renewrobustcmd*\includegraphics}
330 {%

```

This graphic should trigger an HTML paragraph even if alone, so ensure that are doing paragraph handling:

```

331 \LWR@traceinfo{includegraphics}%
332 \LWR@ensuredoingapar%
333 \LWR@includegraphicsb%
334 }% includegraphics
335 }% AtBeginDocument

```

§ 325.5 Boxes

`\LWR@rotboxorigin`

Holds the origin key letters.

```
336 \newcommand*\LWR@rotboxorigin{}
```

`\LWR@originname`

`{<letter>}`

Given one L^AT_EX origin key value, translate into an HTML origin word:

```

337 \newcommand*\LWR@originname[1]{%
338   \ifthenelse{\equal{#1}{t}}{top}{}%
339   \ifthenelse{\equal{#1}{b}}{bottom}{}%
340   \ifthenelse{\equal{#1}{c}}{center}{}%
341   \ifthenelse{\equal{#1}{l}}{left}{}%
342   \ifthenelse{\equal{#1}{r}}{right}{}%
343 }

```

`\LWR@originnames`

`{<letters>}`

Given one- or two-letter L^AT_EX origin key values, translate into HTML origin words:

```

344 \newcommand*\LWR@originnames[1]{%
345   \StrChar{#1}{1}[\LWR@strresult]%
346   \LWR@originname{\LWR@strresult}
347   \StrChar{#1}{2}[\LWR@strresult]%
348   \LWR@originname{\LWR@strresult}
349 }

```

Handle the origin key for `\rotatebox`:

```

350 \define@key{krotbox}{origin}{%
351   \renewcommand*\LWR@rotboxorigin{#1}%
352 }

```

These keys are ignored:

```

353 \define@key{krotbox}{x}{}
354 \define@key{krotbox}{y}{}
355 \define@key{krotbox}{units}{}

```

`\rotatebox` [*⟨keyval list⟩*] [*⟨angle⟩*] [*⟨text⟩*]

```
356 \AtBeginDocument{
```

The HTML version:

```
357 \NewDocumentCommand{\LWR@HTML@rotatebox}{O{} m +m}{%
```

Reset the origin to “none-given”:

```
358 \renewcommand*\LWR@rotboxorigin{}
```

Process the optional keys, which may set `\LWR@rotateboxorigin`:

```
359 \setkeys{krotbox}{#1}%
```

Select inline-block so that HTML will transform this span:

```
360 \LWR@htmltagc{%
361   span\LWR@indentHTML
362   style=\textquotedbl\LWR@indentHTML
363   display: inline-block;\LWR@indentHTML
```

If an origin was given, translate and print the origin information:

```
364   \ifthenelse{\NOT\equal{\LWR@rotboxorigin}{}}%
365     {transform-origin: \LWR@originnames{\LWR@rotboxorigin};\LWR@indentHTML}%
366     {}%
```

Print the rotation information:

```
367   \LWR@rotstyle{-ms-}{#2}\LWR@indentHTML
368   \LWR@rotstyle{-webkit-}{#2}\LWR@indentHTML
369   \LWR@rotstyle{}{#2}\textquotedbl\LWR@orignewline%
370 }\LWR@orignewline%
```

Print the text to be rotated:

```
371 \begin{LWR@nestspan}%
372 #3%
```

Close the span:

```
373 \LWR@htmltagc{/span}%
374 \end{LWR@nestspan}%
375 }
```

The high-level interface:

```
376 \LWR@formatted{rotatebox}
377
378 }% AtBeginDocument
```

`\scalebox` [*⟨h-scale⟩*] [*⟨v-scale⟩*] [*⟨text⟩*]

```
379 \AtBeginDocument{
```

The HTML version:

```
380 \NewDocumentCommand{\LWR@HTML@scalebox}{m o m}{%
```

Select inline-block so that HTML will transform this span:

```
381 \LWR@htmltagc{%
382   span\LWR@indentHTML
383   style=\textquotedbl\LWR@indentHTML
384   display: inline-block;\LWR@indentHTML
```

Print the scaling information:

```
385   \LWR@scalestyle{-ms-}{#1}{\IfNoValueTF{#2}{#1}{#2}}\LWR@indentHTML
386   \LWR@scalestyle{-webkit-}{#1}{\IfNoValueTF{#2}{#1}{#2}}\LWR@indentHTML
387   \LWR@scalestyle{}{#1}{\IfNoValueTF{#2}{#1}{#2}}
388   \textquotedbl\LWR@originewline
389 }\LWR@originewline%
```

Print the text to be scaled:

```
390 \begin{LWR@nestspan}%
391 #3%
```

Close the span:

```
392 \LWR@htmltagc{/span}%
393 \end{LWR@nestspan}%
394 }
```

The high-level interface:

```
395 \LWR@formatted{scalebox}
396
397 }% AtBeginDocument
```

`\reflectbox {<text>}`

```
398 \AtBeginDocument{
399
400 \newcommand{\LWR@HTML@reflectbox}[1]{%
401   \scalebox{-1}[1]{#1}%
402 }% \reflectbox
403
404 \LWR@formatted{reflectbox}
405
406 }% AtBeginDocument
```

`\resizebox {<h-length> } {<v-length> } {<text>}`

Simply prints its text argument.

```
407 \AtBeginDocument{
408
409 \NewDocumentCommand{\LWR@HTML@resizebox}{s m m m}{%
410   #4%
411 }
```

```

412
413 \LWR@formatted{resizebox}
414
415 }% AtBeginDocument

```

File 214 **lwarp-graphicx.sty**

§ 326 Package **graphicx**

`graphicx (Pkg)` `graphicx` is emulated.

`graphicx` loads `graphics`, which also loads `lwarp-graphics`, which remembers the original `graphics` definitions for use inside a `lateximage`, and then patches them `\AtBeginDocument` for HTML output.

`lwarp-graphics` handles the syntax of either `graphics` or `graphicx`.

for HTML output: `1 \LWR@ProvidesPackagePass{graphicx}[2020/09/09]`

File 215 **lwarp-grffile.sty**

§ 327 Package **grffile**

`grffile (Pkg)` `grffile` is supported as-is. File types known to the browser are displayed, and unknown file types are given a link. Each PDF image for print mode should be accompanied by an SVG, PNG, or JPG version for HTML.

`lwarp-grffile` now exists as a placeholder since `grffile` used to be emulated by `lwarp`, and thus older versions of `lwarp-grffile` may exist and should be overwritten by this newer version.

for HTML output: `1 \LWR@ProvidesPackagePass{grffile}[2017/06/30]`

File 216 **lwarp-grid.sty**

§ 328 Package **grid**

`grid (Pkg)` `grid` is ignored.

for HTML output: `1 \LWR@ProvidesPackageDrop{grid}[2009/06/16]`

`2 \newenvironment*{gridenv}{}{}`

File 217 **lwarp-grid-system.sty**

§ 329 Package **grid-system**

(Emulates or patches code by MARCUS BITZL.)



matching PDF and SVG

grid-system (*Pkg*) grid-system is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{grid-system}[2014/02/16]

(\ifdef is in case the older syntax is removed.)

```
2 \AtBeginEnvironment{Row}{\setlength{\linewidth}{6in}}
3
4 \ifdef{\endrow}{
5   \AtBeginEnvironment{row}{\setlength{\linewidth}{6in}}
6 }{}
7
8 \renewcommand{\gridsystem@finishcell}{\hspace{\gridsystem@cellsep}}
```

File 218 **lwarp-gridset.sty**

§ 330 Package **gridset**

gridset (*Pkg*) gridset is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{gridset}[2020-02-12]

```
2 \newcommand*\gridbase{}
3 \newcommand*\gridinterval{}
4 \newcommand*\SavePos[1]{}
5 \ifLuaTeX
6 \else
7 \let\savepos\SavePos
8 \fi
9 \newcommand*\vskipnextgrid{}
10 \newcommand*\thegridinfo[1]{(thegridinfo)}
11 \newcommand*\theuserinfo[1]{(theuserinfo)}
12 \newcommand*\theypos[1]{(theypos)}
```

File 219 **lwarp-hang.sty**

§ 331 Package **hang**

(Emulates or patches code by ANDREAS NOLDA.)

hang (*Pkg*) hang is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{hang}[2017/02/18]

```
2 \newlength{\hangingindent}
3 \setlength{\hangingindent}{1em}
4 \newlength{\hangingleftmargin}
5 \setlength{\hangingleftmargin}{0em}
6
7 \newcommand*\LWR@findhangingleftmargin{%
8 \setlength{\LWR@templengthone}{\hangingleftmargin}%
9 \addtolength{\LWR@templengthone}{\hangingindent}%
10 }
```

```

11
12 \newenvironment{hangingpar}
13 {
14   \LWR@findhangingleftmargin%
15   \BlockClass[%
16     \LWR@print@embox{margin-left:\LWR@printlength{\LWR@templengthone}} ; %
17     \LWR@print@embox{text-indent:-\LWR@printlength{\hangingindent}}%
18   ]%
19   {hangingpar}%
20 }
21 {\endBlockClass}
22
23 \newenvironment{hanginglist}
24 {%
25   \renewcommand*\LWR@printcloselist{\LWR@printcloseitemize}%
26   \renewcommand*\LWR@printopenlist{%
27     \LWR@findhangingleftmargin%
28     ul % space
29     class=\textquotedbl{}hanging\textquotedbl{} % space
30     style=\textquotedbl%
31     \LWR@print@embox{list-style-type:none;} % extra space
32     \LWR@print@embox{%
33       margin-left:\LWR@printlength{\LWR@templengthone}%
34     } ; % extra space
35     \LWR@print@embox{%
36       text-indent:-\LWR@printlength{\hangingindent}%
37     }%
38     \textquotedbl%
39   }%
40   \LetLtxMacro\item\LWR@itemizeitem%
41   \list{}{}%
42 }
43 {\endlist}
44
45 \newenvironment{compacthang}
46 {\hanginglist}
47 {\endhanginglist}
48
49 \newlength{\labeledleftmargin}
50 \setlength{\labeledleftmargin}{0em}
51
52 \newenvironment{labeledpar}[2]
53 {%
54   \BlockClass[%
55     \LWR@findhangingleftmargin%
56     \LWR@print@embox{margin-left:\LWR@printlength{\LWR@templengthone}} ; %
57     \LWR@print@embox{text-indent:-\LWR@printlength{\hangingindent}}%
58   ]{labeledpar}%
59   \InlineClass{labeledparlabel}{#2}%
60 }
61 {\endBlockClass}
62
63 \newenvironment{labeledlist}[1]
64 {\hanginglist}
65 {\endhanginglist}
66
67 \newenvironment{compactlabel}[1]
68 {\hanginglist}
69 {\endhanginglist}

```

File 220 **lwarp-hanging.sty**

§ 332 Package **hanging**

hanging (*Pkg*) hanging is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{hanging}[2009/09/02]

```
2 \IfClassLoadedTF{memoir}{
3 \let\hangpara\relax
4 \let\hangparas\relax
5 \let\endhangparas\relax
6 \let\hangpunct\relax
7 \let\endhangpunct\relax
8 {}}
```

\hangpara

```
{\langle indent \rangle} {\langle afternum \rangle}
```

Use hangparas instead.

```
9 \newcommand*{\hangpara}[2]{}
```

Env hangparas

```
{\langle indent \rangle} {\langle afternum \rangle}
```

```
10 \newenvironment*{hangparas}[2]
```

```
11 {%
```

```
12 \BlockClass[%
```

```
13 \LWR@print@embox{margin-left:\LWR@printlength{#1}} ; %
```

```
14 \LWR@print@embox{text-indent:-\LWR@printlength{#1}}%
```

```
15 ]%
```

```
16 {hangingpar}%
```

```
17 }
```

```
18 \endBlockClass}
```

Env hangpunct

```
19 \newenvironment*{hangpunct}
```

```
20 {\BlockClass{hangpunct}}
```

```
21 \endBlockClass}
```

```
22 \newcommand{\nhpt}{.}
```

```
23 \newcommand{\nhlq}{'}
```

```
24 \newcommand{\nhrq}{'}
```

File 221 **lwarp-hepunits.sty**

§ 333 Package **hepunits**

(Emulates or patches code by ANDY BUCKLEY.)

hepunits (*Pkg*) hepunits is used as-is, and emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{hepunits}[2020/04/10]


```

2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{hepunits}
4
5 \ifx\@HEPopt@sicmds\@yes
6 \CustomizeMathJax{\newcommand{\micron}{\micro\metre}}
7 \CustomizeMathJax{\newcommand{\mrad}{\milli\radian}}
8 \fi
9
10 \CustomizeMathJax{\newcommand{\gauss}{\mathrm{G}}}
11
12 \CustomizeMathJax{\newcommand{\invcmsq}{\centi\metre\tothe{-2}}}
13 \CustomizeMathJax{\newcommand{\invcmsqpersecond}{\invcmsq\second\tothe{-1}}}
14 \CustomizeMathJax{\newcommand{\invcmsqpersec}{\invcmsqpersecond}}
15
16 %% (Inverse) cross-sections
17 \CustomizeMathJax{\newcommand{\invbarn}{\barn\tothe{-1}}}
18
19 \ifx\@HEPopt@noprefixcmds\@empty
20 \CustomizeMathJax{\newcommand{\millibarn}{\milli\barn}}
21 \CustomizeMathJax{\newcommand{\microbarn}{\micro\barn}}
22 \CustomizeMathJax{\newcommand{\nanobarn}{\nano\barn}}
23 \CustomizeMathJax{\newcommand{\picobarn}{\pico\barn}}
24 \CustomizeMathJax{\newcommand{\femtobarn}{\femto\barn}}
25 \CustomizeMathJax{\newcommand{\attobarn}{\atto\barn}}
26 \CustomizeMathJax{\newcommand{\zeptobarn}{\zepto\barn}}
27 \CustomizeMathJax{\newcommand{\yoctobarn}{\yocto\barn}}
28 \CustomizeMathJax{\newcommand{\invnanobarn}{\nano\invbarn}}
29 \CustomizeMathJax{\newcommand{\invpicobarn}{\pico\invbarn}}
30 \CustomizeMathJax{\newcommand{\invfemtobarn}{\femto\invbarn}}
31 \CustomizeMathJax{\newcommand{\invattobarn}{\atto\invbarn}}
32 \CustomizeMathJax{\newcommand{\invzeptobarn}{\zepto\invbarn}}
33 \CustomizeMathJax{\newcommand{\invyoctobarn}{\yocto\invbarn}}
34 \CustomizeMathJax{\newcommand{\invnb}{\invnanobarn}}
35 \CustomizeMathJax{\newcommand{\invpb}{\invpicobarn}}
36 \CustomizeMathJax{\newcommand{\invfb}{\invfemtobarn}}
37 \CustomizeMathJax{\newcommand{\invab}{\invattobarn}}
38 \CustomizeMathJax{\newcommand{\invzb}{\invzeptobarn}}
39 \CustomizeMathJax{\newcommand{\invyb}{\invyoctobarn}}
40 \fi
41
42 \CustomizeMathJax{\newcommand{\electronvoltc}{\electronvolt\per\mathit{c}}}
43 \CustomizeMathJax{\newcommand{\electronvoltsq}{\electronvolt\per\mathit{c}\squared}}
44 \CustomizeMathJax{\let\TeV\electronvoltc}
45 \CustomizeMathJax{\let\Vcsq\electronvoltsq}
46
47 \ifx\@HEPopt@noprefixcmds\@empty
48 \CustomizeMathJax{\newcommand{\meV}{\milli\TeV}}
49 \CustomizeMathJax{\newcommand{\keV}{\kilo\TeV}}
50 \CustomizeMathJax{\newcommand{\MeV}{\mega\TeV}}
51 \CustomizeMathJax{\newcommand{\GeV}{\giga\TeV}}
52 \CustomizeMathJax{\newcommand{\TeV}{\tera\TeV}}
53 \CustomizeMathJax{\newcommand{\meVc}{\milli\TeVc}}
54 \CustomizeMathJax{\newcommand{\keVc}{\kilo\TeVc}}
55 \CustomizeMathJax{\newcommand{\MeVc}{\mega\TeVc}}
56 \CustomizeMathJax{\newcommand{\GeVc}{\giga\TeVc}}
57 \CustomizeMathJax{\newcommand{\TeVc}{\tera\TeVc}}
58 \CustomizeMathJax{\newcommand{\meVcsq}{\milli\TeVcsq}}
59 \CustomizeMathJax{\newcommand{\keVcsq}{\kilo\TeVcsq}}
60 \CustomizeMathJax{\newcommand{\MeVcsq}{\mega\TeVcsq}}
61 \CustomizeMathJax{\newcommand{\GeVcsq}{\giga\TeVcsq}}

```

```

62 \CustomizeMathJax{\newcommand{\TeVcsq}{\tera\TeVcsq}}
63 \fi
64 \end{warpMathJax}

```

File 222 **lwarp-hhline.sty**

§ 334 Package **hhline**

(Emulates or patches code by DAVID CARLISLE.)

hhline (*Pkg*) **hhline** is patched for use by **lwarp**.

Only a rudimentary emulation is provided so far. If the argument contains any = characters, the result is a double `\hline`. If none, the result is a single `\hline`.

for HTML output:

```

1 \LWR@ProvidesPackagePass{hhline}[2014/10/28]

2 \newrobustcmd*{\LWR@HTML@hhline}[1]{%
3   \edef\LWR@tempone{\detokenize\expandafter{#1}}%
4   \IfSubStr[1]{\LWR@tempone}{=}{\hline\hline}{\hline}%
5 }
6 % ^^A or:
7 % ^^A \newrobustcmd*{\LWR@HTML@hhline}[1]{\LWR@getmynexttoken}
8
9 \AtBeginDocument{\LWR@expandableformatted{hhline}}

```

For **MATHJAX**. A simple `\hline` is used.

```

10 \begin{warpMathJax}
11 \CustomizeMathJax{\newcommand{\hhline}[1]{\hline}}
12 \end{warpMathJax}

```

File 223 **lwarp-hhtensor.sty**

§ 335 Package **hhtensor**

(Emulates or patches code by HARALD HARDERS.)

hhtensor (*Pkg*) **hhtensor** is used as-is, and emulated for **MATHJAX**.

for HTML output:

```

1 \LWR@ProvidesPackagePass{hhtensor}[2011/12/29]

2 \begin{warpMathJax}
3 \iftensor@bold
4   \CustomizeMathJax{\newcommand{\vec}[1]{\boldsymbol{#1}}}
5   \CustomizeMathJax{\newcommand{\matr}[1]{\boldsymbol{#1}}}
6   \CustomizeMathJax{\newcommand{\tens}[2]{\boldsymbol{#1}}}
7 \else
8   \iftensor@uline
9     \CustomizeMathJax{\newcommand{\vec}[1]{\ushort{#1}}}
10    \CustomizeMathJax{\newcommand{\matr}[1]{\ushortd{#1}}}
11    \CustomizeMathJax{\newcommand{\tens}[2]{
12      \underset{
13        \raise{.5ex}{\underset{#2}{\sim}}

```

```

14     }{#1}
15   }}
16   \else
17     \CustomizeMathJax{\newcommand{\matr}[1]{\vec{\vec{#1}}}}
18     \CustomizeMathJax{\newcommand{\tens}[2]{
19       \underset{
20         \raise{.5ex}{\underset{#2}{\sim}}
21       }{#1}
22     }}
23   \fi
24 \fi
25 \CustomizeMathJax{\newcommand{\dcdot}{\mathrel{\cdot\mkern 0.0mu \cdot}}}
26 \CustomizeMathJax{\newcommand{\trans}{{}^{\mathrm{T}}}}
27 \end{warpMathJax}

```

File 224 **lwarp-hypbmsec.sty**

§ 336 Package **hypbmsec**

hypbmsec (*Pkg*) hypbmsec is emulated by the lwarp core.

for HTML output: 1 \LWR@ProvidesPackageDrop{hypbmsec}[2016/05/16]

File 225 **lwarp-hypcap.sty**

§ 337 Package **hypcap**

hypcap (*Pkg*) hypcap is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{hypcap}[2016/05/16]

```

2 \newcommand*\capstart{}
3 \newcommand*\hypcapSPACE{}
4 \newcommand*\hypcapredef[1]{}
5 \newcommand*\capstartfalse{}
6 \newcommand*\capstarttrue{}

```

File 226 **lwarp-hypdestopt.sty**

§ 338 Package **hypdestopt**

hypdestopt (*Pkg*) hypdestopt is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{hypdestopt}[2016/05/21]

File 227 **lwarp-hypernat.sty**

§ 339 Package **hypernat**

hypernat (*Pkg*) hypernat is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{hypernat}[2001/07/09]

File 228 **lwarp-hyperref.sty**

§ 340 Package **hyperref**

(Emulates or patches code by SEBASTIAN RAHTZ, HEIKO OBERDIEK, THE L^AT_EX3 PROJECT.)

hyperref (*Pkg*) **hyperref** is emulated.

```

1 % \LWR@ProvidesPackageDrop{hyperref}% not allowed
2 % \ProvidesPackage{lwarp-#1-#2}% not allowed
3 \PackageInfo{lwarp}{%
4 Using the lwarp HTML version of package `hyperref',\MessageBreak
5 and discarding options except backref, pagebackref.\MessageBreak
6 (Not using \protect\ProvidesPackage, so that other packages\MessageBreak
7 do not attempt to patch lwarp's version of `hyperref'.)\MessageBreak}

8 \SetupKeyvalOptions{family=LWR@hyperref,prefix=LWR@hyperref@}
9
10 \newcommand{\hypersetup}[1]{\setkeys{LWR@hyperref}{#1}}
11
12 \define@key{LWR@hyperref}{a4paper}[]{}
13 \define@key{LWR@hyperref}{a5paper}[]{}
14 \define@key{LWR@hyperref}{b5paper}[]{}
15 \define@key{LWR@hyperref}{letterpaper}[]{}
16 \define@key{LWR@hyperref}{legalpaper}[]{}
17 \define@key{LWR@hyperref}{executivepaper}[]{}
18 \define@key{LWR@hyperref}{implicit}[]{}
19 \define@key{LWR@hyperref}{draft}[]{}
20 \define@key{LWR@hyperref}{final}[]{}
21 \define@key{LWR@hyperref}{setpagesize}[]{}
22 \define@key{LWR@hyperref}{debug}[]{}
23 \define@key{LWR@hyperref}{linktocpage}[]{}
24 \define@key{LWR@hyperref}{linktoc}[]{}
25 \define@key{LWR@hyperref}{extension}[]{}
26 \define@key{LWR@hyperref}{verbose}[]{}
27 \define@key{LWR@hyperref}{typexml}[]{}
28 \define@key{LWR@hyperref}{raiselinks}[]{}
29 \define@key{LWR@hyperref}{breaklinks}[]{}
30 \define@key{LWR@hyperref}{localanchorname}[]{}
31 \define@key{LWR@hyperref}{pageanchor}[]{}
32 \define@key{LWR@hyperref}{plainpages}[]{}
33 \define@key{LWR@hyperref}{naturalnames}[]{}
34 \define@key{LWR@hyperref}{hypertexnames}[]{}
35 \define@key{LWR@hyperref}{nesting}[]{}
36 \define@key{LWR@hyperref}{destlabel}[]{}
37 \define@key{LWR@hyperref}{unicode}[]{}
38 \define@key{LWR@hyperref}{pdfencoding}[]{}
39 \define@key{LWR@hyperref}{psdextra}[]{}
40 \define@key{LWR@hyperref}{pdfversion}[]{}
41 \define@key{LWR@hyperref}{dvi-pdfmx-outline-open}[]{}
42 \define@key{LWR@hyperref}{driverfallback}[]{}
43 \define@key{LWR@hyperref}{customdriver}[]{}
44 \define@key{LWR@hyperref}{hyperfigures}[]{}
45 \define@key{LWR@hyperref}{hyperfootnotes}[]{}
46 \define@key{LWR@hyperref}{hyperindex}[]{}

```

```
47 \define@key{LWR@hyperref}{encap}[]{}
48 \define@key{LWR@hyperref}{colorlinks}[]{}
49 \define@key{LWR@hyperref}{ocgcolorlinks}[]{}
50 \define@key{LWR@hyperref}{frenchlinks}[]{}
51 \define@key{LWR@hyperref}{bookmarks}[]{}
52 \define@key{LWR@hyperref}{bookmarksopen}[]{}
53 \define@key{LWR@hyperref}{bookmarksdepth}[]{}
54 \define@key{LWR@hyperref}{bookmarksopenlevel}[]{}
55 \define@key{LWR@hyperref}{bookmarksstype}[]{}
56 \define@key{LWR@hyperref}{bookmarksnumbered}[]{}
57 \define@key{LWR@hyperref}{CJKbookmarks}[]{}
58 \define@key{LWR@hyperref}{link}[]{}
59 \define@key{LWR@hyperref}{anchor}[]{}
60 \define@key{LWR@hyperref}{cite}[]{}
61 \define@key{LWR@hyperref}{file}[]{}
62 \define@key{LWR@hyperref}{url}[]{}
63 \define@key{LWR@hyperref}{menu}[]{}
64 \define@key{LWR@hyperref}{run}[]{}
65 \define@key{LWR@hyperref}{linkbordercolor}[]{}
66 \define@key{LWR@hyperref}{anchorbordercolor}[]{}
67 \define@key{LWR@hyperref}{citebordercolor}[]{}
68 \define@key{LWR@hyperref}{filebordercolor}[]{}
69 \define@key{LWR@hyperref}{urlbordercolor}[]{}
70 \define@key{LWR@hyperref}{menubordercolor}[]{}
71 \define@key{LWR@hyperref}{runbordercolor}[]{}
72 \define@key{LWR@hyperref}{pagecolor}[]{}
73 \define@key{LWR@hyperref}{baseurl}[]{}
74 \define@key{LWR@hyperref}{linkfileprefix}[]{}
75 \define@key{LWR@hyperref}{pdfpagetransition}[]{}
76 \define@key{LWR@hyperref}{pdfpageduration}[]{}
77 \define@key{LWR@hyperref}{pdfpagehidden}[]{}
78 \define@key{LWR@hyperref}{pagebordercolor}[]{}
79 \define@key{LWR@hyperref}{allbordercolors}[]{}
80 \define@key{LWR@hyperref}{pdfhighlight}[]{}
81 \define@key{LWR@hyperref}{pdfborder}[]{}
82 \define@key{LWR@hyperref}{pdfborderstyle}[]{}
83 \define@key{LWR@hyperref}{pdfprintpagerange}[]{}
84 \define@key{LWR@hyperref}{pdfusetitle}[]{}
85 \define@key{LWR@hyperref}{pdftitle}[]{}
86 \define@key{LWR@hyperref}{pdfauthor}[]{}
87 \define@key{LWR@hyperref}{pdfproducer}[]{}
88 \define@key{LWR@hyperref}{pdfcreator}[]{}
89 \define@key{LWR@hyperref}{addtopdfcreator}[]{}
90 \define@key{LWR@hyperref}{pdfcreationdate}[]{}
91 \define@key{LWR@hyperref}{pdfmoddate}[]{}
92 \define@key{LWR@hyperref}{pdfsubject}[]{}
93 \define@key{LWR@hyperref}{pdfkeywords}[]{}
94 \define@key{LWR@hyperref}{pdftrapped}[]{}
95 \define@key{LWR@hyperref}{pdfinfo}[]{}
96 \define@key{LWR@hyperref}{pdfview}[]{}
97 \define@key{LWR@hyperref}{pdflinkmargin}[]{}
98 \define@key{LWR@hyperref}{pdfstartpage}[]{}
99 \define@key{LWR@hyperref}{pdfstartview}[]{}
100 \define@key{LWR@hyperref}{pdfremotestartview}[]{}
101 \define@key{LWR@hyperref}{pdfpagescrop}[]{}
102 \define@key{LWR@hyperref}{pdftoolbar}[]{}
103 \define@key{LWR@hyperref}{pdfmenubar}[]{}
104 \define@key{LWR@hyperref}{pdfwindowui}[]{}
105 \define@key{LWR@hyperref}{pdfffitwindow}[]{}
106 \define@key{LWR@hyperref}{pdfcenterwindow}[]{}

```

```
107 \define@key{LWR@hyperref}{pdfdisplaydoctitle}[]{}
108 \define@key{LWR@hyperref}{pdfa}[]{}
109 \define@key{LWR@hyperref}{pdfnewwindow}[]{}
110 \define@key{LWR@hyperref}{pdflang}[]{}
111 \define@key{LWR@hyperref}{pdfpagelabels}[]{}
112 \define@key{LWR@hyperref}{pdfescapeform}[]{}
113 \define@key{LWR@hyperref}{english}[]{}
114 \define@key{LWR@hyperref}{UKenglish}[]{}
115 \define@key{LWR@hyperref}{british}[]{}
116 \define@key{LWR@hyperref}{USenglish}[]{}
117 \define@key{LWR@hyperref}{american}[]{}
118 \define@key{LWR@hyperref}{german}[]{}
119 \define@key{LWR@hyperref}{austrian}[]{}
120 \define@key{LWR@hyperref}{ngerman}[]{}
121 \define@key{LWR@hyperref}{naustrian}[]{}
122 \define@key{LWR@hyperref}{russian}[]{}
123 \define@key{LWR@hyperref}{brazil}[]{}
124 \define@key{LWR@hyperref}{brazilian}[]{}
125 \define@key{LWR@hyperref}{portuguese}[]{}
126 \define@key{LWR@hyperref}{spanish}[]{}
127 \define@key{LWR@hyperref}{catalan}[]{}
128 \define@key{LWR@hyperref}{afrikaans}[]{}
129 \define@key{LWR@hyperref}{french}[]{}
130 \define@key{LWR@hyperref}{frenchb}[]{}
131 \define@key{LWR@hyperref}{français}[]{}
132 \define@key{LWR@hyperref}{acadian}[]{}
133 \define@key{LWR@hyperref}{canadien}[]{}
134 \define@key{LWR@hyperref}{italian}[]{}
135 \define@key{LWR@hyperref}{magyar}[]{}
136 \define@key{LWR@hyperref}{hungarian}[]{}
137 \define@key{LWR@hyperref}{greek}[]{}
138 \define@key{LWR@hyperref}{dutch}[]{}
139 \define@key{LWR@hyperref}{tex4ht}[]{}
140 \define@key{LWR@hyperref}{pdftex}[]{}
141 \define@key{LWR@hyperref}{luatex}[]{}
142 \define@key{LWR@hyperref}{nativepdf}[]{}
143 \define@key{LWR@hyperref}{dvipdfm}[]{}
144 \define@key{LWR@hyperref}{dvipdfmx}[]{}
145 \define@key{LWR@hyperref}{xetex}[]{}
146 \define@key{LWR@hyperref}{pdfmark}[]{}
147 \define@key{LWR@hyperref}{dvips}[]{}
148 \define@key{LWR@hyperref}{hypertex}[]{}
149 \define@key{LWR@hyperref}{vtex}[]{}
150 \define@key{LWR@hyperref}{vtexpdfmark}[]{}
151 \define@key{LWR@hyperref}{dviwindo}[]{}
152 \define@key{LWR@hyperref}{dvipsone}[]{}
153 \define@key{LWR@hyperref}{textures}[]{}
154 \define@key{LWR@hyperref}{latex2html}[]{}
155 \define@key{LWR@hyperref}{ps2pdf}[]{}
156 \define@key{LWR@hyperref}{vietnamese}[]{}
157 \define@key{LWR@hyperref}{vietnam}[]{}
158 \define@key{LWR@hyperref}{arabic}[]{}
159 \define@key{LWR@hyperref}{hidelinks}[]{}
160 \define@key{LWR@hyperref}{draft}[]{}
161 \define@key{LWR@hyperref}{nolinks}[]{}
162 \define@key{LWR@hyperref}{final}[]{}
163 \define@key{LWR@hyperref}{pdfa}[]{}
164 \define@key{LWR@hyperref}{pdfversion}[]{}
165 \define@key{LWR@hyperref}{typexml}[]{}
166 \define@key{LWR@hyperref}{tex4ht}[]{}

```

```
167 \define@key{LWR@hyperref}{pdftex}[]{}
168 \define@key{LWR@hyperref}{nativepdf}[]{}
169 \define@key{LWR@hyperref}{dvipdfm}[]{}
170 \define@key{LWR@hyperref}{dvipdfmx}[]{}
171 \define@key{LWR@hyperref}{dvipdfmx-outline-open}[]{}
172 \define@key{LWR@hyperref}{pdfmark}[]{}
173 \define@key{LWR@hyperref}{dvips}[]{}
174 \define@key{LWR@hyperref}{hypertex}[]{}
175 \define@key{LWR@hyperref}{vtex}[]{}
176 \define@key{LWR@hyperref}{vtexpdfmark}[]{}
177 \define@key{LWR@hyperref}{dviwindo}[]{}
178 \define@key{LWR@hyperref}{dvipsone}[]{}
179 \define@key{LWR@hyperref}{textures}[]{}
180 \define@key{LWR@hyperref}{latex2html}[]{}
181 \define@key{LWR@hyperref}{ps2pdf}[]{}
182 \define@key{LWR@hyperref}{xetex}[]{}
183 \define@key{LWR@hyperref}{driverfallback}[]{}
184 \define@key{LWR@hyperref}{customdriver}[]{}
185 \define@key{LWR@hyperref}{pdfversion}[]{}
186 \define@key{LWR@hyperref}{bookmarks}[]{}
187 \define@key{LWR@hyperref}{ocgcolorlinks}[]{}
188 \define@key{LWR@hyperref}{colorlinks}[]{}
189 \define@key{LWR@hyperref}{frenchlinks}[]{}
190 \define@key{LWR@hyperref}{backref}[]{}
191 \define@key{LWR@hyperref}{pagebackref}[]{}
192 \define@key{LWR@hyperref}{destlabel}[]{}
193 \define@key{LWR@hyperref}{pdfpagescrop}[]{}
194 \define@key{LWR@hyperref}{pdfpagemode}[]{}
195 \define@key{LWR@hyperref}{pdfnonfullscreenpagemode}[]{}
196 \define@key{LWR@hyperref}{pdfdirection}[]{}
197 \define@key{LWR@hyperref}{pdfviewarea}[]{}
198 \define@key{LWR@hyperref}{pdfviewclip}[]{}
199 \define@key{LWR@hyperref}{pdfprintarea}[]{}
200 \define@key{LWR@hyperref}{pdfprintclip}[]{}
201 \define@key{LWR@hyperref}{pdfprintscaling}[]{}
202 \define@key{LWR@hyperref}{pdfduplex}[]{}
203 \define@key{LWR@hyperref}{pdfpicktraybypdfsize}[]{}
204 \define@key{LWR@hyperref}{pdfprintpagerange}[]{}
205 \define@key{LWR@hyperref}{pdfnumcopies}[]{}
206 \define@key{LWR@hyperref}{pdfstartview}[]{}
207 \define@key{LWR@hyperref}{pdfstartpage}[]{}
208 \define@key{LWR@hyperref}{pdftoolbar}[]{}
209 \define@key{LWR@hyperref}{pdfmenubar}[]{}
210 \define@key{LWR@hyperref}{pdfwindowui}[]{}
211 \define@key{LWR@hyperref}{pdffitwindow}[]{}
212 \define@key{LWR@hyperref}{pdfcenterwindow}[]{}
213 \define@key{LWR@hyperref}{pdfdisplaydoctitle}[]{}
214 \define@key{LWR@hyperref}{pdfpagelayout}[]{}
215 \define@key{LWR@hyperref}{pdflang}[]{}
216 \define@key{LWR@hyperref}{baseurl}[]{}
217 \define@key{LWR@hyperref}{pdfusetitle}[]{}
218 \define@key{LWR@hyperref}{pdfpagelabels}[]{}
219 \define@key{LWR@hyperref}{hyperfootnotes}[]{}
220 \define@key{LWR@hyperref}{hyperfigures}[]{}
221 \define@key{LWR@hyperref}{hyperindex}[]{}
222 \define@key{LWR@hyperref}{encap}[]{}
223 \define@key{LWR@hyperref}{linkcolor}[]{}
224 \define@key{LWR@hyperref}{anchorcolor}[]{}
225 \define@key{LWR@hyperref}{citecolor}[]{}
226 \define@key{LWR@hyperref}{filecolor}[]{}

```

```

227 \define@key{LWR@hyperref}{urlcolor}[]{}
228 \define@key{LWR@hyperref}{menucolor}[]{}
229 \define@key{LWR@hyperref}{runcolor}[]{}
230 \define@key{LWR@hyperref}{allcolors}[]{}
231
232 \DeclareStringOption[false]{backref}[section]
233
234 \DeclareBoolOption{pagebackref}
235
236 \DeclareDefaultOption{}
237
238 \ProcessKeyvalOptions*\relax

```

Maybe load backref:

```

239 \ifdefstring{\LWR@hyperref@backref}{section}
240   {\RequirePackage{backref}}
241   {}
242
243 \ifdefstring{\LWR@hyperref@backref}{slide}
244   {\RequirePackage{backref}}
245   {}
246
247 \ifdefstring{\LWR@hyperref@backref}{page}
248   {\RequirePackage{backref}}
249   {}
250
251 \ifLWR@hyperref@pagebackref
252   \RequirePackage{backref}
253 \fi

```

Emulated:

```

254 \newdimen\XeTeXLinkMargin
255 \newcommand*{\XeTeXLinkBox}[1]{#1}

256 \LetLtxMacro\href\LWR@href
257 \LetLtxMacro\nolinkurl\LWR@nolinkurl
258 \LetLtxMacro\url\LWR@url
259 \LetLtxMacro\phantomsection\LWR@phantomsection

260 \newcommand*{\hyperbaseurl}[1]{}

```

No application for lwarp:

```

261 \newcommand*{\HyperDestNameFilter}[1]{#1}
262 \newcommand*{\HyperDestLabelReplace}[1]{#1}
263 \newcommand*{\HyperDestRename}[2]{}

```

No application for lwarp:

```

264 \newcommand*{\hyperget}[2]{}

```

`\hyperimage`

`{\langle URL \rangle} {\langle alt text \rangle}`

Insert an image with ALT text. The given ALT text need not be sanitized because `\&`, `\%`, `\textless`, `\textgreater` are already sanitized.


```

265 \NewDocumentCommand{\LWR@hyperimageb}{m +m}{%
266   \LWR@ensuredoingapar%
267   \edef\tmpb{#1}%
268   \LWR@HTMLsanitize@tmpb%
269   \LWR@htmltag{%
270     img src=\textquotedbl\tmpb\textquotedbl\ %
271     alt=\textquotedbl#2\textquotedbl\ %
272     class=\textquotedbl{}hyperimage\textquotedbl%
273   }%
274   \LWR@ensuredoingapar%
275   \endgroup%
276 }
277
278 \newrobustcmd*{\hyperimage}{%
279   \begingroup%
280   \LWR@linkcatcodes%
281   \LWR@hyperimageb%
282 }
283

```

\hyperdef

$\{\langle 1: category \rangle\} \{\langle 2: name \rangle\} \{\langle 3: text \rangle\}$

Creates an HTML anchor to `category.name` with the given text.

```

284 \NewDocumentCommand{\LWR@hyperdefb}{m m +m}{%
285   \LWR@ensuredoingapar%
286   \LWR@label@createtag{#1.#2}%
287   #3%
288   \endgroup%
289 }
290
291 \newcommand*{\hyperdef}{%
292   \begingroup%
293   \LWR@linkcatcodes%
294   \LWR@hyperdefb%
295 }
296

```

\LWR@hyperrefb

$\{\langle 1: URL \rangle\} \{\langle 2: category \rangle\} \{\langle 3: name \rangle\} \{\langle 4: text \rangle\}$

Creates an HTML link to `URL#category.name` with the given text.

```

297 \newcommand{\LWR@hyperreffinish}[1]{%
298   \begingroup%
299   \RenewDocumentCommand{\ref}{s m}{\LWR@print@ref{##2}}%
300   #1%
301   \endgroup%
302   \LWR@htmltag{/a}%
303 }
304
305 \newcommand*{\LWR@hyperrefbb}[3]{%
306   \LWR@htmltag{%
307     a href=\textquotedbl%
308       \detokenize\expandafter{#1}\LWR@hashmark%
309       \detokenize\expandafter{#2}.\detokenize\expandafter{#3}%
310     \textquotedbl%
311     \LWR@addlinktitle%
312   }%
313   \endgroup%
314   \LWR@hyperreffinish%
315 }

```

```

316
317 \newrobustcmd*{\LWR@hyperrefb}{%
318   \begingroup%
319   \LWR@linkcatcodes%
320   \LWR@hyperrefbb%
321 }

```

`\LWR@hyperrefc`

`[\langle label \rangle] \langle text \rangle`

Creates text as an HTML link to the L^AT_EX label.

```

322 \NewDocumentCommand{\LWR@hyperrefcb}{0\langle label \rangle}{%
323   \LWR@startref{#1}%
324   \endgroup%
325   \LWR@hyperreffinish%
326 }
327
328 \newcommand*{\LWR@hyperrefc}{%
329   \begingroup%
330   \LWR@linkcatcodes%
331   \LWR@hyperrefcb%
332 }

```

`\hyperref`

`\langle 1: URL \rangle \langle 2: category \rangle \langle 3: name \rangle \langle 4: text \rangle` — or —
`[\langle 1: label \rangle] \langle 2: text \rangle`

```

333 \DeclareRobustCommand*\hyperref}{%
334   \LWR@ensuredoingapar%
335   \@ifnextchar[\LWR@hyperrefc\LWR@hyperrefb%
336 }

```

`\hypertarget`

`\langle name \rangle \langle text \rangle`

Creates an anchor to name with the given text.

```

337 \NewDocumentCommand{\LWR@hypertargetb}{m +m}{%
338   \label{\LWR-ht-#1}%
339   #2%
340   \endgroup%
341 }
342
343 \newcommand*\hypertarget}{%
344   \LWR@ensuredoingapar%
345   \begingroup%
346   \LWR@linkcatcodes%
347   \LWR@hypertargetb%
348 }

```

`\hyperlink`

`\langle name \rangle \langle text \rangle`

Creates a link to the anchor created by `hypertarget`, with the given link text.

Declared because also defined by `memoir`.

```

349 \DeclareDocumentCommand{\LWR@hyperlinkb}{m}{%
350   \ifbool{\LWR@insidemathcomment}%
351     {\endgroup}%
352     {\LWR@hyperrefcb[\LWR-ht-#1]}%
353 }
354
355 \DeclareDocumentCommand*\hyperlink{}{}%

```

```

356 \LWR@ensuredoingapar%
357 \begingroup%
358 \LWR@linkcatcodes%
359 \LWR@hyperlinkb%
360 }

```

`\LWR@nullify@hyperref` $\langle 1: URL \rangle \langle 2: category \rangle \langle 3: name \rangle \langle 4: text \rangle$ — or —
 $[\langle 1: label \rangle] \langle 2: text \rangle$

```

361 \newcommand{\LWR@nullify@hyperrefb}[2][{}]{
362
363 \newcommand*\LWR@nullify@hyperref}{%
364 \ifnextchar[\LWR@nullify@hyperrefb\@fourthoffour%
365 }

```

To nullify in a lateximage or svg math. `\hypertarget` must be left active for references to work, and does not harm.

```

366 \appto\LWR@restoreorigformatting{%
367 \LetLtxMacro\hyperdef\@thirdofthree
368 \LetLtxMacro\hyperlink\@secondoftwo%
369 \LetLtxMacro\hyperref\LWR@nullify@hyperref%
370 }

```

`\autoref` * $\langle label \rangle$

For HTML, `\cleveref` is used instead.

```

371 \NewDocumentCommand{\autoref}{s m}{%
372 \IfBooleanTF{#1}{\ref{#2}}{\cref{#2}}%
373 }

```

`\autopageref` $\langle label \rangle$

For HTML, `\cleveref` is used instead.

```

374 \NewDocumentCommand{\autopageref}{s m}{%
375 \IfBooleanTF{#1}{\cpageref{#2}}{\cref{#2}}%
376 }

```

Default names:

```

377 \def\equationautorefname{Equation}%
378 \def\footnoteautorefname{footnote}%
379 \def\itemautorefname{item}%
380 \def\figureautorefname{Figure}%
381 \def\tableautorefname{Table}%
382 \def\partautorefname{Part}%
383 \def\appendixautorefname{Appendix}%
384 \def\chapterautorefname{chapter}%
385 \def\sectionautorefname{section}%
386 \def\subsectionautorefname{subsection}%
387 \def\subsubsectionautorefname{subsubsection}%
388 \def\paragraphautorefname{paragraph}%
389 \def\subparagraphautorefname{subparagraph}%
390 \def\FancyVerbLineautorefname{line}%
391 \def\theoremautorefname{Theorem}%
392 \def\pageautorefname{page}%

```

<code>\pdfstringdef</code>	<code>{\macroname}} {\TeXstring}}</code> 393 <code>\newcommand{\pdfstringdef}[2]{}</code>
<code>\pdfbookmark</code>	<code>[\level] {\text}} {\name}}</code> 394 <code>\newcommand{\pdfbookmark}[3][{}]</code>
<code>\currentpdfbookmark</code>	<code>{\text}} {\name}}</code> 395 <code>\newcommand{\currentpdfbookmark}[2]{}</code>
<code>\subpdfbookmark</code>	<code>{\text}} {\name}}</code> 396 <code>\newcommand{\subpdfbookmark}[2]{}</code>
<code>\belowpdfbookmark</code>	<code>{\text}} {\name}}</code> 397 <code>\newcommand{\belowpdfbookmark}[2]{}</code>
<code>\texorpdfstring</code>	<code>{\TeXstring}} {\PDFstring}}</code> 398 <code>\let\texorpdfstring\relax</code> 399 <code>\newcommand{\texorpdfstring}[2]{#1}</code>
<code>\pdfstringdefDisableCommands</code>	<code>{\commands}}</code> 400 <code>\newcommand{\pdfstringdefDisableCommands}[1]{}</code>
<code>\hypercalcbp</code>	<code>{\dimen}}</code> From <code>hyperref</code> . 401 <code>\def\hypercalcbp#1{%</code> 402 <code>\strip@pt\dimexpr 0.99626401\dimexpr(#1)\relax\relax</code> 403 <code>%}</code>
<code>\Acrobatmenu</code>	<code>{\menuoption}} {\text}}</code> 404 <code>\newcommand{\Acrobatmenu}[2]{}</code>
<code>\TextField</code>	<code>[\parameters] {\label}}</code> 405 <code>\DeclareRobustCommand{\TextField}[2][{}]</code>
<code>\CheckBox</code>	<code>[\parameters] {\label}}</code> 406 <code>\DeclareRobustCommand{\CheckBox}[2][{}]</code>
<code>\ChoiceMenu</code>	<code>[\parameters] {\label}} {\choices}}</code> 407 <code>\DeclareRobustCommand{\ChoiceMenu}[3][{}]</code>
<code>\PushButton</code>	<code>[\parameters] {\label}}</code> 408 <code>\DeclareRobustCommand{\PushButton}[2][{}]</code>

<code>\Submit</code>	<code>[\parameters] {\label}</code>
	409 <code>\DeclareRobustCommand{\Submit}[2][{}]</code>
<code>\Reset</code>	<code>[\parameters] {\label}</code>
	410 <code>\DeclareRobustCommand{\Reset}[2][{}]</code>
<code>\Gauge</code>	<code>[\parameters] {\label}</code>
	411 <code>\DeclareRobustCommand{\Gauge}[2][{}]</code>
<code>\LayoutTextField</code>	<code>{\label} {\field}</code>
	412 <code>\newcommand*\LayoutTextField[2]{}</code>
<code>\LayoutChoiceField</code>	<code>{\label} {\field}</code>
	413 <code>\newcommand*\LayoutChoiceField[2]{}</code>
<code>\LayoutCheckField</code>	<code>{\label} {\field}</code>
	414 <code>\newcommand*\LayoutCheckField[2]{}</code>
<code>\MakeRadioField</code>	<code>{\width} {\height}</code>
	415 <code>\newcommand*\MakeRadioField[2]{}</code>
<code>\MakeCheckField</code>	<code>{\width} {\height}</code>
	416 <code>\newcommand*\MakeCheckField[2]{}</code>
<code>\MakeTextField</code>	<code>{\width} {\height}</code>
	417 <code>\newcommand*\MakeTextField[2]{}</code>
<code>\MakeChoiceField</code>	<code>{\width} {\height}</code>
	418 <code>\newcommand*\MakeChoiceField[2]{}</code>
<code>\MakeFieldButton</code>	<code>{\text}</code>
	419 <code>\newcommand{\MakeFieldButton}[1]{}</code>

File 229 **lwarp-hyperxmp.sty**

§ 341 Package **hyperxmp**

hyperxmp (*Pkg*) hyperxmp is ignored.

for HTML output: Discard all options for lwarp-hyperxmp:

```

1 \LWR@ProvidesPackageDrop{hyperxmp}[2018/11/27]
2
3 \define@key{LWR@hyperref}{pdfdate}[]{}
4 \define@key{LWR@hyperref}{pdfmetadate}[]{}
5 \define@key{LWR@hyperref}{pdfcopyright}[]{}
6 \define@key{LWR@hyperref}{pdftype}[]{}
7 \define@key{LWR@hyperref}{pdflicenseurl}[]{}
8 \define@key{LWR@hyperref}{pdfauthoritle}[]{}
9 \define@key{LWR@hyperref}{pdfcaptionwriter}[]{}
10 \define@key{LWR@hyperref}{pdfmetalang}[]{}
11 \define@key{LWR@hyperref}{pdfapart}[]{}
12 \define@key{LWR@hyperref}{pdfaconformance}[]{}
13 \define@key{LWR@hyperref}{pdfuapart}[]{}
14 \define@key{LWR@hyperref}{pdfxstandard}[]{}
15 \define@key{LWR@hyperref}{pdfsource}[]{}
16 \define@key{LWR@hyperref}{pdfdocumentid}[]{}
17 \define@key{LWR@hyperref}{pdfinstanceid}[]{}
18 \define@key{LWR@hyperref}{pdfversionid}[]{}
19 \define@key{LWR@hyperref}{pdfrendition}[]{}
20 \define@key{LWR@hyperref}{pdfpublication}[]{}
21 \define@key{LWR@hyperref}{pdfpubtype}[]{}
22 \define@key{LWR@hyperref}{pdfbytes}[]{}
23 \define@key{LWR@hyperref}{pdfnumpages}[]{}
24 \define@key{LWR@hyperref}{pdfissn}[]{}
25 \define@key{LWR@hyperref}{pdfeissn}[]{}
26 \define@key{LWR@hyperref}{pdfisbn}[]{}
27 \define@key{LWR@hyperref}{pdfbookedition}[]{}
28 \define@key{LWR@hyperref}{pdfpublisher}[]{}
29 \define@key{LWR@hyperref}{pdfvolumenum}[]{}
30 \define@key{LWR@hyperref}{pdfissuenum}[]{}
31 \define@key{LWR@hyperref}{pdfpagerange}[]{}
32 \define@key{LWR@hyperref}{pdfdoi}[]{}
33 \define@key{LWR@hyperref}{pdfurl}[]{}
34 \define@key{LWR@hyperref}{pdfidentifier}[]{}
35 \define@key{LWR@hyperref}{pdfsubtitle}[]{}
36 \define@key{LWR@hyperref}{pdfpubstatus}[]{}
37 \define@key{LWR@hyperref}{pdfcontactaddress}[]{}
38 \define@key{LWR@hyperref}{pdfcontactcity}[]{}
39 \define@key{LWR@hyperref}{pdfcontactregion}[]{}
40 \define@key{LWR@hyperref}{pdfcontactpostcode}[]{}
41 \define@key{LWR@hyperref}{pdfcontactcountry}[]{}
42 \define@key{LWR@hyperref}{pdfcontactphone}[]{}
43 \define@key{LWR@hyperref}{pdfcontactemail}[]{}
44 \define@key{LWR@hyperref}{pdfcontacturl}[]{}
45 \define@key{LWR@hyperref}{keeppdfinfo}[]{}
46 \define@key{LWR@hyperref}{pdfauthor}[]{}
47 \define@key{LWR@hyperref}{pdfkeywords}[]{}

```

File 230 **lwarp-hyphenat.sty**

§ 342 Package **hyphenat**

hyphenat (*Pkg*) hyphenat is emulated during HTML output, while the print-mode version is used inside a lateximage.

for HTML output: 1 \LWR@ProvidesPackagePass{hyphenat}[2009/09/02]

```

2 \LetLtxMacro\LWRHYNAT@origtextnhtt\textnhtt
3 \LetLtxMacro\LWRHYNAT@originhttfamily\nhttfamily
4 \LetLtxMacro\LWRHYNAT@originohyphens\nohyphens
5 \LetLtxMacro\LWRHYNAT@origbshyp\bshyp
6 \LetLtxMacro\LWRHYNAT@origfshyp\fshyp
7 \LetLtxMacro\LWRHYNAT@origdothyp\dothyp
8 \LetLtxMacro\LWRHYNAT@origcolonyhyp\colonyhyp
9 \LetLtxMacro\LWRHYNAT@orighyp\hyp
10
11 \LetLtxMacro\textnhtt\texttt
12 \LetLtxMacro\nhttfamily\ttfamily
13
14 \renewcommand{\nohyphens}[1]{#1}
15 \renewrobustcmd{\bshyp}{%
16   \ifmode\backslashelse\textbackslashfi%
17 }
18 \renewrobustcmd{\fshyp}{/}
19 \renewrobustcmd{\dothyp}{.}
20 \renewrobustcmd{\colonyhyp}{:}
21 \renewrobustcmd{\hyp}{-}
22
23 \appto\LWR@restoreorigformatting{%
24 \LetLtxMacro\textnhtt\LWRHYNAT@origtextnhtt%
25 \LetLtxMacro\nhttfamily\LWRHYNAT@originhttfamily%
26 \LetLtxMacro\nohyphens\LWRHYNAT@originohyphens%
27 \LetLtxMacro\bshyp\LWRHYNAT@origbshyp%
28 \LetLtxMacro\fshyp\LWRHYNAT@origfshyp%
29 \LetLtxMacro\dothyp\LWRHYNAT@origdothyp%
30 \LetLtxMacro\colonyhyp\LWRHYNAT@origcolonyhyp%
31 \LetLtxMacro\hyp\LWRHYNAT@orighyp%
32 }

```

File 231 **lwarp-idxlayout.sty**

§ 343 Package **idxlayout**

(Emulates or patches code by THOMAS TITZ.)

idxlayout (*Pkg*) idxlayout is emulated.

for HTML output: Discard all options for lwarp-idxlayout:

```

1 \LWR@ProvidesPackageDrop{idxlayout}[2012/03/30]
2 \newcommand{\LWR@indexprenote}{}

```

\AtBeginDocument to help with package load order.

```

3 \AtBeginDocument{
4   \preto\printindex{
5
6   \LWR@maybe@orignewpage
7   \LWR@startpars
8
9   \LWR@indexprenote
10
11   }
12 }

```

```

13 \newcommand{\setindexprenote}[1]{\renewcommand{\LWR@indexprenote}{#1}}
14 \newcommand*{\noindexprenote}{\renewcommand{\LWR@indexprenote}{}}
15
16 \newcommand{\idxlayout}[1]{}
17 \newcommand*{\indexfont}{}
18 \newcommand*{\indexjustific}{}
19 \newcommand*{\indexsubsdelim}{}
20 \newcommand*{\indexstheadcase}{}

```

File 232 **lwarp-ifoddpag.sty**

§ 344 Package **ifoddpag**

(Emulates or patches code by MARTIN SCHARRER.)

ifoddpag (*Pkg*) ifoddpag is emulated.

for HTML output: Discard all options for lwarp-ifoddpag:

```

1 \LWR@ProvidesPackageDrop{ifoddpag}[2016/04/23]

2 \newif\ifoddpag
3
4 \newif\ifoddpagoroneside
5
6 \DeclareRobustCommand{\checkoddpag}{\oddpagetrue\oddpagoronesidetrue}
7
8 \def\oddpag@page{1}
9
10 \def\@ifoddpag{%
11     \expandafter\@firstoftwo
12 }
13
14 \def\@ifoddpagoroneside{%
15     \expandafter\@firstoftwo
16 }

```

File 233 **lwarp-imakeidx.sty**

§ 345 Package **imakeidx**

(Emulates or patches code by ENRICO GREGORIO.)

imakeidx (*Pkg*) imakeidx is patched for use by lwarp.

letter headings When using *makeindex*, to match the print and HTML output's display of index letter headings, specify the lwarp.ist style:

```
\makeindex[options={-s lwarp.ist}]
```

(For HTML the lwarp.ist style is used automatically, which displays letter headings. When using *xindy* the default style also displays letter headings.)

index setup See section 8.6.19 for how to setup *lwarpmk* to process the indexes with imakeidx, both with and without shell escape.

for HTML output: 1 \LWR@ProvidesPackagePass{imakeidx}[2016/10/15]

Use the new HTML suffix:

```
2 \catcode`\_ =12%
3 \define@key{imki}{name}{\def\imki@name{#1_html}}
4 \catcode`\_ =8%
```

\printindex

The HTML version of \printindex:

```
5 \catcode`\_ =12%
6
7 \renewcommand*\printindex}[1][\imki@jobname]{%
8 \LWR@maybe@orignewpage%
9 \LWR@startpars%
10 \ifstrequal{#1}{\imki@jobname}{%
11 \ifundefined{#1@idxfile}{%
12 \imki@error{#1}%
13 }{%
14 \imki@putindex{#1}%
15 }%
16 }{%
17 \ifundefined{#1_html@idxfile}{\imki@error{#1_html}}{\imki@putindex{#1_html}}%
18 }%
19 }
20
21 \catcode`\_ =8%
```

\@index

The HTML version of \@index:

```
22 \VerifyCommand[lwarp][imakeidx]{\@index}{443B697F3326243540BE3FB7665606F6}
23
24 \catcode`\_ =12%
25
26 \def\@index[#1]{%
27 \ifstrequal{#1}{\imki@jobname}%
28 {%
29 \@ifundefined{#1@idxfile}%
30 {%
31 \PackageWarning{lwarp-imakeidx}{Undefined index file `#1'}%
32 \begingroup
33 \@sanitize
34 \imki@nowrindex%
35 }%
36 {%
37 \edef\@idxfile{#1}%
38 \begingroup
39 \@sanitize
40 \@wrindex\@idxfile%
41 }%
42 }%
43 {%
44 \@ifundefined{#1_html@idxfile}%
45 {%
46 \PackageWarning{lwarp-imakeidx}{Undefined index file `#1_html'}%
47 \begingroup
48 \@sanitize
49 \imki@nowrindex%
50 }%
}
```

```

51      {%
52      \edef\@idxfile{#1_html}%
53      \begingroup
54      \@sanitize
55      \@wrindex\@idxfile%
56      }%
57    }%
58 }
59
60 \catcode`\_ =8%

```

`\item`

`\subitem`

`\subsubitem`

HTML versions of `\item`, etc.:

```

61 \appto\theindex{%
62   \LetLtxMacro\item\LWR@indexitem%
63   \LetLtxMacro\subitem\LWR@indexsubitem%
64   \LetLtxMacro\subsubitem\LWR@indexsubsubitem%
65 }

```

`\imki@wrindexentrysplit` $\{\langle file \rangle\} \{\langle entry \rangle\} \{\langle page \rangle\}$

`\imki@wrindexentryunique` $\{\langle file \rangle\} \{\langle entry \rangle\} \{\langle page \rangle\}$

While writing index entries, adds an HTML label, and writes the label's index instead of the page number:

```

66 \VerifyCommand[lwarp][imakeidx]{\imki@wrindexentrysplit}{D8ABE70A4355F52E36723AFAB74F71E7}
67
68 \renewcommand\imki@wrindexentrysplit[3]{%
69   \addtocounter{LWR@autoindex}{1}%
70   \expandafter\protected@write\csname#1@idxfile\endcsname{%
71     {\string\indexentry{#2}{\arabic{LWR@autoindex}}}%

```

The label is assigned after the file write to avoid conflict with `cleveref`.

```

72   \label{LWRindex-\arabic{LWR@autoindex}}%
73 }
74
75 \VerifyCommand[lwarp][imakeidx]{\imki@wrindexentryunique}{9131E144394D273F316D03FA91BA0E2B}
76
77 \renewcommand\imki@wrindexentryunique[3]{%
78   \addtocounter{LWR@autoindex}{1}%
79   \protected@write\@indexfile{%
80     {\string\indexentry[#1]{#2}{\arabic{LWR@autoindex}}}%

```

The label is assigned after the file write to avoid conflict with `cleveref`.

```

81   \label{LWRindex-\arabic{LWR@autoindex}}%
82 }

```

`\LWR@imki@setxdydefopts`

Sets the *xindy* HTML options, ignoring the user's settings.

```

83 \newcommand*\LWR@imki@setxdydefopts{%
84   \edef\imki@options{ \space %
85     -M \space \LWR@xindyStyle\space %
86     -L \space \LWR@xindyLanguage\space %
87     -C \space \LWR@xindyCodepage\space %
88   }%

```

89 }

`\LWR@imki@setdefopts`

`{<user options>}`

Sets the HTML options, added to the user's settings, depending on whether *makeindex* or *xindy* are used.

For *makeindex*, the user's choice is ignored, and only the lwarp version is used. (Only one style at a time is possible.)

For *xindy*, multiple modules may be specified, and the lwarp version is appended.

```
90 \newcommand*\LWR@imki@setdefopts}[1]{%
91 \ifblank{#1}{%
92   \edef\imki@options{\space -s \space \LWR@makeindexStyle \space}%
93   \ifdefstring{\imki@progdefault}{xindy}{\LWR@setxdydefopts}{}%
94   \ifdefstring{\imki@progdefault}{texindy}{\LWR@imki@setxdydefopts}{}%
95   \ifdefstring{\imki@progdefault}{truexindy}{\LWR@imki@setxdydefopts}{}%
96 }{%
97   \edef\imki@options{\space #1 \space}%
98 }%
99 }
```

`\imki@makeindex`

Use the new HTML options:

```
100 \VerifyCommand[lwarp][imakeidx]{\imki@makeindex}{83AEF6DF7A13F7D0565457DFB83D42B5}
101
102 \xpatchcmd{\imki@makeindex}
103   {\let\imki@options\space}
104   {\LWR@imki@setdefopts{}}%
105   {}
106   {\LWR@patcherror{imakeidx}{makeindex}}
```

Use the new HTML options.

```
107 \define@key{imki}{options}{\LWR@imki@setdefopts{#1}}
```

`\imki@resetdefaults`

Use the new HTML options:

```
108 \VerifyCommand[lwarp][imakeidx]{\imki@resetdefaults}{3D417615569AC35F199A3FBD03B640E3}
109
110 \xpatchcmd{\imki@resetdefaults}
111   {\def\imki@options{ }}
112   {\LWR@imki@setdefopts{}}
113   {}
114   {\LWR@patcherror{imakeidx}{resetdefaults}}
```

theindex was already defined \AtBeginDocument by the lwarp core, so it must be redefined here similarly, but patched for imakeidx:

Env theindex

```
115 \AtBeginDocument{
116 \renewenvironment*{theindex}{%
117   \imki@maybeaddtoc
118   \imki@indexlevel{\indexname}
119   \LetLtxMacro\item\LWR@indexitem%
120   \LetLtxMacro\subitem\LWR@indexsubitem%
121   \LetLtxMacro\subsubitem\LWR@indexsubsubitem%
122 }{}
123 }% AtBeginDocument
```

Update to the new defaults:

```
124 \imki@resetdefaults
```

Update to the new patches:

\AtBeginDocument is because \@wrindex is previously defined as \AtBeginDocument in the lwarp core.

```
125 \ifimki@splitindex
126 \let\imki@startidx\imki@startidxunique
127 \AtBeginDocument{\let\@wrindex\imki@wrindexunique}
128 \let\imki@putindex\imki@putindexunique
129 \let\imki@wrindexentry\imki@wrindexentryunique
130 \let\imki@startidxsplit\@undefined
131 \let\imki@wrindexsplit\@undefined
132 \let\imki@putindexsplit\@undefined
133 \else
134 \let\imki@startidx\imki@startidxsplit
135 \AtBeginDocument{\let\@wrindex\imki@wrindexsplit}
136 \let\imki@putindex\imki@putindexsplit
137 \let\imki@wrindexentry\imki@wrindexentrysplit
138 \let\imki@startidxunique\@undefined
139 \let\imki@wrindexunique\@undefined
140 \let\imki@putindexunique\@undefined
141 \fi
```

File 234 **lwarp-impnatty.sty**

§ 346 Package **impnatty**

impnatty (*Pkg*) impnatty is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{impnatty}[2019/03/04]

File 235 **lwarp-index.sty**

§ 347 Package **index**

(Emulates or patches code by DAVID M. JONES.)

index (*Pkg*) index is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{index}[2004/01/20]

Use \theLWR@autoindex instead of \thepage. \@tempwatrue is used to force an immediate write to the index file instead of waiting until the end of the page.

```
2 \VerifyCommand[lwarp][index]{\newindex}{F714216FA78BCC8DB70B7BB92BE05F3C}
3
4 \xpatchcmd{\newindex}
5   {\x@newindex[thepage]}
6   {%
```

```

7      \@tempwattrue%
8      \@newindex[theLWR@autoindex]%
9    }
10   {}
11   {\LWR@patcherror{index}{newindex}}
12
13 \VerifyCommand[lwarp][index]{\renewindex}{B81B08BFE7A2F5CA7D84D4A5A40E7A44}
14
15 \xpatchcmd{\renewindex}
16   {\x@renewindex[thepage]}
17   {%
18     \@tempwattrue%
19     \@renewindex[theLWR@autoindex]%
20   }
21   {}
22   {\LWR@patcherror{index}{renewindex}}

```

Patched to set a new autoindex:

```

23 \VerifyCommand[lwarp][index]{\@wrindex}{C58C10ACFC42D711D0DA8F4759BA951D}
24
25 \xpatchcmd{\@wrindex}
26   {\begingroup}
27   {%
28     \addtocounter{LWR@autoindex}{1}%           lwarp
29     \label{LWRindex-\arabic{LWR@autoindex}}%   lwarp
30     \begingroup%
31   }
32   {}
33   {\LWR@patcherror{index}{@wrindex}}

```

\AtBeginDocument lwarp core \lets \@wrindex to \LWR@wrindex. Since the index package has been loaded, \let to its version instead:

```

34 \let\LWR@index@wrindex\@wrindex
35
36 \AtBeginDocument{
37 \let\@wrindex\LWR@index@wrindex
38 }

```

Modified to add \index@prologue:

```

39 \AtBeginDocument{
40 \renewenvironment*{theindex}{%
41   \LWR@indexsection{\indexname}%
42   \ifx\index@prologue\@empty\else
43     \index@prologue
44     \bigskip
45   \fi
46   \LetLtxMacro\item\LWR@indexitem%
47   \LetLtxMacro\subitem\LWR@indexsubitem%
48   \LetLtxMacro\subsubitem\LWR@indexsubsubitem%
49 }{}
50 }% AtBeginDocument

```

Disabled:

```

51 \def\@showidx#1{}
52 \let\@texttop\relax

```

```

53 \renewcommand*\raggedbottom{}
54 \renewcommand*\flushbottom{}
55 \renewcommand*\markboth}[2]{}
56 \renewcommand*\markright}[1]{}

```

File 236 **lwarp-inputtrc.sty**

§ 348 Package **inputtrc**

(Emulates or patches code by UWE LÜCK.)

inputtrc (*Pkg*) inputtrc is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{inputtrc}[2012/10/10]

Patched to remove extraneous spaces, which sometimes showed up in logos inside a `lateximage`.

```

2 \VerifyCommand[lwarp][inputtrc]{\IT@prim@input}{03F74081468CFB6308896BDEB61D1E23}
3
4 \renewcommand*\IT@prim@input}[1]{%
5 \typeout{\IT@indent\IT@currfile INPUTTING #1}%
6% ... TODO: option to write to '.log' only.
7 \xdef\IT@filestack{\IT@currfile}\IT@filestack}%
8 \xdef\IT@currfile{#1}%
9 \expandafter \gdef\expandafter \IT@indent\expandafter{%
10 \IT@indent \IT@indent@unit}% lwarp
11 \@input#1% lwarp
12 \expandafter\IT@pop@indent\IT@indent \@nil% lwarp
13 \expandafter\IT@pop@file \IT@filestack\@nil% lwarp
14 \IT@maybe@returnmessage% v0.2 lwarp
15 }

```

File 237 **lwarp-intopdf.sty**

§ 349 Package **intopdf**

intopdf (*Pkg*) intopdf is emulated.

The filespec, MIME type, and description are ignored for now.

for HTML output: 1 \LWR@ProvidesPackageDrop{intopdf}[2019/05/28]

```

2 \NewDocumentCommand{\attachandlink}{o m o m m}{%
3 \LWR@href{#2}{#5}%
4 }

```

File 238 **lwarp-isomath.sty**

§ 350 Package **isomath**

(Emulates or patches code by GÜNTER MILDE.)

isomath (*Pkg*) isomath is used as-is for SVG math, and emulated for MATHJAX.

⚠ **MATHJAX sans** MATHJAX does not provide a sans math font, so sans is typeset as roman.

for HTML output:

```

1 \LWR@ProvidesPackagePass{isomath}[2012/09/04]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\let\mathbf{fit}\boldsymbol}
4 \CustomizeMathJax{\let\mathsf{fit}\mathbf{fit}}% not sans
5 \CustomizeMathJax{\let\mathsf{fit}\mathit{fit}}% not sans
6 \CustomizeMathJax{\let\mathbf{fit}\mathbf{fit}}
7 \CustomizeMathJax{\let\mathbf{fit}\mathbf{fit}}
8 \CustomizeMathJax{\let\mathsf{fit}\mathsf{fit}}
9 \CustomizeMathJax{\let\mathbf{fit}\mathsf{fit}}
10 \CustomizeMathJax{\let\mathbf{fit}\mathbf{fit}}
11 \CustomizeMathJax{\let\mathsf{fit}\mathrm{fit}}% not sans
12 \end{warpMathJax}

```

File 239 **lwarp-isotope.sty**

§ 351 Package **isotope**

(Emulates or patches code by HEIKO BAUKE.)

isotope (*Pkg*) isotope is patched for use by lwarp with SVG math, and emulated for MATHJAX.

for HTML output:

```

1 \LWR@ProvidesPackagePass{isotope}[2011/08/26]

2 \newcommand{\LWR@HTML@isotope@two}[2][]{%
3   \renewcommand{\isotope@atomicnumber}{#1}%
4   \edef\LWR@isotope@alttag{%
5     \textbackslash
6     \textbackslash}isotope
7     [\isotope@nucleonnumber]%
8     [\isotope@atomicnumber]%
9     \{#2\}
10    \textbackslash}%
11  }%
12 \ifbool{mathjax}%
13   {\LWR@isotope@alttag}%
14   {% SVG
15     \m@th%
16     \LWR@subsingledollar*%
17     {% alt tag
18       \LWR@isotope@alttag%
19     }%
20     {isotope}% add'l hashing
21     {% contents
22       \settowidth\@tempdimb{%
23         \ensuremath{\scriptstyle\isotope@nucleonnumber}%
24       }%
25       \settowidth\@tempdimc{%
26         \ensuremath{\scriptstyle\isotope@atomicnumber}%
27       }%
28       \ifdim\@tempdimb<\@tempdimc\@tempdimb=\@tempdimc\fi%
29       \ensuremath{
30         }%

```

```

31         ^{\makebox[\@tempdimb][r]{%
32             \ensuremath{%
33                 \scriptstyle\isotope@nucleonnumber%
34             }% \ensuremath
35         }}%
36         _{\makebox[\@tempdimb][r]{%
37             \ensuremath{%
38                 \scriptstyle\isotope@atomicnumber%
39             }% \ensuremath
40         }}%
41         \isotopestyle{#2}%
42     }% \ensuremath
43 }% contents
44 }% SVG
45 \endgroup%
46 }%
47 \LWR@formatted{isotope@two}
48
49 \begin{warpMathJax}
50 \CustomizeMathJax{%
51     \newcommand{\LWRisotopetwo}[2][]{%
52         {%
53             \vphantom{\mathrm{#2}}%
54             }^{\LWRisotopenucleonnumber}_{#1}%
55             \mathrm{#2}%
56         }%
57     }%
58 }
59
60 \CustomizeMathJax{%
61     \newcommand{\isotope}[1][]{%
62         \def\LWRisotopenucleonnumber{#1}%
63         \LWRisotopetwo%
64     }%
65 }
66 \end{warpMathJax}

```

File 240 **lwarp-jurabib.sty**

§ 352 Package **jurabib**

(Emulates or patches code by JENS BERGER.)

jurabib (*Pkg*) jurabib is patched for use by lwarp.

for HTML output:

```

1 \LWR@ProvidesPackagePass{jurabib}[2004/01/25]
2 \renewrobustcmd{\jblangle}{\textless}
3
4 \renewrobustcmd{\jbrangle}{\textgreater}
5
6 \VerifyCommand[lwarp][jurabib]{\jb@biblaw@item}{F93545B67E684787264DA900F185A25A}
7
8 \renewcommand*{\jb@biblaw@item}{%
9     \hspace{0.5em}%
10 %     $\triangleright$
11     \HTMLunicode{25B7}%     lwarp%

```



```

12 \hspace{0.5em}%
13 }
14
15 \VerifyCommand[lwarp][jurabib]{\jbarchsig}{8D821FA370CBD0A61325D5A278E0A369}
16
17 \renewrobustcmd{\jbarchsig}[2]{%
18   \ifjbweereinbib
19     \settowidth{\jb@subarchitemwidth}{\jbsamesubarchindent+#1}%
20     \setlength{\jb@subarchentrywidth}{\textwidth-\jb@subarchitemwidth-4em}%
21 %   \begin{tabular}{@{}p{\jb@subarchitemwidth}@{}j{\jb@subarchentrywidth}@{}}%
22     #1\ifjb@dot\unskip\unskip\unskip.\fi
23 %     &
24     \quad%       lwarp
25     \ifthenelse{\equal{#2}{}}{\{\}\jbarchnameformat{#2}}%
26 %   \end{tabular}
27   \fi
28 }%
29
30
31 \VerifyCommand[lwarp][jurabib]{\jb@do@post@item}{4FD79AF40E8460C52306C33CF825B63F}
32
33 \xpatchcmd{\jb@do@post@item}
34   {\begin{tabular}{p{\jb@biblaw@item@width}j{\jb@biblaw@entry@width}}}
35   {}
36   {}
37   {\LWR@patcherror{jurabib}{\jb@do@post@item 1}}
38
39 \xpatchcmd{\jb@do@post@item}
40   {\multicolumn{2}{p{\columnwidth}}{\jb@name}}
41   {\jb@name}
42   {}
43   {\LWR@patcherror{jurabib}{\jb@do@post@item 2}}
44
45 \xpatchcmd{\jb@do@post@item}
46   {\jb@biblaw@item & \jb@fulltitle}
47   {\jb@biblaw@item \quad \jb@fulltitle}
48   {}
49   {\LWR@patcherror{jurabib}{\jb@do@post@item 3}}
50
51 \xpatchcmd{\jb@do@post@item}
52   {\end{tabular}}
53   {}
54   {}
55   {\LWR@patcherror{jurabib}{\jb@do@post@item 4}}
56
57 \xpatchcmd{\jb@do@post@item}
58   {\begin{minipage}[t]{\bibnumberwidth}}
59   {}
60   {}
61   {\LWR@patcherror{jurabib}{\jb@do@post@item 5}}
62
63 \xpatchcmd{\jb@do@post@item}
64   {\end{minipage}}
65   {\quad}
66   {}
67   {\LWR@patcherror{jurabib}{\jb@do@post@item 6}}

```

File 241 **lwarp-karnaugh-map.sty**

§ 353 Package **karnaugh-map**

(Emulates or patches code by MATTIAS JACOBSSON.)

karnaugh-map (*Pkg*) karnaugh-map is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{karnaugh-map}[2017/02/20]

This patch is needed only because lwarp changes the definition of `\&`, and the original uses `\ifnum` to compare 0 with `\&`. It is hard to patch this environment, so the entire thing is redefined here, with the lwarp modifications identified in comments.

```

2 \VerifyEnvironment[lwarp][karnaugh-map]{karnaugh-map}
3   {FFA0270032620E79C8344E63AEDBF925}{08A76B622DBB34F033284513743C5F8C}
4
5 \RenewDocumentEnvironment{karnaugh-map}{s O{4} O{4} O{1} O{X_1X_0$} O{X_3X_2$} O{X_5X_4$}} {%
6   \begingroup
7     % store map size [START]
8     \renewcommand{\@karnaughmap@var@mapsize@}{#2}%
9     \renewcommand{\@karnaughmap@var@mapsizey@}{#3}%
10    \renewcommand{\@karnaughmap@var@mapsizez@}{#4}%
11    % [END]}
12    % determinate if markings should be color or black and white
13    \IfBooleanTF{#1}{%
14      % should be black and white
15      \renewcommand{\@karnaughmap@var@bw@}{1}%
16    }{%
17      % should be color
18      \renewcommand{\@karnaughmap@var@bw@}{0}%
19    }%
20    %
21    % find matching matrix template and alignment parameters [START]
22    \newcommand{\@karnaughmap@local@matrixtemplate@}{0}' is considered as missing matrix template
23    \newcommand{\@karnaughmap@local@maprealignmentx@}{0}%
24    \newcommand{\@karnaughmap@local@maprealignmenty@}{0}%
25    \ifnum\@karnaughmap@var@mapsize@\@karnaughmap@var@mapsizey@\@karnaughmap@var@mapsizez@=221
26      \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
27        \&           0 \&           1 \& \phantom{0} \& \&
28        0 \& |(000000)| \phantom{0} \& |(000001)| \phantom{0} \& \& \&
29        1 \& |(000010)| \phantom{0} \& |(000011)| \phantom{0} \& \& \&
30        \phantom{0} \& \& \& \& \& \& \& \&
31      }%
32    \fi
33    \ifnum\@karnaughmap@var@mapsize@\@karnaughmap@var@mapsizey@\@karnaughmap@var@mapsizez@=241
34      \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
35        \&           0 \&           1 \& \phantom{00} \& \&
36        00 \& |(000000)| \phantom{0} \& |(000001)| \phantom{0} \& \& \&
37        01 \& |(000010)| \phantom{0} \& |(000011)| \phantom{0} \& \& \&
38        11 \& |(000110)| \phantom{0} \& |(000111)| \phantom{0} \& \& \&
39        10 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \& \& \&
40        \phantom{00} \& \& \& \& \& \& \& \&
41      }%

```

```

42     \fi
43     \ifnum\@karnaughmap@var@mapsize@x\@karnaughmap@var@mapsize@y\@karnaughmap@var@mapsize@=421
44         \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
45             \&          00 \&          01 \&          11 \&          10 \& \phantom{00} \&
46             0 \& |(000000)| \phantom{0} \& |(000001)| \phantom{0} \& |(000011)| \phantom{0} \& |(000010)| \&
47             1 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \& |(000111)| \phantom{0} \& |(000110)| \&
48             \phantom{00} \&          \&          \&          \&          \&
49         }%
50     \fi
51     \ifnum\@karnaughmap@var@mapsize@x\@karnaughmap@var@mapsize@y\@karnaughmap@var@mapsize@=441
52         \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
53             \&          00 \&          01 \&          11 \&          10 \& \phantom{00} \&
54             00 \& |(000000)| \phantom{0} \& |(000001)| \phantom{0} \& |(000011)| \phantom{0} \& |(000010)| \&
55             01 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \& |(000111)| \phantom{0} \& |(000110)| \&
56             11 \& |(001100)| \phantom{0} \& |(001101)| \phantom{0} \& |(001111)| \phantom{0} \& |(001110)| \&
57             10 \& |(001000)| \phantom{0} \& |(001001)| \phantom{0} \& |(001011)| \phantom{0} \& |(001010)| \&
58             \phantom{00} \&          \&          \&          \&          \&
59         }%
60     \fi
61     \ifnum\@karnaughmap@var@mapsize@x\@karnaughmap@var@mapsize@y\@karnaughmap@var@mapsize@=442
62         \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
63             \&          00 \&          01 \&          11 \&          10 \& \phantom{00} \&
64             00 \& |(000000)| \phantom{0} \& |(000001)| \phantom{0} \& |(000011)| \phantom{0} \& |(000010)| \&
65             01 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \& |(000111)| \phantom{0} \& |(000110)| \&
66             11 \& |(001100)| \phantom{0} \& |(001101)| \phantom{0} \& |(001111)| \phantom{0} \& |(001110)| \&
67             10 \& |(001000)| \phantom{0} \& |(001001)| \phantom{0} \& |(001011)| \phantom{0} \& |(001010)| \&
68             \phantom{00} \&          \&          \&          \&          \&
69         }%
70         \renewcommand{\@karnaughmap@local@maprealignmentx@}{2.5}%
71     \fi
72     \ifnum\@karnaughmap@var@mapsize@x\@karnaughmap@var@mapsize@y\@karnaughmap@var@mapsize@=444
73         \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
74             \&          00 \&          01 \&          11 \&          10 \& \phantom{00} \&
75             00 \& |(000000)| \phantom{0} \& |(000001)| \phantom{0} \& |(000011)| \phantom{0} \& |(000010)| \&
76             01 \& |(000100)| \phantom{0} \& |(000101)| \phantom{0} \& |(000111)| \phantom{0} \& |(000110)| \&
77             11 \& |(001100)| \phantom{0} \& |(001101)| \phantom{0} \& |(001111)| \phantom{0} \& |(001110)| \&
78             10 \& |(001000)| \phantom{0} \& |(001001)| \phantom{0} \& |(001011)| \phantom{0} \& |(001010)| \&
79             \phantom{00} \&          \&          \&          \&          \&
80             00 \& |(100000)| \phantom{0} \& |(100001)| \phantom{0} \& |(100011)| \phantom{0} \& |(100010)| \&
81             01 \& |(100100)| \phantom{0} \& |(100101)| \phantom{0} \& |(100111)| \phantom{0} \& |(100110)| \&
82             11 \& |(101100)| \phantom{0} \& |(101101)| \phantom{0} \& |(101111)| \phantom{0} \& |(101110)| \&
83             10 \& |(101000)| \phantom{0} \& |(101001)| \phantom{0} \& |(101011)| \phantom{0} \& |(101010)| \&
84             \phantom{00} \&          \&          \&          \&          \&
85         }%
86         \renewcommand{\@karnaughmap@local@maprealignmentx@}{2.5}%
87         \renewcommand{\@karnaughmap@local@maprealignmenty@}{-2.5}%
88     \fi
89     % [END]}
90 % test if a matrix template is found or not(aka "\@karnaughmap@local@matrixtemplate@" equals to '0')
91 \ifdefstring{\@karnaughmap@local@matrixtemplate@}{0}{% lwarp
92 % \ifnum0=\@karnaughmap@local@matrixtemplate@% original
93 % print error if no template could be found
94 \PackageError{lwarp-karnaugh-map}{%
95     Can not find a template fitting your specification
96     (\@karnaughmap@var@mapsize@x\space x \@karnaughmap@var@mapsize@y\space y
97     \@karnaughmap@var@mapsize@z)%
98 }{%
99     Existing templates have the following dimensions:
100     2x2x1, 2x4x1, 4x2x1, 4x4x1, 4x4x2, and 4x4x4.
101 }%

```

```

102%   \fi   original
103   }{\relax}%   lwarp
104   \begin{tikzpicture}
105     % grid
106     % for all dimensions
107     \draw[color=black, ultra thin] (0,0) grid (\@karnaughmap@var@mapsize@x,\@karnaughmap@var@mapsize@y);
108     % when there are 2 sub maps
109     \ifnum\@karnaughmap@var@mapsize@=2
110       \draw[color=black, ultra thin] (5,0) grid (9,4);
111     \fi
112     % when there are 4 sub maps
113     \ifnum\@karnaughmap@var@mapsize@=4
114       \draw[color=black, ultra thin] (5,0) grid (9,4);
115       \draw[color=black, ultra thin] (0,-5) grid (4,-1);
116       \draw[color=black, ultra thin] (5,-5) grid (9,-1);
117     \fi
118     % labels
119     % for all dimensions
120     \node[above] at (\@karnaughmap@var@mapsize@x*0.5,\@karnaughmap@var@mapsize@y*0.9) {\small{#5}};
121     \node[left] at (-0.9,\@karnaughmap@var@mapsize@y*0.5) {\small{#6}};
122     % when there are 2 sub maps
123     \ifnum\@karnaughmap@var@mapsize@=2
124       \node[above] at (7,4.9) {\small{#5}};
125       % extra sub maps labels
126       \node[below] at (2,-0.1) {\small{#7$=0$}};
127       \node[below] at (7,-0.1) {\small{#7$=1$}};
128     \fi
129     % when there are 4 sub maps
130     \ifnum\@karnaughmap@var@mapsize@=4
131       \node[above] at (7,4.9) {\small{#5}};
132       \node[left] at (-0.9,-3) {\small{#6}};
133       % extra sub maps labels
134       \node[below] at (2,-0.1) {\small{#7$=00$}};
135       \node[below] at (7,-0.1) {\small{#7$=01$}};
136       \node[below] at (2,-5.1) {\small{#7$=10$}};
137       \node[below] at (7,-5.1) {\small{#7$=11$}};
138     \fi
139     % data
140     \matrix[
141       matrix of nodes,
142       ampersand replacement=\&,
143       column sep={1cm,between origins},
144       row sep={1cm,between origins},
145     ] at (\@karnaughmap@var@mapsize@x*0.5+\@karnaughmap@local@maprealignmentx@,\@karnaughmap@var@mapsize@y*0.5+\@karnaughmap@local@matrixtemplate@y)
146       \@karnaughmap@local@matrixtemplate@;
147   };
148 }{
149   \end{tikzpicture}
150 \endgroup
151 }

```


File 242 **lwarp-keyfloat.sty**

§ 354 Package **keyfloat**

(Emulates or patches code by BRIAN DUNN.)

keyfloat (*Pkg*) keyfloat is supported with a considerable amount of hacking. (It's a mashup of

lwarp, keyfloat, and tocdata.)

 **keywrap** If placing a `\keyfig[H]` inside a `keywrap`, use an absolute width for `\keyfig`, instead of `lw`-proportional widths. (The `[H]` option forces the use of a minipage, which internally adjusts for a virtual 6-inch wide minipage, which then corrupts the `lw` option.)

For wrapped figures, overhang and number of lines are ignored.

for HTML output:

```

1 \LWR@ProvidesPackagePass{keyfloat}[2019/09/23]
2
3 \IfPackageAtLeastTF{keyfloat}{2019/09/23}{\relax}{
4   \PackageError{lwarp-keyfloat}
5     {%
6       The keyfloat package is out of date.\MessageBreak
7       Update to keyfloat v2.01 2019/09/23 or later%
8     }
9     {%
10      Please update the keyfloat package.  It's worth it!%
11    }
12 }
```

After `keyfloat` has loaded:

```
13 \AtBeginDocument{
```

`\KFLT@LWR@hook@boxouter` **Integration for `keyfloat`.**
(Hook) [keyfloat]

```

14 \providecommand*\KFLT@LWR@hook@boxouter{}
15
16 \renewcommand*\KFLT@LWR@hook@boxouter{%
17   \ifbool{KFLT@keywrap}{%
18     }{%
19       \ifnumequal{\value{KFLT@keyfloatdepth}}{0}{%
20         \setlength{\linewidth}{6in}%
21         \setlength{\textwidth}{6in}%
22         \setlength{\textheight}{9in}%
23       }{%
24     }%
25   \normalcolor%
26 }
```

`\KFLT@LWR@hook@keysubfloats` **Integration for `keyfloat`.**
(Hook) [keyfloat]

```
27 \LetLtxMacro\KFLT@LWR@hook@keysubfloats\KFLT@LWR@hook@boxouter
```

`\KFLT@LWR@hook@keyfloatsminipage` **Integration for `keyfloat`.**
(Hook) [keyfloat]

```

28 \let\KFLT@LWR@hook@keyfloatsminipage\relax
29 \let\endKFLT@LWR@hook@keyfloatsminipage\relax
30 \newenvironment*{KFLT@LWR@hook@keyfloatsminipage}[1]{}{}
```

`\KFLT@LWR@hook@keyfloats` **Integration for `keyfloat`.**
(Hook) [keyfloat]

```

31 \LetLtxMacro\KFLT@LWR@hook@keyfloats\KFLT@LWR@hook@boxouter
32
33 \VerifyCommand[lwarp][keyfloat]{\KFLT@maybeendfloatrow}{ABD652AC104E3CF79D66B92BC7E4E2D7}
34
```

```

35 \renewcommand*{\KFLT@maybeendfloatrow}{%
36   \ifnumless{\value{KFLT@thiscol}}{\value{KFLT@numcols}}%
37     {}% thiscol < numcols
38     {}% >=
39     \defcounter{KFLT@thiscol}{0}%
40   }%
41 }%
42
43 \VerifyCommand[lwarp][keyfloat]{\KFLT@trackrows}{17F751691BBEDD3459F494B072DC2F11}
44
45 \renewcommand{\KFLT@trackrows}%
46 {%

```

If are nested inside a keyfloats or a subfloat:

```

47   \ifboolexpr{%
48     test {\ifnumgreater{\value{KFLT@keyfloatdepth}}{0}} or%
49     bool{KFLT@inkeysubfloats}%
50   }%
51   {% nested

```

Tracks row start and end:

```

52   \KFLT@maybestartfloatrow%

```

Possibly fill space between columns:

```

53   \ifnumgreater{\value{KFLT@thiscol}}{1}%
54     {}%
55     \hfill%
56   }%
57   {}%
58   }% nested
59   {}% not nested
60 }

```

```

61 \VerifyCommand[lwarp][keyfloat]{\KFLT@onefigureimage}{803E82896F8D49700946B1A6CB132A55}
62
63 \RenewDocumentCommand{\KFLT@onefigureimage}{m}
64 {%
65 \LWR@traceinfo{KFLT@onefigureimage}%
66 % \begin{lrbox}{\KFLT@envbox}%
67 \ifthenelse{\NOT\equal{\KFLT@lw}}{}%
68   {%

```

```

69   \ifdimgreater{\KFLT@h}{0pt}%
70   {%
71     \KFLT@frame{%
72       \includegraphics%
73       [%
74         scale=\KFLT@s,%
75         width=\KFLT@imagewidth,%
76         height=\KFLT@h,%
77         \KFLT@keepaspectratio,%
78       ]{#1}%
79     }%
80   }%
81   {%

```

```

82         \KFLT@frame{\includegraphics%
83         [scale=\KFLT@s,width=\KFLT@imagewidth]{#1}}%
84     }%
85 }%
86 {% not linewidth
87     \ifthenelse{\dimtest{\KFLT@w}{>}{0pt}}%
88     {% width is given
89         \ifthenelse{\dimtest{\KFLT@h}{>}{0pt}}%
90         {% w and h
91             \KFLT@frame{\includegraphics[%
92                 scale=\KFLT@s,%
93                 width=\KFLT@imagewidth,%
94                 height=\KFLT@h,%
95                 \KFLT@keepaspectratio,%
96                 ]{#1}}%
97         }% w and h
98     {% only w
99         \KFLT@frame{\includegraphics%
100        [scale=\KFLT@s,width=\KFLT@imagewidth]{#1}}%
101    }% only w
102 }% width is given
103 {% width is not given
104     \ifthenelse{\dimtest{\KFLT@h}{>}{0pt}}%
105     {%
106         \KFLT@frame{\includegraphics%
107         [scale=\KFLT@s,height=\KFLT@h]{#1}}%
108     }%
109     {%
110         \KFLT@frame{\includegraphics%
111         [scale=\KFLT@s]{#1}}%
112     }%
113 }% width is not given
114 }% not linewidth
115 % \end{lrbox}%
116 % \unskip%
117 % \KFLT@findenvboxwidth%
118 % \begin{turn}{\KFLT@r}%
119 % \KFLT@frame{\usebox{\KFLT@envbox}}%
120 % \unskip%
121 % \end{turn}%
122 % \LWR@traceinfo{KFLT@onefigureimage: done}%
123 }

124 \VerifyEnvironment[lwarp][keyfloat]{KFLT@boxinner}
125     {44BA9E3F4EA1B3E533F47377BA47F145}{590DE3AADA8DF85EF6E1589B41F0D4F6}
126
127 \RenewDocumentEnvironment{KFLT@boxinner}{}
128 {%
129     \LWR@traceinfo{KFLT@boxinner}%
130     \LWR@stoppars%
131     \minipagefullwidth%
132     \ifboolexpr{bool{KFLT@ft} or bool{KFLT@f}}{%
133         \fminipage{\KFLT@imagewidth}%
134     }{%
135         \minipage{\KFLT@imagewidth}%
136     }%
137 }
138 {%
139     \ifboolexpr{bool{KFLT@ft} or bool{KFLT@f}}{%
140         \endfminipage%

```

```

141   }{%
142   \endminipage%
143   }%
144   \LWR@startpars%
145   \LWR@traceinfo{KFLT@boxinner: done}%
146 }

147 \newcommand*\LWR@KFLT@settalign}[1]{%
148   \def\LWR@KFLT@textalign{justify}%
149   \ifcsstring{KFLT@#1textalign}{\centering}%
150     {\def\LWR@KFLT@textalign{center}}%
151   }%
152   \ifcsstring{KFLT@#1textalign}{\raggedleft}%
153     {\def\LWR@KFLT@textalign{right}}%
154   }%
155   \ifcsstring{KFLT@#1textalign}{\raggedright}%
156     {\def\LWR@KFLT@textalign{left}}%
157   }%
158 }
159
160 \VerifyCommand[lwarp][keyfloat]{\KFLT@addtext}{C086CC818525A9B03EDEACC02609A3BE}
161
162 \renewcommand{\KFLT@addtext}[1]
163 {%

```

Is there text to add?

```

164   \ifcsempy{KFLT@#1t}%
165   }% no text
166   {% text to add
167     {% local

```

Add some space, then create a <div> to contain the text:

```

168     \addvspace{\smallskipamount}%
169     \LWR@KFLT@settalign{#1}%
170     \begin{BlockClass}[text-align:\LWR@KFLT@textalign]{floatnotes}%

```

Set the alignment and some text parameters:

```

171 %     \csuse{KFLT@#1textalign}%
172 %     \footnotesize%
173     \setlength{\parskip}{1.5ex}%
174     \setlength{\parindent}{0em}%

```

Typeset the actual text:

```

175     \csuse{KFLT@#1t}%

```

Close it all out with a little more space:

```

176     \end{BlockClass}%
177 %     \par\addvspace{2ex}%
178     }% local
179   }% text to add
180 }
181
182 \IfPackageLoadedTF{tocdata}

```



```

183 {}
184 {% tocdata not loaded
185
186   \newcommand*\LWR@KFLT@setnamealign}[1]{%
187     \def\LWR@KFLT@textalign{justify}%
188     \ifstrequal{#1}{\centering}%
189       {\def\LWR@KFLT@textalign{center}}%
190     }%
191     \ifstrequal{#1}{\raggedleft}%
192       {\def\LWR@KFLT@textalign{right}}%
193     }%
194     \ifstrequal{#1}{\raggedright}%
195       {\def\LWR@KFLT@textalign{left}}%
196     }%
197   }
198
199   \VerifyCommand[lwarp][keyfloat]{\KFLT@addartisttext}{35968ED08D9BE09FF1B45E1E40AFE9A7}
200
201   \renewcommand*\KFLT@addartisttext}[3]{%

```

Add space and create the name inside a <div>:

```

202 %       \addvspace{\medskipamount}%
203 %     \begin{minipage}{\linewidth}%
204 %       \LWR@KFLT@setnamealign{#3}%
205 %     \begin{BlockClass}[text-align:\LWR@KFLT@textalign]{floatnotes}%

```

Text alignment is #3, and depends on artist or author:

```

206 %     #3%

```

#1 is empty or 'subgrp'
 #2 is empty for artist, 'u' for author:

```

207     \footnotesize\textsc{%
208       \KFLT@optionalname{\csuse{KFLT@#1a#2p}}%
209       \KFLT@optionalname{\csuse{KFLT@#1a#2f}}%
210       \csuse{KFLT@#1a#2l}%
211       \csuse{KFLT@#1a#2s}%
212     }%
213 %   \end{minipage}%
214 %   \end{BlockClass}
215 %   \par\addvspace{2ex}%
216 % }
217
218 }% tocdata not loaded

```

Env KFLT@marginfloat

[<offset>] {<type>}

```

219 \DeclareDocumentEnvironment{KFLT@marginfloat}{0{-1.2ex} m}
220 {%
221   \uselengthunit{PT}%
222   \LWR@BlockClassWP%
223     {float:right; width:2in; margin:10pt}%
224     }%
225     (note)%
226     {marginblock}%
227   \renewcommand*\@capttype{#2}%
228   \minipage{1.2\LWR@usersmarginparwidth}%

```

```

229 \setlength{\marginparwidth}{.95\LWR@usersmarginparwidth}%
230 }
231 {%
232 \endminipage%
233 \endLWR@BlockClassWP%
234 }

235 \DeclareDocumentEnvironment{marginfigure}{o}
236 {\begin{KFLT@marginfloat}{figure}}
237 {\end{KFLT@marginfloat}}
238
239 \DeclareDocumentEnvironment{margintable}{o}
240 {\begin{KFLT@marginfloat}{table}}
241 {\end{KFLT@marginfloat}}

```

Env keywrap

```

{\width} {\keyfloat}

242 \DeclareDocumentEnvironment{keywrap}{m +m}
243 {%
244 \begin{LWR@setvirtualpage}*
245 \setlength{\LWR@templengthone}{#1}%
246 \begin{LWR@BlockClassWP}%
247 {%
248 float:right; width:\LWR@printlength{\LWR@templengthone}; % extra space
249 margin:10pt%
250 }%
251 {}%
252 (note)%
253 {marginblock}%
254 \setlength{\linewidth}{.95\LWR@templengthone}%
255 \booltrue{KFLT@keywrap}%
256 #2%
257 \end{LWR@BlockClassWP}%
258 \end{LWR@setvirtualpage}%
259 }
260 {}

261 }% AtBeginDocument

```

File 243 **lwarp-keystroke.sty**

§ 355 Package **keystroke**

(Emulates or patches code by WERNER FINK.)

keystroke (*Pkg*) **keystroke** is patched for use by **lwarp**.

for HTML output:

```

1 \LWR@ProvidesPackagePass{keystroke}[2010/04/23]

2 \newcommand*\LWR@HTML@keystroke}[1]{
3 \InlineClass{keystroke}{#1}
4 }
5 \LWR@formatted{keystroke}
6
7
8 \newcommand*\LWR@HTML@Return{\keystroke{\HTMLUnicode{021A9}}}

```

```

 9 \LWR@formatted{Return}
10
11 \newcommand*{\LWR@HTML@BSpace}{\keystroke{\HTMLUnicode{027FB}}}
12 \LWR@formatted{BSpace}
13
14 \newcommand*{\LWR@HTML@Tab}{\keystroke{|\HTMLUnicode{021C6}|}}
15 \LWR@formatted{Tab}
16
17 \newcommand*{\LWR@HTML@UArrow}{\keystroke{\HTMLUnicode{02191}}}
18 \LWR@formatted{UArrow}
19
20 \newcommand*{\LWR@HTML@DArrow}{\keystroke{\HTMLUnicode{02193}}}
21 \LWR@formatted{DArrow}
22
23 \newcommand*{\LWR@HTML@LArrow}{\keystroke{\HTMLUnicode{02190}}}
24 \LWR@formatted{LArrow}
25
26 \newcommand*{\LWR@HTML@RArrow}{\keystroke{\HTMLUnicode{02192}}}
27 \LWR@formatted{RArrow}
28
29 % Preserves the language options:
30 \VerifyCommand[lwarp][keystroke]{\Shift}{F86359C350A5BC1D264A4997F86C2DC2}
31
32 \LetLtxMacro\LWR@HTML@Shift\Shift
33 \xpatchcmd{\LWR@HTML@Shift}
34   {\$Uparrow$}
35   {\HTMLUnicode{21D1}}
36   {}
37   {}
38 \LWR@formatted{Shift}
39
40 \VerifyCommand[lwarp][keystroke]{\PgUp}{CBB81948EFB5940DAD2B51644BB4B2BF}
41
42 \LetLtxMacro\LWR@HTML@PgUp\PgUp
43 \xpatchcmd{\LWR@HTML@PgUp}
44   {\$uparrow$}
45   {\HTMLUnicode{2191}}
46   {}
47   {}
48 \LWR@formatted{PgUp}
49
50 \VerifyCommand[lwarp][keystroke]{\PgDown}{B55C849642BE07904975EC7E4D649CAD}
51
52 \LetLtxMacro\LWR@HTML@PgDown\PgDown
53 \xpatchcmd{\LWR@HTML@PgDown}
54   {\$downarrow$}
55   {\HTMLUnicode{2193}}
56   {}
57   {}
58 \LWR@formatted{PgDown}


```

File 244 **lwarp-kpfonts.sty**

§ 356 Package **kpfonts**

(Emulates or patches code by CHRISTOPHE CAIGNAERT.)

kpfonts (*Pkg*) kpfonts is used as-is for SVG math, and is emulated for MATHJAX.

-  **limitations** The MATHJAX emulation honors the options `uprightRoman` for `\D` only, `classicReIm`, `frenchstyle` for Greek only, `upright` for Greek only, `uprightgreeks`, `slantedGreeks`, and `mathcalasscript`.

The dedicated macros for Greek work correctly.

svg math should appear the same as the printed output.

for HTML output:

```

1 \LWR@ProvidesPackagePass{kpfonts}[2010/08/20]
2
3 \LWR@infoprocessingmathjax{kpfonts}
4
5 \LWR@origRequirePackage{lwarp-common-mathjax-newpctxmath}
6
7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 \ifkp@calasscr
12   \CustomizeMathJax{\let\LWRorigmathscr\mathscr}
13   \CustomizeMathJax{\let\LWRorigmathcal\mathcal}
14   \CustomizeMathJax{\let\mathscr\LWRorigmathcal}
15   \CustomizeMathJax{\let\mathcal\LWRorigmathscr}
16 \fi
17
18 \ifkp@upgrk % lowercase
19   \LWR@mathjax@addgreek@l@up{}{}
20   \LWR@mathjax@addgreek@l@it{other}{}
21 \else
22   \LWR@mathjax@addgreek@l@up{other}{}
23 \fi
24
25 \ifkp@slGrk
26   \LWR@mathjax@addgreek@u@it*{}{}
27   \LWR@mathjax@addgreek@u@up*{other}{}
28   \LWR@mathjax@addgreek@u@up*{var}{}
29 \else
30   \LWR@mathjax@addgreek@u@it*{other}{}
31   \LWR@mathjax@addgreek@u@it*{var}{}
32 \fi
33
34 \LWR@mathjax@addgreek@u@up*{}{up}
35 \LWR@mathjax@addgreek@l@up{}{up}
36
37 \LWR@mathjax@addgreek@u@it*{}{sl}
38 \LWR@mathjax@addgreek@l@it{}{sl}
39
40 \CustomizeMathJax{\newcommand{\partialsl}{\mathord{\unicode{x1D715}}}}
41 \CustomizeMathJax{\let\partialup\uppartial}% not upright
42
43 \ifkp@oldReIm
44 \else
45   \CustomizeMathJax{\renewcommand{\Re}{\mathfrak{Re}}}
46   \CustomizeMathJax{\renewcommand{\Im}{\mathfrak{Im}}}
47 \fi
48
49 \ifkp@Dcommand
50   \ifkp@upRm%
51     \CustomizeMathJax{
52       \def\D#1{\mathclose{\, \mathrm{d}}#1}

```

```

53     }
54   \else
55     \CustomizeMathJax{
56       \def\D#1{\mathclose{\,\mathit{d}}#1}
57     }
58   \fi
59 \fi
60
61 \CustomizeMathJax{\let\pounds\mathsterling}
62 \CustomizeMathJax{\let\kppounds\mathsterling}
63
64 \CustomizeMathJax{\newcommand{\mathup}[1]{\mathrm{#1}}}% never sans
65 \CustomizeMathJax{\let\mathupright\mathup}
66
67 \end{warpMathJax}


```

File 245 **lwarp-kpfonts-otf.sty**

§ 357 Package **kpfonts-otf**


(Emulates or patches code by DANIEL FLIPO.)

kpfonts-otf (*Pkg*) kpfonts-otf is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation honors the options fancyReIm, mathcal, frenchstyle for Greek only, and mathcalasscript.

Also see the options for unicode-math, which is loaded by kpfonts-otf.

The unicode-math dedicated macros for Greek work correctly.

 **\mathversion** The MATHJAX emulation does not change with the use of \mathversion. Whatever emulation is established at the begin of the document will remain.

SVG math should appear the same as the printed output.

for HTML output:

```

1 \LWR@ProvidesPackagePass{kpfonts-otf}[2020/06/20]
2
3 \LWR@infoprocessingmathjax{kpfonts-otf}
4
5 \LWR@origRequirePackage{lwarp-common-mathjax-nonunicode}
6
7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 \ifkp@calasscr
12   \CustomizeMathJax{\let\mathscr\mathcal}
13 \else
14   \CustomizeMathJax{\let\mathcal\mathscr}
15 \fi
16
17 \ifkp@frenchstyle
18   \LWR@mathjax@addgreek@l@up{}{}
19   \LWR@mathjax@addgreek@u@up*{}{}
20 \fi
21
22 \ifkp@oldReIm

```

```

23   \CustomizeMathJax{\renewcommand{\Re}{\mathfrak{Re}}}
24   \CustomizeMathJax{\renewcommand{\Im}{\mathfrak{Im}}}
25 \else
26 \fi
27
28 \ifkp@Dcommand
29   \CustomizeMathJax{
30     \def\D#1{\mathclose{\, \mathrm{d}}#1}
31   }
32 \fi
33
34 \CustomizeMathJax{\let\varint\int}
35 \CustomizeMathJax{\let\variint\iint}
36 \CustomizeMathJax{\let\variiint\iiint}
37 \CustomizeMathJax{\let\variiiint\iiiint}
38 \CustomizeMathJax{\let\varidotsint\idotsint}
39
40 \CustomizeMathJax{\newcommand{\varointctrlockwise}{%
41   \mathop{\unicode{x2939}}\!\!\unicode{x0222E}}%
42 }}
43
44 \CustomizeMathJax{\newcommand{\oiintclockwise}{%
45   \mathop{\unicode{x0222F}}\!\!\unicode{x2938}}%
46 }}
47
48 \CustomizeMathJax{\newcommand{\oiintctrlockwise}{%
49   \mathop{\unicode{x2939}}\!\!\unicode{x0222F}}%
50 }}
51
52 \CustomizeMathJax{\newcommand{\varoiintclockwise}{%
53   \mathop{\unicode{x0222F}}\!\!\unicode{x2938}}%
54 }}
55
56 \CustomizeMathJax{\newcommand{\varoiintctrlockwise}{%
57   \mathop{\unicode{x2939}}\!\!\unicode{x0222F}}%
58 }}
59
60 \CustomizeMathJax{\newcommand{\oiintclockwise}{%
61   \mathop{\unicode{x02230}}\!\!\unicode{x2938}}%
62 }}
63
64 \CustomizeMathJax{\newcommand{\oiintctrlockwise}{%
65   \mathop{\unicode{x2939}}\!\!\unicode{x02230}}%
66 }}
67
68 \CustomizeMathJax{\newcommand{\varoiintclockwise}{%
69   \mathop{\unicode{x02230}}\!\!\unicode{x2938}}%
70 }}
71
72 \CustomizeMathJax{\newcommand{\varoiintctrlockwise}{%
73   \mathop{\unicode{x2939}}\!\!\unicode{x02230}}%
74 }}
75
76 \CustomizeMathJax{\newcommand{\sqiint}{%
77   \mathop{\unicode{x2A16}}\!\!\unicode{x2A16}}%
78 }}
79
80 \CustomizeMathJax{\newcommand{\sqiint}{%
81   \mathop{\unicode{x2A16}}\!\!\unicode{x2A16}}\!\!\unicode{x2A16}}%
82 }}

```

```

83
84 \CustomizeMathJax{\let\widearc\overparen}
85 \CustomizeMathJax{\let\widearcarrow\overrightarrow}
86 \CustomizeMathJax{\let\overrightarc\overrightarrow}
87
88 \end{warpMathJax}

```

File 246 **lwarp-layaureo.sty**

§ 358 Package **layaureo**

layaureo (*Pkg*) layaureo is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{layaureo}[2004/09/16]

File 247 **lwarp-layout.sty**

§ 359 Package **layout**

layout (*Pkg*) layout is ignored.

for HTML output: Discard all options for lwarp-layout:

```

1 \LWR@ProvidesPackageDrop{layout}[2014/10/28]

2 \NewDocumentCommand{\layout}{s}{}

```

File 248 **lwarp-layouts.sty**

§ 360 Package **layouts**

layouts (*Pkg*) layouts is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{layouts}[2009/09/02]

```

2 \newif\ifoddpagelayout
3 \oddpagelayouttrue
4 \newif\iftwocolumnlayout
5 \twocolumnlayoutfalse
6 \newif\ifdrawmarginpars
7 \drawmarginparstrue
8 \newif\ifdrawparameters
9 \drawparameterstrue
10 \newif\iflistaspara
11 \listasparatrue
12 \newif\ifruninhead
13 \runinheadfalse
14 \newif\ifprintparameters
15 \printparameterstrue
16 \newif\ifdrawdimensions
17 \drawdimensionsfalse

```

```
18 \newif\ifprintheadings
19 \printheadingstrue
20 \newcommand{\testdrawdimensions}{}
21 \newcommand{\testprintparameters}{}
22 \newcommand{\setlabelfont}[1]{}
23 \newcommand{\setparametertextfont}[1]{}
24 \newcommand{\setvaluetextsize}[1]{}
25 \newcommand{\setlayoutscales}[1]{}
26 \newcommand{\setuplayouts}{}
27 \newcommand{\printinunitsof}[1]{}
28 \newcommand{\prntlen}[1]{}
29 \newcommand{\trypaperwidth}[1]{}
30 \newcommand{\trypaperheight}[1]{}
31 \newcommand{\tryhoffset}[1]{}
32 \newcommand{\tryvoffset}[1]{}
33 \newcommand{\trytopmargin}[1]{}
34 \newcommand{\tryheadheight}[1]{}
35 \newcommand{\tryheadsep}[1]{}
36 \newcommand{\trytextheight}[1]{}
37 \newcommand{\tryfootskip}[1]{}
38 \newcommand{\tryoddsidemargin}[1]{}
39 \newcommand{\tryevensidemargin}[1]{}
40 \newcommand{\trytextwidth}[1]{}
41 \newcommand{\trymarginparsep}[1]{}
42 \newcommand{\trymarginparwidth}[1]{}
43 \newcommand{\trymarginparpush}[1]{}
44 \newcommand{\trycolumnsep}[1]{}
45 \newcommand{\trycolumnseprule}[1]{}
46 \newcommand{\setfootbox}[2]{}
47 \newcommand{\currentpage}{}
48 \newcommand{\drawpage}{(draw page)}
49 \newcommand{\pagediagram}{(page diagram)}
50 \newcommand{\pagedesign}{(page design)}
51 \newcommand{\pagevalues}{(page values)}
52 \newcommand{\trystockwidth}[1]{}
53 \newcommand{\trystockheight}[1]{}
54 \newcommand{\trytrimedge}[1]{}
55 \newcommand{\trytrimtop}[1]{}
56 \newcommand{\tryuppermargin}[1]{}
57 \newcommand{\tryspinmargin}[1]{}
58 \newcommand{\currentstock}{}
59 \newcommand{\drawstock}{(draw stock)}
60 \newcommand{\stockdiagram}{(stock diagram)}
61 \newcommand{\stockdesign}{(stock design)}
62 \newcommand{\stockvalues}{(stock values)}
63 \newcommand{\tryitemindent}[1]{}
64 \newcommand{\trylabelwidth}[1]{}
65 \newcommand{\trylabelsep}[1]{}
66 \newcommand{\tryleftmargin}[1]{}
67 \newcommand{\tryrightmargin}[1]{}
68 \newcommand{\trylistparindent}[1]{}
69 \newcommand{\trytopsep}[1]{}
70 \newcommand{\tryparskip}[1]{}
71 \newcommand{\trypartopsep}[1]{}
72 \newcommand{\tryparsep}[1]{}
73 \newcommand{\tryitemsep}[1]{}
74 \newcommand{\currentlist}{}
75 \newcommand{\drawlist}{(draw list)}
76 \newcommand{\listdiagram}{(list diagram)}
77 \newcommand{\listdesign}{(list design)}
```



```
78 \newcommand{\listvalues}{(list values)}
79 \newcommand{\tryfootins}[1]{}
80 \newcommand{\tryfootnotesep}[1]{}
81 \newcommand{\tryfootnotebaseline}[1]{}
82 \newcommand{\tryfootruleheight}[1]{}
83 \newcommand{\tryfootrulefrac}[1]{}
84 \newcommand{\currentfootnote}{}
85 \newcommand{\drawfootnote}{(draw footnote)}
86 \newcommand{\footnotediagram}{(footnote diagram)}
87 \newcommand{\footnotedesign}{(footnote design)}
88 \newcommand{\footnotevalues}{(footnote values)}
89 \newcommand{\tryparindent}[1]{}
90 \newcommand{\tryparlinewidth}[1]{}
91 \newcommand{\tryparbaselineskip}[1]{}
92 \newcommand{\currentparagraph}{}
93 \newcommand{\drawparagraph}{(draw paragraph)}
94 \newcommand{\paragraphdiagram}{(paragraph diagram)}
95 \newcommand{\paragraphdesign}{(paragraph design)}
96 \newcommand{\paragraphvalues}{(paragraph values)}
97 \newcommand{\trybeforeskip}[1]{}
98 \newcommand{\tryafterskip}[1]{}
99 \newcommand{\tryindent}[1]{}
100 \newcommand{\currentheading}{}
101 \newcommand{\drawheading}[1]{(draw heading)}
102 \newcommand{\headingdiagram}[1]{(heading diagram)}
103 \newcommand{\headingdesign}[1]{(heading design)}
104 \newcommand{\headingvalues}{(heading values)}
105 \newcommand{\trytextfloatsep}[1]{}
106 \newcommand{\tryfloatsep}[1]{}
107 \newcommand{\tryintextsep}[1]{}
108 \newcommand{\trytopfigrule}[1]{}
109 \newcommand{\trybotfigrule}[1]{}
110 \newcommand{\currentfloat}{}
111 \newcommand{\drawfloat}{(draw float)}
112 \newcommand{\floatdiagram}{(float diagram)}
113 \newcommand{\floatdesign}{(float design)}
114 \newcommand{\floatvalues}{(float values)}
115 \newcommand{\trytotalnumber}[1]{}
116 \newcommand{\trytopnumber}[1]{}
117 \newcommand{\trybottomnumber}[1]{}
118 \newcommand{\trytopfraction}[1]{}
119 \newcommand{\trytextfraction}[1]{}
120 \newcommand{\trybottomfraction}[1]{}
121 \newcommand{\currentfloatpage}{}
122 \newcommand{\drawfloatpage}{(draw floatpage)}
123 \newcommand{\floatpagediagram}{(floatpage diagram)}
124 \newcommand{\floatpagedesign}{(floatpage design)}
125 \newcommand{\floatpagevalues}{(floatpage values)}
126 \newcommand{\trytocindent}[1]{}
127 \newcommand{\trytocnumwidth}[1]{}
128 \newcommand{\trytoclinewidth}[1]{}
129 \newcommand{\trytocrmarg}[1]{}
130 \newcommand{\trytocpnumwidth}[1]{}
131 \newcommand{\trytocdotsep}[1]{}
132 \newcommand{\currenttoc}{}
133 \newcommand{\drawtoc}{(draw toc)}
134 \newcommand{\tocdiagram}{(toc diagram)}
135 \newcommand{\tocdesign}{(toc design)}
136 \newcommand{\tocvalues}{(toc values)}
137 \newcommand{\drawaspread}[8][0]{(a spread)}
```

```
138 \newcommand{\drawfontframe}[1]{(font frame)}
139 \newcommand{\drawfontframeLabel}[1]{}
```

File 249 **lwarp-leading.sty**

§ 361 Package **leading**

leading (*Pkg*) leading is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{leading}[2008/12/11]
2 \newcommand\leading[1]{}

File 250 **lwarp-leftidx.sty**

§ 362 Package **leftidx**

(Emulates or patches code by HARALD HARDERS.)

leftidx (*Pkg*) leftidx works as-is with SVG math, and is emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{leftidx}[2003/09/24]
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\leftidx}[3]{\vphantom{#2}}#1#2#3}
4 \CustomizeMathJax{\newcommand{\ltrans}[1]{\leftidx{^\mathrm{t}}{!\#1}}}
5 \end{warpMathJax}

File 251 **lwarp-letterspace.sty**

§ 363 Package **letterspace**

(Emulates or patches code by R SCHLICHT.)

letterspace (*Pkg*) letterspace is a subset of microtype, which is pre-loaded by lwarp. All user options and macros are ignored and disabled.

for HTML output: Discard all options for lwarp-letterspace:
1 \LWR@ProvidesPackageDrop{letterspace}[2018/01/14]
2 \newcommand*\lsstyle{}
3 \newcommand\textls[2][{}]
4 \def\textls#1#{}
5 \newcommand*\lslig[1]{#1}

File 252 **lwarp-lettrine.sty**

§ 364 Package **lettrine**

(Emulates or patches code by DANIEL FLIPO.)

lettrine (*Pkg*) **lettrine** is emulated.

for HTML output: Discard all options for **lwarp-lettrine**:

```
1 \LWR@ProvidesPackageDrop{lettrine}[2018-08-28]
```

The initial letter is in a `` of class `lettrine`, and the following text is in a `` of class `lettrinetext`. `\lettrine [<keys>] {<letter>} {<additional text>}`

```
2 \DeclareDocumentCommand{\lettrine}{o m m}{%
3   \InlineClass{lettrine}{#2}\InlineClass{lettrinetext}{#3} % extra space
4 }
5
6 \newcounter{DefaultLines}
7 \setcounter{DefaultLines}{2}
8 \newcounter{DefaultDepth}
9 \newcommand*\DefaultOptionsFile{\relax}
10 \newcommand*\DefaultLoversize{0}
11 \newcommand*\DefaultLraise{0}
12 \newcommand*\DefaultLhang{0}
13 \newdimen\DefaultFindent
14 \setlength{\DefaultFindent}{\z@}
15 \newdimen\DefaultNindent
16 \setlength{\DefaultNindent}{0.5em}
17 \newdimen\DefaultSlope
18 \setlength{\DefaultSlope}{\z@}
19 \newdimen\DiscardVskip
20 \setlength{\DiscardVskip}{0.2\p@}
21 \newif\ifLettrineImage
22 \newif\ifLettrineOnGrid
23 \newif\ifLettrineRealHeight
24
25 \newcommand*\LettrineTextFont{\scshape}
26 \newcommand*\LettrineFontHook{}
27 \newcommand*\LettrineFont[1]{\InlineClass{lettrine}{#1}}
28 \newcommand*\LettrineFontEPS[1]{\includegraphics[height=1.5ex]{#1}}
```

File 253 **lwarp-libertinust1math.sty**

§ 365 Package **libertinust1math**

(Emulates or patches code by MICHAEL SHARPE.)

libertinust1math (*Pkg*) **libertinust1math** is used as-is for SVG math, and is emulated for MATHJAX.

The MATHJAX emulation honors frenchmath for Greek but not Latin characters, and slantedGreek, uprightGreek, and ISO also adjust Greek characters. MATHJAX cannot yet honor options for adjusting Latin characters.

The dedicated macros for upright and italic Greek letters do work correctly.

Some of the symbol font macros such as `\mathsfbf` do not use a sans font because MATHJAX does not yet have sans Greek.

SVG math honors all font choices, and should appear the same as the printed output.

for HTML output:

```

1 \LWR@ProvidesPackagePass{libertinust1math}[2020/06/10]
2
3 \LWR@infoprocessingmathjax{libertinust1math}

4 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
5
6 \begin{warpMathJax}
7
8 \if\libus@slantedG
9   \LWR@mathjax@addgreek@u@it*{}{}
10 \else
11   \LWR@mathjax@addgreek@u@up*{}{}
12 \fi
13
14 \LWR@mathjax@addgreek@u@it*{}{it}
15 \LWR@mathjax@addgreek@u@up*{}{up}
16 \LWR@mathjax@addgreek@u@up*{}{up}
17
18 \if\libus@frenchm
19   \LWR@mathjax@addgreek@l@up{}{}
20 \else
21   \LWR@mathjax@addgreek@l@it{}{}
22 \fi
23
24 \LWR@mathjax@addgreek@l@it{}{it}
25 \LWR@mathjax@addgreek@l@up{}{up}
26 \LWR@mathjax@addgreek@l@up{}{up}
27
28 \CustomizeMathJax{\let\uppartial\partial}% not upright

29 \CustomizeMathJax{\let\mathsfbf\mathbf}% not sans
30 % \CustomizeMathJax{\newcommand{\mathsfbf}[1]{%
31 %   \mmlToken{mi}[mathvariant="bold-sans-serif"]{#1}% not greek
32 % }}% not sans
33
34 % \CustomizeMathJax{\newcommand{\mathbfit}[1]{\boldsymbol{#1}}}
35 \CustomizeMathJax{\let\mathbfit\boldsymbol}

36 % \CustomizeMathJax{\newcommand{\mathsfbfit}[1]{\boldsymbol{#1}}}% not sans
37 \CustomizeMathJax{\let\mathsfbfit\mathbfit}% not sans
38 % \CustomizeMathJax{\newcommand{\mathsfbfit}[1]{%
39 %   \mmlToken{mi}[mathvariant="sans-serif-bold-italic"]{#1}% not greek
40 % }}%

41 \CustomizeMathJax{\let\mathsfit\mathit}% not sans
42 % \CustomizeMathJax{\newcommand{\mathsfit}[1]{%
43 %   \mmlToken{mi}[mathvariant="sans-serif-italic"]{#1}% not greek
44 % }}
45
46 \CustomizeMathJax{\let\vectorsym\mathbfit}
47 \CustomizeMathJax{\let\matrixsym\mathbfit}
48 \CustomizeMathJax{\let\tensorsym\mathsfbfit}
49 \CustomizeMathJax{\let\mathboldsans\mathsfbfit}
50 \CustomizeMathJax{\let\mathbold\mathbfit}

```

lwarp_mathjax.txt adds \left/\right support for delimiters.

```

51 \CustomizeMathJax{\let\dlb\lBrack}
52 \CustomizeMathJax{\let\drb\rBrack}
53
54 \CustomizeMathJax{\let\sqrtsign\sqrt}
55
56 \CustomizeMathJax{\let\smallintsl\smallint}
57 \CustomizeMathJax{\newcommand{\smalliintsl}{\mathop{\unicode{x222C}}\limits}}
58 \CustomizeMathJax{\newcommand{\smalliiintsl}{\mathop{\unicode{x222D}}\limits}}
59 \CustomizeMathJax{\newcommand{\smalliiiintsl}{\mathop{\unicode{x2A0C}}\limits}}
60 \CustomizeMathJax{\newcommand{\smallointsl}{\mathop{\unicode{x222E}}\limits}}
61 \CustomizeMathJax{\newcommand{\smalloiintsl}{\mathop{\unicode{x222F}}\limits}}
62
63 \CustomizeMathJax{\let\smallintup\smallint}
64 \CustomizeMathJax{\newcommand{\smalliintup}{\mathop{\unicode{x222C}}\limits}}
65 \CustomizeMathJax{\newcommand{\smalliiintup}{\mathop{\unicode{x222D}}\limits}}
66 \CustomizeMathJax{\newcommand{\smalliiiintup}{\mathop{\unicode{x2A0C}}\limits}}
67 \CustomizeMathJax{\newcommand{\smallointup}{\mathop{\unicode{x222E}}\limits}}
68 \CustomizeMathJax{\newcommand{\smalloiintup}{\mathop{\unicode{x222F}}\limits}}
69
70 \CustomizeMathJax{\let\intslop\int}
71 \CustomizeMathJax{\newcommand{\iintslop}{\mathop{\unicode{x222C}}\limits}}
72 \CustomizeMathJax{\newcommand{\iiintslop}{\mathop{\unicode{x222D}}\limits}}
73 \CustomizeMathJax{\newcommand{\iiiintslop}{\mathop{\unicode{x2A0C}}\limits}}
74 \CustomizeMathJax{\let\oint\int}
75 \CustomizeMathJax{\newcommand{\oiintslop}{\mathop{\unicode{x222F}}\limits}}
76 \CustomizeMathJax{\newcommand{\oiiintslop}{\mathop{\unicode{x2230}}\limits}}
77
78 \CustomizeMathJax{\let\intupop\int}
79 \CustomizeMathJax{\newcommand{\iintupop}{\mathop{\unicode{x222C}}\limits}}
80 \CustomizeMathJax{\newcommand{\iiintupop}{\mathop{\unicode{x222D}}\limits}}
81 \CustomizeMathJax{\newcommand{\iiiintupop}{\mathop{\unicode{x2A0C}}\limits}}
82 \CustomizeMathJax{\let\ointupop\int}
83 \CustomizeMathJax{\newcommand{\oiintupop}{\mathop{\unicode{x222F}}\limits}}
84 \CustomizeMathJax{\newcommand{\oiiintupop}{\mathop{\unicode{x2230}}\limits}}
85
86 \CustomizeMathJax{\newcommand{\smalliint}{\mathop{\unicode{x222C}}\limits}}
87 \CustomizeMathJax{\newcommand{\smalliiint}{\mathop{\unicode{x222D}}\limits}}
88 \CustomizeMathJax{\newcommand{\smalliiiint}{\mathop{\unicode{x2A0C}}\limits}}
89 \CustomizeMathJax{\newcommand{\smalloint}{\mathop{\unicode{x222E}}\limits}}
90 \CustomizeMathJax{\newcommand{\smalloiint}{\mathop{\unicode{x222F}}\limits}}
91
92 \CustomizeMathJax{\let\intop\int}
93 \CustomizeMathJax{\newcommand{\iintop}{\mathop{\unicode{x222C}}\limits}}
94 \CustomizeMathJax{\newcommand{\iiintop}{\mathop{\unicode{x222D}}\limits}}
95 \CustomizeMathJax{\newcommand{\iiiintop}{\mathop{\unicode{x2A0C}}\limits}}
96 \CustomizeMathJax{\let\ointop\int}
97 \CustomizeMathJax{\newcommand{\oiintop}{\mathop{\unicode{x222F}}\limits}}
98 \CustomizeMathJax{\newcommand{\oiiintop}{\mathop{\unicode{x2230}}\limits}}
99
100 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x222F}}\limits}}
101
102 \CustomizeMathJax{\newcommand{\bigcupdot}{\mathop{\unicode{x2A03}}}}
103 \CustomizeMathJax{\newcommand{\bigsqcap}{\mathop{\unicode{x2A05}}}}
104 \CustomizeMathJax{\newcommand{\xsol}{\mathop{\unicode{x29F8}}}}
105 \CustomizeMathJax{\newcommand{\xbsol}{\mathop{\unicode{x29F9}}}}
106 \CustomizeMathJax{\let\prodop\prod}
107 \CustomizeMathJax{\let\coprodop\coprod}
108 \CustomizeMathJax{\let\sumop\sum}
109 \CustomizeMathJax{\let\bigwedgeop\bigwedge}
110 \CustomizeMathJax{\let\bigveeop\bigvee}

```

```

111 \CustomizeMathJax{\let\bigcapop\bigcap}
112 \CustomizeMathJax{\let\bigcupop\bigcup}
113 \CustomizeMathJax{\let\xsolop\xsol}
114 \CustomizeMathJax{\let\absolop\absol}
115 \CustomizeMathJax{\let\bigodotop\bigodot}
116 \CustomizeMathJax{\let\bigoplusop\bigoplus}
117 \CustomizeMathJax{\let\bigotimesop\bigotimes}
118 \CustomizeMathJax{\let\bigcupdotop\bigcupdot}
119 \CustomizeMathJax{\let\biguplusop\biguplus}
120 \CustomizeMathJax{\let\bigsqcapop\bigsqcap}
121 \CustomizeMathJax{\let\bigsqcupop\bigsqcup}
122
123 \CustomizeMathJax{\newcommand{\ovhook}[1]{\mathord{#1\unicode{x00309}}}}
124 \CustomizeMathJax{\newcommand{\candra}[1]{\mathord{#1\unicode{x00310}}}}
125 \CustomizeMathJax{\newcommand{\oturnedcomma}[1]{\mathord{#1\unicode{x00312}}}}
126 \CustomizeMathJax{\newcommand{\ocommatoprighth}[1]{\mathord{#1\unicode{x00315}}}}
127 \CustomizeMathJax{\newcommand{\droang}[1]{\mathord{#1\unicode{x0031A}}}}
128 \CustomizeMathJax{\newcommand{\leftharpoonaccent}[1]{\mathord{#1\unicode{x020D0}}}}
129 \CustomizeMathJax{\newcommand{\rightharpoonaccent}[1]{\mathord{#1\unicode{x020D1}}}}
130 \CustomizeMathJax{\newcommand{\leftarrowaccent}[1]{\mathord{#1\unicode{x020D0}}}}
131 \CustomizeMathJax{\let\rightarrowaccent\vec}
132
133 \CustomizeMathJax{\newcommand{\leftrightharpoonaccent}[1]{\mathord{#1\unicode{x020E1}}}}
134 \CustomizeMathJax{\newcommand{\annuity}[1]{\mathord{#1\unicode{x020E7}}}}
135 \CustomizeMathJax{\newcommand{\widebridgeabove}[1]{\mathord{#1\unicode{x020E9}}}}
136 \CustomizeMathJax{\newcommand{\asteraccent}[1]{\mathord{#1\unicode{x020F0}}}}
137
138 % neutralized:
139 \CustomizeMathJax{\newcommand{\braceld}{}{}}
140 \CustomizeMathJax{\newcommand{\bracerd}{}{}}
141 \CustomizeMathJax{\newcommand{\bracelu}{}{}}
142 \CustomizeMathJax{\newcommand{\braceru}{}{}}
143 \CustomizeMathJax{\newcommand{\braceex}{}{}}
144 \CustomizeMathJax{\newcommand{\bracemu}{}{}}
145 \CustomizeMathJax{\newcommand{\bracemd}{}{}}
146 \CustomizeMathJax{\newcommand{\parenld}{}{}}
147 \CustomizeMathJax{\newcommand{\parenrd}{}{}}
148 \CustomizeMathJax{\newcommand{\parenlu}{}{}}
149 \CustomizeMathJax{\newcommand{\parenru}{}{}}
150 \CustomizeMathJax{\newcommand{\bracketld}{}{}}
151 \CustomizeMathJax{\newcommand{\bracketrd}{}{}}
152 \CustomizeMathJax{\newcommand{\bracketlu}{}{}}
153 \CustomizeMathJax{\newcommand{\bracketru}{}{}}
154 \CustomizeMathJax{\newcommand{\bracketex}{}{}}
155 \CustomizeMathJax{\newcommand{\parenex}{}{}}
156
157 \CustomizeMathJax{\newcommand{\lhook}{~}}
158 \CustomizeMathJax{\newcommand{\rhook}{~}}
159 \CustomizeMathJax{\newcommand{\relbar}{-}}
160 \CustomizeMathJax{\newcommand{\Relbar}{=}}
161
162 \CustomizeMathJax{\newcommand{\mapstochar}{\mathrel{\unicode{x21A6}}}}
163
164 \CustomizeMathJax{\newcommand{\Zbar}{\mathord{\unicode{x0001B5}}}}
165 \CustomizeMathJax{\newcommand{\notchar}{\mathrel{\unicode{x000AC}}}}
166 \CustomizeMathJax{\newcommand{\upbackepsilon}{\mathord{\unicode{x03F6}}}}
167 \CustomizeMathJax{\newcommand{\smblkcircle}{\mathbin{\unicode{x02022}}}}
168 \CustomizeMathJax{\newcommand{\enleadertwodots}{\mathord{\unicode{x02025}}}}
169 \CustomizeMathJax{\newcommand{\unicodeellipsis}{\mathord{\unicode{x02026}}}}
170 \CustomizeMathJax{\newcommand{\matheellipsis}{\mathinner{\unicode{x02026}}}}

```

```

171 \CustomizeMathJax{\newcommand{\dprime}{\mathord{\unicode{x02033}}}}
172 \CustomizeMathJax{\newcommand{\trprime}{\mathord{\unicode{x02034}}}}
173 \CustomizeMathJax{\newcommand{\backdprime}{\mathord{\unicode{x02036}}}}
174 \CustomizeMathJax{\newcommand{\backtrprime}{\mathord{\unicode{x02037}}}}
175 \CustomizeMathJax{\newcommand{\caretinsert}{\mathord{\unicode{x02038}}}}
176 \CustomizeMathJax{\newcommand{\Exclam}{\mathord{\unicode{x0203C}}}}
177
178 \CustomizeMathJax{\newcommand{\hyphenbullet}{\mathord{\unicode{x02043}}}}
179 \CustomizeMathJax{\newcommand{\fracslash}{\mathbin{\unicode{x02044}}}}
180 \CustomizeMathJax{\newcommand{\Question}{\mathord{\unicode{x02047}}}}
181 \CustomizeMathJax{\newcommand{\closure}{\mathrel{\unicode{x02050}}}}
182 \CustomizeMathJax{\newcommand{\qprime}{\mathord{\unicode{x02057}}}}
183 \CustomizeMathJax{\newcommand{\vertoverlay}{\mathrel{\unicode{x020D2}}}}
184 \CustomizeMathJax{\newcommand{\enclosecircle}{\mathord{\unicode{x020DD}}}}
185 \CustomizeMathJax{\newcommand{\enclosesquare}{\mathord{\unicode{x020DE}}}}
186 \CustomizeMathJax{\newcommand{\enclosetriangle}{\mathord{\unicode{x020E4}}}}
187 \CustomizeMathJax{\newcommand{\Eulerconst}{\mathord{\unicode{x02107}}}}
188 \CustomizeMathJax{\newcommand{\turnediota}{\mathord{\unicode{x02129}}}}
189 \CustomizeMathJax{\newcommand{\Angstrom}{\mathord{\unicode{x0212B}}}}
190
191 \CustomizeMathJax{\newcommand{\sansLturned}{\mathord{\unicode{x02142}}}}
192 \CustomizeMathJax{\newcommand{\sansLmirrored}{\mathord{\unicode{x02143}}}}
193 \CustomizeMathJax{\newcommand{\Yup}{\mathord{\unicode{x02144}}}}
194 \CustomizeMathJax{\newcommand{\upand}{\mathbin{\unicode{x0214B}}}}
195 \CustomizeMathJax{\newcommand{\increment}{\mathord{\unicode{x02206}}}}
196 \CustomizeMathJax{\newcommand{\smallin}{\mathrel{\unicode{x0220A}}}}
197 \CustomizeMathJax{\newcommand{\nni}{\mathrel{\unicode{x0220C}}}}
198
199 \CustomizeMathJax{\newcommand{\smallni}{\mathrel{\unicode{x0220D}}}}
200 \CustomizeMathJax{\newcommand{\QED}{\mathord{\unicode{x0220E}}}}
201 \CustomizeMathJax{\newcommand{\vysmwhtcircle}{\mathbin{\unicode{x02218}}}}
202 \CustomizeMathJax{\newcommand{\vysmblkcircle}{\mathbin{\unicode{x02219}}}}
203 \CustomizeMathJax{\newcommand{\rightangle}{\mathord{\unicode{x0221F}}}}
204
205 \CustomizeMathJax{\newcommand{\Colon}{\mathrel{\unicode{x02237}}}}
206 \CustomizeMathJax{\newcommand{\dotminus}{\mathbin{\unicode{x02238}}}}
207 \CustomizeMathJax{\newcommand{\dashcolon}{\mathrel{\unicode{x02239}}}}
208 \CustomizeMathJax{\newcommand{\dotsmiusdots}{\mathrel{\unicode{x0223A}}}}
209 \CustomizeMathJax{\newcommand{\kernelcontraction}{\mathrel{\unicode{x0223B}}}}
210 \CustomizeMathJax{\newcommand{\invlazys}{\mathbin{\unicode{x0223E}}}}
211
212 \CustomizeMathJax{\newcommand{\sinewave}{\mathord{\unicode{x0223F}}}}
213 \CustomizeMathJax{\newcommand{\nsime}{\mathrel{\unicode{x02244}}}}
214 \CustomizeMathJax{\newcommand{\simneqq}{\mathrel{\unicode{x02246}}}}
215 \CustomizeMathJax{\newcommand{\napprox}{\mathrel{\unicode{x02249}}}}
216 \CustomizeMathJax{\newcommand{\approxident}{\mathrel{\unicode{x0224B}}}}
217 \CustomizeMathJax{\newcommand{\backcong}{\mathrel{\unicode{x0224C}}}}
218
219 \CustomizeMathJax{\newcommand{\nasymp}{\mathrel{\unicode{x0226D}}}}
220 \CustomizeMathJax{\newcommand{\nlessim}{\mathrel{\unicode{x02274}}}}
221 \CustomizeMathJax{\newcommand{\ngtrsim}{\mathrel{\unicode{x02275}}}}
222 \CustomizeMathJax{\newcommand{\nlessgtr}{\mathrel{\unicode{x02278}}}}
223 \CustomizeMathJax{\newcommand{\ngtrless}{\mathrel{\unicode{x02279}}}}
224
225 \CustomizeMathJax{\newcommand{\nsubset}{\mathrel{\unicode{x02284}}}}
226 \CustomizeMathJax{\newcommand{\nsupset}{\mathrel{\unicode{x02285}}}}
227
228 \CustomizeMathJax{\newcommand{\cupleftarrow}{\mathbin{\unicode{x0228C}}}}
229 \CustomizeMathJax{\newcommand{\cupdot}{\mathbin{\unicode{x0228D}}}}
230 \CustomizeMathJax{\newcommand{\circledequal}{\mathbin{\unicode{x0229C}}}}

```

```

231
232 \CustomizeMathJax{\newcommand{\assert}{\mathrel{\unicode{x022A6}}}}
233 \CustomizeMathJax{\newcommand{\VDash}{\mathrel{\unicode{x022AB}}}}
234 \CustomizeMathJax{\newcommand{\prurel}{\mathrel{\unicode{x022B0}}}}
235
236 \CustomizeMathJax{\newcommand{\origof}{\mathrel{\unicode{x022B6}}}}
237 \CustomizeMathJax{\newcommand{\smallprod}{\mathop{\unicode{x0220F}}}}% not small
238 \CustomizeMathJax{\newcommand{\smallcoprod}{\mathop{\unicode{x02210}}}}% not small
239 \CustomizeMathJax{\newcommand{\smallsum}{\mathop{\unicode{x02211}}}}% not small
240 \CustomizeMathJax{\newcommand{\Hfraktur}{\mathord{\unicode{x1D525}}}}
241 \CustomizeMathJax{\newcommand{\dsol}{\mathbin{\unicode{x029F6}}}}
242 \CustomizeMathJax{\newcommand{\rsolbar}{\mathbin{\unicode{x029F7}}}}
243
244 \CustomizeMathJax{\newcommand{\eqless}{\mathrel{\unicode{x022DC}}}}
245 \CustomizeMathJax{\newcommand{\eqgtr}{\mathrel{\unicode{x022DD}}}}
246 \CustomizeMathJax{\newcommand{\npreccurlyeq}{\mathrel{\unicode{x022E0}}}}
247 \CustomizeMathJax{\newcommand{\nsucccurlyeq}{\mathrel{\unicode{x022E1}}}}
248 \CustomizeMathJax{\newcommand{\nsubseteq}{\mathrel{\unicode{x022E2}}}}
249 \CustomizeMathJax{\newcommand{\nsupseteq}{\mathrel{\unicode{x022E3}}}}
250 \CustomizeMathJax{\newcommand{\sqsubsetneq}{\mathrel{\unicode{x022E4}}}}
251 \CustomizeMathJax{\newcommand{\sqsupsetneq}{\mathrel{\unicode{x022E5}}}}
252 \CustomizeMathJax{\newcommand{\nvartriangleleft}{\mathrel{\unicode{x022EA}}}}
253 \CustomizeMathJax{\newcommand{\nvartriangleright}{\mathrel{\unicode{x022EB}}}}
254
255 \CustomizeMathJax{\newcommand{\vdotsmath}{\mathrel{\unicode{x022EE}}}}
256 \CustomizeMathJax{\newcommand{\unicodecdots}{\mathord{\unicode{x022EF}}}}
257 \CustomizeMathJax{\newcommand{\adots}{\mathrel{\unicode{x022F0}}}}
258 \CustomizeMathJax{\newcommand{\succneq}{\mathrel{\unicode{x02AB2}}}}
259 \CustomizeMathJax{\newcommand{\preceqq}{\mathrel{\unicode{x02AB3}}}}
260 \CustomizeMathJax{\newcommand{\succeqq}{\mathrel{\unicode{x02AB4}}}}
261 \CustomizeMathJax{\newcommand{\precneq}{\mathrel{\unicode{x02AB1}}}}
262
263 \CustomizeMathJax{\newcommand{\mapsfrom}{\mathrel{\unicode{x021A4}}}}
264
265 \CustomizeMathJax{\newcommand{\longmapsfrom}{\mathrel{\unicode{x027FB}}}}
266
267 \CustomizeMathJax{\newcommand{\diameter}{\mathord{\unicode{x02300}}}}
268 \CustomizeMathJax{\newcommand{\coloneq}{\mathrel{\unicode{x02254}}}}
269 \CustomizeMathJax{\newcommand{\eqcolon}{\mathrel{\unicode{x02255}}}}
270 \CustomizeMathJax{\newcommand{\arceq}{\mathrel{\unicode{x02258}}}}
271 \CustomizeMathJax{\newcommand{\wedgqq}{\mathrel{\unicode{x02259}}}}
272 \CustomizeMathJax{\newcommand{\veeeqq}{\mathrel{\unicode{x0225A}}}}
273
274 \CustomizeMathJax{\newcommand{\stareq}{\mathrel{\unicode{x0225B}}}}
275 \CustomizeMathJax{\newcommand{\eqdef}{\mathrel{\unicode{x0225D}}}}
276 \CustomizeMathJax{\newcommand{\measeq}{\mathrel{\unicode{x0225E}}}}
277 \CustomizeMathJax{\newcommand{\questeq}{\mathrel{\unicode{x0225F}}}}
278 \CustomizeMathJax{\newcommand{\nequiv}{\mathrel{\unicode{x02262}}}}
279 \CustomizeMathJax{\newcommand{\Equiv}{\mathrel{\unicode{x02263}}}}
280
281 \CustomizeMathJax{\newcommand{\house}{\mathord{\unicode{x02302}}}}
282
283 \CustomizeMathJax{\newcommand{\musicalnote}{\mathord{\unicode{x0266A}}}}
284 \CustomizeMathJax{\newcommand{\degree}{\mathord{\unicode{x00B0}}}}
285 \CustomizeMathJax{\newcommand{\mathsection}{\mathord{\unicode{x00A7}}}}
286 \CustomizeMathJax{\newcommand{\mathparagraph}{\mathord{\unicode{x00B6}}}}
287 \CustomizeMathJax{\newcommand{\checkmarkmath}{\mathord{\unicode{x02713}}}}
288 \CustomizeMathJax{\newcommand{\invnot}{\mathord{\unicode{x02310}}}}
289
290 \CustomizeMathJax{\newcommand{\mathvisiblespace}{\mathord{\unicode{x02423}}}}

```



```

291 \CustomizeMathJax{\newcommand{\mdlgblksquare}{\mathord{\unicode{x025A0}}}}
292 \CustomizeMathJax{\newcommand{\mdlgwhtsquare}{\mathord{\unicode{x025A1}}}}
293
294 \CustomizeMathJax{\newcommand{\bigblacktriangleup}{\mathord{\unicode{x025B2}}}}
295 \CustomizeMathJax{\newcommand{\varbigtriangleup}{\mathord{\unicode{x025B3}}}}
296
297 \CustomizeMathJax{\newcommand{\bigblacktriangledown}{\mathord{\unicode{x025BC}}}}
298 \CustomizeMathJax{\newcommand{\varbigtriangledown}{\mathord{\unicode{x025BD}}}}
299 \CustomizeMathJax{\newcommand{\Longmapsfrom}{\mathrel{\unicode{x027FD}}}}
300
301 % bug in print font:
302 \CustomizeMathJax{\newcommand{\mdlgblkdiamond}{\mathord{\unicode{x025C6}}}}
303
304 \CustomizeMathJax{\newcommand{\mdlgwhtdiamond}{\mathord{\unicode{x025C7}}}}
305 \CustomizeMathJax{\newcommand{\Longmapsto}{\mathrel{\unicode{x027FE}}}}
306 \CustomizeMathJax{\newcommand{\fisheye}{\mathord{\unicode{x025C9}}}}
307 \CustomizeMathJax{\newcommand{\mdlgwhtlozenge}{\mathord{\unicode{x025CA}}}}
308 \CustomizeMathJax{\newcommand{\mdlgwhtcircle}{\mathbin{\unicode{x025CB}}}}
309 \CustomizeMathJax{\newcommand{\bullyseye}{\mathord{\unicode{x025CE}}}}
310 \CustomizeMathJax{\newcommand{\mdlgblkcircle}{\mathord{\unicode{x025CF}}}}
311
312 \CustomizeMathJax{\newcommand{\Nwarrow}{\mathrel{\unicode{x021D6}}}}
313 \CustomizeMathJax{\newcommand{\Nearrow}{\mathrel{\unicode{x021D7}}}}
314 \CustomizeMathJax{\newcommand{\Searrow}{\mathrel{\unicode{x021D8}}}}
315 \CustomizeMathJax{\newcommand{\Swarrow}{\mathrel{\unicode{x021D9}}}}
316
317 \CustomizeMathJax{\newcommand{\Mapsfrom}{\mathord{\unicode{x02906}}}}
318 \CustomizeMathJax{\newcommand{\smwhtcircle}{\mathord{\unicode{x025E6}}}}
319 \CustomizeMathJax{\newcommand{\smwhtdiamond}{\mathbin{\unicode{x022C4}}}}
320 \CustomizeMathJax{\newcommand{\Mapsto}{\mathord{\unicode{x02907}}}}
321
322 \CustomizeMathJax{\let\ngets\leftarrow}
323 \CustomizeMathJax{\let\nsimeq\nsime}
324 \CustomizeMathJax{\let\nle\leq}
325 \CustomizeMathJax{\let\nge\geq}
326
327 \end{warpMathJax}

```

File 254 **lwarp-lineno.sty**

§ 366 Package **lineno**

(Emulates or patches code by STEPHAN I. BÖTTCHER.)

lineno (*Pkg*) **lineno** is partly emulated, but mostly ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{lineno}[2005/11/02]

```

2 \newcommand*\resetlinenumber[1][\@ne]{
3
4 \def\linenumbers{%
5     \ifnextchar[{\resetlinenumber}%
6         {\@ifstar{\resetlinenumber}}}%
7 }
8
9 \newcommand*\nolinenumbers{}
10

```

```

11 \@namedef{linenumbers*}{\par\linenumbers*}
12 \@namedef{runninglinenumbers*}{\par\runninglinenumbers*}
13
14 \def\endlinenumbers{\par}
15 \let\endrunninglinenumbers\endlinenumbers
16 \let\endpagewiselinenumbers\endlinenumbers
17 \expandafter\let\csname endlinenumbers*\endcsname\endlinenumbers
18 \expandafter\let\csname endrunninglinenumbers*\endcsname\endlinenumbers
19 \let\endnolinenumbers\endlinenumbers
20
21 \def\pagewiselinenumbers{\linenumbers\setpagewiselinenumbers}
22
23 \def\runninglinenumbers{\setrunninglinenumbers\linenumbers}
24
25 \def\setpagewiselinenumbers{}
26
27 \def\setrunninglinenumbers{}
28
29 \def\linenomath{}%
30 \@namedef{linenomath*}{}%
31 \def\endlinenomath{}
32 \expandafter\let\csname endlinenomath*\endcsname\endlinenomath
33
34 \let\linelabel\label
35
36 \def\switchlinenumbers{\@ifstar{}{}}
37 \def\setmakelinenumbers#1{\@ifstar{}{}}
38
39 \def\leftlinenumbers{\@ifstar{}{}}
40 \def\rightlinenumbers{\@ifstar{}{}}
41
42 \newcounter{linenumber}
43 \newcount\c@pagewiselinenumber
44 \let\c@runninglinenumber\c@linenumber
45
46 \def\runningpagewiselinenumbers{}
47 \def\realpagewiselinenumbers{}
48
49
50 \NewDocumentCommand\modulolinenumbers{s o}{}
51
52 \chardef\c@linenumbermodulo=5
53 \modulolinenumbers[1]
54
55 \newcommand*\firstlinenumber[1]{}
56
57 \newcommand\internallinenumbers{}
58 \let\endinternallinenumbers\endlinenumbers
59 \@namedef{internallinenumbers*}{\internallinenumbers}
60 \expandafter\let\csname endinternallinenumbers*\endcsname\endlinenumbers
61
62 \newcommand*\linenoplaceholder[1]{% redefine per language
63   (line number reference for \detokenize\expandafter{#1})
64 }
65
66 \newcommand*\lineref}[2][\linenoplaceholder{#2}]
67 \newcommand*\linerefp}[2][\linenoplaceholder{#2}]
68 \newcommand*\linerefr}[2][\linenoplaceholder{#2}]
69
70 \newcommand\quotelinenumbers

```

```

71  {\@ifstar\linenumbers{\@ifnextchar[\linenumbers{\linenumbers*}}}
72
73  \newdimen\linenumbersep
74  \newdimen\linenumberwidth
75  \newdimen\quotelinenumbersep
76
77  \quotelinenumbersep=\linenumbersep
78  \let\quotelinenumberfont\linenumberfont
79
80  \def\linenumberfont{\normalfont\tiny\sffamily}
81
82
83  \linenumberwidth=10pt
84  \linenumbersep=10pt
85
86  \def\thelinenumber{}
87
88  \def\LineNumber{}
89  \def\makeLineNumber{}
90  \def\makeLineNumberLeft{}
91  \def\makeLineNumberRight{}
92  \def\makeLineNumberOdd{}
93  \def\makeLineNumberEven{}
94  \def\makeLineNumberRunning{}
95
96
97  \newenvironment{numquote}    {\quote}{\endquote}
98  \newenvironment{numquotation}{\quotation}{\endquotation}
99  \newenvironment{numquote*}  {\quote}{\endquote}
100 \newenvironment{numquotation*}{\quotation}{\endquotation}
101
102 \newdimen\bframerule
103 \bframerule=\fboxrule
104
105 \newdimen\bframesep
106 \bframesep=\fboxsep
107
108 \newenvironment{bframe}
109 {%
110   \LWR@forceminwidth{\bframerule}%
111   \BlockClass[
112     border:\LWR@printlength{\LWR@atleastonept} solid black ; %
113     padding:\LWR@printlength{\bframesep}%
114   ]{bframe}
115 }
116 {\endBlockClass}

```

File 255 **lwarp-lips.sty**

§ 367 Package **lips**

(Emulates or patches code by MATT SWIFT.)

lips (*Pkg*) **lips** is emulated.

```

1% \LWR@ProvidesPackageDrop{lips}
2 \LWR@ProvidesPackageDrop{lips}[2001/08/31]

```

```

3
4 \NewDocumentCommand{\Lips}{}{\textellipsis}
5
6 \NewDocumentCommand{\BracketedLips}{}{[\textellipsis]}
7
8 \let\lips\Lips
9 \let\olips\lips
10
11 \DeclareOption*{}
12 \DeclareOption{mla}{
13 \let\lips\BracketedLips
14 }
15 \ProcessOptions\relax
16
17 \newcommand \LPNobreakList {}

```

File 256 **lwarp-lipsum.sty**

§ 368 Package **lipsum**

(Emulates or patches code by PATRICK HAPPEL.)

lipsum (*Pkg*) lipsum is patched for use by lwarp.

for HTML output:

```

1 \LWR@ProvidesPackagePass{lipsum}[2021-09-20]

2 \ExplSyntaxOn
3 \xapptocmd{\__lipsum_do:nnnn}
4   {\warphTMLonly{\LWR@closeparagraph\leavevmode\LWR@orignewline}}
5   {}
6   {\LWR@patcherror{lipsum}{lipsum_do:nnnn}}
7 \ExplSyntaxOff

```

File 257 **lwarp-listings.sty**

§ 369 Package **listings**

(Emulates or patches code by CARSTEN HEINZ, BROOKS MOSES, JOBST HOFFMANN.)

listings (*Pkg*) listings is supported with some limitations. Text formatting and escape characters are not yet supported.

```

1 \LWR@ProvidesPackagePass{listings}[2024/09/23]

```

Force flexible columns. Fixed columns inserts spaces in the PDF output.

```

2 \lst@column@flexible

```

Patches to embed listings inside pre tags:

```

3 \let\LWR@origlst@Init\lst@Init
4 \let\LWR@origlst@DeInit\lst@DeInit
5

```

```

6 \let\LWR@origlsthkEveryPar\lsthk@EveryPar
7
8 \renewcommand{\@lstlisting}[2]{\hypertocfloat{1}{lstlisting}{lol}{#1}{#2}}

```

\lstset

{(options)}

Use the listings `literate` option to replace HTML entities:

```

9 \def\lstset@#1{\endgroup%
10% \ifx\@empty#1%
11%     \@empty%
12%     \else%
13%         \setkeys{lst}{%
14%             #1%
15%             ,literate=%
16%             {<}{\HTMLentity{lt}}{4}%
17%             {>}{\HTMLentity{gt}}{4}%
18%             {'}{\HTMLentity{apos}}{6}%
19%             {`}{\HTMLentity{grave}}{7}%

```

The ampersand is not treated here, as the result is inconsistent spacing. It is nevertheless converted to `&` elsewhere. Sanitizing the double quote interferes with listings' conversion of visible spaces inside strings.

```

20%     }%
21%     \fi%
22% }

```

\lst@Init

{(backslash-processing)} Done at the start of a listing.

```

23 \VerifyCommand[lwarp][listings]{\lst@Init}{A4D103298A6AC8230F525C61F1E1E541}
24
25 \renewcommand{\lst@Init}[1]{%

```

Perform the listings initialization:

```
26 \LWR@traceinfo{lst@Init}% lwarp
```

`\LWR@forcenewpage` is moved to the start to avoid a spurious bug with paragraph handling and conditionals.

```

27 \lst@ifdisplaystyle% lwarp
28 \LWR@forcenewpage% lwarp
29 \fi% lwarp

```

Escapes do not work yet, and are disabled:

```

30 \let\lst@ifmathescape\iffalse% lwarp
31 \let\lst@DefEsc\relax% lwarp
32 \def\lst@escapebegin{}% lwarp
33 \def\lst@escapeend{}% lwarp

34 \renewcommand*{\@capttype}{lstlisting}% lwarp
35 \let\lst@aboveskip\z@\let\lst@belowskip\z@% lwarp
36 \gdef\lst@boxpos{t}% lwarp
37 \let\lst@frame\@empty% lwarp
38 \let\lst@frametshape\@empty% lwarp
39 \let\lst@framershape\@empty% lwarp
40 \let\lst@framebshape\@empty% lwarp
41 \let\lst@framelshape\@empty% lwarp
42 \lstframe@lst@frameround ffff\relax% lwarp
43 \lst@multicols\@empty% lwarp
44 \begingroup%

```

Inside the listing, temporarily prevent underfull \hbox warnings.

```

45         \hbadness=10000\relax%
46     \ifx\lst@float\relax\else%
47         \edef\@tempa{\noexpand\lst@beginfloat{\lstlisting}[\lst@float]}%
48         \expandafter\@tempa%
49     \fi%
50     \ifx\lst@multicols\@empty\else%
51         \edef\lst@next{\noexpand\multicols{\lst@multicols}}%
52         \expandafter\lst@next%
53     \fi%
54     \ifhmode\ifinner \lst@boxtrue \fi\fi%
55     \lst@ifbox%
56         \lsthk@BoxUnsafe%
57         \hbox to\z@\bgroup%
58             $\if t\lst@boxpos \vtop%
59             \else \if b\lst@boxpos \vbox%
60             \else \vcenter \fi\fi%
61         \bgroup \par\noindent%
62     \else%
63         \lst@ifdisplaystyle%
64             \lst@EveryDisplay%
65             \par\penalty-50\relax%
66             \vspace\lst@aboveskip%
67         \fi%
68     \fi%
69     \normalbaselines%
70     \abovecaptionskip\lst@abovecaption\relax%
71     \belowcaptionskip\lst@belowcaption\relax%
72     \lst@MakeCaption t%

```

Use the overall listing label instead of the line number label:

```

73 \LWR@traceinfo{\lst@Init: defining current label !\@currentlabel!}%
74     \let\LWR@listings@currentlabel\@currentlabel%          lwarp
75 \LWR@traceinfo{\lst@Init: defining current label !\cref@currentlabel!}%
76     \let\LWR@listings@cref@currentlabel\cref@currentlabel% lwarp

77 \LWR@traceinfo{\lst@Init: preinit and init}%
78     \lsthk@PreInit \lsthk@Init%

79     \let\@currentlabel\LWR@listings@currentlabel%          lwarp
80     \let\cref@currentlabel\LWR@listings@cref@currentlabel% lwarp

81 \LWR@traceinfo{\lst@Init: M}%
82     \lst@ifdisplaystyle
83         \global\let\lst@ltxlabel\@empty
84         \if@inlabel
85             \lst@ifresetmargins
86                 \leavevmode
87             \else
88                 \xdef\lst@ltxlabel{\the\everypar}%
89                 \lst@AddTo\lst@ltxlabel{%
90                     \global\let\lst@ltxlabel\@empty
91                     \everypar{\lsthk@EveryLine\lsthk@EveryPar}}%
92             \fi
93         \fi
94         \everypar\expandafter{\lst@ltxlabel
95                                 \lsthk@EveryLine\lsthk@EveryPar}%
96     \else
97         \everypar{}
98         \let\lst@NewLine\@empty

```

```

99     \fi
100 \LWR@traceinfo{lst@Init: P}%
101     \lsthk@InitVars \lsthk@InitVarsBOL
102     \lst@Let{13}\lst@MProcessListing
103     \let\lst@Backslash#1%
104     \lst@EnterMode{\lst@Pmode}{\lst@SelectCharTable}%
105     \lst@InitFinalize%
106 \LWR@traceinfo{lst@Init: S}%

```

Avoids extra horizontal space:

```

107 \def\lst@frame{r{}}%      lwarp
108 \LWR@traceinfo{lst@Init: finished origlst@Init}%
109 \lst@ifdisplaystyle%      lwarp

```

Creating a display.

Disable line numbers, produce the <pre>, then reenable line numbers.

```

110     \LWR@traceinfo{lst@Init: About to create verbatim.}% lwarp
111     \let\lsthk@EveryPar\relax%                          lwarp

112     \LWR@atbeginverbatim{programlisting}%               lwarp
113
114     \let\lsthk@EveryPar\LWR@origlsthkEveryPar%          lwarp
115 \else%                                                    lwarp

```

Inline, so open a :

```

116     \ifbool{LWR@verbtags}{\LWR@htmltag{%                lwarp
117         span class=\textquotedbl{}inlineprogramlisting\textquotedbl%  lwarp
118     }}{}%                                                  lwarp
119 \fi%                                                       lwarp
120 \LWR@traceinfo{lst@Init: done}%
121 }
122 \def\LWR@listings@synaxdollar{${}}% lwarp editor synax highlighting

```

\lst@DeInit

Done at the end of a listing.

```

123 %\renewcommand*{\lst@DeInit}{%
124 \xpretocmd{\lst@DeInit}
125 {%
126 \LWR@traceinfo{lst@DeInit}%
127 \lst@ifdisplaystyle%

```

Creating a display.

Disable line numbers, produce the </pre>, then reenable line numbers:

```

128     \let\lsthk@EveryPar\relax%
129     \LWR@afterendverbatim%
130     \let\lsthk@EveryPar\LWR@origlsthkEveryPar%
131 \else%

```

Inline, so create the closing :

```

132     \ifbool{LWR@verbtags}{\noindent\LWR@htmltag{/span}}{}%
133 \fi%
134 }
135 {}
136 {\LWR@patcherror{listings}{lst@DeInit}}

```

\lst@MakeCaption

{</t/b>}

This is called BOTH at the top and at the bottom of each listing.

Patched for lwarp.

```

137 \VerifyCommand[lwarp][listings]{\lst@MakeCaption}{2B8D898FA33039FBAB7D1772D544153D}
138
139 \def\lst@MakeCaption#1{%
140 \LWR@traceinfo{\lst@MakeCaption at #1}%
141 \lst@ifdisplaystyle
142 \LWR@traceinfo{\lst@MakeCaption: making a listings display caption}%
143 \ifx #1t%
144 % \allowbreak
145 \ifx\lst@caption\@empty\expandafter\lst@HRefStepCounter \else
146 \expandafter\refstepcounter
147 \fi {\lstlisting}%
148 % \LWR@traceinfo{About to assign label: !\lst@label!}%
149 % \ifx\lst@label\@empty\else \label{\lst@label}\fi
150 % \LWR@traceinfo{Finished assigning the label.}%
151 \let\lst@arg\lst@intname \lst@ReplaceIn\lst@arg\lst@filenamerpl
152 \global\let\lst@name\lst@arg \global\let\lstname\lst@name
153 \lst@ifnolol\else
154 \ifx\lst@caption\@empty
155 \ifx\lst@caption\@empty
156 \ifx\lst@intname\@empty
157 \else
158 \def\lst@temp{ }%
159 \ifx\lst@intname\lst@temp \else

```

This code places a contents entry for a non-float. This would have to be modified for lwarp:

```

160 \LWR@traceinfo{\lst@MakeCaption: addcontents lst@name: -\lst@name-}%
161 % \addcontentsline{lol}{\lstlisting}{\lst@name}
162 \fi
163 \fi
164 \fi
165 \else

```

This would have to be modified for lwarp:

```

166 \LWR@traceinfo{\lst@MakeCaption: addcontents lst@@caption: -\lst@@caption-}%
167 \addcontentsline{\ext@lstlisting}{\lstlisting}%
168 {\protect\numberline{\thelstlisting}%
169 {\protect\ignorespaces \LWR@isolate{\lst@@caption} \protect\relax}}%
170 \fi
171 \fi
172 \fi
173 \ifx\lst@caption\@empty\else
174 \LWR@traceinfo{\lst@MakeCaption: lst@caption not empty-}%
175 \lst@ifSubstring #1\lst@captionpos
176 {\begingroup
177 \LWR@traceinfo{\lst@MakeCaption: at the selected position}%

```

These space and box commands are not needed for HTML output:

```

178 % \let@@vskip\vskip
179 % \def\vskip{\afterassignment\lst@vskip \@tempskipa}%
180 % \def\lst@vskip{\nobreak@@vskip\@tempskipa\nobreak}%
181 % \par\@parboxrestore\normalsize\normalfont % \noindent (AS)
182 % \ifx #1t\allowbreak \fi
183 \ifx\lst@title\@empty

```

New lwarp code to create a caption:


```

184             \LWR@stoppars%         lwarp
185             \lst@makecaption\fnm@lstlisting{\ignorespaces \lst@caption}
186             \else

```

New `lwarp` code to create a title:

```

187 %             \lst@maketitle\lst@title % (AS)
188 \LWR@traceinfo{lst@MakeCaption: Making title: \lst@title}%
189 \begin{BlockClass}{lstlistingtitle}%         lwarp
190 \lst@maketitle\lst@title%                     lwarp
191 \end{BlockClass}%                             lwarp
192         \fi%
193 \LWR@traceinfo{lst@MakeCaption: About to assign label: !\lst@label!}%
194         \ifx\lst@label\@empty\else%         lwarp
195 \leavevmode% gets rid of bad space factor error
196 \GetTitleStringExpand{\lst@caption}%         lwarp
197 \edef\LWR@lntemp{\GetTitleStringResult}%     lwarp
198 \edef\@currentlabelname{\detokenize\expandafter{\LWR@lntemp}}% lwarp
199 \label{\lst@label}\fi%                       lwarp
200 \LWR@traceinfo{lst@MakeCaption: Finished assigning the label.}% lwarp

```

Not needed for `lwarp`:

```

201 %             \ifx #1b\allowbreak \fi
202             \endgroup}{}%
203     \fi
204 \LWR@traceinfo{lst@MakeCaption: end of making a listings display caption}%
205 \else
206 \LWR@traceinfo{lst@MakeCaption: INLINE}%
207 \fi
208 \LWR@traceinfo{lst@MakeCaption: done at #1}%
209 }
210
211 \renewcommand{\lst@maketitle}[1]{%
212     \LWR@isolate{#1}%
213 }%
214

```

[line numbers](#) Patched to keep left line numbers outside of the left margin, and place right line numbers in a field `\VerbatimHTMLWidth` wide.

```

215 \lst@Key{numbers}{none}{%
216     \let\lst@PlaceNumber\@empty
217     \lstKV@SwitchCases{#1}%
218     {none: \\%
219     left: \def\lst@PlaceNumber{%

```

For now, `lwarp` places left line numbers inline. Ideally the entire line would be moved to the right, but conflicts with list indenting occurs.

```

220 %             \LWR@origllap{
221             \LWR@orignormalfont%
222             \lst@numberstyle{\the\lstnumber}\kern\lst@numbersep%
223 %         }
224     }\\%
225     right: \def\lst@PlaceNumber{\LWR@origrlap{\LWR@orignormalfont
226             \kern 6in \kern\lst@numbersep
227             \lst@numberstyle{\the\lstnumber}}}%
228     }{\PackageError{lwarp-listings}{Numbers #1 unknown}\@ehc}

```

File 258 **lwarp-listliketab.sty**

§ 370 Package **listliketab**

listliketab (*Pkg*) listliketab is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{listliketab}[2005/01/09]

```
2 \newcommand*\storestyleof[1]{}
3 \newcommand*\storeliststyle{}
4 \newenvironment{listliketab}{}{}
```

File 259 **lwarp-lltjext.sty**

§ 371 Package **lltjext**

(Emulates or patches code by THE L^AT_EX-JA PROJECT TEAM.)

lltjext (*Pkg*) lltjext is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{lltjext}[2018/10/07]

```
2 \protected\def\yoko{%
3   \directlua{luatexja.direction.set_list_direction(4, 'yoko')}%
4 }
5 \protected\def\tate{\yoko}
6 \protected\def\dtou{\yoko}
7 \protected\def\utod{\yoko}
8
9 \define@key[ltj]{japaram}{direction}{}
10
11 \yoko
12
13 \DeclareExpandableDocumentCommand{\rensuji}{s o m}{#3}
14
15 \DeclareDocumentCommand{\layoutfloat}{d() o m}{}
16
17 \DeclareDocumentCommand{\DeclareLayoutCaption}{m d<> d() o}{}
18
19 \LetLtxMacro\pcaption\caption
20
21 \DeclareDocumentCommand{\layoutcaption}{d<> d() o}{}
22
23 \let\captiondir\relax
24 \RenewDocumentEnvironment{LWR@HTML@minipage}{d<> O{t} O{} O{t} m}
25   {\LWR@HTML@sub@minipage{#2}{#3}{#4}{#5}}
26   {\endLWR@HTML@sub@minipage}
27
28 \RenewDocumentCommand{LWR@HTML@parbox}{d<> O{t} O{} O{t} m +m}
29 {
30 \LWR@traceinfo{parbox of width #4}%
31 \begin{minipage}[#2][#3][#4]{#5}%
```

```

32 #6
33 \end{minipage}%
34 }
35
36 \RenewDocumentCommand{\pbox}{d<> O{0pt} O{c} m}{%
37 \global\booltrue{LWR@minipagefullwidth}%
38 \parbox{#2}{#4}%
39 }

```

File 260 **lwarp-lltjp-siunitx.sty**

§ 372 Package **lltjp-siunitx**

(Emulates or patches code by THE L^AT_EX-JA PROJECT TEAM.)

lltjp-siunitx (*Pkg*) **lltjp-siunitx** is patched for use by **lwarp**.

for HTML output: 1 \LWR@ProvidesPackagePass{lltjp-siunitx}% 2022-12-14, no date assigned in file

This is the siunitx v3 file, as patched by lltjp-siunitx.

```

2 \ExplSyntaxOn
3
4 \VerifyCommand[lwarp][lltjp-siunitx]{\siunitx_print_text:n}{A248D4314D135CB0AC3E6678F331CFF2}
5
6 \cs_set_protected:Npn \siunitx_print_text:n #1
7 {
8   \text
9   {
10    \ltj@allalchar % <--- LuaTeX-ja
11    \bool_if:NT \l__siunitx_print_text_family_bool
12    { \fontfamily { \familydefault } }
13    \bool_if:NT \l__siunitx_print_text_series_bool
14    { \fontseries { \seriesdefault } }
15    \bool_if:NT \l__siunitx_print_text_shape_bool
16    { \fontshape { \shapedefault } }
17    \bool_lazy_any:nT% lwarp: factors for a single \selectfont
18    {%
19      { \l__siunitx_print_text_family_bool }% lwarp
20      { \l__siunitx_print_text_series_bool }% lwarp
21      { \l__siunitx_print_text_shape_bool }% lwarp
22    }%
23    { \selectfont }% lwarp
24    \tl_use:N \l__siunitx_print_text_font_tl% lwarp
25    \exp_args:NnV \tl_if_head_eq_meaning:nNTF {#1} \l_siunitx_unit_fraction_tl% lwarp
26    {%
27      \l__siunitx_print_text_fraction:Nnn #1% lwarp
28    }% lwarp
29    {%
30      \l__siunitx_print_text_replace:n {#1}% ORIGINAL
31    }% lwarp
32  }
33 }
34
35 \ExplSyntaxOff

```

File 261 **lwarp-lltjp-tascmac.sty**

§ 373 Package **lltjp-tascmac**

lltjp-tascmac (*Pkg*) lltjp-tascmac is a patch for tascmac, and is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{lltjp-tascmac}[2020/12/24]

File 262 **lwarp-longtable.sty**

§ 374 Package **longtable**

(Emulates or patches code by DAVID CARLISLE.)

longtable (*Pkg*) longtable is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{longtable}[2014/10/28]

Use one of either `\endhead` or `\endfirsthead` for both print and HTML, and use a `\warpprintonly` macro to disable the other head phrase, and also the `\endfoot` and `\endfirstfoot` phrases. (See section 8.10.4 if using `threeparttablex`.)

```

\begin{longtable}{ [column specifiers] }
[ . . . ] \endfirsthead % or \endhead, for print and HTML
\warpprintonly{ % not used in HTML
[ . . . ] \endhead % or \endfirsthead
[ . . . ] \endfoot
[ <lastfoot macros> ] \endlastfoot
}
. . . table contents . . .
\warpHTMLonly{
[ <lastfoot macros> ] % HTML last footer, without \endfoot
% or \endlastfoot.
}
\end{longtable}

```

⚠ **Misplaced `\noalign`** Use the `\warpprintonly` macro instead of the `warpprint` environment. Doing so helps avoid “Misplaced `\noalign`.” when using `\begin{warpprint}`.

⚠ **`\kill`** `\kill` is ignored, place a `\kill` line inside

```
\begin{warpprint} . . . \end{warpprint}
```

or place it inside `\warpprintonly`.

⚠ **lateximage** longtable is not supported inside a `lateximage`.

See:

<http://tex.stackexchange.com/questions/43006/why-is-input-not-expandable>

Used to detect more than one of `\endhead` and `\endfirsthead` in use for HTML at the same time.

```
2 \newbool{LWR@longtable@havehead}
3 \boolfalse{LWR@longtable@havehead}
```

`longtable (env.)` * [`<horizontalignment>`] [`<colspec>`] Emulates the `longtable` environment.

Per the `caption` package, the starred version steps the counter per caption. The unstarred version steps the counter once at the beginning, but not at each caption.

Options `[c]`, `[l]`, and `[r]` are ignored.

```
4 \newenvironment{longtable*}[2][]{%
5   \LWR@floatbegin{table}%
6   \ifdef{\setcaptiontype}{% caption package:
7     \setcaptiontype{\LTcaptiontype}%
8     \caption@setoptions{longtable}%
9     \caption@setoptions{@longtable}%
10    \caption@LT@setup%
11  }{% w/o caption package:
12    \renewcommand*{\@captiontype}{\LTcaptiontype}%
13  }%
14  \booltrue{LWR@starredlongtable}%
15  \boolfalse{LWR@longtable@havehead}%
16  \let\captionlistentry\LWR@LTcaptionlistentry%
17  \tabular{#2}%
18 }
19 {\endtabular\LWR@floatend}
20
21 \newenvironment{longtable}[2][]{%
22   \LWR@floatbegin{table}%
23   \ifdef{\setcaptiontype}{% caption package:
24     \setcaptiontype{\LTcaptiontype}%
25     \caption@setoptions{longtable}%
26     \caption@setoptions{@longtable}%
27     \caption@LT@setup%
28   }{% w/o caption package:
29     \renewcommand*{\@captiontype}{\LTcaptiontype}%
30   }%
31   \refstepcounter{\LTcaptiontype}%
32   \boolfalse{LWR@longtable@havehead}%
33   \let\captionlistentry\LWR@LTcaptionlistentry%
34   \tabular{#2}%
35 }
36 {\endtabular\LWR@floatend}
```

Provided for compatibility, but ignored:

```
37 \newcounter{LTchunksize}
```

Error for heads which should have been in `\warpprintonly`:

```
38 \newcommand*{\LWR@longtable@headerror}{%
39   \PackageError{lwarp-longtable}
40   {For longtable:\MessageBreak
41   1: Keep either one of an \protect\endhead\space or \MessageBreak
42     \space\protect\endfirsthead\space phrase as-is, \MessageBreak
```

```

43     \space to be used by both print and HTML.\MessageBreak
44 2: Place any other \protect\end... phrases inside a\MessageBreak
45     \space\protect\warpprintonly\space macro,
46     to be ignored by HTML.\MessageBreak
47 3: At the end of the table,\MessageBreak
48     \space add a final footer for HTML\MessageBreak
49     \space inside a \protect\warpHTMLonly\space macro.
50     This can be\MessageBreak
51     \space a copy of an \protect\endfoot\space or
52     \protect\endfirstfoot\MessageBreak
53     \space phrase, but without the actual \protect\endfoot\MessageBreak
54     \space or \protect\endfirstfoot\space macros.\MessageBreak
55     \space If using threeparttablex, add\MessageBreak
56     \space \protect\insertTableNotes\space here,
57     optionally with\MessageBreak
58     \space \protect\UseMinipageWidths\space in front.\MessageBreak
59 See the Lwarp documentation regarding\MessageBreak
60 longtables and threeparttablex}
61 {See the Lwarp documentation regading longtables and threeparttablex.}
62 }

```

Error if more than one of \endhead or \endfirsthead is outside of warpprintonly.

```

63 \newcommand*{\LWR@longtable@maybeheaderror}{%
64 \ifbool{\LWR@longtable@havehead}%
65   {\LWR@longtable@headerror}%
66   {%
67     \booltrue{\LWR@longtable@havehead}
68     \LWR@tabularendofline% throws away options //[dim] and //*
69   }%
70 }

```

Error if more than one of these is outside of warpprint.

```

71 \def\endhead{\LWR@longtable@maybeheaderror}
72 \def\endfirsthead{\LWR@longtable@maybeheaderror}

```

Error if ANY of these is outside of warpprint.

```

73 \def\endfoot{\LWR@longtable@headerror}
74 \def\endlastfoot{\LWR@longtable@headerror}

75 \let\tabularnewline\
76 \providecommand*{\LWR@HTML@tabularnewline}{\LWR@tabularendofline}
77 \LWR@formatted{tabularnewline}

78 \newcommand{\setlongtables}{}% Obsolete command, does nothing.
79 \newlength{\LTleft}
80 \newlength{\LTright}
81 \newlength{\LTpre}
82 \newlength{\LTpost}
83 \newlength{\LTcapwidth}

84 \LetLtxMacro\LWR@origkill\kill
85 \renewcommand*{\kill}{\LWR@tabularendofline}
86 \appto\LWR@restoreorigformatting{%
87 \LetLtxMacro\kill\LWR@origkill%

```

88 }

 File 263 **lwarp-lpic.sty**
§ 375 Package **lpic***(Emulates or patches code by R. MATVEYEV.)*lpic (*Pkg*) lpic is patched for use by lwarp.

for HTML output:

```

1 \LWR@ProvidesPackagePass{lpic}[2010/12/23]
2 \BeforeBeginEnvironment{lpic}{%
3   \begin{lateximage}[-lpic-~\PackageDiagramAltText]?%
4 }
5
6 \AfterEndEnvironment{lpic}{\end{lateximage}}
```

 File 264 **lwarp-lscape.sty**
§ 376 Package **lscape***(Emulates or patches code by D. P. CARLISLE.)*lscape (*Pkg*) lscape is ignored.**for HTML output:** Discard all options for lwarp-lscape.

```

1 \LWR@ProvidesPackageDrop{lscape}[2000/10/22]
2 \newenvironment*{landscape}{}{}
```

 File 265 **lwarp-ltablex.sty**
§ 377 Package **ltablex***(Emulates or patches code by ANIL K. GOEL.)*ltablex (*Pkg*) ltablex is emulated by lwarp.

for HTML output: Relies on tabularx.

```

1 \RequirePackage{longtable}
2 \RequirePackage{tabularx}
3
4 \LWR@ProvidesPackageDrop{ltablex}[2014/08/13]
5
6 \DeclareDocumentEnvironment{tabularx}{m o m}
7 {\longtable{#3}}
8 {\endlongtable}
9
10 \DeclareDocumentEnvironment{tabularx*}{m o m}
```

```

11 {\longtable{#3}}
12 {\endlongtable}
13
14 \newcommand*{\keepXColumns}{}
15 \newcommand*{\convertXColumns}{}

```

File 266 **lwarp-ltcaption.sty**

§ 378 Package **ltcaption**

(Emulates or patches code by AXEL SOMMERFELDT.)

ltcaption (*Pkg*) ltcaption is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{ltcaption}[2018/08/26]

\LTcaptype is already defined by lwarp.

longtable* is already defined by lwarp-longtable.

```

2 \newlength{\LTcapskip}
3 \newlength{\LTcapleft}
4 \newlength{\LTcapright}
5 \newcommand*{\LTcapmarginfalse}{}

```

File 267 **lwarp-ltxgrid.sty**

§ 379 Package **ltxgrid**

ltxgrid (*Pkg*) ltxgrid is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{ltxgrid}[2010/07/25]

```


2 \newcommand*{\onecolumngrid}{}
3 \newcommand*{\twocolumngrid}{}
4 \newcommand*{\removestuff}{}
5 \newcommand*{\addstuff}[2]{}
6 \newcommand*{\replacestuff}[2]{}

```

File 268 **lwarp-ltxtable.sty**

§ 380 Package **ltxtable**

ltxtable (*Pkg*) ltxtable is emulated.

 **table numbering** The print version does not seem to honor longtable* from the caption package, while lwarp does.

for HTML output: 1 \RequirePackage{tabularx,longtable}
2 \LWR@ProvidesPackageDrop{ltxtable}[1995/12/11]


```

\LTxtable      {\width} {\file}
               3 \newcommand*\LTxtable}[2]{%
               4   \input{#2}%
               5 }

```

File 269 **lwarp-lua-check-hyphen.sty**

§ 381 Package **lua-check-hyphen**

lua-check-hyphen (*Pkg*) lua-check-hyphen is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{lua-check-hyphen}[2018/04/19]

2 \newcommand*\LuaCheckHyphen}[1]{}

File 270 **lwarp-lua-visual-debug.sty**

§ 382 Package **lua-visual-debug**

lua-visual-debug (*Pkg*) lua-visual-debug is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{lua-visual-debug}[2016/05/30]

File 271 **lwarp-luacolor.sty**

§ 383 Package **luacolor**

luacolor (*Pkg*) luacolor is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{luacolor}[2016/05/16]

2 \newcommand*\LuacolorProcessBox}[1]{}

File 272 **lwarp-luamplib.sty**

§ 384 Package **luamplib**

(Emulates or patches code by HANS HAGEN, TACO HOEKWATER, ELIE ROUX, PHILIPP GESANG, KIM DO-HYUN.)

luamplib (*Pkg*) luamplib is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{luamplib}[2020/02/24]

```

2 \BeforeBeginEnvironment{mplibcode}{%
3   \begin{lateximage}[-mplibcode--\PackageDiagramAltText]?%
4 }
5 \AfterEndEnvironment{mplibcode}{\end{lateximage}}

```

File 273 **lwarp-luatexko.sty**

§ 385 Package **luatexko**

(Emulates or patches code by DOHYUN KIM, SOOJIN NAM.)

luatexko (*Pkg*) luatexko is patched for use by lwarp.

Modern HTML is used for `\dotemph`, `\ruby`, and offset and thickness control for `\uline`, etc.

for HTML output:

```

1 \LWR@ProvidesPackagePass{luatexko}[2021/07/10]

2 \protected\def\typesetvertical{}
3 \protected\def\typesethorizontal{}
4
5 \def\verticaltypesetting{\BlockClass{verticalrl}}
6 \def\beginverticaltypesetting{\BlockClass{verticalrl}}
7 \def\endverticaltypesetting{\endBlockClass}
8
9 \protected\def\vertical#1{\BlockClass{verticalrl}}
10 \protected\def\endvertical{\endBlockClass}
11 \protected\def\horizontal#1{\BlockClass{horizontaltb}}
12 \protected\def\endhorizontal{\endBlockClass}
13 \DeclareDocumentCommand{\vertlatin}{m}{#1}

14 \newcommand{\LWR@HTML@dotemph}[1]{%
15   \uline{#1}%
16   \InlineClass[text-emphasis-style: dot]{dotemph}{#1}%
17 }
18 \LWR@formatted{dotemph}

19 \newcommand{\LWR@HTML@ruby}[2]{%
20   \LWR@htmltag{ruby}%
21   #1%
22   \LWR@htmltag{rp}{\LWR@htmltag{/rp}}%
23   \LWR@htmltag{rt}#2\LWR@htmltag{/rt}%
24   \LWR@htmltag{rp})\LWR@htmltag{/rp}%
25   \LWR@htmltag{/ruby}%
26 }
27 \LWR@formatted{ruby}

```

The following is modified from lwarp-ulem:

```

28 \NewDocumentCommand{\LWR@HTML@uline}{+m}{%
29   \InlineClass%
30     (text-decoration:underline; text-decoration-skip: auto)%
31     [%
32       text-underline-offset: \ulinedown ;
33       text-decoration-thickness: \ulinewidth%
34     ]%

```

```

35     {uline}{\LWR@isolate{#1}}%
36 }
37 \LWR@formatted{uline}
38
39 \NewDocumentCommand{\LWR@HTML@uuline}{+m}{%
40   \InlineClass%
41   (%
42     text-decoration:underline; text-decoration-skip: auto;%
43     text-decoration-style:double%
44   )%
45   [%
46     text-underline-offset: \ulinedown ;
47     text-decoration-thickness: \ulinewidth%
48   ]%
49   {uline}{\LWR@isolate{#1}}%
50 }
51 \LWR@formatted{uuline}
52
53 \NewDocumentCommand{\LWR@HTML@uwave}{+m}{%
54   \InlineClass%
55   (%
56     text-decoration:underline; text-decoration-skip: auto;%
57     text-decoration-style:wavy%
58   )%
59   [%
60     text-underline-offset: \ulinedown ;
61     text-decoration-thickness: \ulinewidth%
62   ]%
63   {uwave}{\LWR@isolate{#1}}%
64 }
65 \LWR@formatted{uwave}
66
67 \NewDocumentCommand{\LWR@HTML@sout}{+m}{%
68   \InlineClass%
69   (text-decoration:line-through)%
70   [text-decoration-thickness: \ulinewidth]%
71   {sout}{\LWR@isolate{#1}}%
72 }
73 \LWR@formatted{sout}
74
75 \NewDocumentCommand{\LWR@HTML@xout}{+m}{%
76   \InlineClass%
77   (text-decoration:line-through)%
78   [text-decoration-thickness: \ulinewidth]%
79   {xout}{\LWR@isolate{#1}}%
80 }
81 \LWR@formatted{xout}
82
83 \NewDocumentCommand{\LWR@HTML@dashuline}{+m}{%
84   \InlineClass%
85   (%
86     text-decoration:underline;%
87     text-decoration-skip: auto;%
88     text-decoration-style:dashed%
89   )%
90   [%
91     text-underline-offset: \ulinedown ;
92     text-decoration-thickness: \ulinewidth%
93   ]%
94   {dashuline}{\LWR@isolate{#1}}%

```

```

95 }
96 \LWR@formatted{dashuline}
97
98 \NewDocumentCommand{\LWR@HTML@dotuline}{+m}{%
99   \InlineClass%
100   (%
101     text-decoration:underline;%
102     text-decoration-skip: auto;%
103     text-decoration-style: dotted%
104   )%
105   [%
106     text-underline-offset: \ulinedown ;
107     text-decoration-thickness: \ulinewidth%
108   ]%
109   {dotuline}{\LWR@isolate{#1}}%
110 }
111 \LWR@formatted{dotuline}

```

File 274 **lwarp-luatodonotes.sty**

§ 386 Package **luatodonotes**

(Emulates or patches code by FABIAN LIPP.)

luatodonotes (*Pkg*) luatodonotes is emulated.

The documentation for `todonotes` and `luatodonotes` have an example with a `todo` inside a caption. If this example does not work it will be necessary to move the `todo` outside of the caption.

for HTML output: 1 \LWR@ProvidesPackagePass{luatodonotes}[2017/09/30]

Nullify options:

```

2 \@todonotes@additionalMarginEnabledfalse

3 \if@todonotes@disabled
4 \else
5
6 \newcommand{\ext@todo}{tdo}
7
8 \renewcommand{\l@todo}[2]{\hypertocfloat{1}{\todo}{\ldo}{#1}{#2}}

9 \let\LWRTODONOTES@orig@todototoc\todototoc
10
11 \renewcommand*\l@todototoc{%
12 \LWR@phantomsection%
13 \LWRTODONOTES@orig@todototoc%
14 }
15
16
17 \renewcommand{\@todonotes@drawMarginNoteWithLine}{%
18 \fcolorbox
19   {\@todonotes@currentbordercolor}
20   {\@todonotes@currentbackgroundcolor}
21   {\arabic{\@todonotes@numberoftodonotes}}

```

```

22 \marginpar{\@todonotes@drawMarginNote}
23 }
24
25 \renewcommand{\@todonotes@drawInlineNote}{%
26 \fcolorboxBlock%
27   {\@todonotes@currentbordercolor}%
28   {\@todonotes@currentbackgroundcolor}%
29   {%
30     \if@todonotes@authorgiven%
31     {\@todonotes@author:\,%
32     \fi%
33     \@todonotes@text%
34   }%
35 }
36
37 \newcommand{\@todonotes@drawMarginNote}{%
38   \if@todonotes@authorgiven%
39     \@todonotes@author\par%
40   \fi%
41   \arabic{\@todonotes@numberoftodonotes}: %
42   \fcolorbox%
43     {\@todonotes@currentbordercolor}%
44     {\@todonotes@currentbackgroundcolor}%
45     {%
46       \@todonotes@sizecommand%
47       \@todonotes@text %
48     }%
49 }%
50
51 \renewcommand{\missingfigure}[2][]{%
52 \setkeys{todonotes}{#1}%
53 \addcontentsline{tdo}{todo}{\@todonotes@MissingFigureText: #2}%
54 \fcolorboxBlock%
55   {\@todonotes@currentbordercolor}%
56   {\@todonotes@currentfigcolor}%
57   {%
58     \setlength{\fboxrule}{4pt}%
59     \fcolorbox{red}{white}{Missing figure} \quad #2%
60   }
61 }
62
63 \LetLtxMacro\LWRTODONOTES@orig@todocommon\@todocommon
64
65 \RenewDocumentCommand{\@todocommon}{m m}{%
66 \begingroup%
67 \renewcommand*\phantomsection{}%
68 \LWRTODONOTES@orig@todocommon{#1}{#2}%
69 \endgroup%
70 }
71
72 \VerifyCommand[lwarp][luatodonotes]{\@todoarea}{3D40C9C729633DA7BB80F7A27E7C2694}
73
74 \renewcommand{\@todoarea}[3][]{%
75   \@todonotes@areaselectedtrue%
76   \@todocommon{#1}{#2}%
77   \todonotes@textmark@highlight{#3}%
78   \zref@label{\@todonotes\arabic{\@todonotes@numberoftodonotes}@end}%
79 }%
80
81

```

```

82 \DeclareDocumentCommand{\todonotes@textmark@highlight}{m}{%
83 \InlineClass[background:\LWR@origpound{ }B3FFB3]{highlight}{#1}%
84 }
85
86 \fi% \if@todonotes@disabled

```

File 275 **lwarp-luavlna.sty**

§ 387 Package **luavlna**

(Emulates or patches code by MICHAL HOFTICH, MIRO HRONČOK.)

luavlna (*Pkg*) luavlna is patched for use by lwarp.

The package is disabled for HTML output, due to incompatibilities with lwarp's handling of math SVG images.

for HTML output:

```

1 \LWR@ProvidesPackagePass{luavlna}[2019/10/30]
2 \preventsingloff
3 \LetLtxMacro\preventsingleon\preventsingloff

```

File 276 **lwarp-lyluatex.sty**


§ 388 Package **lyluatex**

(Emulates or patches code by FR. JACQUES PERON, URS LISKA, BR. SAMUEL SPRINGUEL.)


lyluatex (*Pkg*) lyluatex is patched for use by lwarp.


For the first compile, to set *lwarpmk*'s configuration, use:

```
lualatex --shell-escape <filename>
```

 **images** After compiling the document with **lwarpmk html**, use **lwarpmk limages** to convert the Lilypond images for HTML.

The option `insert=systems` results in an image per system. Each music image “system” is placed inside a `` of class `lyluatex`, which defaults to `display: inline-block`.


 **insert=fullpage** The option `insert=fullpage` results in a single image per page of printed output. Each music “fullpage” image is placed inside a `<div>` of class `lyluatex`. To match the number of measures per line with the printed version, use the `geometry` package to select the page geometry, or use the `lyluatex` options for page and staff sizes.

 **options** To use `\linewidth` or `\textwidth` inside the package options for `lyluatex`, use the `kvoptions-patch` package first:

```

\usepackage{kvoptions-patch}
\usepackage[... ,line-width-0.8\linewidth,...]{lyluatex}

```

 **raw-pdf** If using raw-pdf, the resulting PDF images must be converted to svg:

```
Enter => lwarpmk pdftosvg tmp-ly/*.pdf
```

for HTML output:

```
1 \LWR@origRequirePackage{luacode}
2
3 \LWR@ProvidesPackagePass{lyluatex}[2023/04/18]
```

User-redefinable ALT tag:

```
4 \newcommand*{\LyluatexImageAltText}{-lilypond--\PackageDiagramAltText}
```

```
{\Lilypond object}}
```

```
5 \VerifyCommand[lwarp][lyluatex]{\ly@compilescore}{31A1EF1F24F22143AFD302A7C6AD29E6}
6
7 \renewcommand*{\ly@compilescore}[1]{%
```

A local group holds a number of changes:

```
8 \begingroup%
```

The user's original geometry and font size are restored to match the print version. This allows for correct spacing in the musical score.

```
9 \LWR@maybe@orignewpage%
10 \LWR@origloadgeometry{LWR@usergeometry}%
11 \LWR@print@normalsize%
```

A local group holds a redefined `\includegraphics` which is used by *lyluatex.lua* to insert the *Lilypond* score if `insert=systems` is used. This is now placed inside a `lateximage`, which itself is placed inside a `` of class `lyluatex`.

`\LWR@addbaselinemarker` preserves the left margins.

```
12 \renewcommand{\includegraphics}[2][]{%
13   \InlineClass{lyluatex}{%
14     \begin{lateximage}[\LyluatexImageAltText]?%
15     \LWR@addbaselinemarker%
16     \LWR@originincludegraphics{##2}%
17     \end{lateximage}%
18   }%
19 }
```

From the original:

```
20 \ly@setunits%
21 \setluaoption{ly}{currfiledir}{\currfiledir}
22 \setluaoption{ly}{twoside}{\ly@istwosided}
23 \directlua{
24   #1
25   ly.newpage_if_fullpage()
26 }%
27 \ly@resetunits%
28 \ly@currentfonts%
```

The fullpage version is set inside an HTML `<div>`:

```
29 \directlua{
30   if (ly.score.insert == 'fullpage') then
31     tex.print{[[\string\begin{BlockClass}{lyluatex}]]}
32   end
33 }
```

`\ly@compilescore`

Generate the score:

```
34 \directlua{ly.score:process()}%
```

Close the <div>:

```
35 \directlua{
36     if (ly.score.insert == 'fullpage') then
37         tex.print{[[\string\end{BlockClass}]]}
38     end
39 }
```

Move to a new page and renew the regular page geometry:

```
40 \LWR@maybeorignewpage%
41 \LWR@origrestoregeometry%
```

End of the local group.

```
42 \endgroup%
43 }
```

In HTML the following generates an error, so is removed:

```
44 \VerifyCommand[lwarp][llyuatex]{\endly@bufferenv}{9B3BA3FC990E03634B57041666E0048D}
45
46 \xpatchcmd{\endly@bufferenv}
47     {\hspace{0pt}}{\}
48     {}
49     {}
50     {\LWR@patcherror{llyuatex}{\endly@bufferenv}}
```

File 277 **lwarp-magaz.sty**

§ 389 Package **magaz**

magaz (*Pkg*) **magaz** is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{magaz}[2011/11/24]

```
2 \newcommand\FirstLine[1]{%
3     \begingroup%
4     \FirstLineFont{%
5         \LWR@textcurrentcolor{%
6             \LWR@textcurrentfont{%
7                 #1%
8             }%
9         }%
10    }%
11    \endgroup%
12 }
13
14 \providecommand\FirstLineFont{\scshape}
```

File 278 **lwarp-makeidx.sty**

§ 390 Package **makeidx**

(Emulates or patches code by L^AT_EX PROJECT TEAM.)

`makeidx` (*Pkg*) `makeidx` is patched for use by `lwarp`.

for HTML output: 1 \LWR@ProvidesPackagePass{makeidx}[2014/09/29]

\@wrindex is redefined \@AtBeginDocument by the `lwarp` core.

\printindex

```
2 \preto\printindex{%
3   \LWR@maybe@orignewpage%
4   \LWR@startpars%
5 }
```

File 279 **lwarp-manyfoot.sty**

§ 391 Package **manyfoot**

`manyfoot` (*Pkg*) `manyfoot` is emulated.

`bigfoot`, `manyfoot` Verbatim footnotes are not yet supported.

 `verbatim`

If using the `bigfoot` package, and possibly also `manyfoot`, problems may occur with counter allocation because `lwarp` uses many counters, and there is a difference in how counters numbered 256 and up are handled in `PDF LATEX`. With `bigfoot` this has been known to show up as an error related to one footnote insert being forbidden inside another. Another problem showed up as a input stack error, and which of these problems occurred depended on how many counters were allocated.

As a possible solution, try creating several new counters before defining `bigfoot` or `manyfoot` footnotes, hoping to shift the problematic counter above the 256 threshold. It may instead be necessary to use `XELATEX` or `LuaLATEX` instead of `PDF LATEX`.

`lwarp`'s emulation of `bigfoot` uses `manyfoot`, so some of the `bigfoot` enhancements are included here.

The `bigfoot` “default” footnote is ignored, using the `lwarp` version instead.

for HTML output: 1 \LWR@ProvidesPackageDrop{manyfoot}[2005/09/11]

```
2 \RequirePackage{nccfoots}
3
4 \newcommand{\extrafootnoterule}{}
5
6 \let\defaultfootnoterule\footnoterule
7
8 \newcommand*\SelectFootnoteRule[2][0]{}
9
10 \newcommand{\footnoterulepriority}{1}
11
12 \newcommand{\SetFootnoteHook}[1]{}
13 \@onlypreamble\SetFootnoteHook
14
15 \newcommand{\SplitNote}{}

```

```

16
17 \newcommand*{\ExtraParaSkip[1]}{}
18
19 \newcommand*{\newfootnote}[2][plain]{%
20   \ifstrequal{#2}{default}{}{% not "default"
21     \expandafter\newbox\csname LWR@footnote#2box\endcsname%
22     \appto{\LWR@printpendingfootnotes}{%
23       \LWR@@printpendingfootnotes{footnote#2}%
24     }
25     \long\csdef{Footnotetext#2}##1##2{%
26       \NCC@makefnmark{##1}%
27       \LWR@@footnotetext{##2}{LWR@footnote#2box}%
28     }%
29     \long\csdef{Footnotetext#2+}##1##2{%
30       \NCC@makefnmark{##1}%
31       \LWR@@Footnotetext{##2}{LWR@footnote#2box}%
32     }%
33   }% not "default"
34 }
35 \@onlypreamble\newfootnote
36
37 \newcommand*{\DeclareNewFootnote}[2][plain]{%
38   \ifnextchar[%
39     {\LWR@manyfoot@declare{#1}{#2}}%
40     {\LWR@manyfoot@declare{#1}{#2}[arabic]}%
41 }
42
43 \def\LWR@manyfoot@declare#1#2[#3]{%
44 \ifstrequal{#2}{default}{}{% not "default"
45   \newfootnote[#1]{#2}%
46   \newcounter{footnote#2}%
47   \newcounter{footnote#2Reset}%
48   \setcounter{footnote#2Reset}{0}%
49   \csdef{thefootnote#2}{%
50     \expandafter\noexpand\csname @#3\endcsname%
51     \expandafter\noexpand\csname c@footnote#2\endcsname%
52   }%

```

For **bigfoot**, the footnote commands may be appended with one or two plusses or one or two minuses, which are ignored in HTML.

```

53 \expandafter\NewDocumentCommand\csname footnote#2\endcsname{t{+}t{+}t{-}t{-}}{%
54   \stepcounter{footnote#2}%
55   \protected@xdef\@thefnmark{\csname thefootnote#2\endcsname}%
56   \@footnotemark%
57   \csuse{Footnotetext#2}{\@thefnmark}% absorbs the footnote contents
58 }%
59 \csdef{footnotemark#2}{%
60   \stepcounter{footnote#2}%
61   \protected@xdef\@thefnmark{\csname thefootnote#2\endcsname}%
62   \@footnotemark%
63 }%
64 \expandafter\NewDocumentCommand\csname footnotetext#2\endcsname{t{+}t{+}t{-}t{-}}{%
65   \protected@xdef\@thefnmark{\csname thefootnote#2\endcsname}%
66   \csuse{Footnotetext#2}{\@thefnmark}% absorbs the footnote contents
67 }%
68 \csdef{Footnotemark#2}{%
69   \Footnotemark%
70 }%
71 \csdef{Footnote#2}##1{%

```

```

72     \Footnotemark{##1}%
73     \csuse{Footnotetext#2}{##1}%
74     }%
75 }% not "default"
76 }
77 \@onlypreamble\DeclareNewFootnote

```

File 280 **lwarp-marginal.sty**

§ 392 Package **marginal**

`marginal (Pkg)` `marginal` is ignored.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{marginal}

2 \newcommand*\showlostmarginals{}
3 \newcommand*\enlargefreelist{}
4 \newcommand*\onesidemarginals{}

```

File 281 **lwarp-marginfit.sty**

§ 393 Package **marginfit**

`marginfit (Pkg)` `marginfit` is ignored.

for HTML output: Discard all options for `lwarp-marginfit`:

```

1 \LWR@ProvidesPackageDrop{marginfit}[2018/06/08]

```

File 282 **lwarp-marginfix.sty**

§ 394 Package **marginfix**

(Emulates or patches code by STEPHEN HICKS.)

`marginfix (Pkg)` `marginfix` is ignored.

for HTML output: Discard all options for `lwarp-marginfix`:

```

1 \LWR@ProvidesPackageDrop{marginfix}[2013/09/08]

2 \newcommand*\marginsskip[1]{}
3 \newcommand*\clearmargin{}
4 \newcommand*\softclearmargin{}
5 \newcommand*\extendmargin[1]{}
6 \newcommand*\mparshift[1]{}
7 \newdimen\marginheightadjustment
8 \newdimen\marginposadjustment
9 \newcommand*\blockmargin[1][1]{}
10 \newcommand*\unlockmargin[1][1]{}
11 \newcommand*\marginphantom[2][1]{}

```

File 283 **lwarp-marginnote.sty**

§ 395 Package **marginnote**

(Emulates or patches code by MARKUS KOHM.)

marginnote (*Pkg*) marginnote is emulated.

for HTML output: Discard all options for lwarp-marginnote:

```

1 \LWR@ProvidesPackageDrop{marginnote}[2018/08/09]

2 \NewDocumentCommand{\marginnote}{+o +m o}{\marginpar{#2}}

3 \newcommand*\marginnoteleftadjust{}
4 \newcommand*\marginnoterightadjust{}
5 \newcommand*\marginnotetextwidth{}
6 \let\marginnotetextwidth\textwidth
7 \newcommand*\marginnotevadjust{}
8 \newcommand*\marginfont{}
9 \newcommand*\raggedleftmarginnote{}
10 \newcommand*\raggedrightmarginnote{}

11 \appto\LWR@restoreorigformatting{%
12   \RenewDocumentCommand{\marginnote}{+o +m o}{}
13 }

For MATHJAX:

14 \begin{warpMathJax}
15 \CustomizeMathJax{\newcommand{\LWRmarginnote}[1][{}]}
16 \CustomizeMathJax{\newcommand{\marginnote}[2][{}]{\qqquad\small\textrm{#2}}\LWRmarginnote}}
17 \end{warpMathJax}

```

File 284 **lwarp-marvosym.sty**

§ 396 Package **marvosym**

(Emulates or patches code by THOMAS HENLICH, MOJCA MIKLAVEC.)

marvosym (*Pkg*) marvosym is patched for use by lwarp.

Hashed inline images are used, as there may not be Unicode support for all icons.

for HTML output:

```

1 \LWR@ProvidesPackagePass{marvosym}[2011/07/20]

2 \renewcommand{\mvchr}[1]{%
3   \begin{lateximage}*[symbol #1]?[marvosym #1]%
4   \mvs\char#1%
5   \end{lateximage}%
6 }

```

```

7
8 \renewcommand{\textmvs}[1]{%
9   \begin{lateximage}%
10  \mvs #1%
11  \end{lateximage}%
12 }


```

File 285 **lwarp-mathalpha.sty**

§ 397 Package **mathalpha**

(Emulates or patches code by MICHAEL SHARPE.)

`mathalpha` (*Pkg*) `mathalpha` is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, and some bold fonts may not be supported by MATHJAX.

for HTML output:

```

1 \LWR@ProvidesPackagePass{mathalpha}[2021/11/18]
2
3 \begin{warpMathJax}
4 \CustomizeMathJax{\newcommand{\mathbfbb}[1]{\boldsymbol{\mathbb{#1}}}}% not bold
5 \CustomizeMathJax{\newcommand{\mathbfcal}[1]{\boldsymbol{\mathcal{#1}}}}
6 \CustomizeMathJax{\newcommand{\mathbffrac}[1]{\boldsymbol{\mathfrak{#1}}}}
7 \CustomizeMathJax{\newcommand{\mathbfscr}[1]{\boldsymbol{\mathscr{#1}}}}% not bold
8
9 \IfPackageLoadedWithOptionsTF{mathalpha}{oldbold}
10 {
11 \CustomizeMathJax{\newcommand{\mathbbb}[1]{\boldsymbol{\mathbb{#1}}}}% not bold
12 \CustomizeMathJax{\newcommand{\mathbcal}[1]{\boldsymbol{\mathcal{#1}}}}
13 \CustomizeMathJax{\newcommand{\mathbfrac}[1]{\boldsymbol{\mathfrak{#1}}}}
14 \CustomizeMathJax{\newcommand{\mathbscr}[1]{\boldsymbol{\mathscr{#1}}}}% not bold
15 }{}
16 \end{warpMathJax}

```

File 286 **lwarp-mathastext.sty**

§ 398 Package **mathastext**

(Emulates or patches code by JEAN-FRANÇOIS BURNOL.)

`mathastext` (*Pkg*) `mathastext` is used as-is for SVG math, and emulated for MATHJAX.

for HTML output:

```

1 \LWR@ProvidesPackagePass{mathastext}[2019/11/16]
2
3
4 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
5
6 \begin{warpMathJax}
7 \ifmst@itgreek
8   \LWR@mathjax@addgreek@l@it{}{}
9 \else
10  \ifmst@upgreek
11    \LWR@mathjax@addgreek@l@up{}{}
12 \else
13
14 \end{warpMathJax}

```

```

11     \ifmst@frenchmath
12         \LWR@mathjax@addgreek@l@up{}{}
13     \else
14         \ifmst@italic
15 %         \LWR@mathjax@addgreek@l@it{}{}
16         \else
17             \LWR@mathjax@addgreek@l@up{}{}
18         \fi
19     \fi
20 \fi
21 \fi
22
23 \ifcase@mst@greek@select
24     \or{\LWR@mathjax@addgreek@u@it*{}{}}
25 %     \or{\LWR@mathjax@addgreek@u@up*{}{}}
26 \fi
27
28 \CustomizeMathJax{\newcommand{\mathnormalbold}[1]{\boldsymbol{#1}}}
29 \CustomizeMathJax{\newcommand{\MathEulerBold}[1]{\boldsymbol{#1}}}
30 \CustomizeMathJax{\newcommand{\MathEuler}[1]{#1}}
31 \CustomizeMathJax{\newcommand{\MathPSymbol}[1]{#1}}
32 \CustomizeMathJax{\let\fouriervec\vec}
33 \CustomizeMathJax{\let\pmvec\vec}
34 \CustomizeMathJax{\let\inodot\imath}
35 \CustomizeMathJax{\let\jnodot\jmath}
36 \CustomizeMathJax{\let\shortiff\iff}
37 \CustomizeMathJax{\let\longto\longrightarrow}
38 \CustomizeMathJax{\newcommand{\infitypsy}{\mathord{\unicode{x221E}}}}
39 \CustomizeMathJax{\newcommand{\proptopsy}{\mathrel{\unicode{x221D}}}}
40 \CustomizeMathJax{\let\prodpsy\prod}
41 \CustomizeMathJax{\let\sumpsy\sum}
42 \CustomizeMathJax{\let\MToriginalprod\prod}
43 \CustomizeMathJax{\let\MToriginalsum\sum}
44 \CustomizeMathJax{\newcommand{\DotTriangle}{\mathord{\unicode{x2234}}}}
45 \end{warpMathJax}

```

File 287 **lwarp-mathcomp.sty**

§ 399 Package **mathcomp**

(Emulates or patches code by TILMANN BÖß.)

mathcomp (*Pkg*) **mathcomp** is supported as-is for SVG math, and is emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{mathcomp}[2001/01/07]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\tcohm}{\mathrm{\Omega}}}
4 \CustomizeMathJax{\newcommand{\tcelsius}{\unicode{x2103}}}
5 \CustomizeMathJax{\newcommand{\tcmu}{\mathrm{\unicode{x00B5}}}}
6 \CustomizeMathJax{\newcommand{\tcpertousand}{\unicode{x2030}}}
7 \CustomizeMathJax{\newcommand{\tcpertenthousand}{\unicode{x2031}}}
8 \CustomizeMathJax{\newcommand{\tcdegree}{\mathrm{^\circ}}}
9 \CustomizeMathJax{\newcommand{\tcdigitoldstyle}[1]{\oldstyle{#1}}}
10 \end{warpMathJax}


```

File 288 **lwarp-mathdesign.sty**

§ 400 Package **mathdesign**

(Emulates or patches code by PAUL PICHAREAU.)

mathdesign (*Pkg*) mathdesign is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options except greekuppercase and greeklowercase. The dedicated macros for upright and italic greek letters work correctly, although the user may wish to swap the definitions for epsilon and phi.

SVG math should appear the same as the printed output.

for HTML output: 1 \LWR@ProvidesPackagePass{mathdesign}[2013/08/29]

For MATHJAX:

```
2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}
5
6 \begin{warpMathJax}
7 \LWR@infoprocessingmathjax{mathdesign}
```

Default greek upright or italicized:

```
8 \if@MD@grupright
9 \LWR@mathjax@addgreek@l@up{}{}
10 \fi
11
12 \if@MD@GRupright
13 \else
14 \LWR@mathjax@addgreek@u@it*{}{}
15 \fi
```

Upright:

```
16 \LWR@mathjax@addgreek@l@up{}{up}
17 \LWR@mathjax@addgreek@u@up*{}{up}
```

Italicized:

```
18 \LWR@mathjax@addgreek@l@it{}{it}
19 \LWR@mathjax@addgreek@u@it*{}{it}
```

Adapt to mathdesign inconsistency:

```
20 \CustomizeMathJax{\let\digammaup\Digammaup}
21 \CustomizeMathJax{\renewcommand{\digammait}{\mathit{\digammaup}}}
```

Extra symbols:

```
22 \CustomizeMathJax{\newcommand{\smallin}{\mathrel{\unicode{x220A}}}}
```

```

23 \CustomizeMathJax{\newcommand{\smallowns}{\mathrel{\unicode{x220D}}}}
24 \CustomizeMathJax{\newcommand{\notsmallin}{\mathrel{\LWROverlaysymbols{/}{\unicode{x220A}}}}}
25 \CustomizeMathJax{\newcommand{\notsmallowns}{\mathrel{\LWROverlaysymbols{/}{\unicode{x220D}}}}}
26 \CustomizeMathJax{\newcommand{\rightangle}{\mathord{\unicode{x221F}}}}

```

Integrals:

```

27 \CustomizeMathJax{\newcommand{\intclockwise}{\mathop{\unicode{x2231}}\limits}}
28 \CustomizeMathJax{\newcommand{\ointclockwise}{\mathop{\unicode{x2232}}\limits}}
29 \CustomizeMathJax{\newcommand{\ointctrlockwise}{\mathop{\unicode{x2233}}\limits}}
30 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x222F}}\limits}}
31 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x2230}}\limits}}

```

Math and text mode:

```

32 \CustomizeMathJax{\newcommand{\ddag}{\unicode{x2021}}}
33 \CustomizeMathJax{\newcommand{\P}{\unicode{x00B6}}}
34 \CustomizeMathJax{\newcommand{\copyright}{\unicode{x00A9}}}
35 \CustomizeMathJax{\newcommand{\dag}{\unicode{x2020}}}
36 \CustomizeMathJax{\newcommand{\pounds}{\unicode{x00A3}}}

```

Extra symbols:

```

37 \CustomizeMathJax{\newcommand{\iddots}{\mathinner{\unicode{x22F0}}}}
38 \CustomizeMathJax{\newcommand{\utimes}{\mathbin{\overline{\times}}}}
39 \CustomizeMathJax{\newcommand{\dtimes}{\mathbin{\underline{\times}}}}
40 \CustomizeMathJax{\newcommand{\udtimes}{\mathbin{\overline{\underline{\times}}}}}
41 \CustomizeMathJax{\newcommand{\leftwave}{\left\{}}
42 \CustomizeMathJax{\newcommand{\rightwave}{\right\}}}
43
44 \end{warpMathJax}

```

File 289 **lwarp-mathdots.sty**

§ 401 Package **mathdots**

(Emulates or patches code by DAN LUECKING.)

mathdots (*Pkg*) **mathdots** is used as-is for SVG math, and emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{mathdots}[2014/06/11]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\iddots}{\mathinner{\unicode{x22F0}}}}
4 \CustomizeMathJax{\let\fixedddots\ddots}
5 \CustomizeMathJax{\let\fixedvdots\vdots}
6 \CustomizeMathJax{\let\fixediddots\iddots}
7 \CustomizeMathJax{\let\originalddots\ddots}
8 \CustomizeMathJax{\let\originalvdots\vdots}
9 \CustomizeMathJax{\let\originaliddots\iddots}
10 \CustomizeMathJax{\let\originalddot\ddot}
11 \CustomizeMathJax{\let\originaldddotted\dddotted}
12 \end{warpMathJax}

```

File 290 **lwarp-mathfixs.sty**

§ 402 Package **mathfixs**

(Emulates or patches code by NIKLAS BEISERT.)

`mathfixs` (*Pkg*) `mathfixs` is used as-is for SVG math, and is emulated for MATHJAX.

 Greek letters are unchanged.

for HTML output: 1 \LWR@ProvidesPackagePass{mathfixs}[2018/12/30]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\frac}[2]{\tfrac{#1}{#2}}}
4 \CustomizeMathJax{\newcommand{\vfrac}[2]{\mathinner{{}^{\#1}\!/_{\#2}}}}
5 \CustomizeMathJax{\newcommand{\ProvideMathFix}[1]}
6 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
7 \CustomizeMathJax{\newcommand{\.}{\,}}
8 \end{warpMathJax}


```

File 291 **lwarp-mathpazo.sty**

§ 403 Package **mathpazo**

(Emulates or patches code by WALTER SCHMIDT.)

`mathpazo` (*Pkg*) `mathpazo` is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options. The dedicated macros for upright greek letters do work correctly.

SVG math should appear the same as the printed output.

for HTML output: 1 \LWR@ProvidesPackagePass{mathpazo}[2020/03/25]

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{mathpazo}
6
7 \ifpazo@slGreek
8 \LWR@mathjax@addgreek@u@it*{}
9 \fi
10
11 \LWR@mathjax@addgreek@u@up*{}
12
13 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
14 \end{warpMathJax}


```

File 292 **lwarp-mathptmx.sty**

§ 404 Package **mathptmx**

(Emulates or patches code by WALTER SCHMIDT.)

`mathptmx` (*Pkg*) `mathptmx` is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options. The dedicated macros for upright greek letters do work correctly.

SVG math should appear the same as the printed output.

for HTML output: `1 \LWR@ProvidesPackagePass{mathptmx}[2020/03/25]`

For MATHJAX:


```
2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoProcessingmathjax{mathptmx}
6
7 \IfPackageLoadedWithOptionsTF{mathptmx}{slantedGreek}
8   {\LWR@mathjax@addgreek@u@it*{}{}}
9   {}
10
11 \LWR@mathjax@addgreek@u@up*{up}{}
12 \end{warpMathJax}
```

File 293 **lwarp-mathspec.sty**

§ 405 Package **mathspec**

(Emulates or patches code by ANDREW GILBERT MOSCHOU.)

`mathspec` (*Pkg*) `mathspec` is used as-is with SVG math, and is emulated for MATHJAX.

 **quotes** Double quotes (`\` and the `"` character) are removed during MATHJAX emulation, but this also includes inside `\text`.

for HTML output: `1 \LWR@ProvidesPackagePass{mathspec}[2016/12/22]`

```
2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
```

Neutralize double quotes (`"` and `\`):

```
5 \booltrue{LWR@MathJax@silentquotes}
```

Sort options for out Greek emulation:

```

6 \AtBeginDocument{
7 \ifcase\eu@GreekUppercase@@value %% If Greek Uppercase Regular
8   \LWR@mathjax@addgreek@u@up*{}{}
9 \or %% If Greek Uppercase Italic
10  \LWR@mathjax@addgreek@u@it*{}{}
11 \or %% If Greek Uppercase Plain
12  \LWR@mathjax@addgreek@u@up*{}{}
13 \fi
14 \ifcase\eu@GreekLowercase@@value %% If Greek Lowercase Regular
15   \LWR@mathjax@addgreek@l@up{}{}
16 \or %% If Greek Lowercase Italic
17   \LWR@mathjax@addgreek@l@it{}{}
18 \or %% If Greek Lowercase Plain
19   \LWR@mathjax@addgreek@l@it{}{}
20 \fi
21 }

```

Swap definitions according the mathspec conditionals:

```

22 \newcommand*{\LWR@mathspec@varforms}{%
23 \eu@ifbooltrue{GreekLowercase}{
24   \eu@ifbooltrue{exchangebetaforms}{
25     \CustomizeMathJax{\let\LWRorigbeta\beta}
26     \CustomizeMathJax{\let\beta\varbeta}
27     \CustomizeMathJax{\let\varbeta\LWRorigbeta}
28   }
29   \eu@ifbooltrue{exchangeepsilonforms}{
30     \CustomizeMathJax{\let\LWRorigepsilon\epsilon}
31     \CustomizeMathJax{\let\epsilon\varepsilon}
32     \CustomizeMathJax{\let\varepsilon\LWRorigepsilon}
33   }
34   \eu@ifbooltrue{exchangethetaforms}{
35     \CustomizeMathJax{\let\LWRorigtheta\theta}
36     \CustomizeMathJax{\let\theta\vartheta}
37     \CustomizeMathJax{\let\vartheta\LWRorigtheta}
38   }
39   \eu@ifbooltrue{exchangekappaforms}{
40     \CustomizeMathJax{\let\LWRorigkappa\kappa}
41     \CustomizeMathJax{\let\kappa\varkappa}
42     \CustomizeMathJax{\let\varkappa\LWRorigkappa}
43   }
44   \eu@ifbooltrue{exchangepiforms}{
45     \CustomizeMathJax{\let\LWRorigpi\pi}
46     \CustomizeMathJax{\let\pi\varpi}
47     \CustomizeMathJax{\let\varpi\LWRorigpi}
48   }
49   \eu@ifbooltrue{exchangerhoforms}{
50     \CustomizeMathJax{\let\LWRorigrho\rho}
51     \CustomizeMathJax{\let\rho\varrho}
52     \CustomizeMathJax{\let\varrho\LWRorigrho}
53   }
54   \eu@ifbooltrue{exchangephiforms}{
55     \CustomizeMathJax{\let\LWRorigphi\phi}
56     \CustomizeMathJax{\let\phi\varphi}
57     \CustomizeMathJax{\let\varphi\LWRorigphi}
58   }
59 }
60 \eu@ifbooltrue{GreekUppercase}{
61   \eu@ifbooltrue{exchangeThetaforms}{
62     \CustomizeMathJax{\let\LWRorigTheta\Theta}

```

```

63     \CustomizeMathJax{\let\Theta\varTheta}
64     \CustomizeMathJax{\let\varTheta\LWRorigTheta}
65   }
66 }
67 }

```

Append new action to `mathspec`'s `\AtBeginDocument` code:

```

68 \xapptocmd{\exchangeforms}
69   {\AtBeginDocument{\LWR@mathspec@varforms}}
70   {}
71   {\LWR@patcherror{mathspec}{exchangeforms}}
72
73 \end{warpMathJax}

```

File 294 `lwarp-mathtools.sty`

§ 406 Package `mathtools`

(Emulates or patches code by MORTEN HØGHOLM, LARS MADSEN.)

`mathtools` (*Pkg*) `mathtools` is patched for use by `lwarp`. Emulation macros are provided for `MATHJAX`.

⚠ equation numbering

`showonlyrefs` is disabled, as it conflicts with `cleveref`, which is used by `lwarp`. Equation numbers may not match the print version.

⚠ italic correction `mathic` is not emulated for HTML.

⚠ `MATHJAX` If using `MATHJAX`:

- Recent changes may not yet be updated in the `MATHJAX` extension, which is used by `lwarp`.
- `mathtools disallowspaces` does not work for `MATHJAX`. Protect brackets which are not optional arguments, such as:


```

\begin{gathered}{}
[p]=1 . . .
\end{gathered}

```
- `showonlyrefs` does not work in `MATHJAX`, and will result in a difference in equation numbering compared to the print version.
- `alignat` in `MATHJAX` requires math mode, but in `LATEX` it doesn't. It may be required to use `warpHTML` and `warpprint` to isolate a version for each mode.
- `\DeclarePairedDelimiter` and related must be in the preamble before `\begin{document}`.

for HTML output: `1 \LWR@ProvidesPackagePass{mathtools}[2018/01/08]`

`2 \RequirePackage{graphicx}`

`3 \MHInternalSyntaxOn`

Forces showonlyrefs off because lwarp uses cleveref, which is not compatible with showonlyrefs.

```

4 \renewcommand*{\MT_showonlyrefs_true:}{%
5   \PackageWarningNoLine{lwarp}
6   {%
7     Mathtools \space showonlyrefs \space conflicts \space
8     with \space cleveref,\MessageBreak
9     which \space is \space used \space by \space lwarp, \space
10    so \space showonlyrefs \space is\MessageBreak
11    forced \space off. \space\space
12    Equation \space numbers \space may \space not \space match%
13   }
14   \MT_showonlyrefs_false:
15 }
16 \mathtoolsset{showonlyrefs=false}

```

Forces math italic correction off. Not patched for lwarp.

```

17 \renewcommand*{\MT_mathic_true:}{\MT_mathic_false:}
18 \mathtoolsset{mathic=false}

```

```

19 \MHInternalSyntaxOff

```

For MATHJAX.

The MATHJAX package is used, and improvements are added.

```

20 \begin{warpMathJax}
21 \CustomizeMathJax{\require{mathtools}}
22
23 \LWR@infoprocessingmathjax{mathtools}
24
25 \CustomizeMathJax{\newenvironment{crampedsubarray}[1]{}{}}
26
27 \CustomizeMathJax{\newcommand{\smashoperator}[2][\#2\limits]}
28
29 \CustomizeMathJax{\newcommand{\SwapAboveDisplaySkip}{}{}}
30
31 \CustomizeMathJax{\newcommand{\LaTeXunderbrace}[1]{\underbrace{#1}}}
32 \CustomizeMathJax{\newcommand{\LaTeXoverbrace}[1]{\overbrace{#1}}}
33
34
35 \CustomizeMathJax{\newcommand{\LWRmultlined}[1][\begin{multline*}]}
36 \CustomizeMathJax{\newenvironment{multlined}[1][\LWRmultlined]{\end{multline*}}}
37
38 \CustomizeMathJax{\let\LWRorigshoveleft\shoveleft}
39 \CustomizeMathJax{\renewcommand{\shoveleft}[1][\LWRorigshoveleft]}
40 \CustomizeMathJax{\let\LWRorigshoveright\shoveright}
41 \CustomizeMathJax{\renewcommand{\shoveright}[1][\LWRorigshoveright]}
42
43 \CustomizeMathJax{\newcommand{\shortintertext}[1]{\text{#1}\notag \\\}}
44
45 \LetLtxMacro\LWR@mathtools@orig@DeclarePairedDelimiter\DeclarePairedDelimiter
46 \renewcommand{\DeclarePairedDelimiter}[3]{
47   \LWR@mathtools@orig@DeclarePairedDelimiter{#1}{#2}{#3}
48 % starred:
49   \appto\LWR@customizedMathJax{\LWRbackslash}
50   \appto\LWR@customizedMathJax{%

```

```

51   \LWRbackslash{}newcommand{\LWRbackslash\macroto{name{#1}LWRsubstar\}%
52   }%
53   \appto\LWR@customizedMathJax{[2][[]]%
54   \appto\LWR@customizedMathJax{\{\}%
55   \LWR@subcustomizedmathjax{##1\left##2##1\right##3}%
56   \appto\LWR@customizedMathJax{\}\}%
57   \appto\LWR@customizedMathJax{\LWRbackslash)\par}%
58 % not starred:
59   \appto\LWR@customizedMathJax{\LWRbackslash()}
60   \appto\LWR@customizedMathJax{%
61     \LWRbackslash{}newcommand{\LWRbackslash\macroto{name{#1}LWRsubstar\}%
62     }%
63     \appto\LWR@customizedMathJax{[2][[]]%
64     \appto\LWR@customizedMathJax{\{\}%
65     \LWR@subcustomizedmathjax{##1##2##1##3}%
66     \appto\LWR@customizedMathJax{\}\}%
67     \appto\LWR@customizedMathJax{\LWRbackslash)\par}%
68 % user macro:
69   \appto\LWR@customizedMathJax{\LWRbackslash()}
70   \appto\LWR@customizedMathJax{%
71     \LWRbackslash{}newcommand{\LWRbackslash\macroto{name{#1}\}%
72     \{\LWRbackslash}ifstar%
73       \LWRbackslash\macroto{name{#1}LWRsubstar}%
74       \LWRbackslash\macroto{name{#1}LWRsubstar}%
75     \}%
76   }%
77   \appto\LWR@customizedMathJax{\LWRbackslash)\par}%
78 }
79 \@onlypreamble\DeclarePairedDelimiter
80
81 % (DeclarePairedDelimiterX is already defined to use \DeclarePairedDelimiterXPP.)
82
83 \LetLtxMacro\LWR@mathtools@orig@DeclarePairedDelimiterXPP\DeclarePairedDelimiterXPP
84 \DeclareDocumentCommand{\DeclarePairedDelimiterXPP}{m O{1} m m m m m}{
85   \LWR@mathtools@orig@DeclarePairedDelimiterXPP{#1}[#2]{#3}{#4}{#5}{#6}{#7}
86 % subsubstar, second opt arg
87   \appto\LWR@customizedMathJax{\LWRbackslash}%
88   \appto\LWR@customizedMathJax{%
89     \LWRbackslash{}newcommand{\LWRbackslash\macroto{name{#1}LWRsubsubstar\}%
90     }%
91     \appto\LWR@customizedMathJax{[#2]}%
92     \appto\LWR@customizedMathJax{\{\LWRbackslash}left}%
93     \LWR@subcustomizedmathjax{##3##4##7}%
94     \appto\LWR@customizedMathJax{\LWRbackslash}right}%
95     \LWR@subcustomizedmathjax{##5##6}%
96     \appto\LWR@customizedMathJax{\}\}%
97     \appto\LWR@customizedMathJax{\LWRbackslash)\par}%
98 % substar, first opt arg
99   \appto\LWR@customizedMathJax{\LWRbackslash}%
100  \appto\LWR@customizedMathJax{%
101    \LWRbackslash{}newcommand{\LWRbackslash\macroto{name{#1}LWRsubstar\}[1][[]%
102    }%
103    \appto\LWR@customizedMathJax{%
104      \{
105        \LWRbackslash{}def\LWRbackslash{}delimsz{\#1\}
106        \LWRbackslash\macroto{name{#1}LWRsubsubstar
107      \}%
108    }%
109    \appto\LWR@customizedMathJax{\LWRbackslash)\par}%
110 % subsubnstar, second opt arg

```

```

111 \appto\LWR@customizedMathJax{\LWRbackslash}%
112 \appto\LWR@customizedMathJax{%
113   \LWRbackslash}newcommand{\LWRbackslash\macroto{name{#1}LWRsubsubnosta\}%
114 }%
115 \appto\LWR@customizedMathJax{[#2]}%
116 \appto\LWR@customizedMathJax{\{\LWRbackslash}delimsi}%
117 \LWR@subcustomizedmathjax{#3#4#7}%
118 \appto\LWR@customizedMathJax{\LWRbackslash}delimsi}%
119 \LWR@subcustomizedmathjax{#5#6}%
120 \appto\LWR@customizedMathJax{\}\}%
121 \appto\LWR@customizedMathJax{\LWRbackslash)\par}%
122 % subnosta, first opt arg
123 \appto\LWR@customizedMathJax{\LWRbackslash}%
124 \appto\LWR@customizedMathJax{%
125   \LWRbackslash}newcommand{\LWRbackslash\macroto{name{#1}LWRsubnosta\}[1][]%
126 }%
127 \appto\LWR@customizedMathJax{%
128   \{
129     \LWRbackslash}def\LWRbackslash}delimsi{\#1\}
130     \LWRbackslash\macroto{name{#1}LWRsubsubnosta
131     \}%
132   }%
133   \appto\LWR@customizedMathJax{\LWRbackslash)\par}%
134 % user macro:
135 \appto\LWR@customizedMathJax{\LWRbackslash}
136 \appto\LWR@customizedMathJax{%
137   \LWRbackslash}newcommand{\%
138     \LWRbackslash}\macroto{name{#1}%
139     \}%
140     \{\LWRbackslash}ifstar%
141     \LWRbackslash}\macroto{name{#1}LWRsubstar%
142     \LWRbackslash}\macroto{name{#1}LWRsubnosta%
143     \}%
144   }%
145   \appto\LWR@customizedMathJax{\LWRbackslash)\par}%
146 }
147 \@onlypreamble\DeclareParedDelimiterXPP
148 \@onlypreamble\DeclareParedDelimiterX
149
150 \CustomizeMathJax{\newcommand{\vcentcolon}{\mathrel{\unicode{x2236}}}}
151
152 \LetLtxMacro\LWR@mathtools@orig@newgathered\newgathered
153 \renewcommand{\newgathered}[4]{%
154   \LWR@mathtools@orig@newgathered{#1}{#2}{#3}{#4}%
155   \appto\LWR@customizedMathJax{\LWRbackslash}%
156   \LWR@subcustomizedmathjax{%
157     \newenvironment{#1}{\begin{gathered}}{\end{gathered}}%
158   }%
159   \appto\LWR@customizedMathJax{\LWRbackslash)\LWR@orignewline}%
160 }
161 \@onlypreamble\newgathered
162
163 \end{warpMathJax}

```

File 295 **lwarp-mattens.sty**

§ 407 Package **mattens**

(Emulates or patches code by DANIE ELS.)

mattens (*Pkg*) mattens is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output:

```

1 \LWR@ProvidesPackagePass{mattens}[2010/03/26]
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\LWRmattensnull}{}}
4
5 \CustomizeMathJax{\newcommand{\LWRmattensnostar}[2][]{%
6   {#1{\LWRmattensundercmd{\LWRmattenovercmd{\LWRmattenscross{\boldsymbol{#2}}}}}}}%
7 }}
8
9 \CustomizeMathJax{\newcommand{\LWRmattensstar}[2][]{%
10  {#1{\LWRmattensundercmd{\LWRmattenovercmd{\LWRmattenscross{#2}}}}}}%
11 }}
12
13 \CustomizeMathJax{\newcommand{\LWRmattens}{
14   \ifstar\LWRmattensstar\LWRmattensnostar%
15 }}
16
17 \CustomizeMathJax{\newcommand{\aS}{%
18   \let\LWRmattenscross\LWRmattensnull%
19   \let\LWRmattenovercmd\overrightarrow%
20   \let\LWRmattensundercmd\LWRmattensnull%
21   \LWRmattens%
22 }}
23
24 \CustomizeMathJax{\newcommand{\aSa}{%
25   \let\LWRmattenscross\LWRmattensnull%
26   \let\LWRmattenovercmd\underrightarrow%
27   \let\LWRmattensundercmd\LWRmattensnull%
28   \LWRmattens%
29 }}
30
31 \CustomizeMathJax{\newcommand{\bS}{%
32   \let\LWRmattenscross\LWRmattensnull%
33   \let\LWRmattenovercmd\overline%
34   \let\LWRmattensundercmd\LWRmattensnull%
35   \LWRmattens%
36 }}
37
38 \CustomizeMathJax{\newcommand{\bSb}{%
39   \let\LWRmattenscross\LWRmattensnull%
40   \let\LWRmattenovercmd\underline%
41   \let\LWRmattensundercmd\LWRmattensnull%
42   \LWRmattens%
43 }}
44
45 \CustomizeMathJax{\newcommand{\aSa}{%
46   \let\LWRmattenscross\LWRmattensnull%
47   \let\LWRmattenovercmd\overrightarrow%
```



```

48   \let\LWRmattensundercmd\underrightarrow%
49   \LWRmattens%
50 }}
51
52 \CustomizeMathJax{\newcommand{\aSb}{%
53   \let\LWRmattenscross\LWRmattensnull%
54   \let\LWRmattensovercmd\overrightarrow%
55   \let\LWRmattensundercmd\underline%
56   \LWRmattens%
57 }}
58
59 \CustomizeMathJax{\newcommand{\bSa}{%
60   \let\LWRmattenscross\LWRmattensnull%
61   \let\LWRmattensovercmd\overline%
62   \let\LWRmattensundercmd\underrightarrow%
63   \LWRmattens%
64 }}
65
66 \CustomizeMathJax{\newcommand{\bSb}{%
67   \let\LWRmattenscross\LWRmattensnull%
68   \let\LWRmattensovercmd\overline%
69   \let\LWRmattensundercmd\underline%
70   \LWRmattens%
71 }}
72
73 \CustomizeMathJax{\newcommand{\aCSa}{%
74   \let\LWRmattenscross\tilde%
75   \let\LWRmattensovercmd\overrightarrow%
76   \let\LWRmattensundercmd\underrightarrow%
77   \LWRmattens%
78 }}
79
80 \CustomizeMathJax{\newcommand{\bCSb}{%
81   \let\LWRmattenscross\tilde%
82   \let\LWRmattensovercmd\overline%
83   \let\LWRmattensundercmd\underline%
84   \LWRmattens%
85 }}
86 \end{warpMathJax}


```

File 296 **lwarp-maybemath.sty**

§ 408 Package **maybemath**

(Emulates or patches code by ANDY BUCKLEY.)

maybemath (*Pkg*) **maybemath** is used as-is for SVG math, and is emulated for MATHJAX.

 **no effect** MATHJAX is not able to detect the surrounding text font, so all maybemath macros are ignored.

for HTML output: 1 \LWR@ProvidesPackagePass{maybemath}[2005/2/22]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\mayberm}[1][\#1]}
4 \CustomizeMathJax{\let\maybebm\mayberm}
5 \CustomizeMathJax{\let\maybeit\mayberm}

```

```

6 \CustomizeMathJax{\let\maybeitrm\maybe}
7 \CustomizeMathJax{\let\maybeitsubscript\maybe}
8 \CustomizeMathJax{\let\maybeisf\maybe}
9 \CustomizeMathJax{\let\maybebmsf\maybe}
10 \end{warpMathJax}

```

File 297 **lwarp-mcaption.sty**

§ 409 Package **mcaption**

(Emulates or patches code by STEPHAN HENNIG.)

mcaption (*Pkg*) mcaption is ignored.

for HTML output: Discard all options for lwarp-mcaption:

```

1 \LWR@ProvidesPackageDrop{mcaption}[2009/03/13]

2 \newenvironment{margincap}{}{}
3 \newcommand*\margincapalign{}
4 \newlength{\margincapsep}

```

File 298 **lwarp-mdframed.sty**

§ 410 Package **mdframed**

(Emulates or patches code by MARCO DANIEL, ELKE SCHUBERT.)

mdframed (*Pkg*) mdframed is loaded with options forced to framemethod=none.

§ 410.1 Limitations

support Most basic functionality is supported, including frame background colors and single-border colors and thickness, title and subtitle background colors and borders and thickness, border radius, and shadow. CSS classes are created for mdframed environments and frame titles.

 **loading** When used, lwarp loads mdframed in HTML with framemethod=none.

font For title font, use

```
frametitlefont=\textbf,
```

instead of

```
frametitlefont=\bfseries,
```

where `\textbf` must appear just before the comma and will receive the following text as its argument (since the text happens to be between braces in the mdframed source). Since lwarp does not support `\bfseries` and friends, only one font selection may be made at a time.

theoremtitlefont theoremtitlefont is not supported, since the following text is not in braces in the mdframed source.

ignored options `userdefinedwidth` and `align` are currently ignored.

css classes Environments created or encapsulated by `mdframed` are enclosed in a `<div>` of class `mdframed`, and also class `md<environmentname>` for new environments.

Frame titles are placed in a `<div>` of class `mdframedtitle`. Subtitles are in a `<div>` of class `mdframedsubtitle`, and likewise for subsubtitles.

Pre-existing hooks are used to patch extra functions before and after the frames.

§ 410.2 Package loading

for HTML output:

```
1 \RequirePackage{xcolor}% for \convertcolorspec
2
3 \LWR@ProvidesPackageDrop{mdframed}[2013/07/01]
```

Do not require `TikZ` or `pstricks`:

```
4 \LWR@origRequirePackage[framemethod=none]{mdframed}
```

§ 410.3 Patches

Patch to remove PDF formatting and add HTML tags:

```
5 \AtBeginDocument{
6 \def\mdf@trivlist#1{%
7   \edef\mdf@temp{%
8     \topsep=\the\topsep\relax%
9     \partopsep=\the\partopsep\relax%
10    \parsep=\the\parsep\relax%
11  }%
12  \setlength{\topsep}{#1}%
13  \topskip\z@%
14  \partopsep\z@%
15  \parsep\z@%
16  \@nmblistfalse%
17  \@trivlist%
18  \labelwidth\z@%
19  \leftmargin\z@%
20  \itemindent\z@%
21  \let\itemlabel\@empty%
22  \def\makelabel##1{##1}%
23  \item\relax\mdf@temp\relax%
24 }
25
26 \renewcommand*\endmdf@trivlist{%
27 \LWR@traceinfo{endmdf@trivlist}%
28 \endtrivlist%
29 \LWR@listend%
30 }
31 }% AtBeginDocument
```

§ 410.4 Initial setup

To handle css and paragraphs, patch code at start and end of environment and contents. `\LWR@print@raggedright` helps avoid hyphenation.

```
32 \mdfsetup{
33 startcode={\LWR@mdframedstart\LWR@print@raggedright},
34 endcode={\LWR@mdframedend},
35 startinnercode={\LWR@startpars\LWR@print@raggedright},
36 endinnercode={\LWR@stoppars},
37 }
```

§ 410.5 Color and length HTML conversion

`\LWR@mdfprintcolor`

`{\mdfcolorkey}`

Given the `mdframed` key, print the color.

```
38 \newcommand*{\LWR@mdfprintcolor}[1]{%
39 \convertcolorspec{named}{\@nameuse{mdf@#1}}{HTML}\LWR@tempcolor%
40 \LWR@origpound\LWR@tempcolor
41 }
```

`\LWR@mdfprintlength`

`{\mdflengthkey}`

Given the `mdframed` key, print the length.

```
42 \newcommand*{\LWR@mdfprintlength}[1]{%
43 \LWR@forceminwidth{\@nameuse{mdf@#1@length}}%
44 \LWR@printlength{\LWR@atleastonept}%
45 }
```

§ 410.6 Environment encapsulation

`\LWR@mdframedstart`

Actions before an `mdframe` starts.

Encapsulate a frame inside a `<div>` of the desired class.

```
46 \newcommand*{\LWR@mdframedstart}{%
47 \LWR@traceinfo{\LWR@mdframedstart start}%
```

Warn if starting a frame inside a ``:

```
48 \LWR@spanwarninvalid{mdframe}%
```

Turn off paragraph handling during the generation of the encapsulating tags:

```
49 \LWR@stoppars%
```

Open a `<div>` and with custom class and custom style. A `BlockClass` environment is not used because this `<div>` is created by the `mdframed` startcode and endcode settings, which do not properly nest the `<div>` inside the `mdframed` environment.

```
50 \LWR@htmltagc{div class=\textquotedbl%
51 mdframed%
52 \ifdefstring{\LWR@mdthisenv}{mdframed}{\LWR@mdthisenv}%
53 \textquotedbl \LWR@orignewline
54 style=\textquotedbl\LWR@orignewline
```

Convert and print the background color:

```
55 background: \LWR@mdfprintcolor{backgroundcolor} ; \LWR@orignewline
```

Convert and print the border color and width:

```
56 border: \LWR@mdfprintlength{linewidth} solid
57 \LWR@mdfprintcolor{linecolor} ; \LWR@orignewline
```

Convert and print the border radius:

```
58 border-radius: \LWR@mdfprintlength{roundcorner} ; \LWR@orignewline
```

Convert and print the shadow:

```
59 \ifbool{mdf@shadow}{%
60   box-shadow:
61     \LWR@mdfprintlength{shadowsize}
62     \LWR@mdfprintlength{shadowsize}
63     \LWR@mdfprintlength{shadowsize}
64     \LWR@mdfprintcolor{shadowcolor} ;
65 }
66 {box-shadow: none ;}
67 \LWR@orignewline
```

```
68 \textquotedbl}
69 % \LWR@htmldivclass{\LWR@mdthisenv}
```

mdframed environment may not work with the HTML versions of the following, so restore them to their originals while inside mdframed:

```
70 \let\hspace\LWR@print@hspace%
71 \renewcommand*\rule{\LWR@print@rule}
72 \let\textmacro\makebox\LWR@print@makebox%

73 \LWR@startpars%
74 \LWR@traceinfo{LWR@mdframedstart done}%
75 }
```

\LWR@mdframedend

Actions after an mdframe ends.

After closing the <div>, globally restore to the default environment type:

```
76 \newcommand*\LWR@mdframedend{%
77 \LWR@traceinfo{LWR@mdframedend start}%
```

Close the custom <div>:

```
78 \LWR@htmldivclassend{\LWR@mdthisenv}
```

Reset future custom class to the default:

```
79 \gdef\LWR@mdthisenv{mdframed}
```

Resume paragraph handling:

```
80 \LWR@startpars%
81 \LWR@traceinfo{LWR@mdframedend done}%
82 }
```

§ 410.7 Mdfamed environment

```
83 \renewenvironment{mdframed}[1][[]]{%
84   \color@begingroup%
85   \mdfsetup{userdefinedwidth=\linewidth,#1}%
86   \mdf@startcode%
87   \mdf@preenvsetting%
88   \ifdefempty{\mdf@firstframetitle}}{%
89     {\let\mdf@frametitlesave\mdf@frametitle%
90      \let\mdf@frametitle\mdf@firstframetitle%
91      }%
92   \ifvmode\nointerlineskip\fi%
```

```

93     \ifdefempty{\mdf@frametitle}{}%
94         {\mdfframedtitleenv{\mdf@frametitle}%
95 %         \mdf@@frametitle@use%
96 %         }%
97 \mdf@trivlist{\mdf@skipabove@length}%%
98 \mdf@settings%
99 % \mdf@lrbox{\mdf@splitbox@one}%
100 % \mdf@startinnercode%
101 %}%
102 {%
103 % \mdf@ignorelastdescenders%
104 \par%
105 % \unskip\ifvmode\nointerlineskip\hrule \@height\z@ \@width\hsize\fi%%
106 \ifmdf@footnoteinside%
107     \def\mdf@reserveda{%
108         \mdf@footnoteoutput%
109 %         \mdf@endinnercode%
110 %         \endmdf@lrbox%
111 %         \ifdefempty{\mdf@frametitle}{}%
112 %             {\mdfframedtitleenv{\mdf@frametitle}\mdf@@frametitle@use}%
113 %             \detected@mdf@put@frame
114 %         }%
115 \else%
116     \def\mdf@reserveda{%
117 %         \mdf@endinnercode%
118 %         \endmdf@lrbox%
119 %         \ifdefempty{\mdf@frametitle}{}%
120 %             {\mdfframedtitleenv{\mdf@frametitle}\mdf@@frametitle@use}%
121 %             \detected@mdf@put@frame%
122 %         \mdf@footnoteoutput%
123 %         }%
124 \fi%
125 \mdf@reserveda%
126 \aftergroup\endmdf@trivlist%
127 \color@endgroup%
128 \mdf@endcode%
129 }

```

\mdf@footnoteoutput

```

130 \renewrobustcmd*\mdf@footnoteoutput{%
131     \LWR@printpendingmpfootnotes%
132 }

```

§ 410.8 Titles and subtitles

\mdfframedtitleenv

{<title>}

Place the title inside a <div> of class mdfframedtitle:

```

133 \newlength{\LWR@titleroundcorner}
134
135 \renewrobustcmd\mdfframedtitleenv[1]{%
136 \LWR@traceinfo{\LWR@mdfframedtitleenv start}%

```

Open a <div> with a custom class and custom style:

```

137 \begin{BlockClass}[%

```

Convert and print the title background color:

```

138 background:
139 \LWR@mdfprintcolor{frametitlebackgroundcolor}

```

140 ; \LWR@orignewline

Convert and print the title rule:

```
141 \ifbool{mdf@frametitlerule}{%
142   border-bottom:
143   \LWR@mdfprintlength{frametitlerulewidth}
144   solid
145   \LWR@mdfprintcolor{frametitlerulecolor}
146   ; \LWR@orignewline
147 }{%
```

Finish the custom style and the opening <div> tag:

```
148 ]{mdframedtitle}%
```

Print the title inside the <div>:

```
149 \mdf@frametitlefont{\LWR@textcurrentfont{#1}}%
```

Close the <div>:

```
150 \end{BlockClass}%
151 \LWR@traceinfo{LWR@mdframedtitleenv end}%
152 }
```

\LWR@mdfsubtitlecommon

{<sub — or — subsub>} [<options>] {<title>}

Common code for \LWR@mdfsubtitle and \LWR@mdfsubsubtitle.

Encapsulate the subtitle inside a <div> of class mdframedsubtitle:

```
153 \NewDocumentCommand{\LWR@mdfsubtitlecommon}{m o m}
154 {% the following empty line is required
155
156 \LWR@traceinfo{LWR@mdframedsubtitlecommon start}%
```

Open a <div> with a custom class and custom style:

```
157 \begin{BlockClass}[%
```

Convert and print the background color:

```
158 background:
159 \LWR@mdfprintcolor{#1titlebackgroundcolor}
160 ; \LWR@orignewline
```

Convert and print the above line:

```
161 \ifbool{mdf@#1titleaboveline}{%
162   border-top:
163   \LWR@mdfprintlength{#1titleabovelinewidth}
164   solid
165   \LWR@mdfprintcolor{#1titleabovelinecolor}
166   ; \LWR@orignewline
167 }{%
```

Convert and print the below line:

```
168 \ifbool{mdf@#1titlebelowline}{%
169   border-bottom:
170   \LWR@mdfprintlength{#1titlebelowlinewidth}
171   solid
172   \LWR@mdfprintcolor{#1titlebelowlinecolor}
173   ; \LWR@orignewline
174 }{%
```

Finish the custom style and the opening <div> tag:

175]{mdframed#1title}%

Perform the original subtitle action:

176 \IfNoValueTF{#2}

177 {\@nameuse{LWR@origmdf#1title}\cuse{mdf@#1titlefont}\LWR@textcurrentfont{#3}}}%

178 {\@nameuse{LWR@origmdf#1title}[#2]\cuse{mdf@#1titlefont}\LWR@textcurrentfont{#3}}}%

Close the <div>:

179 \end{BlockClass}%

180 \LWR@traceinfo{LWR@mdframedsubtitlecommon end}%

181 }

\LWR@mdfsubtitle [*<options>*] {<title>}

182 \newcommand*\LWR@mdfsubtitle{%

183 \LWR@mdfsubtitlecommon{sub}%

184 }

185 \let\mdfsubtitle\LWR@mdfsubtitle

\LWR@mdfsubsubtitle [*<options>*] {<title>}

186 \newcommand*\LWR@mdfsubsubtitle{%

187 \LWR@mdfsubtitlecommon{subsub}%

188 }

189 \let\mdfsubsubtitle\LWR@mdfsubsubtitle

§ 410.9 New environments

\LWR@mdthisenv Stores the environment of the frame about to be created:

190 \newcommand*\LWR@mdthisenv{mdframed}

\newmdenv [*<options>*] {<env-name>}

Modified from the original to remember the environment.

191 \renewrobustcmd*\newmdenv[2][]{%

192 \newenvironment{#2}%

193 {%

194 \mdfsetup{#1}%

195 \renewcommand*\LWR@mdthisenv{md#2}%

196 \begin{mdframed}%

197 }

198 {\end{mdframed}}%

199 }

\surroundwithmdframed [*<options>*] {<environment>}

Modified from the original to remember the environment.

200 \renewrobustcmd*\surroundwithmdframed[2][]{%

201 \BeforeBeginEnvironment{#2}{%

202 \renewcommand*\LWR@mdthisenv{md#2}%

203 \begin{mdframed}[#1]}%

204 \AfterEndEnvironment{#2}{\end{mdframed}}%

205 }

\mdtheorem [*<mdframed-options>*] {<envname>} [*<numberedlike>*] {<caption>} [*<within>*]

Modified from the original to remember the environment.


```

206 \DeclareDocumentCommand{\mdtheorem}{ O{} m o m o }%
207 {\ifcsdef{#2}%
208   {\mdf@PackageWarning{Environment #2 already exists\MessageBreak}}%
209   {%
210     \IfNoValueTF {#3}%
211     {%#3 not given -- number relationship
212       \IfNoValueTF {#5}%
213       {%#3+#5 not given
214         \@definecounter{#2}%
215         \expandafter\xdef\csname the#2\endcsname{\@thmcounter{#2}}%
216         \newenvironment{#2}[1][1][1]{%
217           \refstepcounter{#2}%
218           \ifstrempy{##1}%
219             {\let\@temptitle\relax}%
220             {%
221               \def\@temptitle{\mdf@theoremseparator%
222                 \mdf@theoremspace%
223                 \mdf@theoremtitlefont%
224                 \LWR@textcurrentfont{##1}}% lwarp
225               \mdf@thm@caption{#2}{#4}{\csname the#2\endcsname}{##1}}%
226             }%
227             \begin{mdframed}[#1,frametitle={\strut#4\ \csname the#2\endcsname%
228               \@temptitle}]]%
229             {\end{mdframed}}%
230           \newenvironment{#2*}[1][1][1]{%
231             \ifstrempy{##1}{\let\@temptitle\relax}{\def\@temptitle{: \ ##1}}%
232             \begin{mdframed}[#1,frametitle={\strut#4\@temptitle}]]%
233             {\end{mdframed}}%
234           }%
235           {%#5 given -- reset counter
236             \@definecounter{#2}\@newctr{#2}[#5]%
237             \expandafter\xdef\csname the#2\endcsname{\@thmcounter{#2}}%
238             \expandafter\xdef\csname the#2\endcsname{%
239               \expandafter\noexpand\csname the#5\endcsname \@thmcountersep%
240               \@thmcounter{#2}}%
241             \newenvironment{#2}[1][1][1]{%
242               \refstepcounter{#2}%
243               \ifstrempy{##1}%
244                 {\let\@temptitle\relax}%
245                 {%
246                   \def\@temptitle{\mdf@theoremseparator%
247                     \mdf@theoremspace%
248                     \mdf@theoremtitlefont%
249                     \LWR@textcurrentfont{##1}}% lwarp
250                   \mdf@thm@caption{#2}{#4}{\csname the#2\endcsname}{##1}}%
251                 }
252                 \begin{mdframed}[#1,frametitle={\strut#4\ \csname the#2\endcsname%
253                   \@temptitle}]]%
254                 {\end{mdframed}}%
255               \newenvironment{#2*}[1][1][1]{%
256                 \ifstrempy{##1}%
257                 {\let\@temptitle\relax}%
258                 {%
259                   \def\@temptitle{\mdf@theoremseparator%
260                     \mdf@theoremspace%
261                     \mdf@theoremtitlefont%
262                     \LWR@textcurrentfont{##1}}% lwarp
263                   \mdf@thm@caption{#2}{#4}{\csname the#2\endcsname}{##1}}%
264                 }%
265                 \begin{mdframed}[#1,frametitle={\strut#4\@temptitle}]]%

```

```

266     {\end{mdframed}}}%
267   }%
268 }%
269 {%#3 given -- number relationship
270   \global\@namedef{the#2}{\@nameuse{the#3}}%
271   \newenvironment{#2}[1][{%
272     \refstepcounter{#3}%
273     \ifstrempy{##1}%
274       {\let\@temptitle\relax}%
275       {%
276         \def\@temptitle{\mdf@theoremseparator%
277           \mdf@theoremspace%
278           \mdf@theoremtitlefont%
279           \LWR@textcurrentfont{##1}}% lwarp
280         \mdf@thm@caption{#2}{#4}{\csname the#2\endcsname}{##1}}%
281       }
282     \begin{mdframed}[#1,frametitle={\strut#4\ \csname the#2\endcsname%
283       \@temptitle}]]%
284     {\end{mdframed}}%
285   \newenvironment{#2*}[1][{%
286     \ifstrempy{##1}{\let\@temptitle\relax}{\def\@temptitle{: \ #1}}%
287     \begin{mdframed}[#1,frametitle={\strut#4\@temptitle}]]%
288     {\end{mdframed}}%
289   }%
290   \BeforeBeginEnvironment{#2}{\renewcommand*\LWR@mdthisenv}{md#2}}% lwarp
291   \BeforeBeginEnvironment{#2*}{\renewcommand*\LWR@mdthisenv}{md#2}}% lwarp
292 }%
293 }

```

\newmdtheoremenv

[<1: *mdframed-options*>] [<2: *envname*>] [<3: *numberedlike*>] [<4: *caption*>]
 [<5: *within*>]

Modified from the original to remember the environment.

```

294 \DeclareDocumentCommand\newmdtheoremenv{0}{ m o m o }{%
295   \ifboolexpr{ test {\IfNoValueTF {#3}} and test {\IfNoValueTF {#5}} }%
296     {\newtheorem{#2}{#4}}%
297     {%
298       \IfValueT{#3}{\newtheorem{#2}[#3]{#4}}%
299       \IfValueT{#5}{\newtheorem{#2}{#4}[#5]}%
300     }%
301   \BeforeBeginEnvironment{#2}{%
302     \renewcommand*\LWR@mdthisenv}{md#2}%
303     \begin{mdframed}[#1]}%
304   \AfterEndEnvironment{#2}{%
305     \end{mdframed}}%
306 }

```

File 299 **lwarp-mdwmath.sty**

§ 411 Package **mdwmath**

(Emulates or patches code by MARK WOODING.)

mdwmath (*Pkg*) mdwmath is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{mdwmath}[1996/04/11]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\let\LRmdwmathsqrtsqrt\sqrt}
4 \CustomizeMathJax{\renewcommand{\sqrt}{\ifstar\LRmdwmathsqrtsqrt\LRmdwmathsqrts}}
5 \CustomizeMathJax{\newcommand{\bitand}{\mathbin\&}}
6 \CustomizeMathJax{\def\bitor{\mathbin\mid}}
7 \CustomizeMathJax{\def\dblort{\mathbin{\mid\mid}}}
8 \CustomizeMathJax{\def\dblortand{\mathbin{\mathrel\bitand\mathrel\bitand}}}
9 \end{warpMathJax}

```

File 300 **lwarp-media9.sty**

§ 412 Package **media9**

media9 (*Pkg*) **media9** is emulated.

The packages multimedia, movie15, and media9 are supported.

HTML5 `<audio>` and `<video>` objects are created for .mp3 and .mp4 files.

HTML5 `<embed>` objects are created for http and ftp links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For **media9**, a multimedia object is inserted for each `addresource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each HTML multimedia object includes the poster text, except for `<embed>` objects. For **movie15**, the `text` option is supported to specify the poster text.

The `width`, `height`, and `totalheight` options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

media9 `\addmediapath` is supported. It is assumed that the same path structure will exist for the HTML document.


HTML5 media controls are always specified for each `<audio>` and `<video>` object.

media9 slideshows are not supported.

`\hyperlinkmovie`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a YOUTUBE™ video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

 **& in a URL** Many special characters are converted to regular catcode 12 characters for use inside a URL. `&` is used in the flash variables fields, which are split with `xparse \SplitList`, which does not seem to work with a catcode 12 divider token, so `&` is

not converted to catcode 12, and will not work in a URL with `media9`. Using `&` in a URL in a `flashvars` field may also cause parsing problems with print output, as well.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{media9}[2019/02/21]
```

```
2 \LWR@origRequirePackage{lwarp-common-multimedia}
3
4 \RequirePackage{xkeyval}
```

`\addmediapath`

`{<path>}`

Supported.

```
5 \newcommand*\LWR@medianine@path{}
6
7 \newcommand*\addmediapath}[1]{\appto\LWR@medianine@path{#{1}}}
```

The options and poster text are reused in several places.

```
8 \newcommand*\LWR@medianine@postertext{}
9 \newcommand*\LWR@medianine@options{}
```

Each addressource can generate a multimedia object.

```
10 \define@key{LWR@medianine}{addressource}{%
11   \expandafter\LWR@multimedia\expandafter[\LWR@medianine@options]
12     {\LWR@medianine@postertext}
13     {#1}
14 }
```

Each flashvars source can generate a multimedia object.

```
15 \newcommand*\LWR@medianine@flashvarsb}[1]{%
16   \IfBeginWith{#1}{source=}{%
17     \StrGobbleLeft{#1}{7}[\LWR@tempone]%
18     \expandafter\LWR@multimedia\expandafter[\LWR@medianine@options]%
19     {\LWR@medianine@postertext}%
20     {\LWR@tempone}%
21   }{%
22   \IfBeginWith{#1}{src=}{%
23     \StrGobbleLeft{#1}{4}[\LWR@tempone]%
24     \expandafter\LWR@multimedia\expandafter[\LWR@medianine@options]%
25     {\LWR@medianine@postertext}%
26     {\LWR@tempone}%
27   }{%
28 }
29
30 \NewDocumentCommand{\LWR@medianine@flashvars}{ >\SplitList{&} m }{%
31   \ProcessList {#1}{\LWR@medianine@flashvarsb}%
32 }
33
34 \define@key{LWR@medianine}{flashvars}{%
35   \LWR@medianine@flashvars{#1}%
36 }
```

`\includemedia`

`[<options>] {<poster text>} {<file or url>}`

```

37 \newcommand*\LWR@includemediab}[3][[]]{%
38   \let\input@path\LWR@medianine@path%
39   \renewcommand*\LWR@medianine@options}{#1}%
40   \renewcommand*\LWR@medianine@postertext}{#2}%
41   \setkeys*LWR@medianine}{#1}%
42   \IfBeginWith{#3}{http}{\LWR@multimedia[#1]{#2}{#3}}{%
43   \IfBeginWith{#3}{HTTP}{\LWR@multimedia[#1]{#2}{#3}}{%
44   \IfBeginWith{#3}{ftp}{\LWR@multimedia[#1]{#2}{#3}}{%
45   \IfBeginWith{#3}{FTP}{\LWR@multimedia[#1]{#2}{#3}}{%
46   }}}}%
47   \endgroup%
48 }
49
50 \newrobustcmd*\includemedia){%
51   \begingroup%
52   \LWR@linkmediacatcodes%
53   \LWR@includemediab%
54 }

```

\mediabutton

[*options*] {*text*}

Ignored.

```
55 \newcommand*\mediabutton}[2][[]]{}
```

File 301 **lwarp-memhfixc.sty**

§ 413 Package **memhfixc**

memhfixc (*Pkg*) memhfixc is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{memhfixc}[2013/05/30]

File 302 **lwarp-menukeys.sty**

§ 414 Package **menukeys**

(*Emulates or patches code by* TOBIAS WEH.)

menukeys (*Pkg*) menukeys is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{menukeys}[2020/12/19]

Patch to use a `lateximage` whose `alt` text is the contents of this use of the macro. A hash on these contents allows the reuse of the image for each instance of the same contents.

```

2 \VerifyCommand[lwarp][menukeys]{\tw@define@menu@macro@}{A3C988E47073504556D744EF08443B1D}
3
4 \xpatchcmd{\tw@define@menu@macro@}
5   {\@nameuse{tw@style@#4@pre}}
6   {%
7     \begin{lateximage}*[\detokenize{##2}]?%
8     \@nameuse{tw@style@#4@pre}%

```

```

9   }
10  {}
11  {\LWR@patcherror{menukeys}{tw@define@menu@macro@}}
12
13  \xpatchcmd{\tw@define@menu@macro@}
14    {\@nameuse{tw@style@#4@post}}
15    {%
16      \@nameuse{tw@style@#4@post}%
17      \end{lateximage}%
18    }
19  {}
20  {\LWR@patcherror{menukeys}{tw@define@menu@macro@ B}}

```

Patch the existing macros:

```

21  \renewmenumacro{\menu}[>]{menus}
22  \renewmenumacro{\directory}[/]{paths}
23  \renewmenumacro{\keys}[+]{roundedkeys}

```

File 303 **lwarp-metalogo.sty**

§ 415 Package **metalogo**

(Emulates or patches code by ANDREW GILBERT MOSCHOU.)

metalogo (*Pkg*) metalogo is used in print mode, and emulated in HTML.

for HTML output: 1 \LWR@ProvidesPackagePass{metalogo}[2010/05/29]

```

2  \newcommand*\LWR@HTML@setLogokern}[2]{}
3  \newcommand*\LWR@HTML@setLogodrop}[2][XeTeX]{}
4  \newcommand*\LWR@HTML@setLaTeXa}[1]{}
5  \newcommand*\LWR@HTML@setLaTeXee}[1]{}
6  \newcommand*\LWR@HTML@seteverylogo}[1]{}
7  \newcommand*\LWR@HTML@everylogo}[1]{}
8
9  \LWR@formatted{setLogokern}
10 \LWR@formatted{setLogodrop}
11 \LWR@formatted{setLaTeXa}
12 \LWR@formatted{setLaTeXee}
13 \LWR@formatted{seteverylogo}
14 \LWR@formatted{everylogo}

```

File 304 **lwarp-metalogox.sty**

§ 416 Package **metalogox**

(Emulates or patches code by BRIAN DUNN.)

metalogox (*Pkg*) metalogox is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{metalogox}[2019/01/20]

`\AtBeginDocument`, adjust the logo setting according to the font which is active at that moment.

```
2 \AtBeginDocument{
3   \let\LWR@metalogox@currentformatting\LWR@formatting
4   \renewcommand*\LWR@formatting>{print}%
5   \autoadjustlogos*
6   \let\LWR@formatting\LWR@metalogox@currentformatting
7 }
```

File 305 **lwarp-mhchem.sty**

§ 417 Package **mhchem**

(Emulates or patches code by MARTIN HENSEL.)

mhchem (*Pkg*) mhchem is patched for use by lwarp.

without MATHJAX Without MATHJAX, mhchem expressions are converted to svg math. Inline expressions use hashed filenames to allow reuse, and assume that any mhchem options are global.

MATHJAX with mhchem extension For MATHJAX, the mhchem extension is used if the mhchem expression is used inside a math expression:

`\ce{C6H5-CHO}`\$

To force the use of svg math for an expression which does not work with MATHJAX, place the expression between `\displaymathother` and `\displaymathnormal`:

```
\displaymathother
[ \ce{ . . . } \] . . . $ \ce { . . . } $
\displaymathnormal
```

not inside math

If *not* used inside a math expression, lwarp converts standalone mhchem expressions into svg math images.

⚠ nested math When producing HTML output without the MATHJAX mhchem extension, lwarp does not support the use of nested dollar signs in mhchem expressions.

For some examples from the mhchem manual, change as follows:

<code>\ce{NaOH(aq,\infty)}</code> \$	% old
<code>\ce{NaOH(aq,\infty)}</code> \$	% new
<code>\ce{Fe(CN)_{\frac{6}{2}}}</code> \$	% old
<code>\ce{Fe(CN)_{\frac{6}{2}}}</code> \$	% new
<code>\ce{NO_x}</code> \$	% old
<code>\ce{NO_x}</code> \$	% new
<code>\ce{NO_x}</code> \$	% old
<code>\ce{NO_x}</code> \$	% new
<code>\ce{\mathit{cis}[PtCl2(NH3)2]}</code> \$	% old
<code>\ce{\mathit{cis}[PtCl2(NH3)2]}</code> \$	% new

for HTML output: 1 \LWR@ProvidesPackagePass{mhchem}[2024/01/29]

The original definition of \ce:

```
2 \LetLtxMacro\LWR@mhchem@origce\ce
```

The new definition, called from the new \ce after math shift is set. The starred lateximage uses a hashed filename for the svg image. The alt tag is set to the mhchem expression.

```
3 \newcommand{\LWR@mhchem@HTML@ce}[1]{%
4   \LWR@findcurrenttextcolor% sets \LWR@tempcolor
5   \edef\LWR@mhchemalt{\LWR@HTMLsanitizedetokenized{\detokenize{#1}}}%
6   \ifbool{\LWR@xfakebold}%
7     {\def\LWR@tempone{Y}}%
8     {\def\LWR@tempone{N}}%
9   \begin{lateximage}%
10    *% hash
11    [% alt
12      \textbackslash{}%
13      ce%
14      {\LWR@mhchemalt}%
15    ]%
16    *% no open close tags in alt
17    ?% do not detokenize alt
18    [% add'l alt
19      FM\LWR@f@family%
20      SR\LWR@f@series%
21      SH\LWR@f@shape%
22      SHC\LWR@f@shapecaps%
23      CL\LWR@tempcolor%
24      FB\LWR@tempone% xfakebold
25    ]%
26    \LWR@setcurrentfont%
27    \LWR@mhchem@origce{#1}%
28    \end{lateximage}%
29    \endgroup%
30    \addtocounter{LWR@mhchem@cedepth}{-1}%
31 }
```

Only set math shift if outer depth:

```
32 \newcounter{LWR@mhchem@cedepth}
33 \setcounter{LWR@mhchem@cedepth}{0}
```

The new \ce. Sets math shift then continues.

```
34 \renewcommand{\ce}{%
35   \begingroup%
36   \ifnumequal{\value{LWR@mhchem@cedepth}}{0}{%
37     \catcode`\$=3% math shift
38   }{%
39     \addtocounter{LWR@mhchem@cedepth}{1}%
40     \LWR@mhchem@HTML@ce%
41 }
```

The original definition of \cesplit:

```
42 \LetLtxMacro\LWR@mhchem@origcesplit\cesplit
```


The new definition, called from the new `\cesplit` after math shift is set. The starred `lateximage` uses a hashed filename for the svg image. The `alt` tag is set to the `mhchem` expression.

```

43 \newcommand*{\LWR@mhchem@HTML@cesplit}[2]
44 {%
45   \LWR@findcurrenttextcolor% sets \LWR@tempcolor
46   \ifbool{\LWR@xfakebold}%
47     {\def\LWR@tempone{Y}}%
48     {\def\LWR@tempone{N}}%
49   \begin{lateximage}%
50     *% hash
51     [% alt
52       \textbackslash{%
53         cesplit%
54         \{\LWR@HTMLsanitizedetokenized{\detokenize{#2}}\}%
55       ]%
56     *% no open/close tags in alt
57     ?% no detokenize alt
58     [% add'l alt
59       FM\LWR@family%
60       SR\LWR@series%
61       SH\LWR@shape%
62       SHC\LWR@shapecaps%
63       CL\LWR@tempcolor%
64       FB\LWR@tempone% xfakebold
65     ]%
66   \LWR@setcurrentfont%
67   \LWR@mhchem@origcesplit{#1}{#2}%
68   \end{lateximage}%
69   \endgroup%
70 }

```

Only set math shift if outer depth:

```

71 \newcounter{LWR@mhchem@cesplitdepth}
72 \setcounter{LWR@mhchem@cesplitdepth}{0}

```

The new `\cesplit`. Sets math shift then continues.

```

73 \renewcommand{\cesplit}{%
74   \begingroup%
75   \ifnumequal{\value{LWR@mhchem@cesplitdepth}}{0}{%
76     \catcode`\$=3% math shift
77   }{%
78     \addtocounter{LWR@mhchem@cesplitdepth}{1}%
79     \LWR@mhchem@HTML@cesplit%
80 }

```

Resore originals inside a `lateximage`:

```

81 \appto\LWR@restoreorigformatting{%
82 \LetLtxMacro\ce\LWR@mhchem@origce%
83 \LetLtxMacro\cesplit\LWR@mhchem@origcesplit%
84 }
85
86 \begin{warpMathJax}
87 \CustomizeMathJax{\require{mhchem}}
88 \end{warpMathJax}

```

File 306 **lwarp-microtype.sty**

§ 418 Package **microtype**

(Emulates or patches code by R SCHLICHT.)

microtype (*Pkg*) microtype is pre-loaded by lwarp. All user options and macros are ignored and disabled.

for HTML output: Discard all options for lwarp-microtype:

```

1 \LWR@ProvidesPackageDrop{microtype}[2018/01/14]

2 \DeclareDocumentCommand{\DeclareMicrotypeSet}{o m m}{}
3 \DeclareDocumentCommand{\UseMicrotypeSet}{o m}{}
4 \DeclareDocumentCommand{\DeclareMicrotypeSetDefault}{o m}{}
5 \DeclareDocumentCommand{\SetProtrusion}{o m m}{}
6 \DeclareDocumentCommand{\SetExpansion}{o m m}{}
7 \DeclareDocumentCommand{\SetTracking}{o m m}{}
8 \DeclareDocumentCommand{\SetExtraKerning}{o m m}{}
9 \DeclareDocumentCommand{\SetExtraSpacing}{o m m}{}
10 \DeclareDocumentCommand{\DisableLigatures}{o m}{}
11 \DeclareDocumentCommand{\DeclareCharacterInheritance}{o m m}{}
12 \DeclareDocumentCommand{\DeclareMicrotypeVariants}{m}{}
13 \DeclareDocumentCommand{\DeclareMicrotypeAlias}{m m}{}
14 \DeclareDocumentCommand{\LoadMicrotypeFile}{m}{}
15 \DeclareDocumentCommand{\DeclareMicrotypeBabelHook}{m m}{}
16 \DeclareDocumentCommand{\microtypesetup}{m}{}
17 \DeclareDocumentCommand{\microtypecontext}{m}{}
18 \DeclareDocumentCommand{\textmicrotypecontext}{m m}{#2}
19 \IfPackageLoadedTF{letterspace}{\let\MT@textls\relax}{%
20 \DeclareDocumentCommand{\lsstyle}{}{}
21 \DeclareDocumentCommand{\textls}{o +m}{}
22 \DeclareDocumentCommand{\lslig}{m}{#1}
23 }
24 \def\DeclareMicrotypeSet#1#{\@gobbletwo}
25 \def\DeclareMicrotypeVariants#1#{\@gobble}
26 \@onlypreamble\DeclareMicrotypeSet
27 \@onlypreamble\UseMicrotypeSet
28 \@onlypreamble\DeclareMicrotypeSetDefault
29 \@onlypreamble\DisableLigatures
30 \@onlypreamble\DeclareMicrotypeVariants
31 \@onlypreamble\DeclareMicrotypeBabelHook

```

File 307 **lwarp-midfloat.sty**

§ 419 Package **midfloat**

(Emulates or patches code by SIGITAS TOLUŠIS.)

midfloat (*Pkg*) midfloat is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{midfloat}[2012/05/29]

```

2 \newenvironment{strip}[1][{}]{
3 \newskip\stripsep

```

File 308 **lwarp-midpage.sty**

§ 420 Package **midpage**

midpage (*Pkg*) midpage is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{midpage}[2009/09/03]

```

2 \newenvironment{midpage}
3 {\begin{BlockClass}[%
4   \LWR@print@mbx{margin-top:6ex} ; \LWR@print@mbx{margin-bottom:6ex}%
5 ]{midpage}}
6 {\end{BlockClass}}

```

File 309 **lwarp-minibox.sty**

§ 421 Package **minibox**

(Emulates or patches code by WILL ROBERTSON.)

minibox (*Pkg*) minibox is patched for use by lwarp.

Due to HTML limitations regarding paragraphs and <div>s, miniboxes inline with other text will appear on their own line.

for HTML output: 1 \LWR@ProvidesPackagePass{minibox}[2013/06/21]

```

2 \ExplSyntaxOn
3 \newcommand\LWR@HTML@minibox[2][{}]{%
4   \LWR@stoppars%
5   \group_begin:
6   \keys_set:nn {minibox} {#1}
7   \bool_if:NTF \l_minibox_frame_bool
8   {
9     \setlength\fbxrule{\l_minibox_rule_dim}
10    \setlength\fbxsep{\l_minibox_pad_dim}
11    \fbxBlock{%
12      \begin{tabular}[\l_minibox_tabular_valign_tl]%
13        {\l_minibox_tabular_preamble_tl}
14        {#2}
15      \end{tabular}
16    }%
17  }
18  {
19    \begin{BlockClass}[display:inline-block]{minibox}
20    \begin{tabular}[\l_minibox_tabular_valign_tl]%
21      {\l_minibox_tabular_preamble_tl}
22      {#2}
23    \end{tabular}
24    \end{BlockClass}

```

```

25     }
26     \group_end:
27     \LWR@startpars%
28 }
29 \ExplSyntaxOff
30
31 \LWR@formatted{minibox}

```

File 310 **lwarp-minitoc.sty**

§ 422 Package **minitoc**

`minitoc (Pkg)` `minitoc` is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{minitoc}[2018/07/12]

`mtcoff` disables `minitoc`.


```
2 \usepackage{mtcoff}
```

File 311 **lwarp-minted.sty**

§ 423 Package **minted**

(Emulates or patches code by GEOFFREY M. POORE.)

`minted (Pkg)` `minted` is patched for use by `lwarp`.

 **limitations** `mathescape`, `texcomments`, and `highlightlines` are disabled. Line numbers on the right will not be aligned. Due to *pdftotext*, extra spaces may appear in broken lines if other formatting is included.

for HTML output: 1 \LWR@ProvidesPackagePass{minted}[2024/11/17]

Several options are forced, since they are unsupported by `lwarp`.

`mathescape` and `texcomments` are disabled because the result might not be linear characters, so might not be interpreted correctly by *pdftotext*, which is used by `lwarp` to convert from PDF output to HTML text.

`breaklines` is forced true to use the correctly functioning code in `fvextra`.

`highlightlines` is forced false because `fvextra` processes highlight lines one line at a time, and `minted` could add a large amount of formatting code, overflowing the line. When set false, `fvextra` can handle the line breaks which prevent line overflow.

`LWR@HTMLsanitize@tmpb@enable` is used to turn off HTML sanitization early in the verbatim conversion, otherwise `minted` would then colorize the sanitized results, breaking the HTML entities in `lwarp`'s HTML output.

```
2 \newcommand*\LWR@minted@forcekeys}{%
3   \pgfkeys{/minted/cmd/.cd,mathescape=false}%

```

```

4   \pgfkeys{/minted/cmd/.cd,texcomments=false}%
5   \pgfkeys{/minted/cmd/.cd,highlightlines=false}%
6   \pgfkeys{/minted/cmd/.cd,breaklines}%
7   \boolfalse{LWR@HTMLsanitize@tmpb@enable}% lwarp
8 }

```

Used by MintedVerbatim. Force breaklines.

```

9 \VerifyCommand[lwarp][minted]{\minted@highlight@i}{B3E47D0B3B8933CCB16FAB0735F408A8}
10
11 \xpretocmd{\minted@highlight@i}
12   {\fvset{breaklines}}
13   {}
14   {\LWR@patcherror{minted}{\minted@highlight@i}}

15 \VerifyCommand[lwarp][minted]{\RobustMintInlineProcess@verbatim}
16   {A6C5557F26D2A7E2C8DC542A2ABD892B}
17
18 \xpatchcmd{\RobustMintInlineProcess@verbatim}
19   {\edef\minted@lexer{#2}}
20   {%
21     \LWR@minted@forcekeys%   lwarp
22     \edef\minted@lexer{#2}%
23   }
24   {}
25   {\LWR@patcherror{minted}{RobustMintInlineProcess@verbatim}}
26
27
28 \VerifyCommand[lwarp][minted]{\RobustMintInlineProcess@highlight}
29   {6374066A5D0D1CF9636E667AAFAF81AB}
30
31 \xpatchcmd{\RobustMintInlineProcess@highlight}
32   {\edef\minted@lexer{#2}}
33   {%
34     \LWR@minted@forcekeys%   lwarp
35     \edef\minted@lexer{#2}%
36   }
37   {}
38   {\LWR@patcherror{minted}{RobustMintInlineProcess@highlight}}
39
40
41 \VerifyCommand[lwarp][minted]{\RobustMintProcess@verbatim}
42   {C1C8E870B5E8E3E8E572CA50ADF69953}
43
44 \xpatchcmd{\RobustMintProcess@verbatim}
45   {\edef\minted@lexer{#2}}
46   {%
47     \LWR@minted@forcekeys%   lwarp
48     \edef\minted@lexer{#2}%
49   }
50   {}
51   {\LWR@patcherror{minted}{RobustMintProcess@verbatim}}
52
53
54 \VerifyCommand[lwarp][minted]{\RobustMintProcess@highlight}
55   {D426304D27561EE1139B30E897A7C2CA}
56
57 \xpatchcmd{\RobustMintProcess@highlight}
58   {\edef\minted@lexer{#2}}
59   {%

```

```
60     \LWR@minted@forcekeys%    lwarp
61     \edef\minted@lexer{#2}%
62   }
63   {}
64   {\LWR@patcherror{minted}{RobustMintProcess@highlight}}
65
66
67 \VerifyCommand[lwarp][minted]{\MintedBegin@verbatim}
68   {B16E0A3A51DBF9F39609F2135572D7C2}
69
70 \xpatchcmd{\MintedBegin@verbatim}
71   {\edef\minted@lexer{#2}}
72   {%
73     \LWR@minted@forcekeys%    lwarp
74     \edef\minted@lexer{#2}%
75   }
76   {}
77   {\LWR@patcherror{minted}{MintedBegin@verbatim}}
78
79
80 \VerifyCommand[lwarp][minted]{\MintedBegin@highlight}
81   {A8C3A60BE3C6AF3A401071A9C5FE8B39}
82
83 \xpatchcmd{\MintedBegin@highlight}
84   {\edef\minted@lexer{#2}}
85   {%
86     \LWR@minted@forcekeys%    lwarp
87     \edef\minted@lexer{#2}%
88   }
89   {}
90   {\LWR@patcherror{minted}{MintedBegin@highlight}}
91
92 \ifbool{minted@placeholder}%
93   {\let\MintedBegin\MintedBegin@placeholder
94   \let\MintedEnd\MintedEnd@placeholder}%
95   {\ifbool{minted@verbatim}%
96     {\let\MintedBegin\MintedBegin@verbatim
97     \let\MintedEnd\MintedEnd@verbatim}%
98     {\let\MintedBegin\MintedBegin@highlight
99     \let\MintedEnd\MintedEnd@highlight}}
100
101
102 \VerifyCommand[lwarp][minted]{\RobustInputMintedProcess@verbatim}
103   {8B475FE3FD41C8026A8447C5C984AE9F}
104
105 \xpatchcmd{\RobustInputMintedProcess@verbatim}
106   {\edef\minted@lexer{#2}}
107   {%
108     \LWR@minted@forcekeys%    lwarp
109     \edef\minted@lexer{#2}%
110   }
111   {}
112   {\LWR@patcherror{minted}{RobustInputMintedProcess@verbatim}}
113
114
115 \VerifyCommand[lwarp][minted]{\RobustInputMintedProcess@highlight}
116   {A3D22F5B26557361E26D55FD0E8701CD}
117
118 \xpatchcmd{\RobustInputMintedProcess@highlight}
119   {\edef\minted@lexer{#2}}
```

```

120  {%
121      \LWR@minted@forcekeys%   lwarp
122      \edef\minted@lexer{#2}%
123  }
124  {}
125  {\LWR@patcherror{minted}{RobustInputMintedProcess@highlight}}

```

To add sanitization during the final output, adjust several characters to use HTML entities when loading the pygmentized results,

Not using `\VerifyCommand` here because this is a simple patch, not likely to be affected by other changes to the original.

```

126 \xpatchcmd{\minted@highlight@i}
127   {\input{\minted@highlightfilepath}}
128   {%
129       \LWR@minted@overrides%   lwarp
130       \input{\minted@highlightfilepath}%
131   }
132   {}
133   {\LWR@patcherror{minted}{minted@highlight@i}}
134
135 \xpatchcmd{\minted@highlight@create}
136   {\input{\minted@highlightfilepath}}
137   {%
138       \LWR@minted@overrides%   lwarp
139       \input{\minted@highlightfilepath}%
140   }
141   {}
142   {\LWR@patcherror{minted}{minted@highlight@create}}

```

These macros are used inside the `*.pygtext` files to format several individual characters. These are revised to use HTML entities. The backquote grave is not supported by pygments.

```

143 \newcommand*{\LWR@minted@overrides}{
144 \def\PYGZam{\char` \&}
145 \def\PYGZlt{\char` \&lt;}
146 \def\PYGZgt{\char` \&gt;}
147 \def\PYGZsq{\char` \&apos;}
148 }

```

File 312 **lwarp-mismath.sty**

§ 424 Package **mismath**

(Emulates or patches code by ANTOINE MISSIER.)

`mismath (Pkg)` `mismath` is patched for SVG math, and emulated for MATHJAX.

△ **MATHJAX** `\enumber`, `\inumber`, `\jnumber`, and `\pinumber` are ignored for MATHJAX, except that `\itpi` is made available as a clone of `\pi`.

`\MathUp`, `\MathIt`, `\MathNumbers`, and `\MathNormal` are ignored in MATHJAX.

For MATHJAX, `\boldvect` and `\arrowvect` are honored if in the preamble.

If `\boldvectcommand` is set to `\mathbf` in the preamble, it will be used for MATHJAX, otherwise it will default to `\mathit`. `\boldvectcommand` may also be set with `\CustomizeMathJax` in the preamble. See section 8.7.7. Note that as of this writing there is not a bold italic font across all MATHJAX fonts.

If `\probastyle` is set to `\mathbb` in the preamble, it will be used for MATHJAX, otherwise it will default to `\mathrm`. `\probastyle` may be set with `\CustomizeMathJax` in the preamble.

If `\mathset` is set to `\mathbb` in the preamble, it will be used for MATHJAX, otherwise it will default to `\mathbf`. `\mathset` may be set with `\CustomizeMathJax` in the preamble.

for HTML output: 1 \LWR@ProvidesPackagePass{mismath}[2023/02/24]

For MATHJAX, used in the HTML comment before the environment.

```
2 \ifbool{mathjax}{
3   \RenewEnviron{mathcols}{%
4     \preto\BODY{\begin{aligned}\displaystyle}
5     \appto\BODY{\end{aligned}}
6     \expandafter\(\\BODY\)
7   }
8}% mathjax
```

For SVG math. The `lateximage` restores the original definition of the math environment.

```
9}% svg
10 \renewenvironment{mathcols}{
11   \begin{lateximage}
12   \begin{math}
13   \begin{aligned}\displaystyle
14   }{
15   \end{aligned}%
16   \end{math}
17   \end{lateximage}
18 }
19}% svg
20
21 \renewcommand{\changepcol}{
22   \end{aligned} \quad
23   \begin{aligned}\displaystyle
24 }
25
26 \begin{warpMathJax}
27 \CustomizeMathJax{\newcommand{\mathup}[1]{\mathrm{#1}}}
28 \CustomizeMathJax{\newcommand{\e}{\mathrm{e}}}
29 \CustomizeMathJax{\newcommand{\i}{\mathrm{i}}}
30 \CustomizeMathJax{\newcommand{\j}{\mathrm{j}}}
31
32 \CustomizeMathJax{\let\mathbfsfit\mathbfit}% not sans
33 \CustomizeMathJax{\let\tensor\mathbfsfit}
34
35 \CustomizeMathJax{\newcommand{\boldvect}}{}
36 \CustomizeMathJax{\newcommand{\arrowvect}}{}
37 \CustomizeMathJax{\newcommand{\pinumber}[1][{}]}
38 \CustomizeMathJax{\newcommand{\hvect}[1]{\vec{\vphantom{h}#1}}}
39 \CustomizeMathJax{\newcommand{\hvec}[1]{\vec{\vphantom{t}#1}}}
```



```

100 \CustomizeMathJax{\newcommand{\Q}{\mathset{Q}}}
101 \CustomizeMathJax{\newcommand{\F}{\mathset{F}}}
102 \CustomizeMathJax{\newcommand{\K}{\mathset{K}}}
103
104 \CustomizeMathJax{\newcommand{\ds}{\displaystyle}}
105 \CustomizeMathJax{\newcommand{\dlim}{\lim\limits}}
106 \CustomizeMathJax{\newcommand{\dsum}{\sum\limits}}
107 \CustomizeMathJax{\newcommand{\dprod}{\prod\limits}}
108 \CustomizeMathJax{\newcommand{\dcup}{\bigcup\limits}}
109 \CustomizeMathJax{\newcommand{\dcap}{\bigcap\limits}}
110 \CustomizeMathJax{\newcommand{\lbar}{\overline}}
111 \CustomizeMathJax{\newcommand{\hlbar}[1]{\overline{\vphantom{h}#1}}}
112 \CustomizeMathJax{\newcommand{\LWReqdefstar}{\stackrel{\Delta}{=}}}
113 \CustomizeMathJax{\newcommand{\LWReqdefnstar}{\stackrel{\mathrm{def}}{=}}}
114 \CustomizeMathJax{\newcommand{\eqdef}{\ifstar\LWReqdefstar\LWReqdefnstar}}
115 \CustomizeMathJax{\newcommand{\unbr}{\underbrace}}
116 \CustomizeMathJax{\newcommand{\iif}{if and only if }}
117
118 \CustomizeMathJax{\newcommand{\mul}{\mathord{\times}}}
119 \CustomizeMathJax{\newcommand{\then}{\ \Longrightarrow \ \mbox{ } }}
120 \CustomizeMathJax{\newcommand{\txt}[1]{\quad\text{#1}\quad}}
121 \CustomizeMathJax{\newcommand{\pow}[2]{\left( #1\right)^{\!#2}}}}
122 \CustomizeMathJax{\newcommand{\abs}[1]{\left\vert\!#1\right\vert}}
123 \CustomizeMathJax{\newcommand{\lfrac}[2]{\frac{\!#1\!}{\!#2\!}}}
124
125 \CustomizeMathJax{\newenvironment{system}[1][L]%
126   {\left{\begin{array}{@{.15em}#1@{}}
127   {\end{array}}\right.}
128 }
129
130 \CustomizeMathJax{\newenvironment{spmatrix}
131   {\left{\begin{smallmatrix}
132   {\end{smallmatrix}}\right)}
133 }
134
135 \CustomizeMathJax{%
136   \newenvironment{mathcols}
137     {\begin{aligned}\displaystyle}
138     {\end{aligned}}
139 }
140 \CustomizeMathJax{\newcommand{\changeacol}{\end{aligned}\quad\begin{aligned}}}

```

User-adjustable settings, detected if in the preamble.

```

141 \AtBeginDocument{
142 \ifdef{\itpi}{
143   \CustomizeMathJax{\let\itpi\pi}
144 }{}
145 \ifdefstring{\boldvectcommand}{\mathbf}{
146   \CustomizeMathJax{\newcommand{\boldvectcommand}[1]{\mathbf{#1}}}
147 }{
148   \CustomizeMathJax{\newcommand{\boldvectcommand}[1]{\boldsymbol{#1}}}
149 }
150 \ifbool{arrowvect}{
151   \CustomizeMathJax{\newcommand{\vect}[1]{\overrightarrow{#1}}}
152 }{
153   \CustomizeMathJax{\newcommand{\vect}[1]{\boldvectcommand{#1}}}
154 }
155 \ifdefstring{\probastyle}{\mathbb}{
156   \CustomizeMathJax{\newcommand{\probastyle}[1]{\mathbb{#1}}}

```

```

157 }{
158   \CustomizeMathJax{\newcommand{\probastyle}[1]{\mathrm{#1}}}
159 }
160 \ifdefstring{\mathset}{\mathbb}{
161   \CustomizeMathJax{\newcommand{\mathset}[1]{\mathbb{#1}}}
162 }{
163   \CustomizeMathJax{\newcommand{\mathset}[1]{\mathbf{#1}}}
164 }
165 }
166 \end{warpMathJax}

```

File 313 **lwarp-mleftright.sty**

§ 425 Package **mleftright**

(Emulates or patches code by HEIKO OBERDIEK.)

`mleftright` (*Pkg*) `mleftright` is used as-is, and is emulated for MATHJAX.

for HTML output:

```

1 \LWR@ProvidesPackagePass{mleftright}[2019/12/03]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\mleft}{\left}}
4 \CustomizeMathJax{\newcommand{\mright}{\right}}
5 \CustomizeMathJax{\newcommand{\mleftright}{}}
6 \CustomizeMathJax{\newcommand{\mleftrightrestore}{}}
7 \end{warpMathJax}

```

File 314 **lwarp-morefloats.sty**

§ 426 Package **morefloats**

`morefloats` (*Pkg*) `morefloats` is ignored.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{morefloats}[2015/07/22]

```

File 315 **lwarp-moreverb.sty**

§ 427 Package **moreverb**

(Emulates or patches code by ROBIN FAIRBAIRNS.)

`moreverb` (*Pkg*) `moreverb` is supported with some patches.

```

1 \LWR@ProvidesPackagePass{moreverb}[2008/06/03]

2 \BeforeBeginEnvironment{verbatimtab}{%
3 \LWR@forcenewpage
4 \LWR@atbeginverbatim{Verbatim}%
5 }
6 \AfterEndEnvironment{verbatimtab}{%

```

```

7 \LWR@afterendverbatim%
8 }
9
10
11 \LetLtxMacro\LWRMV@orig@verbatimabinput\@verbatimabinput
12
13 \renewcommand{\@verbatimabinput}[2][]{%
14 \LWR@forcenewpage
15 \LWR@atbeginverbatim{Verbatim}%
16 \LWRMV@orig@verbatimabinput[#1]{#2}%
17 \LWR@afterendverbatim%
18 }
19
20 \BeforeBeginEnvironment{listing}{%
21 \LWR@forcenewpage
22 \LWR@atbeginverbatim{programlisting}%
23 }
24
25 \AfterEndEnvironment{listing}{%
26 \LWR@afterendverbatim%
27 }
28
29 \BeforeBeginEnvironment{listingcont}{%
30 \LWR@forcenewpage
31 \LWR@atbeginverbatim{programlisting}%
32 }
33
34 \AfterEndEnvironment{listingcont}{%
35 \LWR@afterendverbatim%
36 }

37 \LetLtxMacro\LWRMV@@listinginput\@listinginput
38
39 \renewcommand{\@listinginput}[3][]{
40 \LWR@forcenewpage
41 \LWR@atbeginverbatim{programlisting}%
42 \LWRMV@@listinginput[#1]{#2}{#3}%
43 \LWR@afterendverbatim%
44 }
45
46
47 \renewenvironment*{boxedverbatim}
48 {
49 \LWR@forcenewpage
50 \LWR@atbeginverbatim{boxedverbatim}%
51 \verbatim%
52 }
53 {
54 \endverbatim%
55 \LWR@afterendverbatim%
56 }

```

File 316 **lwarp-movie15.sty**

§ 428 Package **movie15**

`movie15 (Pkg)` **movie15** is emulated.

The packages `multimedia`, `movie15`, and `media9` are supported.

HTML5 `<audio>` and `<video>` objects are created for `.mp3` and `.mp4` files.

HTML5 `<embed>` objects are created for `http` and `ftp` links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For `media9`, a multimedia object is inserted for each `addressource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each HTML multimedia object includes the poster text, except for `<embed>` objects. For `movie15`, the `text` option is supported to specify the poster text.

The `width`, `height`, and `totalheight` options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

`media9 \addmediapath` is supported. It is assumed that the same path structure will exist for the HTML document.

HTML5 media controls are always specified for each `<audio>` and `<video>` object.

`media9` slideshows are not supported.

`\hyperlinkmovie`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a YouTube™ video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

for HTML output:

```

1 \LWR@ProvidesPackageDrop{movie15}[2012/05/16]
2 \LWR@origRequirePackage{lwarp-common-multimedia}
3
4 \RequirePackage{xkeyval}
5
6 \newcommand*\LWR@moviefifteen@text{}
7
8 \define@key{LWR@moviefifteen}{text}{\renewcommand{\LWR@moviefifteen@text}{#1}}
9
10 \newcommand*\LWR@includemovieb}[4][]{%
11   \renewcommand{\LWR@moviefifteen@text}{(multimedia)}
12   \setkeys{LWR@moviefifteen}{#1}%
13   \LWR@multimediab[#1,width=#2,height=#3]{\LWR@moviefifteen@text}{#4}%
14 }
15
16 \newrobustcmd*\includemovie{%
17   \begingroup%
18   \LWR@linkmediacatcodes%
19   \LWR@includemovieb%
20 }
```

```

21
22
23 \newcommand*{\movieref}[3][{}]{
24
25 \LetLtxMacro\movie\LWR@multimedia
26 % \LetLtxMacro\sound\LWR@multimedia% not in media15
27
28 \newcommand{\hyperlinkmovie}[3][{}]{

```

File 317 **lwarp-mparhack.sty**

§ 429 Package **mparhack**

`mparhack (Pkg)` `mparhack` is ignored.

for HTML output: Discard all options for `lwarp-mparhack`:

```
1 \LWR@ProvidesPackageDrop{mparhack}[2005/04/17]
```

File 318 **lwarp-multibib.sty**

§ 430 Package **multibib**

(Emulates or patches code by THORSTEN HANSEN.)

`multibib (Pkg)` `multibib` is patched for use by `lwarp`.

for HTML output: `1 \LWR@ProvidesPackagePass{multibib}[2008/12/10]`

```

2 \VerifyCommand[lwarp][multibib]{\newcites}{77893319F9935670F2FF2E524075CB71}
3
4 \xpatchcmd{\newcites}
5   {\@suffix}
6   {\@suffix_html}
7   {}
8   {\LWR@patcherror{multibib}{newcites}}

```

File 319 **lwarp-multicap.sty**

§ 431 Package **multicap**

`multicap (Pkg)` `multicap` is emulated.

for HTML output: `1 \LWR@ProvidesPackageDrop{multicap}[2002/05/04]`

```

2 \newcommand*{\mfcaption}{\captionof{figure}}
3 \newcommand*{\mtcaption}{\captionof{table}}
4 \newcounter{mcapsize}
5 \newcounter{mcapskip}
6 \newlength{\abvmcapskip}
7 \newlength{\blwmcapskip}

```

File 320 **lwarp-multicol.sty**

§ 432 Package **multicol**

(Emulates or patches code by FRANK MITTELBACH.)

multicol (*Pkg*) multicol is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{multicol}[2021/10/28]

Multicolns are converted into a 1–3 column display, browser-supported.

The optional multicolns heading is placed inside a <div> of class multicolnsheading.

The content is placed inside a <div> of class multicolns.

Env multicolns

* {<numcols>} [<heading>]

2 \NewDocumentEnvironment{multicolns}{s m o}

HTML <div> class to contain everything:

3 {

4 \LWR@forcenewpage

5 \BlockClass{multicolns}

Optional HTML <div> class for the heading:

6 \IfValueT{#3}{\begin{BlockClass}{multicolnsheading}#3\end{BlockClass}}%

Change \linewidth to compensate for expected size:

7 \setlength{\linewidth}{\linewidth/#2}

Locally force any minipages to be fullwidth:

8 \booltrue{LWR@forceminipagefullwidth}

9 }

When done with the environment, close the <div>:

10 {\endBlockClass}

Emulated null functions which are not used in HTML:

11 \newcommand*{\columnbreak}{}

12 \newcommand*{\newcolumn}{}

13 \newcommand*{\RLmulticolcolumns}{}

14 \newcommand*{\LRmulticolcolumns}{}
15

16 \newlength{\premulticolns}

17 \newlength{\postmulticolns}

18 \newlength{\multicolsep}

19 \newlength{\multicolbaselineskip}

20 \newlength{\multicoltolerance}

21 \newlength{\multicolpretolerance}

22 \newcommand*{\columnseprulecolor}{\normalcolor}

23 \newcounter{columnbadness}

24 \newcounter{finalcolumnbadness}

25 \newcounter{collectmore}

```

26 \newcounter{unbalance}
27 \newlength{\multicolovershoot}
28 \newlength{\multicolundershoot}

29 \NewDocumentCommand{\docolaction}{s o m m m}{%
30   \IfValueTF{#2}{#2}{#3}%
31 }

```

File 321 **lwarp-multicolrule.sty**

§ 433 Package **multicolrule**

`multicolrule` (*Pkg*) `multicolrule` is ignored.

for HTML output:

```

1 \RequirePackage{multicol}
2
3 \LWR@ProvidesPackageDrop{multicolrule}[2019/01/01]

4 \newcommand*{\SetMCRule}[1]{}
5 \NewDocumentCommand{\DeclareMCRulePattern}{m m}{}

```

File 322 **lwarp-multimedia.sty**

§ 434 Package **multimedia**

`multimedia` (*Pkg*) `multimedia` is emulated.

The packages `multimedia`, `movie15`, and `media9` are supported.

HTML5 `<audio>` and `<video>` objects are created for `.mp3` and `.mp4` files.

HTML5 `<embed>` objects are created for `http` and `ftp` links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For `media9`, a `multimedia` object is inserted for each `addressource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each HTML `multimedia` object includes the `poster` text, except for `<embed>` objects. For `movie15`, the `text` option is supported to specify the `poster` text.

The `width`, `height`, and `totalheight` options are supported. The HTML object is scaled according to the `display` width, correctly compensating for either tall or wide viewports.

Other options are ignored.

`media9 \addmediapath` is supported. It is assumed that the same path structure will exist for the HTML document.

HTML5 media controls are always specified for each `<audio>` and `<video>` object.

media9 slideshows are not supported.

`\hyperlinkmovie`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a YOUTUBE™ video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

for HTML output:

```

1 \LWR@ProvidesPackageDrop{multimedia}[2012/05/02]
2 \LWR@origRequirePackage{lwarp-common-multimedia}
3
4 \LetLtxMacro\movie\LWR@multimedia
5 \LetLtxMacro\sound\LWR@multimedia
6
7 \newcommand{\hyperlinkmovie}[3][{}]{
8
9 \newcommand{\hyperlinksound}[3][{}]{
10
11 \newcommand{\hyperlinkmute}
```

File 323 **lwarp-multiobjective.sty**

§ 435 Package **multiobjective**

(Emulates or patches code by LUIS MARTÍ.)

multiobjective (*Pkg*) **multiobjective** is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output:

```

1 \LWR@ProvidesPackagePass{multiobjective}[2008/08/19]
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\dom}{\prec}}
4 \CustomizeMathJax{\newcommand{\negdom}{\not\prec}}
5 \CustomizeMathJax{\newcommand{\weakdom}{\preccurlyeq}}
6 \CustomizeMathJax{\newcommand{\negweakdom}{\not\preccurlyeq}}
7 \CustomizeMathJax{\newcommand{\strictdom}{\mathord{\prec}\!\!\!\mathord{\prec}}}
8 \CustomizeMathJax{\newcommand{\negstrictdom}{\mathord{\not\prec}\!\!\!\mathord{\prec}}}
9 \CustomizeMathJax{\newcommand{\multepsiindom}{\preccurlyeq_{\epsilon\cdot}}}
10 \CustomizeMathJax{\newcommand{\addiepsiindom}{\preccurlyeq_{\epsilon +}}}
11 \CustomizeMathJax{\newcommand{\better}{\triangleleft}}
12 \CustomizeMathJax{\def\vec#1{%
13   \mathchoice
14     {\displaystyle\boldsymbol{#1}}%
15     {\textstyle\boldsymbol{#1}}%
16     {\scriptstyle\boldsymbol{#1}}%
17     {\scriptscriptstyle\boldsymbol{#1}}%
18 }}
19
20 \CustomizeMathJax{\newcommand{\set}[1]{%
21   \mathchoice
22     {\displaystyle\mathcal{#1}}%
23     {\textstyle\mathcal{#1}}%
24     {\scriptstyle\mathcal{#1}}%
25     {\scriptscriptstyle\mathcal{#1}}%
26 }}
```

```

23      {\textstyle\mathcal{#1}}}%
24      {\scriptstyle\mathcal{#1}}}%
25      {\scriptscriptstyle\mathcal{#1}}}%
26  }}
27  \CustomizeMathJax{\def\argmax{\mathop{\{\mathrm{arg}}\}, \max}}
28  \CustomizeMathJax{\def\argmin{\mathop{\{\mathrm{arg}}\}, \min}}
29  }}
30  \end{warpMathJax}

```

 File 324 **lwarp-multirow.sty**

 § 436 Package **multirow**

(Emulates or patches code by PIET VAN OOSTRUM, ØYSTEIN BACHE, JERRY LEICHTER.)

`multirow` (*Pkg*) `multirow` is emulated during HTML output, and used as-is while inside a `lateximage`.

`vposn` • Note that recent versions of `multirow` include a new optional `vposn` argument.

`multirow cells` • For `multirow`, insert `\mrowcell` into any empty multi-row cells. This will be a null function for the print output, and is a placeholder for parsing the table for HTML output. An error is generated if this is missed.

```

... & \multirow{2}{.5in}{text} & ...
... & \mrowcell & ...

```

`colored cells` • The `multirow` documentation regarding colored cells recommends using a negative number of rows. This will not work with `lwarp`, so `\warpprintonly` and `\warpHTMLonly` must be used to make versions for print and HTML.

with `\multicolumn` • See section 436.2 for `\multicolumnrow`.

⚠ `\multicolumn` & `\multirow` `lwarp` does not support directly combining `\multicolumn` and `\multirow`. Use `\multicolumnrow` instead. To create a 2 column, 3 row cell:

```
\multicolumnrow{2}{c}[c]{3}[0]{1in}[0pt]{Text}
```

The two arguments for `\multicolumn` come first, followed by the five arguments for `\multirow`, many of which are optional, followed by the contents.

⚠ `skipped cells` As per `\multirow`, skipped cells to the right of the `\multicolumnrow` statement are not included in the source code on the same line. On the following lines, `\mcolrowcell` must be used for each cell of each column and each row to be skipped. An error is generated if this is missed.

⚠ `empty cells`

```

... & \multicolumnrow{2}{c}[c]{3}[0]{1in}[0pt]{Text} & ...
... & \mcolrowcell & \mcolrowcell & ...
... & \mcolrowcell & \mcolrowcell & ...

```

⚠ `MathJax` • `MATHJAX` does not support `multirow`, so it is emulated to only print its text on the first row. `\multirow` works as expected in text `tabulars` or `svg math`.

In a `lateximage`, the print versions are restored.

See section 77.24 for the print-mode versions.

for HTML output: Remove the placeholder macro which was used if multirow was not loaded:

```
1 \LetLtxMacro\multirow\relax
2 \LWR@ProvidesPackagePass{multirow}[2021/03/15]
```

`\LWR@multirowborder` Set to left or right to create a thick border for the cell, for use by `bigdelim`:

```
3 \newcommand{\LWR@multirowborder}{}%
```

§ 436.1 **Multirow**

`\LWR@multirow@par`

`\par` inside a `\multirow`.

```
4 \newcommand*{\LWR@multirow@par}{%
5   \LWR@htmltag{br /}%
6 }%
```

`\multirow` [*1: vpos*] [*2: numrows*] [*3:bigstruts*] [*4: width*] [*5: vmove*] [*6: text*]

```
7 \NewDocumentCommand{\LWR@HTML@multirow}{O{c} m o m o +m}%
8 {%
9   \LWR@traceinfo{LWR@HTML@multirow #1 #2 #4}%
```

```
10   \booltrue{LWR@usedmultirow}%
```

```
11   \LWR@maybenewtablerow%
```

```
12   \LWR@tabularleftedge%
```

Print the start of a new table data cell:

```
13   \LWR@htmltag{%
14     td rowspan=\textquotedbl#2\textquotedbl \ %
```

A class adds the column spec and the rule:

```
15     class=\textquotedbl{}td%
```

Append this column's spec:

```
16     \LWR@getexparray{LWR@tablecolspec}{\arabic{LWR@tableLaTeXcolindex}}%
```

If this column has a `cmidrule`, add “rule” to the end of the HTML class tag. Also add the vertical bar class.

```
17     \LWR@addcmidruletrim%
18     \LWR@addleftmostbartag%
19     \LWR@printbartag{\arabic{LWR@tableLaTeXcolindex}}%
20     \textquotedbl%
```

```
21     \LWR@tdstartstyles%
```

The vertical alignment, if given:

```
22     \ifstrequal{#1}{c}{\LWR@tdaddstyle\LWR@print@mbbox{vertical-align:middle}}{}%
23     \ifstrequal{#1}{b}{\LWR@tdaddstyle\LWR@print@mbbox{vertical-align:bottom}}{}%
24     \ifstrequal{#1}{t}{\LWR@tdaddstyle\LWR@print@mbbox{vertical-align:top}}{}%
```

The left/right border, if given:

```

25     \ifdefvoid{\LWR@multirowborder}{}{%
26         \LWR@tdaddstyle%
27         \LWR@print@mbbox{border-\LWR@multirowborder:} 2px dotted black ; %
28         \LWR@print@mbbox{padding-\LWR@multirowborder:} 2px%
29     }%

```

Additional style elements:

```

30     \LWR@addcmidrulewidth%
31     \LWR@addcdashline%
32     \LWR@addtabularrulecolors%
33     \LWR@tdendstyles%
34 }%

```

The column's < spec:

```

35     \LWR@gettexpparray{\LWR@colbeforeSpec}{\arabic{\LWR@tableLaTeXcolindex}}%

```

While printing the text, redefine `\` to generate a new line. If a nested tabular occurs, `\` is redefined to `\LWR@tabularendofline` at the start of the tabular, then `\LWR@endofline` before again printing any `\multirow` contents inside the nested tabular.

`\par` is redefined to insert an HTML break, and if tabular is nested, it is redefined at the start of tabular.

```

36     \begingroup%
37         \LetLtxMacro{\}{\LWR@endofline}%
38         \booltrue{\LWR@in@multirow@par}%
39         #6%
40     \endgroup%
41     \LWR@stoppars%
42     \boolfalse{\LWR@intabularmetadata}%
43     \renewcommand{\LWR@multirowborder}{}%
44     \LWR@traceinfo{\LWR@HTML@multirow done}%
45 }%
46
47 \LWR@formatted{multirow}

```

§ 436.2 Combined multicolumn and multirow

```

\multicolumnrow {<1:cols>} {<2:halign>} [<3:vpos>] {<4:numrows>} [<5:bigstruts>] {<6:width>} [<7:fixup>]
{<8:text>}

```

`\IfPackageLoadedTF{multirow}` determines if v2.0 or later of `multirow` was used, which included the `\ProvidesPackage` macro.

The HTML version follows.

`\AtBeginDocument` because the print version had to see if `multirow` was loaded before determining how to define `\LWR@print@multicolumnrow`.

```

48 \AtBeginDocument{
49
50 \NewExpandableDocumentCommand{\LWR@HTML@multicolumnrow}{m m O{} m O{} m O{} +m}{%

```

```
51 \booltrue{LWR@usedmultirow}%
```

Figure out how many extra HTML columns to add for @ and ! columns:

```
52 \LWR@tabularhtmlcolumns{\arabic{LWR@tableLaTeXcolindex}}{#1}
```

Create the multicolumn/multirow tag, temporarily redefining the end of line. (Using a group caused problems with a nested tabular.)

```
53 \LetLtxMacro{\}\{LWR@endofline}%
54 \LWR@domulticolumn[#3][#4]{#1}{\arabic{LWR@tabhtmlcoltotal}}{#2}{#8}%
55 \LetLtxMacro{\}\{LWR@tabularendofline}%
```

Move to the next L^AT_EX column:

```
56 \defaddtocounter{LWR@tableLaTeXcolindex}{#1}%
57 \defaddtocounter{LWR@tableLaTeXcolindex}{-1}%
```

Skip any trailing @ or ! columns for this cell:

```
58 \booltrue{LWR@skipatbang}%
59 }
60
61 \LWR@expandableformatted{multicolumnrow}
62
63 }% \AtBeginDocument
```

For MATHJAX. Only the text is used. All other parameters are ignored.

```
64 \begin{warpMathJax}
65 % \multirow[vpos]{num}[bigstruts]{width}[vmove]{text}
66 \CustomizeMathJax{\newcommand{LWRsubmultirow}[2][]{#2}}
67 \CustomizeMathJax{\newcommand{LWRmultirow}[2][]{LWRsubmultirow}}
68 \CustomizeMathJax{\newcommand{multirow}[2][]{LWRmultirow}}
69 %
70 \CustomizeMathJax{\newcommand{mrowcell}{}{}}
71 \CustomizeMathJax{\newcommand{mcolrowcell}{}{}}
72 \CustomizeMathJax{\newcommand{STneed}[1]{}{}}
73 \end{warpMathJax}
```

File 325 **lwarp-multitoc.sty**

§ 437 Package **multitoc**

multitoc (*Pkg*) multitoc is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{multitoc}[1999/06/08]

```
2 \newcommand{\multicolumntoc}{2}
3 \newcommand{\multicolumnlot}{2}
4 \newcommand{\multicolumnlof}{2}
5 \newcommand*{\immediateaddtocontents}[2]{}{}
```

File 326 **lwarp-musicography.sty**

§ 438 Package **musicography**

(Emulates or patches code by ANDREW A. CASHNER.)

musicography (*Pkg*) musicography is patched for use by lwarp.

Images are used for the meter symbols and fingered bass, since the HTML fonts tend not to be the correct size and HTML cannot stack items. The HTML alt tag copies C and 3/2, etc. Hashes are used for the meter images, which are then reused as necessary.



Note that browser support for musical symbols may be buggy. ALT text and copy/paste into a text editor work well.

for HTML output:

```

1 \LWR@ProvidesPackagePass{musicography}[2023/09/08]
2 \NewDocumentCommand{\LWR@HTML@musSymbol}{ O{\musFont} m m m m }{%
3 \begin{lateximage}%
4 {#1\kern#2\raisebox{#3}{#5}\kern#4}%
5 \end{lateximage}%
6 }
7
8 \LWR@formatted{musSymbol}
9
10 \NewDocumentCommand{\LWR@HTML@musStemmedNote}{ m }{%
11 \begin{lateximage}%
12 \musSymbol{0.05em}{0.5ex}{0.2em}{#1\musStem}%
13 \end{lateximage}%
14 }
15
16 \LWR@formatted{musStemmedNote}
17
18 \NewDocumentCommand{\LWR@HTML@musFlaggedNote}{ m m }{%
19 \begin{lateximage}%
20 \musSymbol{0.05em}{0.5ex}{0pt}{#1\musStem}%
21 \musSymbol{0pt}{0pt}{0.9em}{#2}%
22 \end{lateximage}%
23 }
24
25 \LWR@formatted{musFlaggedNote}
26
27 \NewDocumentCommand{\LWR@HTML@musDottedNote}{ m }{%
28 \begin{lateximage}%
29 #1\musDot%
30 \end{lateximage}%
31 }
32
33 \LWR@formatted{musDottedNote}
34
35 \NewDocumentCommand{\LWR@HTML@musMeter}{ O{\musNumFont} m m }{%
36 \begin{lateximage}*[#2/#3]*[#1#2#3]%
37 \musStack{#2 #3}\kern0.05em%
38 \end{lateximage}%
39 }

```

```

40
41 \LWR@formatted{musMeter}
42
43 \NewDocumentCommand{\LWR@HTML@meterCplus}{ m }{%
44 \begin{lateximage}*[C#1]*?%
45   \meterC{\kern-0.7pt#1%
46 \end{lateximage}%
47 }
48
49 \LWR@formatted{meterCplus}
50
51 \NewDocumentCommand{\LWR@HTML@meterC}{ }{%
52 \begin{lateximage}*[C]*%
53 \musSymbolMeter{\symbol{83}}%
54 \end{lateximage}%
55 }
56
57 \LWR@formatted{meterC}
58
59 \NewDocumentCommand{\LWR@HTML@meterCutC}{ }{%
60 \begin{lateximage}*[C]*%
61 \musSymbolMeter{\symbol{82}}%
62 \end{lateximage}%
63 }
64
65 \LWR@formatted{meterCutC}
66
67 \NewDocumentCommand{\LWR@HTML@meterThree}{ }{%
68 \begin{lateximage}*[3]*%
69   {\musNumFont{3}}%
70 \end{lateximage}%
71 }
72
73 \LWR@formatted{meterThree}
74
75 \NewDocumentCommand{\LWR@HTML@meterThreeTwo}{ }{%
76 \begin{lateximage}*[3/2]*%
77   \raisebox{-0.26ex}{\musMeter{3}{2}}%
78 \end{lateximage}%
79 }
80
81 \LWR@formatted{meterThreeTwo}
82
83 \NewDocumentCommand{\LWR@HTML@meterCutCThree}{ }{%
84 \begin{lateximage}*[C3]*%
85   \meterCutCplus{\meterThree}%
86 \end{lateximage}%
87 }
88
89 \LWR@formatted{meterCutCThree}
90
91 \NewDocumentCommand{\LWR@HTML@meterCutCThreeTwo}{ }{%
92 \begin{lateximage}*[C|3/2]*%
93   \meterCutCplus{\meterThreeTwo}%
94 \end{lateximage}%
95 }
96
97 \LWR@formatted{meterCutCThreeTwo}
98
99 \NewDocumentCommand{\LWR@HTML@meterCThree}{ }{%

```

```

100 \begin{lateximage}*[C3]*%
101   \meterCplus{\meterThree}%
102 \end{lateximage}%
103 }
104
105 \LWR@formatted{meterCThree}
106
107
108 \NewDocumentCommand{\LWR@HTML@meterCThreeTwo}{}{}%
109 \begin{lateximage}*[C3/2]*%
110 \meterCplus{\musStack{3 2}}%
111 \end{lateximage}%
112 }
113
114 \LWR@formatted{meterCThreeTwo}
115
116 \NewDocumentCommand{\LWR@HTML@meterCZ}{}{}%
117 \begin{lateximage}*[CZ]*%
118   \meterCplus{\meterZsymbol}%
119 \end{lateximage}%
120 }
121
122 \LWR@formatted{meterCZ}
123
124 \NewDocumentCommand{\LWR@HTML@meterO}{}{\HTMLUnicode{25EF}}
125
126 \LWR@formatted{meterO}
127
128
129 \NewDocumentCommand{\LWR@HTML@noFig}{ O{5} }{}%
130 \newcommand*{\LWR@HTML@musFlat}      {\HTMLUnicode{266D}}
131 \newcommand*{\LWR@HTML@musDoubleFlat} {\HTMLUnicode{1D12B}}
132 \newcommand*{\LWR@HTML@musSharp}     {\HTMLUnicode{266F}}
133 \newcommand*{\LWR@HTML@musDoubleSharp} {\HTMLUnicode{1D12A}}
134 \newcommand*{\LWR@HTML@musNatural}   {\HTMLUnicode{266E}}
135
136 \LWR@formatted{noFig}
137 \LWR@formatted{musFlat}
138 \LWR@formatted{musDoubleFlat}
139 \LWR@formatted{musSharp}
140 \LWR@formatted{musDoubleSharp}
141 \LWR@formatted{musNatural}
142
143
144 \NewDocumentCommand{\LWR@HTML@musFig}{ O{r} m }{}%
145 \begin{lateximage}*[%
146   {% ALT text for copy/paste
147     \RenewDocumentCommand{\noFig}{O{5}}{\LWR@HTML@noFig}%
148     \RenewDocumentCommand{\musSharp}{}{\LWR@HTML@musSharp}%
149     \RenewDocumentCommand{\musDoubleSharp}{}{\LWR@HTML@musDoubleSharp}%
150     \RenewDocumentCommand{\musFlat}{}{\LWR@HTML@musFlat}%
151     \RenewDocumentCommand{\musDoubleFlat}{}{\LWR@HTML@musDoubleFlat}%
152     \RenewDocumentCommand{\musNatural}{}{\LWR@HTML@musNatural}%
153     {#2}% braces here because \noFig uses []
154   }%
155 ]*?%
156   {\musFigSize\musStack[\musFigFont]{#2}[#1]}%
157 \end{lateximage}%
158 }
159

```



```

160 \LWR@formatted{musFig}
161
162
163 \NewDocumentCommand{\LWR@HTML@musWhole}      {}{\HTMLUnicode{1D15D}}
164 \NewDocumentCommand{\LWR@HTML@musHalf}       {}{\HTMLUnicode{1D15E}}
165 \NewDocumentCommand{\LWR@HTML@musQuarter}    {}{\HTMLUnicode{1D15F}}
166 \NewDocumentCommand{\LWR@HTML@musEighth}     {}{\HTMLUnicode{1D160}}
167 \NewDocumentCommand{\LWR@HTML@musSixteenth}  {}{\HTMLUnicode{1D161}}
168 \NewDocumentCommand{\LWR@HTML@musThirtySecond} {}{\HTMLUnicode{1D162}}
169 \NewDocumentCommand{\LWR@HTML@musSixtyFourth} {}{\HTMLUnicode{1D163}}
170
171 \LWR@formatted{musWhole}
172 \LWR@formatted{musHalf}
173 \LWR@formatted{musQuarter}
174 \LWR@formatted{musEighth}
175 \LWR@formatted{musSixteenth}
176 \LWR@formatted{musThirtySecond}
177 \LWR@formatted{musSixtyFourth}
178
179 \NewDocumentCommand{\LWR@HTML@musWholeDotted}{}
180   {\HTMLUnicode{1D15D}\HTMLUnicode{1D16D}}
181 \NewDocumentCommand{\LWR@HTML@musHalfDotted}{}
182   {\HTMLUnicode{1D15E}\HTMLUnicode{1D16D}}
183 \NewDocumentCommand{\LWR@HTML@musQuarterDotted}{}
184   {\HTMLUnicode{1D15F}\HTMLUnicode{1D16D}}
185 \NewDocumentCommand{\LWR@HTML@musEighthDotted}{}
186   {\HTMLUnicode{1D160}\HTMLUnicode{1D16D}}
187 \NewDocumentCommand{\LWR@HTML@musSixteenthDotted}{}
188   {\HTMLUnicode{1D161}\HTMLUnicode{1D16D}}
189 \NewDocumentCommand{\LWR@HTML@musThirtySecondDotted}{}
190   {\HTMLUnicode{1D162}\HTMLUnicode{1D16D}}
191 \NewDocumentCommand{\LWR@HTML@musSixtyFourthDotted}{}
192   {\HTMLUnicode{1D163}\HTMLUnicode{1D16D}}
193
194 \LWR@formatted{musWholeDotted}
195 \LWR@formatted{musHalfDotted}
196 \LWR@formatted{musQuarterDotted}
197 \LWR@formatted{musEighthDotted}
198 \LWR@formatted{musSixteenthDotted}
199 \LWR@formatted{musThirtySecondDotted}
200 \LWR@formatted{musSixtyFourthDotted}

```

File 327 **lwarp-mwe.sty**

§ 439 Package **mwe**

(Emulates or patches code by MARTIN SCHARRER.)

mwe (*Pkg*) **mwe** is used as-is, but a warning is issued to copy the images to the local directory.

for HTML output:

```

1 \LWR@ProvidesPackagePass{mwe}[2018/03/30]
2 \AtEndDocument{%
3   \PackageWarningNoLine{lwarp}{%
4     For package mwe, copy any mwe images to be used for\MessageBreak
5     HTML, such as PNG or JPG, to the document's base\MessageBreak
6     directory. Neither a subdirectory nor the mwe\MessageBreak

```

```

7     directory will work, due to the TeX file search\MessageBreak
8     algorithm%
9     }%
10 }%

```

File 328 **lwarp-nameauth.sty**

§ 440 Package **nameauth**

(Emulates or patches code by CHARLES P. SCHAUM.)

nameauth (*Pkg*) nameauth is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{nameauth}[2023/02/03]

\@nameauth@Hook (*Hook*) lwarp formatting is inserted.

[nameauth]

```

2 \VerifyCommand[lwarp][nameauth]{\@nameauth@Hook}{E665BBD1C138AA37AF2AF5E3C3565584}
3
4 \renewcommand*\@nameauth@Hook[1]
5 {%
6   \ifdefined\@nameauth@InParser
7     \@nameauth@InHooktrue%
8     \protected@edef\test{#1}%
9     \expandafter\@nameauth@TestDot\expandafter{\test}%
10    \if@nameauth@MainFormat
11      \if@nameauth@FirstFormat
12        \bgroup\NamesFormat{%
13          \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}%   lwarp
14        }\egroup%
15      \else
16        \bgroup\MainNameHook{%
17          \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}%   lwarp
18        }\egroup%
19      \fi
20    \else
21      \if@nameauth@FirstFormat
22        \bgroup\FrontNamesFormat{%
23          \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}%   lwarp
24        }\egroup%
25      \else
26        \bgroup\FrontNameHook{%
27          \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}%   lwarp
28        }\egroup%
29      \fi
30    \fi
31  \fi
32 }

```

File 329 **lwarp-nameref.sty**

§ 441 Package **nameref**

nameref (*Pkg*) nameref is nullified here, then emulated by lwarp.

for HTML output: Discard all options for `lwarp-nameref`:

```
1 \LWR@ProvidesPackageDrop{nameref}[2023-08-07]
```

File 330 **lwarp-natbib.sty**

§ 442 Package **natbib**

(Emulates or patches code by PATRICK W. DALY.)

`natbib (Pkg)` `natbib` is patched for use by `lwarp`.

for HTML output: `1 \LWR@ProvidesPackagePass{natbib}[2010/09/13]`

Replace `math <` and `>` with `\textless` and `\textgreater`:

A macro to compare:

```
2 \newcommand{\LWRNB@NAT@open}{$<$}
```

To patch `\NAT@open` and `\NAT@close`

```
3 \newcommand{\LWRNB@patchnatbibopenclose}{
4 \ifdefstrequal{\NAT@open}{\LWRNB@NAT@open}
5 {
6   \renewcommand{\NAT@open}{\textless}
7   \renewcommand{\NAT@close}{\textgreater}
8 }{ }
9 }
```

Do it now in case `angle` was selected as an option:

```
10 \LWRNB@patchnatbibopenclose
```

Also patch `\setcitestyle` to patch after settings are made:

```
11 \let\LWRNB@origsetcitestyle\setcitestyle
12
13 \renewcommand{\setcitestyle}[1]{%
14 \LWRNB@origsetcitestyle{#1}%
15 \LWRNB@patchnatbibopenclose%
16 }
```

Synchronize the autopage labels:

```
17 \xpretocmd{\NAT@reset@parser}
18   {\LWR@newautopagelabel{page}}%
19   {}
20   {\LWR@patcherror{natbib}{\NAT@reset@parser}}
```

File 331 **lwarp-nccfancyhdr.sty**

§ 443 Package **nccfancyhdr**

(Emulates or patches code by ALEXANDER I. ROZHENKO.)

nccfancyhdr (*Pkg*) nccfancyhdr is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{nccfancyhdr}[2004/12/07]

```

2 \newcommand*\headrulewidth{}
3 \newcommand*\footrulewidth{}
4 \newcommand{\headstrutheight}{}
5 \newcommand{\footstrutheight}{}
6 \newcommand*\headrule{}
7 \newcommand*\footrule{}
8
9 \newdimen\headwidth
10 \newcommand*\extendedheaders{}
11 \newcommand*\normalheaders{}
12
13 \newcommand*\fancyhead[2]{}
14 \newcommand*\fancyfoot[2]{}
15 \newcommand*\fancyhf[2]{}
16 \newcommand*\fancypagestyle[2]{}
17 \newcommand*\lhead[2]{}
18 \newcommand*\chead[2]{}
19 \newcommand*\rhead[2]{}
20 \newcommand*\lfoot[2]{}
21 \newcommand*\cfoot[2]{}
22 \newcommand*\rfoot[2]{}
23
24 \newcommand{\nouppercase}[1]{#1}
25
26 \NewDocumentCommand{\fancycenter}{o o m m}{}
27
28 \NewDocumentCommand{\newpagestyle}{m o m}{}
29
30 \newcommand*\iffloatpage[2]{#2}
31 \newcommand*\ifftopfloat[2]{#2}
32 \newcommand*\iffbotfloat[2]{#2}

```

File 332 **lwarp-nccfoots.sty**

§ 444 Package **nccfoots**

(Emulates or patches code by ALEXANDER I. ROZHENKO.)

nccfoots (*Pkg*) nccfoots is used as-is, and emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{nccfoots}[2005/02/03]

To nullify the footnotes where necessary:

```

2 \apptocmd{\LWR@nullifyfootnotes}{%
3   \renewcommand*\Footnote[1]{}%
4   \renewcommand*\Footnotemark[1]{}%
5 }{}{}

```



For MATHJAX. There is no way to test for an empty argument, so the mark is not automatically duplicated.

```

6 \begin{warpMathJax}
7 \CustomizeMathJax{\newcommand{\Footnotemark}[1]{\{}^{\mathrm{#1}}\}}
8 \CustomizeMathJax{\newcommand{\Footnote}[2]{\Footnotemark{#1}}}
9 \end{warpMathJax}

```

File 333 **lwarp-nccmath.sty**

§ 445 Package **nccmath**

(Emulates or patches code by ALEXANDER I. ROZHENKO.)

nccmath (*Pkg*) nccmath is patched for use by lwarp, and emulated for MATHJAX.

for HTML output:

```

1 \LWR@ProvidesPackagePass{nccmath}[2006/01/20]

2 \let\LWR@origeqnarray\eqnarray
3 \let\LWR@origendeqnarray\endeqnarray
4
5 \csletcs{LWR@origeqnarraystar}{eqnarray*}
6 \csletcs{LWR@origendeqnarraystar}{endeqnarray*}
7
8 \RenewEnviron{eqnarray}
9 {%
10
11   \LWR@eqnarrayfactor
12
13 }
14
15 \RenewEnviron{eqnarray*}
16 {%
17
18   \begingroup
19   \csletcs{LWR@origeqnarray}{LWR@origeqnarraystar}
20   \csletcs{LWR@origendeqnarray}{LWR@origendeqnarraystar}
21   \boolfalse{LWR@numbereqnarray}
22   \LWR@eqnarrayfactor
23   \endgroup
24
25 }
26
27 \def\eqs{%
28   \@ifstar\LWR@nccmath@eqsstar\LWR@nccmath@eqs%
29 }
30 \newcommand*{\LWR@nccmath@eqsstar}[2][\begin{eqnarray*}#2\end{eqnarray*}]
31 \newcommand*{\LWR@nccmath@eqs}[2][\begin{eqnarray}#2\end{eqnarray}]
32
33 \begin{warpMathJax}

34 \CustomizeMathJax{\renewcommand{\intertext}[2][\text{#2}\notag \]}
35 \CustomizeMathJax{\newenvironment{fleqn}[1][\]}
36 \CustomizeMathJax{\newenvironment{ceqn}[\]}
37 \CustomizeMathJax{\newenvironment{darray}[2][c]{\begin{array}[#1][#2]{\end{array}}}
38 \CustomizeMathJax{\newcommand{\dmulticolumn}[3]{#3}}

```

As of v0.86, MATHJAX v3 does not offer `*`, so the unstarred version is used here.

```

39 \CustomizeMathJax{\newcommand{\LWRnrnstar}[1][0.5ex]{\[#1]}

```

```

40 \CustomizeMathJax{\newcommand{\nr}{\ifstar\LWRnrnstar\LWRnrnstar}}
41
42 \CustomizeMathJax{\newcommand{\mrel}[1]{\begin{aligned}#1\end{aligned}}}
43 \CustomizeMathJax{\newcommand{\underrel}[2]{\underset{#2}{#1}}}
44 \CustomizeMathJax{\newcommand{\medmath}[1]{#1}}
45 \CustomizeMathJax{\newcommand{\medop}[1]{#1}}
46 \CustomizeMathJax{\newcommand{\medint}[1]{#1}}
47 \CustomizeMathJax{\newcommand{\medintcorr}[1]{#1}}
48 \CustomizeMathJax{\newcommand{\mfrac}[2]{\frac{#1}{#2}}}
49 \CustomizeMathJax{\newcommand{\mbinom}[2]{\binom{#1}{#2}}}
50 \CustomizeMathJax{\newenvironment{mmatrix}{\begin{matrix}}{\end{matrix}}}

51 \CustomizeMathJax{\newcommand{\displaybreak}[1][{}]}

\eq, \eqs, \eqalign are created by LATEX, not MATHJAX.

52 \end{warpMathJax}

```

File 334 **lwarp-needspace.sty**

§ 446 Package **needspace**

(Emulates or patches code by PETER WILSON.)

needspace (*Pkg*) needspace is ignored.

for HTML output: Discard all options for lwarp-needspace:

```

1 \LWR@ProvidesPackageDrop{needspace}[2010/09/12]
2
3 \DeclareDocumentCommand{\needspace}{m}{}
4 \DeclareDocumentCommand{\Needspace}{s m}{}


```

File 335 **lwarp-newpxmath.sty**

§ 447 Package **newpxmath**

(Emulates or patches code by MICHAEL SHARPE.)

newpxmath (*Pkg*) newpxmath is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except slantedGreek is honored. The dedicated macros for upright and italic Greek do work correctly.

SVG math should appear the same as the printed output.

for HTML output: The MATHJAX code from newtxmath is used:

```

1 \LWR@ProvidesPackagePass{newpxmath}[2020/01/09]
2
3 \LWR@infoprocessingmathjax{newpxmath}
4
5 \LWR@origRequirePackage{lwarp-common-mathjax-newpixmap}
6

```

```

7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 % * \marg{2: prefix} \marg{3: postfix} \marg{4: i/u: italic/upright}
12 \LWR@mathjax@addgreek@u@up*{}{up}
13 \LWR@mathjax@addgreek@u@up*{}{}
14 \LWR@mathjax@addgreek@l@up{}{up}
15 \LWR@mathjax@addgreek@l@up{}{}
16 \LWR@mathjax@addgreek@u@it*{}{it}
17 \LWR@mathjax@addgreek@l@it{}{it}

```

Optional slanted Greek:

```

18 \ifpx@slantedG
19   \LWR@mathjax@addgreek@u@it*{}{}
20 \fi
21
22 \end{warpMathJax}


```

File 336 **lwarp-newtxmath.sty**

§ 448 Package **newtxmath**

(Emulates or patches code by MICHAEL SHARPE.)

`newtxmath` (*Pkg*) `newtxmath` is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except `slantedGreek` is honored, and except that bold italic Latin letters are not defined for MATHJAX if the option is not selected.

The dedicated macros for upright and italic Greek and bold italic Latin letters do work correctly.

SVG math should appear the same as the printed output.

for HTML output:

```

1 \LWR@ProvidesPackagePass{newtxmath}[2020/08/04]
2
3 \LWR@infoprocessingmathjax{newtxmath}
4
5 \LWR@origRequirePackage{lwarp-common-mathjax-newpctxmath}
6
7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 % * \marg{2: prefix} \marg{3: postfix} \marg{4: i/u: italic/upright}
12 \LWR@mathjax@addgreek@u@up*{}{up}
13 \LWR@mathjax@addgreek@u@up*{}{}
14 \LWR@mathjax@addgreek@l@up{}{up}
15 \LWR@mathjax@addgreek@l@up{}{}
16 \LWR@mathjax@addgreek@u@it*{}{it}
17 \LWR@mathjax@addgreek@l@it{}{it}
18
19 % only newtxmath, not newpctxmath:
20 \LWR@mathjax@addgreek@u@it*{}{}

```

```

21 \LWR@mathjax@addgreek@l@it{it}{ }
22
23 % only newtxmath, not newpxmath:
24 \ifdef{\iftx@BI}{
25   \iftx@BI
26     \LWR@mathjax@addlatin@u@bfit{BI}
27     \LWR@mathjax@addlatin@l@bfit{BI}
28   \fi
29 }{ }

```

Optional slanted Greek:

```

30 \iftx@slantedG
31   \LWR@mathjax@addgreek@u@it*{ }{ }
32 \fi
33
34 \end{warpMathJax}


```

File 337 **lwarp-newtxsf.sty**

§ 449 Package **newtxsf**

(Emulates or patches code by MICHAEL SHARPE.)

newtxsf (*Pkg*) newtxsf is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except `slantedGreek` is honored. The dedicated macros for upright and italic Greek and bold italic Latin letters do work correctly.

SVG math should appear the same as the printed output.

for HTML output:

```

1 \LWR@ProvidesPackagePass{newtxsf}[2020/05/02]
2
3 \LWR@infoprocessingmathjax{newtxsf}
4
5 \LWR@origRequirePackage{lwarp-common-mathjax-newpixmap}
6
7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 % * \marg{2: prefix} \marg{3: postfix} \marg{4: i/u: italic/upright}
12 \LWR@mathjax@addgreek@u@up*{ }{up}
13 \LWR@mathjax@addgreek@u@up*{up}{ }
14 \LWR@mathjax@addgreek@l@up{ }{ }
15 \LWR@mathjax@addgreek@l@up{ }{up}
16 \LWR@mathjax@addgreek@u@it*{it}{ }
17 \LWR@mathjax@addgreek@l@it{ }{it}
18
19 % only newtxmath, not newpxmath:
20 \LWR@mathjax@addgreek@u@it*{it}{ }
21 \LWR@mathjax@addgreek@l@it{it}{ }
22 %
23 % only newtxmath, not newpxmath:
24 \ifdef{\iftx@BI}{
25   \iftx@BI

```



```

26      \LWR@mathjax@addlatin@u@bfit{BI}
27      \LWR@mathjax@addlatin@l@bfit{BI}
28      \fi
29 }{}

```

Optional slanted Greek:

```

30 \iftx@slantedG
31   \LWR@mathjax@addgreek@u@it*{}{}
32 \fi
33
34 \end{warpMathJax}

```

File 338 **lwarp-nextpage.sty**

§ 450 Package **nextpage**

(Emulates or patches code by PETER WILSON.)

nextpage (*Pkg*) nextpage is ignored.

for HTML output: Discard all options for lwarp-nextpage.

```

1 \LWR@ProvidesPackageDrop{nextpage}[2009/09/03]

2 \DeclareDocumentCommand{\cleartoevenpage}{o}{}
3 \DeclareDocumentCommand{\movetoevenpage}{o}{}
4 \DeclareDocumentCommand{\cleartooddpage}{o}{}
5 \DeclareDocumentCommand{\movetooddpage}{o}{}

```

File 339 **lwarp-nfssext-cfr.sty**

§ 451 Package **nfssext-cfr**

(Emulates or patches code by CLEA F. REES.)

nfssext-cfr (*Pkg*) nfssext-cfr is emulated in HTML, and used as-is in print output.

Results depend on the browser's font.

for HTML output: 1 \LWR@ProvidesPackagePass{nfssext-cfr}[2017/03/28]

Macros which are present in the lwarp core are commented out here.

```

2 \newrobustcmd{\LWR@HTML@lnstyle}{}
3 \newrobustcmd{\LWR@HTML@osstyle}{\LWR@HTML@scshape}
4 \newrobustcmd{\LWR@HTML@instyle}{}
5 \newrobustcmd{\LWR@HTML@sustyle}{}
6 \newrobustcmd{\LWR@HTML@swstyle}{}
7 \newrobustcmd{\LWR@HTML@pstyle}{}
8 \newrobustcmd{\LWR@HTML@tistyle}{}
9 \newrobustcmd{\LWR@HTML@ostyle}{\LWR@HTML@scshape}
10 \newrobustcmd{\LWR@HTML@postyle}{\LWR@HTML@scshape}
11 \newrobustcmd{\LWR@HTML@ltstyle}{}

```

```

12 \newrobustcmd{\LWR@HTML@ofstyle}{}
13 \newrobustcmd{\LWR@HTML@altstyle}{}
14 \newrobustcmd{\LWR@HTML@regstyle}{}
15 \newrobustcmd{\LWR@HTML@embosstyle}{}
16 \newrobustcmd{\LWR@HTML@ornamentalstyle}{}
17 \newrobustcmd{\LWR@HTML@qtstyle}{}
18 \newrobustcmd{\LWR@HTML@shstyle}{}
19 \newrobustcmd{\LWR@HTML@swashstyle}{}
20 \newrobustcmd{\LWR@HTML@tmstyle}{\renewcommand*{\LWR@f@family}{tt}}
21 \newrobustcmd{\LWR@HTML@tvstyle}{\renewcommand*{\LWR@f@family}{tt}}
22 \newrobustcmd{\LWR@HTML@tstyle}{}
23 \newrobustcmd{\LWR@HTML@lstyle}{}
24 \newrobustcmd{\LWR@HTML@tlstyle}{}
25 \newrobustcmd{\LWR@HTML@plstyle}{}
26 \newrobustcmd{\LWR@HTML@tostyle}{\LWR@HTML@escshape}
27 % \newrobustcmd{\LWR@HTML@sihape}{}
28 \newrobustcmd{\LWR@HTML@olshape}{}
29 \newrobustcmd{\LWR@HTML@scolshape}{}
30 \newrobustcmd{\LWR@HTML@ushape}{}
31 \newrobustcmd{\LWR@HTML@scushape}{}
32 \newrobustcmd{\LWR@HTML@uihape}{\LWR@HTML@itshape}
33 \newrobustcmd{\LWR@HTML@rihape}{}
34 \newrobustcmd{\LWR@HTML@regwidth}{}
35 \newrobustcmd{\LWR@HTML@nwidth}{}
36 \newrobustcmd{\LWR@HTML@cdwidth}{}
37 \newrobustcmd{\LWR@HTML@ecwidth}{}
38 \newrobustcmd{\LWR@HTML@ucwidth}{}
39 \newrobustcmd{\LWR@HTML@etwidth}{}
40 \newrobustcmd{\LWR@HTML@epwidth}{}
41 \newrobustcmd{\LWR@HTML@exwidth}{}
42 \newrobustcmd{\LWR@HTML@uxwidth}{}
43 \newrobustcmd{\LWR@HTML@mbweight}{\renewcommand*{\LWR@f@series}{md}}
44 \newrobustcmd{\LWR@HTML@dbweight}{\renewcommand*{\LWR@f@series}{db}}
45 \newrobustcmd{\LWR@HTML@sbweight}{\renewcommand*{\LWR@f@series}{sb}}
46 % \newrobustcmd{\LWR@HTML@ebweight}{\renewcommand*{\LWR@f@series}{eb}}
47 \newrobustcmd{\LWR@HTML@ubweight}{\renewcommand*{\LWR@f@series}{ub}}
48 % \newrobustcmd{\LWR@HTML@lgweight}{\renewcommand*{\LWR@f@series}{lg}}
49 \newrobustcmd{\LWR@HTML@elweight}{\renewcommand*{\LWR@f@series}{el}}
50 \newrobustcmd{\LWR@HTML@ulweight}{\renewcommand*{\LWR@f@series}{ul}}
51 % \newrobustcmd{\LWR@HTML@itshape}{}
52 % \newrobustcmd{\LWR@HTML@scshape}{}
53 % \newrobustcmd{\LWR@HTML@upshape}{}
54 \newrobustcmd{\LWR@HTML@dfshape}{}
55
56 \ifdef{\LWR@HTML@swshape}{}{% duplicated by fontaxes
57   \newrobustcmd{\LWR@HTML@swshape}{}
58 }
59
60 \newrobustcmd{\LWR@HTML@ornament}[1]{}
61
62 \LWR@formatted{lnstyle}
63 \LWR@formatted{osstyle}
64 \LWR@formatted{instyle}
65 \LWR@formatted{sustyle}
66 \LWR@formatted{swstyle}
67 \LWR@formatted{pstyle}
68 \LWR@formatted{tistyle}
69 \LWR@formatted{ostyle}
70 \LWR@formatted{postyle}
71 \LWR@formatted{ltstyle}

```

```
72 \LWR@formatted{ofstyle}
73 \LWR@formatted{altstyle}
74 \LWR@formatted{regstyle}
75 \LWR@formatted{embossstyle}
76 \LWR@formatted{ornamentalstyle}
77 \LWR@formatted{qtstyle}
78 \LWR@formatted{shstyle}
79 \LWR@formatted{swashstyle}
80 \LWR@formatted{tmstyle}
81 \LWR@formatted{tvstyle}
82 \LWR@formatted{tstyle}
83 \LWR@formatted{lstyle}
84 \LWR@formatted{tlstyle}
85 \LWR@formatted{plstyle}
86 \LWR@formatted{tostyle}
87 % \LWR@formatted{sisshape}
88 \LWR@formatted{olshape}
89 \LWR@formatted{scolshape}
90 \LWR@formatted{ushape}
91 \LWR@formatted{scushape}
92 \LWR@formatted{uishape}
93 \LWR@formatted{rishape}
94 \LWR@formatted{regwidth}
95 \LWR@formatted{nwwidth}
96 \LWR@formatted{cdwidth}
97 \LWR@formatted{ecwidth}
98 \LWR@formatted{ucwidth}
99 \LWR@formatted{etwidth}
100 \LWR@formatted{epwidth}
101 \LWR@formatted{exwidth}
102 \LWR@formatted{uxwidth}
103 \LWR@formatted{mbweight}
104 \LWR@formatted{dbweight}
105 \LWR@formatted{sbweight}
106 % \LWR@formatted{ebweight}
107 \LWR@formatted{ubweight}
108 % \LWR@formatted{lgweight}
109 \LWR@formatted{elweight}
110 \LWR@formatted{ulweight}
111 \LWR@formatted{itshape}% adapt to the new print version
112 \LWR@formatted{scshape}% adapt to the new print version
113 \LWR@formatted{upshape}% adapt to the new print version
114 \LWR@formatted{dfshape}
115
116 \ifdef{\LWR@HTML@swshape}{ }{% duplicated by fontaxes
117   \LWR@formatted{swshape}
118 }
119
120 \LWR@formatted{ornament}

121 \FilenameNullify{%
122   \LetLtxMacro\lnstyle\@empty%
123   \LetLtxMacro\osstyle\@empty%
124   \LetLtxMacro\instyle\@empty%
125   \LetLtxMacro\sustyle\@empty%
126   \LetLtxMacro\swstyle\@empty%
127   \LetLtxMacro\pstyle\@empty%
128   \LetLtxMacro\tistyle\@empty%
129   \LetLtxMacro\ostyle\@empty%
130   \LetLtxMacro\postyle\@empty%
```

```

131 \LetLtxMacro\ltstyle\@empty%
132 \LetLtxMacro\ofstyle\@empty%
133 \LetLtxMacro\altstyle\@empty%
134 \LetLtxMacro\regstyle\@empty%
135 \LetLtxMacro\embossstyle\@empty%
136 \LetLtxMacro\ornamentalstyle\@empty%
137 \LetLtxMacro\qtstyle\@empty%
138 \LetLtxMacro\shstyle\@empty%
139 \LetLtxMacro\swashstyle\@empty%
140 \LetLtxMacro\tmstyle\@empty%
141 \LetLtxMacro\tvstyle\@empty%
142 \LetLtxMacro\tsstyle\@empty%
143 \LetLtxMacro\lstyle\@empty%
144 \LetLtxMacro\lstyle\@empty%
145 \LetLtxMacro\plstyle\@empty%
146 \LetLtxMacro\tostyle\@empty%
147 % \LetLtxMacro\sisshape\@empty%
148 \LetLtxMacro\olshape\@empty%
149 \LetLtxMacro\scolshape\@empty%
150 \LetLtxMacro\ushape\@empty%
151 \LetLtxMacro\scushape\@empty%
152 \LetLtxMacro\uishape\@empty%
153 \LetLtxMacro\rishape\@empty%
154 \LetLtxMacro\regwidth\@empty%
155 \LetLtxMacro\nwwidth\@empty%
156 \LetLtxMacro\cdwidth\@empty%
157 \LetLtxMacro\ecwidth\@empty%
158 \LetLtxMacro\ucwidth\@empty%
159 \LetLtxMacro\etwidth\@empty%
160 \LetLtxMacro\epwidth\@empty%
161 \LetLtxMacro\exwidth\@empty%
162 \LetLtxMacro\uxwidth\@empty%
163 \LetLtxMacro\mbweight\@empty%
164 \LetLtxMacro\dbweight\@empty%
165 \LetLtxMacro\sbweight\@empty%
166 % \LetLtxMacro\ebweight\@empty%
167 \LetLtxMacro\ubweight\@empty%
168 % \LetLtxMacro\lgweight\@empty%
169 \LetLtxMacro\elweight\@empty%
170 \LetLtxMacro\ulweight\@empty%
171 % \LetLtxMacro\itshape\@empty%
172 % \LetLtxMacro\scshape\@empty%
173 % \LetLtxMacro\upshape\@empty%
174 \LetLtxMacro\dfshape\@empty%
175 \LetLtxMacro\swshape\@empty%
176 \LetLtxMacro\ornament\@gobble%
177 }
178
179 \newrobustcmd{\LWR@HTML@textln}[1]{\InlineClass{textln}{#1}}
180 \newrobustcmd{\LWR@HTML@textos}[1]{\textsc{#1}}
181 \newrobustcmd{\LWR@HTML@textin}[1]{#1}
182 \providerobustcmd{\textin}[1]{#1}
183 \newrobustcmd{\LWR@HTML@textsu}[1]{#1}
184 % \newrobustcmd{\LWR@HTML@textsi}[1]{#1}
185 \newrobustcmd{\LWR@HTML@textdf}[1]{#1}

186 \ifdef{\LWR@HTML@textsw}{% duplicated by fontaxes
187 \newrobustcmd{\LWR@HTML@textsw}[1]{#1}
188 \LWR@formatted{textsw}
189 }

```

190
191 \newrobustcmd{\LWR@HTML@textti}[1]{#1}
192 \newrobustcmd{\LWR@HTML@textlt}[1]{#1}
193 \newrobustcmd{\LWR@HTML@textof}[1]{#1}
194 \newrobustcmd{\LWR@HTML@textalt}[1]{#1}
195 \newrobustcmd{\LWR@HTML@textreg}[1]{#1}
196 \newrobustcmd{\LWR@HTML@emboss}[1]{#1}
197 \newrobustcmd{\LWR@HTML@textorn}[1]{#1}
198 \newrobustcmd{\LWR@HTML@textqt}[1]{#1}
199 \newrobustcmd{\LWR@HTML@textsh}[1]{#1}
200 \newrobustcmd{\LWR@HTML@texttm}[1]{\texttt{#1}}
201 \newrobustcmd{\LWR@HTML@texttv}[1]{\texttt{#1}}
202 \newrobustcmd{\LWR@HTML@textl}[1]{\InlineClass{textln}{#1}}
203 \newrobustcmd{\LWR@HTML@texto}[1]{\textsc{#1}}
204 \newrobustcmd{\LWR@HTML@textp}[1]{\InlineClass{textp}{#1}}
205 \newrobustcmd{\LWR@HTML@textt}[1]{\InlineClass{textt}{#1}}
206 \newrobustcmd{\LWR@HTML@textpl}[1]{#1}
207 \newrobustcmd{\LWR@HTML@textpo}[1]{\textsc{#1}}
208 \newrobustcmd{\LWR@HTML@texttl}[1]{\InlineClass{textln}{#1}}
209 \newrobustcmd{\LWR@HTML@textto}[1]{\textsc{#1}}
210 \newrobustcmd{\LWR@HTML@textol}[1]{#1}
211 \newrobustcmd{\LWR@HTML@textswash}[1]{#1}
212 \newrobustcmd{\LWR@HTML@textu}[1]{#1}
213 \newrobustcmd{\LWR@HTML@textscu}[1]{#1}
214 \newrobustcmd{\LWR@HTML@textui}[1]{\LWR@HTML@textit{#1}}
215 \newrobustcmd{\LWR@HTML@textri}[1]{#1}
216 \newrobustcmd{\LWR@HTML@textnw}[1]{#1}
217 \newrobustcmd{\LWR@HTML@textcd}[1]{#1}
218 \newrobustcmd{\LWR@HTML@textec}[1]{#1}
219 \newrobustcmd{\LWR@HTML@textuc}[1]{#1}
220 \newrobustcmd{\LWR@HTML@textet}[1]{#1}
221 \newrobustcmd{\LWR@HTML@textep}[1]{#1}
222 \newrobustcmd{\LWR@HTML@textex}[1]{#1}
223 \newrobustcmd{\LWR@HTML@textux}[1]{#1}
224 \newrobustcmd{\LWR@HTML@textrw}[1]{#1}
225 \newrobustcmd{\LWR@HTML@textmb}[1]{\{\LWR@HTML@mbweight\InlineClass{textmb}{#1}}}
226 \newrobustcmd{\LWR@HTML@textdb}[1]{\{\LWR@HTML@dbweight\InlineClass{textdb}{#1}}}
227 \newrobustcmd{\LWR@HTML@textsb}[1]{\{\LWR@HTML@sbweight\InlineClass{textsb}{#1}}}
228 % \newrobustcmd{\LWR@HTML@texteb}[1]{#1}
229 \newrobustcmd{\LWR@HTML@textub}[1]{\{\LWR@HTML@ubweight\InlineClass{textub}{#1}}}
230 % \newrobustcmd{\LWR@HTML@textlg}[1]{#1}
231 \newrobustcmd{\LWR@HTML@textel}[1]{\{\LWR@HTML@elweight\InlineClass{textel}{#1}}}
232 \newrobustcmd{\LWR@HTML@textul}[1]{\{\LWR@HTML@ulweight\InlineClass{textul}{#1}}}
233
234 \LWR@formatted{textln}
235 \LWR@formatted{textos}
236 \LWR@formatted{textin}
237 \LWR@formatted{textsu}
238 % \LWR@formatted{textsi}
239 \LWR@formatted{textdf}
240 \LWR@formatted{textti}
241 \LWR@formatted{textlt}
242 \LWR@formatted{textof}
243 \LWR@formatted{textalt}
244 \LWR@formatted{textreg}
245 \LWR@formatted{emboss}
246 \LWR@formatted{textorn}
247 \LWR@formatted{textqt}
248 \LWR@formatted{textsh}
249 \LWR@formatted{texttm}

250 \LWR@formatted{texttv}
251 \LWR@formatted{textl}
252 \LWR@formatted{texto}
253 \LWR@formatted{textp}
254 \LWR@formatted{textt}
255 \LWR@formatted{textpl}
256 \LWR@formatted{textpo}
257 \LWR@formatted{texttl}
258 \LWR@formatted{textto}
259 \LWR@formatted{textol}
260 \LWR@formatted{textswash}
261 \LWR@formatted{textu}
262 \LWR@formatted{textscu}
263 \LWR@formatted{textui}
264 \LWR@formatted{textri}
265 \LWR@formatted{textnw}
266 \LWR@formatted{textcd}
267 \LWR@formatted{textec}
268 \LWR@formatted{textuc}
269 \LWR@formatted{textet}
270 \LWR@formatted{textep}
271 \LWR@formatted{textex}
272 \LWR@formatted{textux}
273 \LWR@formatted{textrw}
274 \LWR@formatted{textmb}
275 \LWR@formatted{textdb}
276 \LWR@formatted{textsb}
277 % \LWR@formatted{texteb}
278 \LWR@formatted{textub}
279 % \LWR@formatted{textlg}
280 \LWR@formatted{textel}
281 \LWR@formatted{textul}
282

283 \FilenameNullify{%
284 \LetLtxMacro\textln\@firstofone%
285 \LetLtxMacro\textos\@firstofone%
286 \LetLtxMacro\textin\@firstofone%
287 \LetLtxMacro\textsu\@firstofone%
288 % \LetLtxMacro\textsi\@firstofone%
289 \LetLtxMacro\textdf\@firstofone%
290 \LetLtxMacro\textsw\@firstofone%
291 \LetLtxMacro\textti\@firstofone%
292 \LetLtxMacro\textlt\@firstofone%
293 \LetLtxMacro\textof\@firstofone%
294 \LetLtxMacro\textalt\@firstofone%
295 \LetLtxMacro\textreg\@firstofone%
296 \LetLtxMacro\emboss\@firstofone%
297 \LetLtxMacro\textorn\@firstofone%
298 \LetLtxMacro\textqt\@firstofone%
299 \LetLtxMacro\textsh\@firstofone%
300 \LetLtxMacro\texttm\@firstofone%
301 \LetLtxMacro\texttv\@firstofone%
302 \LetLtxMacro\textl\@firstofone%
303 \LetLtxMacro\texto\@firstofone%
304 \LetLtxMacro\textp\@firstofone%
305 \LetLtxMacro\textt\@firstofone%
306 \LetLtxMacro\textpl\@firstofone%
307 \LetLtxMacro\textpo\@firstofone%
308 \LetLtxMacro\texttl\@firstofone%

```

309 \LetLtxMacro\textto\@firstofone%
310 \LetLtxMacro\textol\@firstofone%
311 \LetLtxMacro\textswash\@firstofone%
312 \LetLtxMacro\textu\@firstofone%
313 \LetLtxMacro\textscu\@firstofone%
314 \LetLtxMacro\textui\@firstofone%
315 \LetLtxMacro\textri\@firstofone%
316 \LetLtxMacro\textnw\@firstofone%
317 \LetLtxMacro\textcd\@firstofone%
318 \LetLtxMacro\textec\@firstofone%
319 \LetLtxMacro\textuc\@firstofone%
320 \LetLtxMacro\textet\@firstofone%
321 \LetLtxMacro\textep\@firstofone%
322 \LetLtxMacro\textex\@firstofone%
323 \LetLtxMacro\textux\@firstofone%
324 \LetLtxMacro\textrw\@firstofone%
325 \LetLtxMacro\textmb\@firstofone%
326 \LetLtxMacro\textdb\@firstofone%
327 \LetLtxMacro\textsb\@firstofone%
328 % \LetLtxMacro\texteb\@firstofone%
329 \LetLtxMacro\textub\@firstofone%
330 % \LetLtxMacro\textlg\@firstofone%
331 \LetLtxMacro\textel\@firstofone%
332 \LetLtxMacro\textul\@firstofone%
333 }
334
335 \providecommand*\zeroslash{}{0}
336 \newrobustcmd*\LWR@HTML@zeroslash{}{0}
337 \LWR@formatted{zeroslash}

```

File 340 **lwarp-nicefrac.sty**

§ 452 Package **nicefrac**

(Emulates or patches code by AXEL REICHERT.)

nicefrac (*Pkg*) nicefrac is patched for use by lwarp.

for HTML output:

```

1 \LWR@ProvidesPackagePass{nicefrac}[1998/08/04]
2 \DeclareRobustCommand*\LWR@HTML@UnitsNiceFrac}[3][[]]{%
3   {% localize font selection
4     #1{%
5       \LWR@textcurrentfont{%
6         \InlineClass{numerator}{#2}%
7         /%
8         \InlineClass{denominator}{#3}%
9       }%
10    }%
11  }%
12 }
13
14 \LWR@formatted{@UnitsNiceFrac}
15
16 \DeclareRobustCommand*\LWR@HTML@UnitsUglyFrac}[3][[]]{%
17   {% localize font selection
18     #1{\LWR@textcurrentfont{#2/#3}}%

```

```

19   }%
20 }
21
22 \LWR@formatted{@UnitsUglyFrac}

```

For MATHJAX:

```

23 \begin{warpMathJax}
24 \CustomizeMathJax{\newcommand{\nicefrac}[3][\mathinner{{}^{\#2}\!/_{\#3}}]}
25 \end{warpMathJax}

```

File 341 **lwarp-niceframe.sty**

§ 453 Package **niceframe**

`niceframe` (*Pkg*) `niceframe` is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{niceframe}% the original date is in yyyy/dd/mm format

```

2 \newcommand{\LWR@niceframe}[3]{%
3   \begin{LWR@setvirtualpage}*%
4   \setlength{\LWR@templengthone}{#1}%
5   \begin{BlockClass}[max-width:\LWR@printlength{\LWR@templengthone}]{#3}%
6   #2
7   \end{BlockClass}%
8   \end{LWR@setvirtualpage}%
9 }
10
11 \newcommand{\niceframe}[2][\textwidth]{\LWR@niceframe{#1}{#2}{niceframe}}
12 \newcommand{\curlyframe}[2][\textwidth]{\LWR@niceframe{#1}{#2}{curlyframe}}
13 \newcommand{\artdecoframe}[2][\textwidth]{\LWR@niceframe{#1}{#2}{artdecoframe}}
14
15 \newcommand{\generalframe}[9]{\LWR@niceframe{\textwidth}{#9}{generalframe}}


```

File 342 **lwarp-nicematrix.sty**

§ 454 Package **nicematrix**

(*Emulates or patches code by F. PANTIGNY.*)

`nicematrix` (*Pkg*) `nicematrix` is used as-is for SVG math, and is emulated for MATHJAX.

 **MATHJAX** Keys/values are ignored in MATHJAX. `\Cdots`, etc. do not span multiple cells. `AutoNiceMatrix`, etc. are not supported for MATHJAX. SVG math output preserves all `nicematrix` features. To force SVG output for one or more consecutive math expressions, for inline math use `\inlinemathother` and `\inlinemathnormal`, or for display math use `\displaymathother` and `\displaymathnormal`.

for HTML output: Skip the test for array, which does not work with `lwarp`:

```

1 \PassOptionsToPackage{no-test-for-array}{nicematrix}
2 \LWR@ProvidesPackagePass{nicematrix}[2022/10/06]

```


NiceTabular must be converted to svg to support the various nicematrix options:

```

3 \begin{warpHTML}
4 \BeforeBeginEnvironment{NiceTabular}{%
5   \begin{lateximage}[-nicematrix-~\PackageDiagramAltText]?%
6 }
7 \AfterEndEnvironment{NiceTabular}{\end{lateximage}}
8 \BeforeBeginEnvironment{NiceTabular*}{%
9   \begin{lateximage}[-nicematrix-~\PackageDiagramAltText]?%
10 }
11 \AfterEndEnvironment{NiceTabular*}{\end{lateximage}}
12 \end{warpHTML}

```

Special handling for the optional arguments, and the lack of a delimiter:

```

13 \begin{warpMathJax}
14 \CustomizeMathJax{\newcommand{\LWRnicearrayarray}[1]{\begin{array}{#1}}}
15 \CustomizeMathJax{\def\LWRnicearrayarrayopt#1[#2] {\begin{array}{#1}}}
16
17 \CustomizeMathJax{%
18   \newenvironment{NiceArray}[2][[%
19     {\ifnextchar[{\LWRnicearrayarrayopt{#2}}{\LWRnicearrayarray{#2}}}%
20     {\end{array}}}%
21 }
22
23 \CustomizeMathJax{%
24   \newcommand{\LWRnicearraywithdelimitwo}[2][[%
25     \ifnextchar[{\LWRnicearrayarrayopt{#2}}{\LWRnicearrayarray{#2}}}%
26   ]%
27 }

```

General case with left / right delimiters:

```

28 \CustomizeMathJax{%
29   \newenvironment{NiceArrayWithDelims}[2]%
30     {%
31       \def\LWRnicearrayrightdelim{\right#2}%
32       \left#1%
33       \LWRnicearraywithdelimitwo%
34     }%
35     {\end{array}\LWRnicearrayrightdelim}%
36 }

```

Instances of specific delimiters:

```

37 \CustomizeMathJax{%
38   \newenvironment{pNiceArray}
39     {\begin{NiceArrayWithDelims}{(}{)}%
40     {\end{NiceArrayWithDelims}}
41 }
42
43 \CustomizeMathJax{%
44   \newenvironment{bNiceArray}
45     {\begin{NiceArrayWithDelims}{[}{]}%
46     {\end{NiceArrayWithDelims}}
47 }
48
49 \CustomizeMathJax{%
50   \newenvironment{BNiceArray}

```

```

51     {\begin{NiceArrayWithDelims}{\{ }\{ \}}
52     {\end{NiceArrayWithDelims}}
53 }
54
55 \CustomizeMathJax{%
56   \newenvironment{vNiceArray}
57     {\begin{NiceArrayWithDelims}{\vert}{\vert}}
58     {\end{NiceArrayWithDelims}}
59 }
60
61 \CustomizeMathJax{%
62   \newenvironment{VNiceArray}
63     {\begin{NiceArrayWithDelims}{\Vert}{\Vert}}
64     {\end{NiceArrayWithDelims}}
65 }

```

Ignore optional arg and use standard environments:

```

66 \CustomizeMathJax{\newenvironment{NiceMatrix}[1][\begin{matrix}]{\end{matrix}}}
67 \CustomizeMathJax{\newenvironment{pNiceMatrix}[1][\begin{pmatrix}]{\end{pmatrix}}}
68 \CustomizeMathJax{\newenvironment{bNiceMatrix}[1][\begin{bmatrix}]{\end{bmatrix}}}
69 \CustomizeMathJax{\newenvironment{BNiceMatrix}[1][\begin{Bmatrix}]{\end{Bmatrix}}}
70 \CustomizeMathJax{\newenvironment{vNiceMatrix}[1][\begin{vmatrix}]{\end{vmatrix}}}
71 \CustomizeMathJax{\newenvironment{VNiceMatrix}[1][\begin{Vmatrix}]{\end{Vmatrix}}}

```

Ignore optional argument and size. Print contents.

```

72 \CustomizeMathJax{\newcommand{\LWRnicematrixBlock}[1]{#1}}
73 \CustomizeMathJax{\def\LWRnicematrixBlockopt<#1>#2{#2}}
74
75 \CustomizeMathJax{%
76   \newcommand{\Block}[2][\ifnextchar<\LWRnicematrixBlockopt\LWRnicematrixBlock}%
77 }

```

Form an approximation:

```

78 \CustomizeMathJax{%
79   \newcommand{\diagbox}[2]{%
80     \begin{array}{L}\hfill\quad#2\\\hline#1\quad\hfill\end{array}%
81   }%
82 }

```

More approximations:

```

83 \CustomizeMathJax{\let\hdottedline\hdashline}

84 \CustomizeMathJax{\newcommand{\Hline}[1][\hline]}

85 \CustomizeMathJax{\newcommand{\CodeBefore}{}}
86 \CustomizeMathJax{\newcommand{\Body}{}}
87 \CustomizeMathJax{\newcommand{\CodeAfter}{}}
88 \CustomizeMathJax{\newcommand{\line}[3][{}]}
89 \CustomizeMathJax{\newcommand{\RowStyle}[2][{}]}
90 \CustomizeMathJax{\newcommand{\LWRSubMatrix}[1][{}]}
91 \CustomizeMathJax{\newcommand{\SubMatrix}[4]{\LWRSubMatrix}}
92 \CustomizeMathJax{\newcommand{\OverBrace}[4][{}]}
93 \CustomizeMathJax{\newcommand{\UnderBrace}[4][{}]}
94 \CustomizeMathJax{\newcommand{\ShowCellNames}{}}

```

```

95 \CustomizeMathJax{\newcommand{\cellcolor}[3][{}]}
96 \CustomizeMathJax{\newcommand{\rowcolor}[3][{}]}
97 \CustomizeMathJax{\newcommand{\LWRrowcolors}[1][{}]}
98 \CustomizeMathJax{\newcommand{\rowcolors}[4][\LWRrowcolors]}
99 \CustomizeMathJax{\newcommand{\rowlistcolors}[3][\LWRrowcolors]}
100 \CustomizeMathJax{\newcommand{\columncolor}[3][{}]}
101 \CustomizeMathJax{\newcommand{\rectanglecolor}[4][{}]}
102 \CustomizeMathJax{\newcommand{\arraycolor}[2][{}]}
103 \CustomizeMathJax{\newcommand{\chessboardcolors}[3][{}]}

104 \CustomizeMathJax{\newcommand{\ldots}[1][\dots]}
105 \CustomizeMathJax{\newcommand{\Cdots}[1][\cdots]}
106 \CustomizeMathJax{\newcommand{\Vdots}[1][\vdots]}
107 \CustomizeMathJax{\newcommand{\Ddots}[1][\ddots]}
108 \CustomizeMathJax{\newcommand{\Iddots}[1][\mathinner{\unicode{x22F0}}]}
109
110 \CustomizeMathJax{\newcommand{\Hdotsfor}[1][\ldots]}
111 \CustomizeMathJax{\newcommand{\Vdotsfor}[1][\vdots]}

```

There is no way to emulate `AutoNiceMatrix` in `MATHJAX`.

```

112 \CustomizeMathJax{\newcommand{\AutoNiceMatrix}[2]{\text{(AutoNiceMatrix #1)}}}
113 \CustomizeMathJax{\let\pAutoNiceMatrix\AutoNiceMatrix}
114 \CustomizeMathJax{\let\bAutoNiceMatrix\AutoNiceMatrix}
115 \CustomizeMathJax{\let\BAutoNiceMatrix\AutoNiceMatrix}
116 \CustomizeMathJax{\let\VAutoNiceMatrix\AutoNiceMatrix}
117 \CustomizeMathJax{\let\VAutoNiceMatrix\AutoNiceMatrix}
118 \end{warpMathJax}

```

File 343 **lwarp-noitcrul.sty**

§ 455 Package **noitcrul**

(Emulates or patches code by PAUL EBERMANN.)

`noitcrul` (*Pkg*) `noitcrul` is used as-is for `SVG` and emulated for `MATHJAX`.

for HTML output:

```

1 \LWR@ProvidesPackagePass{noitcrul}[2006/04/11]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\noitUnderline}[1]{\underline{#1}\!}}
4 \end{warpMathJax}

```

File 344 **lwarp-nolbreaks.sty**

§ 456 Package **nolbreaks**

(Emulates or patches code by DONALD ARSENEAU.)

`nolbreaks` (*Pkg*) `nolbreaks` is emulated.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{nolbreaks}[2012/05/31]

2 \NewDocumentCommand{\nolbreaks}{s m}{\InlineClass{nolbreaks}{#2}}

```

File 345 **lwarp-nomencl.sty**

§ 457 Package **nomenc1**

(Emulates or patches code by BORIS VEYTSMAN, BERND SCHANDL, LEE NETHERTON, CV RADHAKRISHNAN.)

nomenc1 (*Pkg*) nomenc1 is patched for use by lwarp.

To process the HTML nomenclature:

```
makeindex <project>_html.nlo -s nomenc1.ist -o
<project>_html.nls
```

for HTML output: 1 \LWR@ProvidesPackagePass{nomenc1}[2021/11/10]

\BaseJobname is added to the label in case xr or xr-hyper are used.

```
2 \xpatchcmd{\@@@nomenclature}
3   {\thepage}
4   {\theLWR@previousautopagelabel}
5   {}
6   {\LWR@patcherror{nomenc1}{@@@nomenclature}}
7
8 \renewcommand*\pagedeclaration}[1]{, \nameref{\BaseJobname-autopage-#1}}%
```

File 346 **lwarp-nonfloat.sty**

§ 458 Package **nonfloat**

(Emulates or patches code by KAI RASCHER.)

nonfloat (*Pkg*) nonfloat is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{nonfloat}[1999/07/05]

```
2 \LetLtxMacro\topcaption\caption
3 \newcommand{\figcaption}{\def\@capttype{figure}\caption}
4 \newcommand{\tabcaption}{\def\@capttype{table}\topcaption}
5 \newenvironment{narrow}[2]{}{}
```

File 347 **lwarp-nonumonpart.sty**

§ 459 Package **nonumonpart**

nonumonpart (*Pkg*) nonumonpart is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{nonumonpart}[2011/04/15]

File 348 **lwarp-nopageno.sty**§ 460 Package **nopageno**

nopageno (*Pkg*) nopageno is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{nopageno}[1989/01/01]

File 349 **lwarp-notes.sty**§ 461 Package **notes**

notes (*Pkg*) notes is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{notes}[2002/10/29]

```

2 \newcommand*\LWR@notes@onenote}[2]{%
3 \newenvironment{#1}
4   {
5     \BlockClass{notes#1}
6     \begin{BlockClass}{notesicon}\textcircled{~#2~}\end{BlockClass}
7     \BlockClass{notescontents}
8   }
9   {\endBlockClass\endBlockClass}
10 }
11
12 \LWR@notes@onenote{importantnote}{!}
13
14 \LWR@notes@onenote{warningnote}{--}
15
16 \LWR@notes@onenote{informationnote}{i}
```

File 350 **lwarp-notespages.sty**§ 462 Package **notespages**

notespages (*Pkg*) notespages is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{notespages}[2016/08/21]

```

2 \newcommand*\nnotesname{}
3 \newcommand*\nnotestext{}
4 \newcommand*\remainingtextheight{}
5 \newdimen\remainingtextheight
6 \newcommand*\notestitletext{}
7 \newcommand*\notesareatext{}
8 \newcommand*\nnpinfo}[1]{}
9 \newcommand*\tracingnmarks{}
10 \newcommand*\notespage}[1][{}]
```

```

11 \newcommand*{\notespages}[1][{}]{
12 \newcommand*{\notesfill}[1][{}]{
13 \newcommand*{\setnotespages}[1]{
14 \newcommand*{\definotesoption}[2]{
15 \newcommand{\definotesstyle}[2]{
16 \newcommand{\definetitlestyle}[2]{
17 \newcommand{\nppatchchapter}[1]{
18 \newcommand{\npunpatchchapter}{

```

File 351 **lwarp-nowidow.sty**

§ 463 Package **nowidow**

(Emulates or patches code by RAPHAËL PINSON.)

nowidow (*Pkg*) nowidow is ignored.

for HTML output: Disabled on [CTAN](#) for lwarp-nowidow [2011/09/20]

```

\nowidow          [⟨lines⟩]
\setnowidow       [⟨lines⟩]

2 \newcommand*{\nowidow}[1][{}]{
3 \newcommand*{\setnowidow}[1][{}]{

\noclub          [⟨lines⟩]
\setnoclub       [⟨lines⟩]

4 \newcommand*{\noclub}[1][{}]{
5 \newcommand*{\setnoclub}[1][{}]{

```

File 352 **lwarp-ntheorem.sty**

§ 464 Package **ntheorem**

(Emulates or patches code by WOLFGANG MAY, ANDREAS SCHEDLER.)

ntheorem (*Pkg*) ntheorem is patched for use by lwarp.

Table 20: Ntheorem package — css styling of theorems and proofs

Theorem: <div> of class theorembody<theoremstyle>

Theorem Header: of class theoremheader<style>

where <theoremstyle> is plain, break, etc.

§ 464.1 Limitations

- ⚠ **Font control** This conversion is not total. Font control is via `css`, and the custom `LATEX` font settings are ignored.
- ⚠ **Equation numbering** `ntheorem` has a bug with equation numbering in `AMS` environments when the option `thref` is used. `lwarp` does not share this bug, so equations with `\split`, etc, are numbered correctly with `lwarp`'s `HTML` output, but not with the print output. It is recommended to use `cleveref` instead of `ntheorem`'s `thref` option.

§ 464.2 Options

Options `amsthm` or `standard` choose which set of theorems and proofs to initialize.

- ⚠ **Disabled options** The options `thmmarks` and `amsmath` are disabled, since they heavily modify the underlying math code. Theorem marks are emulated. The `AMS`-math modifications are not done.

Option `thref` is disabled because `cleveref` functions are used instead. `\thref` is emulated.

Option `hyperref` is disabled because `lwarp` emulated `hyperref`.

for `HTML` output:

Some disabled options:

```

1 \DeclareOption{thref}{
2   \AtEndDocument{
3     \PackageWarningNoLine{lwarp}{%
4       Lwarp uses cleveref, which takes over ntheorem's\MessageBreak
5       referencing, including
6         \protect\label \space and \protect\thref.\MessageBreak
7       Cleveref does not accept ntheorem's optional\MessageBreak
8       argument for \protect\label, so it will appear\MessageBreak
9       in the text. It is recommended to remove the\MessageBreak
10      thref option, \protect\usepackage{cleveref} instead,\MessageBreak
11      and remove any trailing optional arguments for \protect\label%
12    }%
13  }
14 }
15
16
17 \newbool{LWR@theoremmarks}
18 \boolfalse{LWR@theoremmarks}
19
20 \DeclareOption{thmmarks}{
21 \booltrue{LWR@theoremmarks}
22 \newif\ifsetendmark\setendmarktrue
23 }
24
25
26 \newbool{LWR@theoremamsthm}
27 \boolfalse{LWR@theoremamsthm}
28
29 \DeclareOption{amsthm}{\booltrue{LWR@theoremamsthm}}
30
31
32 \DeclareOption{amsmath}{}
33 \DeclareOption{hyperref}{}
34
35 \LWR@ProvidesPackagePass{ntheorem}[2011/08/15]
```

§ 464.3 **Remembering the theorem style**

Storage for the style being used for new theorems.

```

36 \newcommand{\LWR@newtheoremstyle}{plain}

37 \AtBeginDocument{
38 \IfPackageLoadedTF{cleveref}{
39 \VerifyCommand[lwarp][ntheorem-cleveref]{\@thm}
40   {24EBE14DBADF0B9992C3EDE1D70BA897}
41 \gdef\@thm#1#2#3{%
42   \if@thmmarks
43     \stepcounter{end\InTheoType ctr}%
44   \fi
45   \renewcommand{\InTheoType}{#1}%
46   \if@thmmarks
47     \stepcounter{curr#1ctr}%
48     \setcounter{end#1ctr}{0}%
49   \fi
50   \refstepcounter[#1]{#2}% <<< cleveref modification
51   \theorem@prework
52   \LWR@forcenewpage% lwarp

53   \LWR@printpendingfootnotes%           lwarp

54   \BlockClass{theorembody#1}%\LWR@thisthmstyle% lwarp
55   \trivlist % latex's \trivlist, calling latex's \@trivlist unchanged
56   \ifuse@newframeskips % cf. latex.ltx for topsepadd: \@trivlist
57     \ifthm@inframe
58       \thm@topsep\theoremframepreskipamount
59       \thm@topsepadd\theoremframepostskipamount
60     \else
61       \thm@topsep\theorempreskipamount
62       \thm@topsepadd\theorempostskipamount
63     \fi
64     \else% oldframeskips
65       \thm@topsep\theorempreskipamount
66       \thm@topsepadd \theorempostskipamount
67       \ifvmode\advance\thm@topsepadd\partopsep\fi
68   \fi
69   \@topsep\thm@topsep
70   \@topsepadd\thm@topsepadd
71   \advance\linewidth -\theorem@indent
72   \advance\linewidth -\theorem@rightindent
73   \advance\@totalleftmargin \theorem@indent
74   \parshape \@ne \@totalleftmargin \linewidth
75   \@ifnextchar[{\@ythm{#1}{#2}{#3}}{\@xthm{#1}{#2}{#3}}
76 }
77 }{% not @ifpackageloaded{cleveref}
78 % \VerifyCommand[lwarp][ntheorem]{\@thm}{0}
79 \gdef\@thm#1#2#3{%
80   \if@thmmarks
81     \stepcounter{end\InTheoType ctr}%
82   \fi
83   \renewcommand{\InTheoType}{#1}%
84   \if@thmmarks
85     \stepcounter{curr#1ctr}%
86     \setcounter{end#1ctr}{0}%
87   \fi

```



```

88 \refstepcounter{#2}%
89 \theorem@prework
90 \LWR@forcenewpage% lwarp

91 \LWR@printpendingfootnotes% lwarp

92 \BlockClass{theorembody#1}%\LWR@thisthmstyle% lwarp
93 \trivlist % latex's \trivlist, calling latex's \@trivlist unchanged
94 \ifuse@newframeskips % cf. latex.ltx for topsepadd: \@trivlist
95 \ifthm@inframe
96 \thm@topsep\theoremframepreskipamount
97 \thm@topsepadd\theoremframepostskipamount
98 \else
99 \thm@topsep\theoremframepreskipamount
100 \thm@topsepadd\theoremframepostskipamount
101 \fi
102 \else% oldframeskips
103 \thm@topsep\theoremframepreskipamount
104 \thm@topsepadd \theoremframepostskipamount
105 \ifvmode\advance\thm@topsepadd\partopsep\fi
106 \fi
107 \@topsep\thm@topsep
108 \@topsepadd\thm@topsepadd
109 \advance\linewidth -\theorem@indent
110 \advance\linewidth -\theorem@rightindent
111 \advance\@totalleftmargin \theorem@indent
112 \parshape \@ne \@totalleftmargin \linewidth
113 \@ifnextchar[{\@ythm{#1}{#2}{#3}}{\@xthm{#1}{#2}{#3}}
114 }
115 }
116 }% AtBeginDocument

```

Patched to remember the style being used for new theorems:

```

117 \VerifyCommand[lwarp][ntheorem]{\theoremstyle}
118 {A735E431A49EB3A7B4BABD9AEAE7E10}
119 \gdef\theoremstyle#1{%
120 \ifundefined{th@#1}{\@warning
121 {Unknown theoremstyle `#1'. Using `plain'}}%
122 \theorem@style{plain}
123 \renewcommand{\LWR@newtheoremstyle}{plain}% lwarp
124 }%
125 {
126 \theorem@style{#1}
127 \renewcommand{\LWR@newtheoremstyle}{#1}% lwarp
128 }
129 }

```

Patched to remember the style for this theorem type, and set it later when the environment is started.

```

130 \VerifyCommand[lwarp][ntheorem]{\@xthm}{699CB37D7349C4F062B16B9B890FFE90}
131
132 \gdef\@xthm#1#2[#3]{%
133 \ifthm@tempif
134 \csedef{\LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
135 \expandafter\ifundefined{c#1}%
136 {\@definecounter{#1}}{%
137 \@newctr{#1}[#3]%

```

```

138     \expandafter\xdef\csname the#1\endcsname{%
139     \expandafter\noexpand\csname the#3\endcsname \@thmcountersep
140     {\noexpand\csname\the\theoremnumbering\endcsname{#1}}}%
141     \expandafter\gdef\csname mkheader@#1\endcsname
142     {\csname setparms@#1\endcsname
143     \@thm{#1}{#1}{#2}
144     }%
145     \global\@namedef{end#1}{\@endtheorem}
146     \AtBeginEnvironment{#1}{\edef\LWR@thmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
147     \fi
148 }
149
150 \VerifyCommand[lwarp][ntheorem]{\@ynthm}{E0E49F4C2FF76BA3024F2413E2E3DA0D}
151
152 \gdef\@ynthm#1#2{%
153     \ifthm@tempif
154     \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
155     \expandafter\@ifundefined{c@#1}%
156     {\@definecounter{#1}}{%
157     \expandafter\xdef\csname the#1\endcsname
158     {\noexpand\csname\the\theoremnumbering\endcsname{#1}}}%
159     \expandafter\gdef\csname mkheader@#1\endcsname
160     {\csname setparms@#1\endcsname
161     \@thm{#1}{#1}{#2}
162     }%
163     \global\@namedef{end#1}{\@endtheorem}
164     \AtBeginEnvironment{#1}{\edef\LWR@thmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
165     \fi
166 }
167
168 \VerifyCommand[lwarp][ntheorem]{\@othm}{A6D2FCC33AB3F7C7F998399F013FB6A8}
169
170 \gdef\@othm#1[#2]#3{%
171     \@ifundefined{c@#2}{\@nocounterr{#2}}%
172     {\ifthm@tempif
173     \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
174     \global\@namedef{the#1}{\@nameuse{the#2}}%
175     \expandafter\protected@xdef\csname num@addtheoremLine#1\endcsname{%
176     \noexpand\@num@addtheoremLine{#1}{#3}}%
177     \expandafter\protected@xdef\csname nonum@addtheoremLine#1\endcsname{%
178     \noexpand\@nonum@addtheoremLine{#1}{#3}}%
179     \theoremkeyword{#3}%
180     \expandafter\protected@xdef\csname #1Keyword\endcsname
181     {\the\theoremkeyword}%
182     \expandafter\gdef\csname mkheader@#1\endcsname
183     {\csname setparms@#1\endcsname
184     \@thm{#1}{#2}{#3}
185     }%
186     \global\@namedef{end#1}{\@endtheorem}
187     \AtBeginEnvironment{#1}{\edef\LWR@thmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
188     \fi}
189 }

```

§ 464.4 **HTML cross-referencing**

Mimics a float by incrementing the float counter and generating an HTML anchor. These are used for list-of-theorem cross-references.

```

190 \newcommand{\LWR@inctheorem}{%
191 \addtocounter{LWR@thisautoid}{1}%
192 \LWR@stoppars%
193 \LWR@htmltag{%
194   a id=\textquotedbl\LWR@print@mbbox{autoid-\arabic{LWR@thisautoid}}\textquotedbl%
195 }%
196 \LWR@htmltag{/a}\LWR@orignewline%
197 \LWR@startpars%
198 }

```

§ 464.5 **\newtheoremstyle**

The following are patched for css.

These were in individual files thp.sty for plain, thmb.sty for margin break, etc. They are gathered together here.

Each theorem is encased in a BlockClass environment of class theorembody<style>.

Each header is encased in an \InlineClass of class theoremheader<style>.

```

199 \VerifyCommand[lwarp][ntheorem]{\newtheoremstyle}{8173F61CEBA45226CD3015E5E258C93D}
200
201 \gdef\newtheoremstyle#1#2#3{%
202   \expandafter\ifundefined{th@#1}%
203     {\expandafter\gdef\csname th@#1\endcsname{%
204       \def\@begintheorem###1###2{%
205         \LWR@inctheorem% lwarp
206         #2}%
207         \def\@opargbegintheorem###1###2###3{%
208         \LWR@inctheorem% lwarp
209         #3}%
210 }%
211 }%
212 {\PackageError{\basename}{Theorem style #1 already defined}\@eha}
213 }

```

§ 464.6 **Standard styles**

```

214 \renewtheoremstyle{plain}%
215   {\item[
216     \InlineClass{theoremheaderplain}{##1\ ##2\theorem@separator}]}%
217   {\item[
218     \InlineClass{theoremheaderplain}{##1\ ##2\ (##3)\theorem@separator}]}
219
220 \renewtheoremstyle{break}%
221   {\item[
222     \InlineClass{theoremheaderbreak}{##1\ ##2\theorem@separator}\newline
223   ]}%
224   {\item[
225     \InlineClass{theoremheaderbreak}%
226     {##1\ ##2\ (##3)\theorem@separator}\newline
227   ]}
228
229 \renewtheoremstyle{change}%

```

```

230 {\item[
231   \InlineClass{theoremheaderchange}{##2\ ##1\theoremseparator}]]%
232 {\item[
233   \InlineClass{theoremheaderchange}{##2\ ##1\ (##3)\theoremseparator}]]}
234
235 \renewtheoremstyle{changebreak}%
236 {\item[
237   \InlineClass{theoremheaderchangebreak}%
238     {##2\ ##1\theoremseparator}\newline
239   ]}%
240 {\item[
241   \InlineClass{theoremheaderchangebreak}%
242     {##2\ ##1\ (##3)\theoremseparator}\newline
243   ]}
244
245 \renewtheoremstyle{margin}%
246 {\item[
247   \InlineClass{theoremheadermargin}{##2 \quad ##1\theoremseparator}
248   ]}%
249 {\item[
250   \InlineClass{theoremheadermargin}{##2 \quad ##1\ (##3)\theoremseparator}
251   ]}
252
253 \renewtheoremstyle{marginbreak}%
254 {\item[
255   \InlineClass{theoremheadermarginbreak}%
256     {##2 \quad ##1\theoremseparator}\newline
257   ]}%
258 {\item[
259   \InlineClass{theoremheadermarginbreak}%
260     {##2 \quad ##1\ (##3)\theoremseparator}\newline
261   ]}
262
263 \renewtheoremstyle{nonumberplain}%
264 {\item[
265   \InlineClass{theoremheaderplain}{##1\theoremseparator}]]%
266 {\item[
267   \InlineClass{theoremheaderplain}{##1\ (##3)\theoremseparator}]]}
268
269 \renewtheoremstyle{nonumberbreak}%
270 {\item[
271   \InlineClass{theoremheaderbreak}{##1\theoremseparator}\newline
272   ]}%
273 {\item[
274   \InlineClass{theoremheaderbreak}{##1\ (##3)\theoremseparator}\newline
275   ]}
276
277 \renewtheoremstyle{empty}%
278 {\item[]}%
279 {\item[
280   \InlineClass{theoremheaderplain}{##3}]]}
281
282 \renewtheoremstyle{emptybreak}%
283 {\item[]}%
284 {\item[
285   \InlineClass{theoremheaderplain}{##3}] \ \newline}

```

§ 464.7 Additional objects

The following manually adjust the css for the standard configuration objects which are not a purely plain style:

```
286 \ifbool{LWR@theoremamsthm}{}{%
```

Upright text via CSS:

```
287 \newtheoremstyle{plainupright}%
288 {\item[
289 \InlineClass{theoremheaderplain}{##1\ ##2\theorem@separator}]]%
290 {\item[
291 \InlineClass{theoremheaderplain}{##1\ ##2\ (##3)\theorem@separator}]}
```

Upright text and small caps header via CSS:

```
292 \newtheoremstyle{nonumberplainuprightsc}%
293 {\item[
294 \InlineClass{theoremheadersc}{##1\theorem@separator}]]%
295 {\item[
296 \InlineClass{theoremheadersc}{##1\ (##3)\theorem@separator}]]
297}% not amsthm
```

§ 464.8 Renewed standard configuration

The following standard configuration is renewed using the new css:

```
298 \ifbool{LWR@theoremamsthm}{}{%

299 \ifx\thm@usestd\undefined
300 \else
301 \theoremnumbering{arabic}
302 \theoremstyle{plain}
303 \RequirePackage{latexsym}
304 \theoremsymbol{\Box}
305 \theorembodyfont{\itshape}
306 \theoremheaderfont{\normalfont\bfseries}
307 \theoremseparator{}
308 \renewtheorem{Theorem}{Theorem}
309 \renewtheorem{theorem}{Theorem}
310 \renewtheorem{Satz}{Satz}
311 \renewtheorem{satz}{Satz}
312 \renewtheorem{Proposition}{Proposition}
313 \renewtheorem{proposition}{Proposition}
314 \renewtheorem{Lemma}{Lemma}
315 \renewtheorem{lemma}{Lemma}
316 \renewtheorem{Korollar}{Korollar}
317 \renewtheorem{korollar}{Korollar}
318 \renewtheorem{Corollary}{Corollary}
319 \renewtheorem{corollary}{Corollary}
320
321 \theoremstyle{plainupright}
322 \theorembodyfont{\upshape}
323 \theoremsymbol{\HTMLUnicode{25A1}}% UTF-8 white box
324 \renewtheorem{Example}{Example}
325 \renewtheorem{example}{Example}
326 \renewtheorem{Beispiel}{Beispiel}
327 \renewtheorem{beispiel}{Beispiel}
```

```

328 \renewtheorem{Bemerkung}{Bemerkung}
329 \renewtheorem{bemerkung}{Bemerkung}
330 \renewtheorem{Anmerkung}{Anmerkung}
331 \renewtheorem{anmerkung}{Anmerkung}
332 \renewtheorem{Remark}{Remark}
333 \renewtheorem{remark}{Remark}
334 \renewtheorem{Definition}{Definition}
335 \renewtheorem{definition}{Definition}
336
337 \theoremstyle{nonumberplainuprightsc}
338 \theoremsymbol{\HTMLUnicode{220E}}% UTF-8 end-of-proof
339 \renewtheorem{Proof}{Proof}
340 \renewtheorem{proof}{Proof}
341 \renewtheorem{Beweis}{Beweis}
342 \renewtheorem{beweis}{Beweis}
343 \qedsymbol{\HTMLUnicode{220E}}% UTF-8 end-of-proof
344
345 \theoremsymbol{}
346 \fi
347 }% not amsthm

```

§ 464.9 amsthm option

Many of the following are not `\VerifyCommand` because they are not yet defined.

Only if the `amsthm` option was given:

```

348 \ifbool{LWR@theoremamsthm}{
349
350 \VerifyCommand[lwarp][ntheorem-amsthm]{\th@plain}
351   {1FB8AE22BD4090F90D9031CFFC57DAFB}
352 \gdef\th@plain{%
353   \def\theoremheaderfont{\normalfont\bfseries}\itshape%
354   \def\@begintheorem##1##2{%
355     \LWR@intheorem% lwarp
356     \item[
357       \InlineClass{theoremheaderplain}{##1\ ##2.}
358     ]}%
359   \def\@opargbegintheorem##1##2##3{%
360     \LWR@intheorem% lwarp
361     \item[
362       \InlineClass{theoremheaderplain}{##1\ ##2\ (##3).}
363     ]}}
364
365 \VerifyCommand[lwarp][ntheorem-amsthm]{\th@nonumberplain}
366   {3E82A39A222021777BF8221C490E86EC}
367 \gdef\th@nonumberplain{%
368   \def\theoremheaderfont{\normalfont\bfseries}\itshape%
369   \def\@begintheorem##1##2{%
370     \LWR@intheorem% lwarp
371     \item[
372       \InlineClass{theoremheaderplain}{##1.}
373     ]}%
374   \def\@opargbegintheorem##1##2##3{%
375     \LWR@intheorem% lwarp
376     \item[
377       \InlineClass{theoremheaderplain}{##1\ (##3).}
378     ]}}
379
380 \gdef\th@definition{%

```

```
381 \def\theorem@headerfont{\normalfont\bfseries}\normalfont%
382 \def\@begintheorem##1##2{%
383     \LWR@intheorem% lwarp
384     \item[
385     \InlineClass{theoremheaderdefinition}{##1\ ##2.}
386     ]}%
387 \def\@opargbegintheorem##1##2##3{%
388     \LWR@intheorem% lwarp
389     \item[
390     \InlineClass{theoremheaderdefinition}{##1\ ##2\ (##3).}
391     ]}]
392
393 \gdef\th@nonumberdefinition{%
394 \def\theorem@headerfont{\normalfont\bfseries}\normalfont%
395 \def\@begintheorem##1##2{%
396     \LWR@intheorem% lwarp
397     \item[
398     \InlineClass{theoremheaderdefinition}{##1.}
399     ]}%
400 \def\@opargbegintheorem##1##2##3{%
401     \LWR@intheorem% lwarp
402     \item[
403     \InlineClass{theoremheaderdefinition}{##1\ (##3).}
404     ]}]
405
406 \gdef\th@remark{%
407 \def\theorem@headerfont{\itshape}\normalfont%
408 \def\@begintheorem##1##2{%
409     \LWR@intheorem% lwarp
410     \item[
411     \InlineClass{theoremheaderremark}{##1\ ##2.}
412     ]}%
413 \def\@opargbegintheorem##1##2##3{%
414     \LWR@intheorem% lwarp
415     \item[
416     \InlineClass{theoremheaderremark}{##1\ ##2\ (##3).}
417     ]}]
418
419 \gdef\th@nonumberremark{%
420 \def\theorem@headerfont{\itshape}\normalfont%
421 \def\@begintheorem##1##2{%
422     \LWR@intheorem% lwarp
423     \item[
424     \InlineClass{theoremheaderremark}{##1.}
425     ]}%
426 \def\@opargbegintheorem##1##2##3{%
427     \LWR@intheorem% lwarp
428     \item[
429     \InlineClass{theoremheaderremark}{##1\ (##3).}
430     ]}]
431
432 \gdef\th@proof{%
433 \def\theorem@headerfont{\normalfont\bfseries}\itshape%
434 \def\@begintheorem##1##2{%
435     \LWR@intheorem% lwarp
436     \item[
437     \InlineClass{theoremheaderproof}{##1.}
438     ]}%
439 \def\@opargbegintheorem##1##2##3{%
440     \LWR@intheorem% lwarp
```

```

441   \item[
442   \InlineClass{theoremheaderproof}{##1\ (##3).}
443   ]}]
444
445
446
447 \newcounter{proof}%
448 \if@thmmarks
449   \newcounter{currproofctr}%
450   \newcounter{endproofctr}%
451 \fi
452
453 \gdef\proofSymbol{\openbox}
454
455 \newcommand{\proofname}{Proof}
456
457 \newenvironment{proof}[1][\proofname]{
458   \th@proof
459   \def\theorem@headerfont{\itshape}%
460   \normalfont
461   \theoremsymbol{\HTMLUnicode{220E}}% UTF-8 end-of-proof
462   \@thm{proof}{proof}{#1}
463 }%
464 {\@endtheorem}
465
466 }{}% amsthm option

```

§ 464.10 **Ending a theorem**

Patched for css:

```

467 \let\LWR@origendtheorem\@endtheorem
468 \renewcommand{\@endtheorem}{%
469 \ifbool{LWR@theoremmarks}{%
470   \ifsetendmark%
471   \InlineClass{theoremendmark}{\csname\InTheoType Symbol\endcsname}%
472   \setendmarkfalse%
473   \fi%
474 }{}%
475 \LWR@origendtheorem% also does \@endtrivlist
476 \ifbool{LWR@theoremmarks}{\global\setendmarktrue}{}%

477   \LWR@printpendingfootnotes%           lwarp

478 \endBlockClass%
479 }

```

§ 464.11 **\NoEndMark**

```
480 \gdef\NoEndMark{\global\setendmarkfalse}
```

§ 464.12 **List-of**

Redefined to reuse the float mechanism to add list-of-theorem links:

```

\thm@thmline {<1: printed type>} {<2: #>} {<3: optional>} {<4: page>}

481 \renewcommand{\thm@thmline@noname}[4]{%

```



```

482 \hypertocfloat{1}{theorem}{thm}{#2 #3}{}%
483 }
484
485 \renewcommand{\thm@thmline@name}[4]{%
486 \hypertocfloat{1}{theorem}{thm}{#1 #2 #3}{}%
487 }

```

This was redefined by `ntheorem` when loaded, so it is now redefined for `lwarp`:

```
488 \def\thm@thmline{\thm@thmline@name}
```

Patch for `css`:

```

489 \xpretocmd{\listtheorems}
490   {\LWR@html@elementclass{nav}{lohtm}}
491   {}
492   {\LWR@patcherror{ntheorem}{listtheorems}}
493
494 \xapptocmd{\listtheorems}
495   {\LWR@html@elementclassend{nav}{lohtm}}
496   {}
497   {\LWR@patcherror{ntheorem}{listtheorems}}

```

§ 464.13 Symbols

Proof QED symbol:

```

498 \newcommand{\qed}{\quad\the\qedsymbol}
499
500 \AtBeginDocument{
501   \ifundefined{LWR@orig@openbox}{
502     \LetLtxMacro\LWR@orig@openbox\openbox
503     \LetLtxMacro\LWR@orig@blacksquare\blacksquare
504     \LetLtxMacro\LWR@orig@Box\Box
505
506     \def\openbox{\text{\HTMLUnicode{25A1}}}% UTF-8 white box
507     \def\blacksquare{\text{\HTMLUnicode{220E}}}% UTF-8 end-of-proof
508     \def\Box{\text{\HTMLUnicode{25A1}}}% UTF-8 white box
509
510     \appto\LWR@restoreorigformatting{%
511       \LetLtxMacro\openbox\LWR@orig@openbox%
512       \LetLtxMacro\blacksquare\LWR@orig@blacksquare%
513       \LetLtxMacro\Box\LWR@orig@Box%
514     }% appto
515   }{}% \ifundefined
516 }% \AtBeginDocument

```

§ 464.14 Cross-referencing

`\thref {<label>}`

```
517 \newcommand*{\thref}[1]{\cref{#1}}%
```

File 353 **lwarp-octave.sty**

§ 465 Package **octave**

(Emulates or patches code by ANDREW A. CASHNER.)

octave (*Pkg*) octave is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{octave}[2017/10/31]

Remove the leading 1pt kern:

```
2 \VerifyCommand[lwarp][octave]{\@PrintTicks}{26490A1A3593981987395ED149B4D54D}
3
4 \RenewDocumentCommand{\@PrintTicks}{ m }{%
5 \kern-1pt% lwarp
6 \@TickNum = #1%
7 \loop
8 \@Tick{}%
9 \advance\@TickNum by -1
10 \ifnum\@TickNum > 0
11 \repeat
12 }
```

Use unicode for the prime character:

```
13 \RenewDocumentCommand{\@Tick}{\HTMLUnicode{2032}}
```

Catch the inline font:

```
14 \VerifyCommand[lwarp][octave]{\pitch}{3803E3D6B44EDFF8880F06BBE60571D9}
15
16 \RenewDocumentCommand{\pitch}{ m o m }{%
17 \if@OctaveNumber%
18 {%
19 \pitchfont{%
20 \LWR@textcurrentfont% lwarp
21 \MakeUppercase{#1}%
22 \IfValueTF{#2}{#2}{\textsubscript{#3}%
23 }%
24 }%
25 }%
26 \else%
27 {%
28 \pitchfont{%
29 \LWR@textcurrentfont% lwarp
30 \@GetOctaveTick{#1}[#2]{#3}%
31 }%
32 }%
33 }%
34 \fi%
35 }
```

The original was hard to adapt to lwarp's handling of &.

```

36 \StartDefiningTabulars
37 \renewcommand{\octavetable}{%
38 \begin{tabular}{ll}
39 \octaveprimes \pitch{C}{0} & \octavenumbers \pitch{C}{0} \\
40 \octaveprimes \pitch{C}{1} & \octavenumbers \pitch{C}{1} \\
41 \octaveprimes \pitch{C}{2} & \octavenumbers \pitch{C}{2} \\
42 \octaveprimes \pitch{C}{3} & \octavenumbers \pitch{C}{3} \\
43 \octaveprimes \pitch{C}{4} & \octavenumbers \pitch{C}{4} \\
44 \octaveprimes \pitch{C}{5} & \octavenumbers \pitch{C}{5} \\
45 \octaveprimes \pitch{C}{6} & \octavenumbers \pitch{C}{6} \\
46 \octaveprimes \pitch{C}{7} & \octavenumbers \pitch{C}{7} \\
47 \end{tabular}
48 }
49 \StopDefiningTabulars

```

File 354 **lwarp-orcidlink.sty**

§ 466 Package **orcidlink**

(Emulates or patches code by LEO C. STEIN.)

orcidlink (*Pkg*) orcidlink is patched for use by lwarp.

for HTML output:

```

1 \RequirePackage{lwarp-scalerel}
2
3 \LWR@ProvidesPackagePass{orcidlink}[2024/06/26]

4 \xpretocmd{\orcidlogo}
5   {\begin{lateximage}[orcidlogo]}
6   {}
7   {\LWR@patcherror{orcidlink}{orcidlogo pre}}
8
9 \xapptocmd{\orcidlogo}
10  {\end{lateximage}}
11  {}
12  {\LWR@patcherror{orcidlink}{orcidlogo post}}
13
14 \VerifyCommand[lwarp][orcidlink]{\orcidlinkX}
15   {3CDD2DC196F113AE4758968E937D7D08}
16
17 \renewrobustcmd{\orcidlinkX}[3]{%
18   \href%
19     {https://orcid.org/#2}%
20     {%
21       \ifstrempy{#1}{}{#1\,%
22         \begin{lateximage}*[orcid #2]?%
23           \orcidlogo%
24           \end{lateximage}% lwarp
25         \ifstrempy{#3}{}{\,\,#3}%
26       }%
27 }
28
29 \begin{warpMathJax}
30 \CustomizeMathJax{\newcommand{\orcidlink}[1]{} }
31 \end{warpMathJax}


```

File 355 **lwarp-overpic.sty**

§ 467 Package **overpic**

(Emulates or patches code by ROLF NIEPRASCHK.)

overpic (*Pkg*) overpic is patched for use by lwarp.

 **scaling** The macros `\overpicfontsize` and `\overpicfontskip` are used during HTML generation. These are sent to `\fontsize` to adjust the font size for scaling differences between the print and HTML versions of the document. Renew these macros before using the `overpic` and `Overpic` environments.

See section 90.2 for the print-mode version of `\overpicfontsize` and `\overpicfontskip`.

for HTML output:

```

1 \LWR@ProvidesPackagePass{overpic}[2017/10/06]
2 \newcommand*\overpicfontsize{12}
3 \newcommand*\overpicfontskip{14}
4
5 \BeforeBeginEnvironment{overpic}{%
6   \begin{lateximage}%
7   \fontsize{\overpicfontsize}{\overpicfontskip}%
8   \selectfont%
9 }
10
11 \AfterEndEnvironment{overpic}{\end{lateximage}}
12
13 \BeforeBeginEnvironment{Overpic}{%
14   \begin{lateximage}%
15   \fontsize{\overpicfontsize}{\overpicfontskip}%
16   \selectfont%
17 }
18
19 \AfterEndEnvironment{Overpic}{\end{lateximage}}
```

File 356 **lwarp-pagegrid.sty**

§ 468 Package **pagegrid**

pagegrid (*Pkg*) pagegrid is ignored.

for HTML output:

```


1 \LWR@ProvidesPackageDrop{pagegrid}[2016/05/16]
2 \newcommand*\pagegridsetup}[1]{}

```

File 357 **lwarp-pagenote.sty**

§ 469 Package **pagenote**

pagenote (*Pkg*) pagenote works as-is, but the page option is disabled.

 **labels** Note that labels in page notes do not appear as expected, even in the print version.

for HTML output:

```
1 \DeclareOption{page}{}
2 \LWR@ProvidesPackagePass{pagenote}[2009/09/03]
```

For MATHJAX:

```
3 \begin{warpMathJax}
4 \appto\LWR@synconotenumbers{\LWR@synconotenummer{\LWRpagenote}{\thepagenote}}
5 \CustomizeMathJax{\def\LWRpagenote{1}}
6 \CustomizeMathJax{\newcommand{\pagenote}[2][\LWRpagenote]{{}^{\mathrm{#1}}}}
7 \end{warpMathJax}
```

There is no `\pagenotemark`, so the following are not required:

```
\providecommand{\pagenotename}{pagenote}
\appto\LWR@synconotenames{\LWR@synconotename{\LWRpagenote}{\pagenotename}}
```

File 358 **lwarp-pagesel.sty**

§ 470 Package **pagesel**

`pagesel (Pkg)` `pagesel` is ignored.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{pagesel}[2016/05/16]
```

File 359 **lwarp-paralist.sty**

§ 471 Package **paralist**

(Emulates or patches code by BERND SCHANDL.)

`paralist (Pkg)` `paralist` is supported with minor changes.

for HTML output:

```
1 \LWR@ProvidesPackagePass{paralist}[2017/01/22]
```

The compact environments are identical to the regular ones:

```
2 \LetLtxMacro\compactitem\itemize
3 \LetLtxMacro\compactenum\enumerate
4 \LetLtxMacro\compactdesc\description
5 \LetLtxMacro\endcompactitem\enditemize
6 \LetLtxMacro\endcompactenum\endenumerate
7 \LetLtxMacro\endcompactdesc\enddescription
```

For the inline environments, revert `\item` to its original print-mode version:

```
8 \AtBeginEnvironment{inparaitem}{\LetLtxMacro\item\LWR@origitem}
9 \AtBeginEnvironment{inparaenum}{\LetLtxMacro\item\LWR@origitem}
10 \AtBeginEnvironment{inparadesc}{\LetLtxMacro\item\LWR@origitem}
```

Manual formatting of the description labels:

```
11 \def\paradescriptionlabel#1{\normalfont\textbf{#1}}
```

File 360 **lwarp-parallel.sty**

§ 472 Package **parallel**

(Emulates or patches code by MATTHIAS ECKERMANN.)

`parallel (Pkg)` `parallel` is emulated.

Package options are ignored. Footnotes are treated as normal `lwarp` footnotes.

Environment option `c` gives side-by-side `<div>`s of class `minipage`, each of whose width is a percent depending on the given left and right widths, proportional to `\linewidth`.

Inside each environment, `\linewidth` and `\textwidth` are set for the print-output sizes.

for HTML output: Discard all options for `lwarp-parallel`:

```

1 \LWR@ProvidesPackageDrop{parallel}[2003/04/13]
2 \newcounter{LWR@parallel@Lwidth}
3 \newcounter{LWR@parallel@Rwidth}
4 \newcommand*\LWR@parallel@border{}
5
6 \newenvironment*{Parallel}[3][[]%
7   {%
8     \LWR@printpendingfootnotes%
9     \setlength{\linewidth}{\LWR@userstextwidth}%
10    \setlength{\textwidth}{\LWR@userstextwidth}%
11    \renewcommand*\LWR@parallel@border{}%
12    \ifstrequal{#1}{v}%
13      {%
14        \renewcommand*\LWR@parallel@border{} ; border-left: 2px solid black}%
15      }%
16    }%
17  \ifblank{#2}{%
18    \ifblank{#3}{% {}{}
19      \setcounter{LWR@parallel@Lwidth}{45}%
20      \setcounter{LWR@parallel@Rwidth}{45}%
21    }% {}{}
22    {% {}{x}
23      \setlength{\LWR@templengthone}{\linewidth-#3}%
24      \setcounter{LWR@parallel@Lwidth}{%
25        90*\ratio{\LWR@templengthone}{\linewidth}%
26      }%
27      \setcounter{LWR@parallel@Rwidth}{%
28        90*\ratio{#3}{\linewidth}%
29      }%
30    }% {}{x}
31  }% #2 blank
32  {% #2 non-blank
33    \ifblank{#3}{% {}{}
34      \setcounter{LWR@parallel@Lwidth}{%
35        90*\ratio{#2}{\linewidth}%
36    }%

```

```

37         \setlength{\LWR@templengthone}{\linewidth-#2}%
38         \setcounter{LWR@parallel@Rwidth}{%
39             90*\ratio{\LWR@templengthone}{\linewidth}%
40         }%
41     }% {x}{x}
42     {% {x}{x}
43         \setcounter{LWR@parallel@Lwidth}{%
44             90*\ratio{#2}{\linewidth}%
45         }%
46         \setcounter{LWR@parallel@Rwidth}{%
47             90*\ratio{#3}{\linewidth}%
48         }%
49     }% {x}{x}
50 }% #2 non-blank
51 }
52 {%
53     \ParallelAtEnd%
54     \renewcommand*\ParallelAtEnd{}%
55     \LWR@printpendingfootnotes%
56 }
57
58 \newcommand*\ParallelLText}[1]{%
59     \begin{BlockClass}[%
60         width:\arabic{LWR@parallel@Lwidth}\% ; % space
61         padding: .5ex 1\% ; % space
62     ]{minipage}%
63     #1%
64     \end{BlockClass}%
65 }
66
67 \newcommand*\ParallelRText}[1]{%
68     \begin{BlockClass}[%
69         width:\arabic{LWR@parallel@Rwidth}\% ; % space
70         padding: .5ex 1\% ; % space
71         \LWR@parallel@border%
72     ]{minipage}%
73     #1%
74     \end{BlockClass}%
75 }
76
77 \newcommand*\ParallelPar{\LWR@printpendingfootnotes}
78
79 \newcommand*\ParallelAtEnd{}

```

File 361 **lwarp-parcolumns.sty**

§ 473 Package **parcolumns**

(Emulates or patches code by JONATHAN SAUER.)

parcolumns (*Pkg*) parcolumns is emulated.

rulebetween is honored. The other keys are ignored, including colwidths.

Each column is placed inside a <div> of class minipage, each of whose width is fixed at 85% divided by the number of columns. In most cases, this results in side-by-side minipages adapting to the browser width. Inside each minipage,

`\linewidth`, `\textwidth`, and `\textheight` are set for a virtual 6×9 inch page, with `\linewidth` divided by the number of columns.

for HTML output:

Discard all options for `lwarp-parcolumns`:

```

1 \RequirePackage{keyval}%
2
3 \LWR@ProvidesPackageDrop{parcolumns}[2004/11/25]

4 \newcounter{LWR@parcolumns@numcols}
5 \newcounter{LWR@parcolumns@thiscol}
6 \newcounter{LWR@parcolumns@width}
7 \newbool{LWR@parcolumns@started}
8 \newbool{LWR@parcolumns@rule}
9
10 \define@key{LWRparcols}{colwidths}{}
11 \define@key{LWRparcols}{distance}{}
12 \define@key{LWRparcols}{rulebetween}[true]{%
13   \setbool{LWR@parcolumns@rule}{#1}%
14 }
15 \define@key{LWRparcols}{nofirstindent}{}
16 \define@key{LWRparcols}{sloppy}{}
17 \define@key{LWRparcols}{sloppyspaces}{}
18
19 \newenvironment*{parcolumns}[2][
20   {%
21     \begin{LWR@setvirtualpage}*[#2]%
22     \setcounter{LWR@parcolumns@numcols}{#2}%
23     \setcounter{LWR@parcolumns@thiscol}{1}%
24     \boolfalse{LWR@parcolumns@started}%
25     \boolfalse{LWR@parcolumns@rule}%
26     \setcounter{LWR@parcolumns@width}{%
27       85/#2
28     }%
29     \setkeys{LWRparcols}{#1}%
30   }
31   {%

32     \colplacechunks%
33     \end{LWR@setvirtualpage}%
34   }
35
36 \newcommand{\LWR@parcolumns@onocol}[1]{%
37   \ifbool{LWR@parcolumns@started}%
38     {}%
39     {%
40       \LWR@htmldivclass{parcolumns}%
41       \booltrue{LWR@parcolumns@started}%
42     }%
43   \ifboolexpr{%
44     bool {LWR@parcolumns@rule} and
45     test {%
46       \ifnumgreater
47         {\value{LWR@parcolumns@thiscol}}
48         {1}
49     }%
50   }%
51   {\renewcommand{\LWR@tempone}{ ; border-left: 2px solid black}}%
52   {\renewcommand{\LWR@tempone}{}}%
53   \begin{BlockClass}[%

```



```

54     width:\arabic{LWR@parcolumns@width}\% ; % space
55     padding: .5ex 1\% ; % space
56     \LWR@tempone%
57   ]{minipage}%
58   #1%
59   \end{BlockClass}%
60   \addtocounter{LWR@parcolumns@thiscol}{1}%
61 }
62
63 \newcommand{\colchunk}[2][\value{LWR@parcolumns@thiscol}]{%
64   \whileboolexpr{%
65     test {%
66       \ifnumcomp%
67         {\value{LWR@parcolumns@thiscol}}
68         {<}
69         {#1}%
70     }%
71   }{%
72     \LWR@parcolumns@onecol{%
73   }%
74   \LWR@parcolumns@onecol{#2}%
75 }
76
77 \newcommand*\colplacechunks{%
78   \ifbool{LWR@parcolumns@started}%
79   {%
80     \LWR@htmldivclassend{div}%
81     \boolfalse{LWR@parcolumns@started}%
82   }%
83   {%
84     \setcounter{LWR@parcolumns@thiscol}{1}%
85 }

```

File 362 **lwarp-parnotes.sty**

§ 474 Package **parnotes**

(Emulates or patches code by CHELSEA HUGHES.)

parnotes (*Pkg*) **parnotes** is supported with some patches.

for HTML output:

```

1 \LWR@ProvidesPackagePass{parnotes}[2019/07/23]
2 \VerifyCommand[lwarp][parnotes]{\PN@parnote@real}{91361D751D6393BA644478FDE4A764DA}
3
4 \long\def\PN@parnote@real#1#2{%
5   \parnotemark{#1}%
6   % Unless this is the first parnote in \PN@text, add a separator first
7   \unless\ifx\PN@text\empty\g@addto@macro\PN@text{\parnoteintercmd}\fi
8   % Redefine \@currentlabel to the parnote label, so \label works
9   \g@addto@macro\PN@text{%
10%     \phantomsection
11     \def\@currentlabel{#1}%
12     \def\cref@currentlabel{%           lwarp
13       [parnotemark][\arabic{parnotemark}][\the parnotemark%
14     }%
15   }%

```

```

16   \g@addto@macro\PN@text{%
17     \LWR@textcurrentfont{%      lwarp
18       \parnotemark{#1}\nolinebreak\thinspace#2%
19     }%
20   }%
21 }
22
23 \VerifyCommand[lwarp][parnotes]{\PN@parnotes@real}{AF1257823BFCBC31ADDA4AAE1F3F3710}
24
25 \def\PN@parnotes@real{%

```

```

26 \ifPN@inparnotes
27 \else

```

```

28   \LWR@stoppars%

```

Avoid nested paragraphs:

```

29   \addtocounter{LWR@spandepth}{1}%

30   % We call \par later, so this avoids recursion with \PN@parnotes@auto
31   \PN@inparnotestruer
32 %   \unless\ifvmode\par\fi
33   % Avoid page breaks between a paragraph and its parnotes
34 %   \nopagebreak\addvspace{\parnotevskip}%
35   \begin{BlockClass}(note){footnotes}%      lwarp
36   \leavevmode\LWR@orignewline%

```

Typeset the parnote inside its own group to avoid global changes:

```

37   {%
38     \parnotefmt{\PN@text}%
39   }%
40   \leavevmode\LWR@orignewline%
41   \end{BlockClass}%      lwarp

42   \leavevmode\LWR@orignewline%
43   \global\def\PN@text{%
44   %
45   % These can be enabled or disabled by package options
46   %
47   \PN@disable@indent
48   \PN@reset@optional
49   \PN@inparnotesfalse

```

Reenable normal paragraph handling:

```

50   \addtocounter{LWR@spandepth}{-1}%
51 \fi
52 }

53 \newbool{LWR@parnotes@doingauto}
54 \boolfalse{LWR@parnotes@doingauto}

55 \VerifyCommand[lwarp][parnotes]{\PN@parnotes@auto}{08CC1722ABA55FA01D64F2B29C919D70}
56

```

```

57 \def\PN@parnotes@auto{%
58   \ifbool{LWR@parnotes@doingauto}{
59     \ifx\@currenvir\@PN@autopn
60     \unless\ifPN@inparnotes
61       \unless\ifx\PN@text\@empty
62         \expandafter\PN@parnotes@real
63       \fi
64     \fi
65   \fi
66 }{%
67 }

```

Replace original logic due to the use of new L^AT_EX paragraph hook handling:

```

68 \renewenvironment{autopn}%
69   {\booltrue{LWR@parnotes@doingauto}}
70   {\PN@parnotes@auto}%

```

If `cleveref` is in use, name the new notes:

```

71 \AtBeginDocument{
72   \ifdef{\crefname}{
73     \crefname{parnotemark}{paragraph note}{paragraph notes}
74     \Crefname{parnotemark}{Paragraph note}{Paragraph notes}
75   }{}
76 }

```

To nullify the footnotes where necessary:

```

77 \apptocmd{\LWR@nullifyfootnotes}{%
78   \renewcommand{\parnote}[2][{}]{%
79     \renewcommand\parnotemark[1]{}%
80 }{}{}

```

For MATHJAX:

```

81 \begin{warpMathJax}
82 \providecommand{\parnotename}{parnote}
83 \appto\LWR@syncnotenumbers{%
84   \addtocounter{parnotemark}{-1}% specific to parnotes
85   \LWR@synconenotenummer{LWRparnote}{\theparnotemark}%
86   \addtocounter{parnotemark}{1}% specific to parnotes
87 }
88 \appto\LWR@syncnotenames{\LWR@synconenotename{LWRparnote}{\parnotename}}
89 \CustomizeMathJax{\def\LWRparnote{1}}
90 \CustomizeMathJax{\newcommand{\parnote}[2][\LWRparnote]{{}^{\mathrm{#1}}}}
91 \CustomizeMathJax{\newcommand{\parnotemark}[1][\LWRparnote]{{}^{\mathrm{#1}}}}
92 \end{warpMathJax}

```

File 363 **lwarp-parskip.sty**

§ 475 Package **parskip**

parskip (*Pkg*) parskip is ignored.

for HTML output:

Discard all options for `lwarp-parskip`.

```
1 \LWR@ProvidesPackageDrop{parskip}[2001/04/09]
```

File 364 **lwarp-pbalance.sty**

§ 476 Package **pbalance**

`pbalance (Pkg)` `pbalance` is ignored.

for HTML output:

```
1 \RequirePackage{balance}
2
3 \LWR@ProvidesPackageDrop{pbalance}[2022/07/28]

4 \newcommand\shrinkLastPage[1]{}
5 \newcommand\balancePageNum[1]{}
6 \newcommand\nopbalance{}
```

File 365 **lwarp-pbox.sty**

§ 477 Package **pbox**

(Emulates or patches code by SIMON LAW.)

`pbox (Pkg)` `pbox` is emulated.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{pbox}[2011/12/07]

2 \NewDocumentCommand{\pbox}{0{t} 0{} 0{t} m +m}{%
3 \global\booltrue\LWR@minipagefullwidth}%
4 \parbox[#1][#2][#3][#4][#5]%
5 }
6
7 \newcommand{\settomwidth}[3][\columnwidth]{%
8 \settowidth{#2}{#3}%
9 }
10
11 \newcommand{\widthofpbox}[1]{%
12 \widthof{#1}%
13 }
```

File 366 **lwarp-pdfcol.sty**

§ 478 Package **pdfcol**

`pdfcol (Pkg)` `pdfcol` is ignored.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{pdfcol}[2018/11/01]
2
3 \ltx@newif\ifpdfcolAvailable
4 \pdfcolAvailablefalse
```

```

5
6 \def\pdfcolErrorNoStacks{
7   \PackageInfo{lwarp-pdfcol}{Ignoring pdfcol for HTML output.}
8 }
9
10 \def\pdfcolInitStack#1{%
11
12 \long\def\pdfcolIfStackExists#1#2#3{#3}%
13
14 \def\pdfcolSwitchStack#1{%
15
16 \def\pdfcolSetCurrentColor{%
17
18 \def\pdfcolSetCurrent#1{%

```

File 367 **lwarp-pdfcolfoot.sty**

§ 479 Package **pdfcolfoot**

pdfcolfoot (*Pkg*) pdfcolfoot is ignored.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{pdfcolfoot}[2016/05/16]
2
3 \newcommand*\pdfcolfoot@switch{}
4
5 \newcommand*\pdfcolfoot@current{}

```

File 368 **lwarp-pdfcolmk.sty**

§ 480 Package **pdfcolmk**

pdfcolmk (*Pkg*) pdfcolmk is ignored.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{pdfcolmk}[2016/05/16]

```

File 369 **lwarp-pdfcolparallel.sty**

§ 481 Package **pdfcolparallel**

pdfcolparallel (*Pkg*) pdfcolparallel is ignored.

for HTML output:

```

1 \RequirePackage{keyval}%
2
3 \LWR@ProvidesPackageDropA{pdfcolparallel}[2016/05/16]

```

Pass options to parallel:

```

4 \DeclareOption*{%
5   \PassoptionsToPackage{\CurrentOption}{parallel}%
6 }

```

Process the options:

```
7 \LWR@ProvidesPackageDropB
```

Require parallel with the given options:

```
8 \RequirePackage{parallel}[2003/04/13]
```

Ignore the new key:

```
9 \define@key{parallel}{rulebetweencolor}{}
```

File 370 **lwarp-pdfcolparcolumns.sty**

§ 482 Package **pdfcolparcolumns**

pdfcolparcolumns (*Pkg*) pdfcolparcolumns is ignored.

for HTML output: 1 \LWR@ProvidesPackageDropA{pdfcolparcolumns}{2016/05/16}

Pass options to parcolumns:

```
2 \DeclareOption*{%
3   \PassoptionsToPackage{\CurrentOption}{parcolumns}%
4 }
```

Process the options:

```
5 \LWR@ProvidesPackageDropB
```

Require parcolumns with the given options:

```
6 \RequirePackage{parcolumns}[2004/11/25]
```

Ignore the new key:

```
7 \define@key{LWRparcols}{rulebetweencolor}{}
```

File 371 **lwarp-pdfcomment.sty**

§ 483 Package **pdfcomment**

pdfcomment (*Pkg*) pdfcomment is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pdfcomment}[2016/06/13]

```
2 \newenvironment{pdfsidelinecomment}[2][{}]{ }
3 \newcommand{\pdfcomment}[2][{}]{ }
4 \newcommand{\pdfmargincomment}[2][{}]{ }
5 \newcommand{\pdfmarkupcomment}[3][[#2]{ }
6 \newcommand{\pdffreetextcomment}[2][{}]{ }
7 \newcommand{\pdfsquarecomment}[2][{}]{ }
```

```

8 \newcommand{\pdfcirclecomment}[2][{}]{
9 \newcommand{\pdflinecomment}[2][{}]{
10 \newcommand{\pdftooltip}[3][{}]{#2}
11 \newcommand{\pdfcommentsetup}[2][{}]{
12 \newcommand{\listofpdfcomments}[1][{}]{
13 \newcommand{\setliststyle}[1]{
14 \newcommand{\defineliststyle}[2]{
15 \newcommand{\defineavatar}[2]{
16 \newcommand{\definestyle}[2]{

```

For MATHJAX:

```

17 \begin{warpMathJax}
18 \CustomizeMathJax{\newcommand{\pdfmarkupcomment}[3][{}]{#2}}
19 \CustomizeMathJax{\newcommand{\pdftooltip}[3][{}]{#2}}
20 \end{warpMathJax}

```

File 372 **lwarp-pdfcrypt.sty**

§ 484 Package **pdfcrypt**

pdfcrypt (*Pkg*) pdfcrypt is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pdfcrypt}[2016/05/16]

```
2 \newcommand*{\pdfcryptsetup}[1]{}
```

File 373 **lwarp-pdflscope.sty**

§ 485 Package **pdfscape**

pdfscape (*Pkg*) pdfscape is ignored.

for HTML output: Discard all options for lwarp-pdfscape:

```
1 \LWR@ProvidesPackageDrop{pdfscape}[2019/12/05]
```

```

2 \let\landscape\relax
3 \let\endlandscape\relax
4
5 \newenvironment*{landscape}{}{}

```

File 374 **lwarp-pdfmarginpar.sty**

§ 486 Package **pdfmarginpar**

pdfmarginpar (*Pkg*) pdfmarginpar is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pdfmarginpar}[2011/08/05]

```
2 \newcommand{\pdfmarginpar}[2][{}]{
3 \newcommand{\pdfmarginparset}[1]{}
```

File 375 **lwarp-pdfpages.sty**

§ 487 Package **pdfpages**

(Emulates or patches code by ANDREAS MATTHIAS.)

pdfpages (*Pkg*) pdfpages is patched for use by lwarp.

Option link and linkname work:

```
\hyperlink{<filename>.pdf.<pagenumber>}{some text}
\hyperlink{<linkname>.<pagenumber>}{some text}
```

Options which make no sense in HTML are disabled.

for HTML output: 1 \LWR@ProvidesPackagePass{pdfpages}[2024-10-28]

Disable option which have no meaning for HTML output:

```
2 \define@key{pdfpages}{fitpaper}[false]{}
3 \define@key{pdfpages}{landscape}[false]{}
4 \define@key{pdfpages}{openright}[false]{}
5 \define@key{pdfpages}{signature}{}
6 \define@key{pdfpages}{signature*}{}
7 \define@key{pdfpages}{booklet}[false]{}
8 \define@key{pdfpages}{rotateoversize}[false]{}
9 \define@key{pdfpages}{doublepages}[false]{}
10 \define@key{pdfpages}{doublepagestwist}[false]{}
11 \define@key{pdfpages}{doublepagestwistodd}[false]{}
12 \define@key{pdfpages}{doublepagestwist*}[false]{}
13 \define@key{pdfpages}{doublepagestwistodd*}[false]{}
14 \define@key{pdfpages}{duplicatepages}[2]{}
15 \define@key{pdfpages}{thread}[false]{}
16 \define@key{pdfpages}{threadname}{}
17 \define@key{pdfpages}{linkfit}{}
18 \define@key{pdfpages}{linktodoc}[false]{}
19 \define@key{pdfpages}{linktodocfit}{}
20 \define@key{pdfpages}{linkfilename}{}
21 \define@key{pdfpages}{survey}[false]{}
22 \define@key{pdfpages}{survey-nolink}[false]{}
23 \define@key{pdfpages}{newwindow}[false]{}

```

Use print mode while measuring the page numbers:

```
24 \xpretocmd{\AM@getpagecount}{\LWR@restoreorigformatting}{}{}
```

Emulate a bit of eso-pic:

```
25 \newif\ifESO@texcoord
26
27 \newcommand{\ESO@HookIIBG}{}

```



```

28
29 \renewcommand{\AM@AddToShipoutPicture}{\g@addto@macro\ESO@HookIIBG}
30
31 \renewcommand{\ClearShipoutPicture}{}

```

\LWR@esopic@newpage

At each \newpage.

```
32 \newcommand*{\LWR@esopic@newpage}{%
```

Is there something to draw?

```
33 \ifdefvoid{\ESO@HookIIBG}%
34 {}%
35 {%
```

If the link option was specified, add a hyper target:

```
36   \ifAM@link%
37     \hypertarget{\AM@linkname.\AM@page}{}%
38   \fi%

```

Draw inside a picture environment of the size of a virtual page:

```
39   \begingroup%
40   \setlength{\unitlength}{1in}%
41   \begin{picture}(8,10.5)%
42   \ESO@HookIIBG%
43   \end{picture}%
44   \endgroup%
45   \global\let\ESO@HookIIBG\@empty%
46 }
47 }

```

\AM@output

Patched to use \LWR@esopic@newpage.

```

48 \VerifyCommand[lwarp][pdfpages]{\AM@output@i}{99E594CC8DCDD915D63CB1C8E41BE427}
49
50 \xpatchcmd{\AM@output@i}
51   {\clearpage}%
52   {\LWR@esopic@newpage}
53   {}
54   {\LWR@patcherror{pdfpages}{AM@output-1}}
55
56 \xpatchcmd{\AM@output@i}
57   {\clearpage}%
58   {\LWR@esopic@newpage}
59   {}
60   {\LWR@patcherror{pdfpages}{AM@output-2}}
61
62 \xpatchcmd{\AM@output@i}
63   {\newpage}
64   {\LWR@esopic@newpage}
65   {}
66   {\LWR@patcherror{pdfpages}{AM@output-3}}

```

\includepdf

Patched to set the user's paper size.

```

67 \xpretocmd{\includepdf}{%
68   \begingroup%
69   \setlength{\paperwidth}{\LWR@userspaperwidth}%
70   \setlength{\paperheight}{\LWR@userspaperheight}%

```

```

71 }{}{}
72
73 \xapptocmd{\includepdf}{%
74   \endgroup%
75 }{}{}

```

`\includepdfmerge` Patched to set the user's paper size.

```

76 \xpretocmd{\includepdfmerge}{%
77   \begingroup%
78   \setlength{\paperwidth}{\LWR@userspaperwidth}%
79   \setlength{\paperheight}{\LWR@userspaperheight}%
80 }{}{}
81
82 \xapptocmd{\includepdfmerge}{%
83   \endgroup%
84 }{}{}

```

`\AM@hyper@begin@i` Hyper links are created by `\LWR@esopic@newpage`, so don't create them here:

```
85 \renewcommand{\AM@hyper@begin@i}{}

```

File 376 **lwarp-pdfprivacy.sty**

§ 488 Package **pdfprivacy**

`pdfprivacy (Pkg)` `pdfprivacy` is ignored.

for HTML output: `1 \LWR@ProvidesPackageDrop{pdfprivacy}[2017/12/03]`

File 377 **lwarp-pdfrenderer.sty**

§ 489 Package **pdfrenderer**

`pdfrenderer (Pkg)` `pdfrenderer` is allowed during HTML, but it has no effect on HTML text output. `pdfrenderer` is enabled for use with `xfakebold`, and it is enabled during HTML so that it may be in use when an SVG math image is started. I.e. `xfakebold`'s `\setBold` may be used outside of a math expression and still be detected when the math begins.

The `lwarp-pdfrenderer` package is present because it used to disable `pdfrenderer`, so this newer version is to overwrite older versions.

for HTML output: `1 \LWR@ProvidesPackagePass{pdfrenderer}[2019/12/29]`

File 378 **lwarp-pdfsync.sty**

§ 490 Package **pdfsync**

(Emulates or patches code by J. LAURENS.)

pdfsync (*Pkg*) pdfsync is ignored.

for HTML output: Discard all options for lwarp-pdfsync:

```
1 \LWR@ProvidesPackageDrop{pdfsync}[2008/01/26]


2 \newcommand*\pdfsync{}
3 \newcommand*\pdfsyncstart{}
4 \newcommand*\pdfsyncstop{}
```

File 379 **lwarp-pdftricks.sty**

§ 491 Package **pdftricks**

(Emulates or patches code by C. V. RADHAKRISHNAN, C. V. RAJAGOPAL, ANTOINE CHAMBERT-LOIR.)

pdftricks (*Pkg*) pdftricks is patched for use by lwarp.

 **convert image files** The pdftricks image files <jobname>-fig*.pdf must be converted to .svg, or else a missing file error will occur. The image files must also be converted again whenever they change. To convert the images:

Enter ⇒ **lwarpmk pdftosvg <jobname>-fig*.pdf**

for HTML output: 1 \LWR@ProvidesPackagePass{pdftricks}[2003/08/10]

Reuse the print-mode images:

```
2 \def\PDFTfigname{\BaseJobname-fig\thepsfig}
```

If the .pdf images have not yet been converted to .svg then an error about a missing file will occur. Warn the user to convert the images.

```
3 \PackageWarning{lwarp-pdftricks}{%
4 When the pdftricks images change,
5 remember to convert PDF images to SVG using 'lwarpmk pdftosvg *-fig.pdf',
6 }
7
8 \AfterEndDocument{\typeout{***}}
9 \AfterEndDocument{\typeout{*** Note: If pdftricks images are not found, new, or updated,}}
10 \AfterEndDocument{\typeout{*** \space use 'lwarpmk pdftosvg \BaseJobname-fig*.pdf'}}
11 \AfterEndDocument{\typeout{***}}
```

File 380 **lwarp-pdfx.sty**

§ 492 Package **pdfx**

pdfx (*Pkg*) pdfx is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pdfx}[2017/05/18]

File 381 **lwarp-perpage.sty**

§ 493 Package **perpage**

(Emulates or patches code by DAVID KASTRUP.)

perpage (*Pkg*) **perpage** is mostly ignored, but support is added for footnote counters.

There is no page number in HTML, so most counters are not reset. If the document redefines `\the<countname>` to include `\theperpage`, it is necessary to place that redefinition inside a `warpprint` environment to avoid modifying the HTML definitions.

`\AddAbsoluteCounter` must not be inside `warpprint`, as the counter must be added for HTML also, although it is not incremented.

[footnote numbering](#) To have footnote numbers reset each time footnotes are printed:

```
\setcounter{footnoteReset}{1}
```

For `bigfoot`, `manyfoot`, or `perpage`:

```
\MakePerPage{footnoteX}
— or —
\MakeSortedPerPage{footnoteX}
```

The footnotes are reset when they are printed, according to section level as set by `FootnoteDepth`, which is not necessarily by HTML page. This is recommended for `\alph`, `\Alph`, or `\fnsymbol` footnotes, due to the limited number of symbols which are available.

for HTML output: 1 `\LWR@ProvidesPackageDrop{perpage}[2014/10/25]`

```
2 \newcommand\AddAbsoluteCounter[1]
3 {
4   \@ifundefined{c@abs#1}{%
5     \expandafter\newcount\csname c@abs#1\endcsname
6     \global\value{abs#1}\@ne
7     \global\expandafter\let\csname cl@abs#1\endcsname\@empty
8     \expandafter\xdef\csname theabs#1\endcsname{%
9       \noexpand\number \csname c@abs#1\endcsname
10    }%
11 %   \global\@namedef{c@pabs@#1}{\pp@cl@begin
12 %   \stepcounter{abs#1}%
13 %   \pp@cl@end}%
14 %   \@addtoreset{pabs@#1}{#1}
15 }
16 {}
17 }
18
19 \AddAbsoluteCounter{page}
20 \def\theabspage{1}
21
22 \newcommand*\MakePerPage[2][1]{%
23   \ifltxcounter{#2Reset}{%
24     \setcounter{#2Reset}{#1}%
```

```


25   }{
26
27 }%
28 }
29
30 \newcommand*\MakeSorted[1]{}
31
32 \newcommand*\MakeSortedPerPage[2][1]{%
33   \ifltxcounter{#2Reset}{%
34     \setcounter{#2Reset}{#1}%
35   }{
36 }%
37 }
38
39 \newcommand*\theperpage{1}

```

File 382 **lwarp-pfnote.sty**

§ 494 Package **pfnote**

pfnote (*Pkg*) pfnote is ignored.

 **pfnote numbers** While emulating pfnote, lwarp is not able to reset HTML footnote numbers per page number to match the printed version, as HTML has no concept of page numbers. lwarp therefore uses continuous footnote numbering even for pfnote.

for HTML output: 1 \LWR@ProvidesPackageDrop{pfnote}[1999/07/14]

File 383 **lwarp-phfqit.sty**

§ 495 Package **phfqit**

(Emulates or patches code by PHILIPPE FAIST.)

phfqit (*Pkg*) phfqit is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{phfqit}[2017/08/16]

```

2 \LetLtxMacro\LWR@origbitstring\bitstring
3
4 \renewcommand\bitstring[1]{%
5 \InlineClass[%
6   text-decoration: overline underline ;
7 ]{bitstring}{#1}%
8 % \phfqit@bitstring{#1}%
9 }
10
11 \appto\LWR@restoreorigformatting{%
12 \LetLtxMacro\bitstring\LWR@origbitstring%
13 }

```

File 384 **lwarp-physics.sty**

§ 496 Package **physics**

(Emulates or patches code by SERGIO C. DE LA BARRERA.)

physics (*Pkg*) **physics** works as-is for HTML with SVG math.

For MATHJAX, the MATHJAX v3 **physics** extension is used.

for HTML output: 1 \LWR@ProvidesPackagePass{physics}% No date is provided by the package.

```
2 \begin{warpMathJax}
3 \PackageNoteNoLine[lwarp, physics]{The MathJax v3 extension will be used}
4 \CustomizeMathJax{\require{physics}}
5 \end{warpMathJax}
```

File 385 **lwarp-physicsunits.sty**

§ 497 Package **physicsunits**

(Emulates or patches code by BRIAN W. MULLIGAN.)

physicsunits (*Pkg*) **physicsunits** is supported as-is for SVG math, and is emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{physicsunits}[2020/03/26]

```
2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{physicsunits}
4
5 \CustomizeMathJax{\newcommand{\micro}{\mu}}
6 \CustomizeMathJax{\newcommand{\V}[1][ ]{\, \mathrm{#1V}}}
7 \CustomizeMathJax{\newcommand{\Volt}[1][ ]{\, \mathrm{#1V}}}
8 \CustomizeMathJax{\newcommand{\Coulomb}[1][ ]{\, \mathrm{#1C}}}
9 \CustomizeMathJax{\newcommand{\esu}{\, \mathrm{esu}}}
10 \CustomizeMathJax{\newcommand{\Ohm}[1][ ]{\, \mathrm{#1\Omega}}}
11 \CustomizeMathJax{\newcommand{\Amp}[1][ ]{\, \mathrm{#1A}}}
12 \CustomizeMathJax{\newcommand{\Farad}[1][ ]{\, \mathrm{#1F}}}
13 \CustomizeMathJax{\newcommand{\Tesla}[1][ ]{\, \mathrm{#1T}}}
14 \CustomizeMathJax{\newcommand{\Gauss}[1][ ]{\, \mathrm{#1G}}}
15 \CustomizeMathJax{\newcommand{\Henry}[1][ ]{\, \mathrm{#1H}}}
16 \CustomizeMathJax{\newcommand{\eV}[1][ ]{\, \mathrm{#1eV}}}
17 \CustomizeMathJax{\newcommand{\keV}{\, \mathrm{keV}}}
18 \CustomizeMathJax{\newcommand{\MeV}{\, \mathrm{MeV}}}
19 \CustomizeMathJax{\newcommand{\J}[1][ ]{\, \mathrm{#1J}}}
20 \CustomizeMathJax{\newcommand{\Joule}[1][ ]{\, \mathrm{#1J}}}
21 \CustomizeMathJax{\newcommand{\erg}{\, \mathrm{erg}}}
22 \CustomizeMathJax{\newcommand{\kcal}{\, \mathrm{kcal}}}
23 \CustomizeMathJax{\newcommand{\Cal}{\, \mathrm{Cal}}}
24 \CustomizeMathJax{\newcommand{\calorie}[1][ ]{\, \mathrm{#1cal}}}
25 \CustomizeMathJax{\newcommand{\BTU}{\, \mathrm{BTU}}}
26 \CustomizeMathJax{\newcommand{\tnt}{\, \mathrm{ton\, of\, TNT}}}
27 \CustomizeMathJax{\newcommand{\Watt}[1][ ]{\, \mathrm{#1W}}}
```

```

28 \CustomizeMathJax{\newcommand{\hpi}{\, \mathrm{hp(I)}}}
29 \CustomizeMathJax{\newcommand{\hpm}{\, \mathrm{hp(M)}}}
30 \CustomizeMathJax{\newcommand{\hp}{\, \mathrm{hp}}}
31 \CustomizeMathJax{\newcommand{\meter}[1][ ]{\, \mathrm{#1m}}}
32 \CustomizeMathJax{\newcommand{\m}[1][ ]{\, \mathrm{#1m}}}
33 \CustomizeMathJax{\newcommand{\km}{\, \mathrm{km}}}
34 \CustomizeMathJax{\newcommand{\au}{\, \mathrm{au}}}
35 \CustomizeMathJax{\newcommand{\pc}[1][ ]{\, \mathrm{#1pc}}}
36 \CustomizeMathJax{\newcommand{\ly}[1][ ]{\, \mathrm{#1ly}}}
37 \CustomizeMathJax{\newcommand{\cm}{\, \mathrm{cm}}}
38 \CustomizeMathJax{\newcommand{\nm}{\, \mathrm{nm}}}
39 \CustomizeMathJax{\newcommand{\ft}{\, \mathrm{ft}}}
40 \CustomizeMathJax{\newcommand{\inch}{\, \mathrm{in}}}
41 \CustomizeMathJax{\newcommand{\mi}{\, \mathrm{mi}}}
42 \CustomizeMathJax{\newcommand{\s}[1][ ]{\, \mathrm{#1s}}}
43 \CustomizeMathJax{\newcommand{\Sec}[1][ ]{\, \mathrm{#1s}}}
44 \CustomizeMathJax{\newcommand{\Min}{\, \mathrm{min}}}
45 \CustomizeMathJax{\newcommand{\h}{\, \mathrm{h}}}
46 \CustomizeMathJax{\newcommand{\y}[1][ ]{\, \mathrm{#1y}}}
47 \CustomizeMathJax{\newcommand{\Day}{\, \mathrm{d}}}
48
49 \CustomizeMathJax{\newcommand{\gm}[1][ ]{\, \mathrm{#1g}}}
50 \CustomizeMathJax{\newcommand{\kg}{\, \mathrm{kg}}}
51 \CustomizeMathJax{\newcommand{\lb}{\, \mathrm{lb}}}
52 \CustomizeMathJax{\newcommand{\amu}{\, \mathrm{amu}}}
53 \CustomizeMathJax{\newcommand{\N}[1][ ]{\, \mathrm{#1N}}}
54 \CustomizeMathJax{\newcommand{\Newton}[1][ ]{\, \mathrm{#1N}}}
55 \CustomizeMathJax{\newcommand{\dyne}[1][ ]{\, \mathrm{#1dyn}}}
56 \CustomizeMathJax{\newcommand{\lbf}{\, \mathrm{lbf}}}
57 \CustomizeMathJax{\newcommand{\kmps}{\, \mathrm{km}\, \mathrm{s}^{-1}}}
58 \CustomizeMathJax{\newcommand{\kmph}{\, \mathrm{km}\, \mathrm{h}^{-1}}}
59 \CustomizeMathJax{\newcommand{\mps}[1][ ]{\, \mathrm{#1m}\, \mathrm{s}^{-1}}}
60 \CustomizeMathJax{\newcommand{\miph}{\, \mathrm{mi}\, \mathrm{h}^{-1}}}
61 \CustomizeMathJax{\newcommand{\kts}{\, \mathrm{kts}}}
62
63 \CustomizeMathJax{\newcommand{\mpss}[1][ ]{\, \mathrm{#1m}\, \mathrm{s}^{-2}}}
64 \CustomizeMathJax{\newcommand{\gacc}{\, \mathrm{g}}}
65 \CustomizeMathJax{\newcommand{\ftps}{\, \mathrm{ft}\, \mathrm{s}^{-2}}}
66 \CustomizeMathJax{\newcommand{\K}[1][ ]{\, \mathrm{#1K}}}
67 \CustomizeMathJax{\newcommand{\Kelvin}[1][ ]{\, \mathrm{#1K}}}
68 \CustomizeMathJax{\newcommand{\Celcius}{\, \mathrm{^{\circ}C}}}
69 \CustomizeMathJax{\newcommand{\Rankine}{\, \mathrm{^{\circ}R}}}
70 \CustomizeMathJax{\newcommand{\Fahrenheit}{\, \mathrm{^{\circ}F}}}
71
72 \CustomizeMathJax{\newcommand{\rpm}{\, \mathrm{rev}\, \mathrm{Min}^{-1}}}
73
74 \CustomizeMathJax{\newcommand{\Hz}[1][ ]{\, \mathrm{#1Hz}}}
75 \CustomizeMathJax{\newcommand{\barP}[1][ ]{\, \mathrm{#1bar}}}
76 \CustomizeMathJax{\newcommand{\atm}{\, \mathrm{atm}}}
77 \CustomizeMathJax{\newcommand{\Pa}[1][ ]{\, \mathrm{#1Pa}}}
78 \CustomizeMathJax{\newcommand{\mmHg}{\, \mathrm{mmHg}}}
79 \CustomizeMathJax{\newcommand{\inHg}{\, \mathrm{inHg}}}
80 \CustomizeMathJax{\newcommand{\lpsi}{\, \mathrm{psi}}}
81 \CustomizeMathJax{\newcommand{\lbsf}{\, \mathrm{psf}}}
82 \CustomizeMathJax{\newcommand{\Ba}[1][ ]{\, \mathrm{#1Ba}}}
83 \CustomizeMathJax{\newcommand{\Torr}[1][ ]{\, \mathrm{#1Torr}}}
84 \CustomizeMathJax{\newcommand{\mol}{\, \mathrm{mol}}}
85 \end{warpMathJax}

```

File 386 **lwarp-picinpar.sty**

§ 498 Package **picinpar**

(Emulates or patches code by FRIEDHELM SOWA.)

picinpar (*Pkg*) picinpar is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{picinpar}% No date is assigned.

The window is floated by a BlockClass style.

```

2 \long\def\LWR@HTML@window[#1,#2,#3,#4] {%
3   \if #2r%
4     \begin{BlockClass}[float:right](note){marginblock}%
5   \else%
6     \begin{BlockClass}[float:left](note){marginblock}%
7   \fi%
8   #3\par%
9   #4%
10  \end{BlockClass}%
11 }
12
13 \def\endLWR@HTML@window{}
14
15 \LWR@formattedenv{window}

```

The framepic and wframepic are placed inside a BlockClass of class framebox.

```

16 \def\LWR@HTML@framepic#1{%
17   \begin{BlockClass}{framebox}
18   \expandafter\box\csname #1box\endcsname%
19   \end{BlockClass}
20 }
21 \LWR@formatted{framepic}

22 \def\LWR@HTML@wframepic#1{%
23   \begin{BlockClass}{framebox}
24   \expandafter\box\csname #1box\endcsname%
25   \end{BlockClass}
26 }
27 \LWR@formatted{wframepic}

```

The caption is placed inside a BlockClass of class figurecaption.

```

28 \long\def\LWR@HTML@makewincaption#1#2{%
29 \begin{BlockClass}{figurecaption}
30 #1: #2
31 \end{BlockClass}
32 }
33 \LWR@formatted{@makewincaption}

```

With HTML output, figwindow and tabwindow must not pre-decrement their counters.


```

34 \long\def\LWR@HTML@figwindow[#1,#2,#3,#4] {%
35 %   \advance\c@figure -1
36   \window[#1,#2,{#3},{\def\@capttype{figure}%
37     \wincaption#4\par}] }
38
39 \def\endLWR@HTML@figwindow{\endwindow}
40
41 \LWR@formattedenv{figwindow}

```

For `tabwindow`, to change the catcode of `&`, `\StartDefiningTabulars` is used before absorbing the arguments, and `\EndDefiningTabulars` is used at the end of the environment.

```

42 \long\def\LWR@HTML@subtabwindow[#1,#2,#3,#4] {%
43 %   \advance\c@table -1
44   \window[#1,#2,{#3},{\def\@capttype{table}%
45     \wincaption#4\par}] }
46
47 \newcommand*\LWR@HTML@tabwindow{%
48   \StartDefiningTabulars%
49   \LWR@HTML@subtabwindow%
50 }
51
52 \def\endLWR@HTML@tabwindow{%
53   \endwindow%
54   \StopDefiningTabulars%
55 }
56
57 \LWR@formattedenv{tabwindow}

```

File 387 **lwarp-pifont.sty**

§ 499 Package **pifont**

(Emulates or patches code by WALTER SCHMIDT.)

`pifont` (*Pkg*) `pifont` is patched for use by `lwarp`.

Hashed inline images are used, as there may not be Unicode support for all icons.

for HTML output:

```

1 \LWR@ProvidesPackagePass{pifont}[2005/04/12]
2 \renewcommand{\Pisymbol}[2]{%
3   \begin{lateximage}*[Pisymbol][pisymbol#1#2]%
4   {\Pifont{#1}\char#2}%
5   \end{lateximage}%
6 }
7
8 \newcommand{\LWR@HTML@Pifill}[2]{
9   \Pisymbol{#1}{#2} \Pisymbol{#1}{#2} \Pisymbol{#1}{#2}
10 }
11 \LWR@formatted{Pifill}
12
13 \newcommand{\LWR@HTML@Piline}[2]{%
14   \par\noindent\hspace*{0.5in}
15   \Pifill{#1}{#2} \Pifill{#1}{#2} \Pifill{#1}{#2}
16 }

```

```
17 \LWR@formatted{Piline}
```

File 388 **lwarp-pinlabel.sty**

§ 500 Package **pinlabel**

(Emulates or patches code by COLIN ROURKE.)

pinlabel (*Pkg*) pinlabel is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{pinlabel}% no date given

```
2 \xpretocmd{\psfig}
3   {\begin{lateximage}[-pinlabel-~\PackageDiagramAltText]?}%
4   {}
5   {\LWR@patcherror{pinlabel}{psfigA}}
6
7 \xapptocmd{\psfig}
8   {\end{lateximage}}
9   {}
10  {\LWR@patcherror{pinlabel}{psfigB}}
```

File 389 **lwarp-placeins.sty**

§ 501 Package **placeins**

(Emulates or patches code by DONALD ARSENEAU.)

placeins (*Pkg*) placeins is ignored.

Discard all options for lwarp-placeins:

for HTML output: 1 \LWR@ProvidesPackageDrop{placeins}[2005/04/18]

```
2 \newcommand*{\FloatBarrier}{}

```

File 390 **lwarp-plarydshln.sty**

§ 502 Package **plarydshln**

plarydshln (*Pkg*) plarydshln is emulated by lwarp-arydshln.

for HTML output: 1 \LWR@ProvidesPackageDrop{plarydshln}[2018/10/20]

```
2 \LWR@origRequirePackage{lwarp-arydshln}
```

File 391 **lwarp-plext.sty**

§ 503 Package **plext**

plext (*Pkg*) plext is preloaded by jrticle and related classes.

for HTML output:

```

1 \LWR@loadbefore{plext}
2
3 \LWR@ProvidesPackagePass{plext}[2017/07/21]

4 \let\tate\relax
5
6 \DeclareExpandableDocumentCommand{\rensuji}{s o m}{#3}
7
8 % \layoutfloat(width,height)[pos]#4
9 \DeclareDocumentCommand{\layoutfloat}{d() o m}{}
10
11 % \DeclareLayoutCaption{type} <dir>(width)[pos1pos2]
12 \DeclareDocumentCommand{\DeclareLayoutCaption}{m d<> d() o}{}
13
14 \LetLtxMacro\pcaption\caption
15
16 % \layoutcaption<dir>(width)[pos]
17 \DeclareDocumentCommand{\layoutcaption}{d<> d() o}{}
18
19 \let\captiondir\relax

```

Add the optional <t/y> direction:

```

20 \RenewDocumentEnvironment{LWR@HTML@minipage}{d<> O{t} O{ } O{t} m}
21   {\LWR@HTML@sub@minipage{#2}{#3}{#4}{#5}}
22   {\endLWR@HTML@sub@minipage}
23
24 \RenewDocumentCommand{\LWR@HTML@parbox}{d<> O{t} O{ } O{t} m +m}
25 {
26 \LWR@traceinfo{parbox of width #4}%
27 \begin{minipage}[#2][#3][#4]{#5}%
28 #6
29 \end{minipage}%
30 }
31
32 % \pbox <t/y> [width] [l/r] {contents}
33 \RenewDocumentCommand{\pbox}{d<> O{0pt} O{c} m}{%
34 \global\booltrue{LWR@minipagefullwidth}%
35 \parbox{#2}{#4}%
36 }

```

picture, as modified by pext, is encapsulated by the lwarp core.

File 392 **lwarp-plextarydshln.sty**

§ 504 Package **plextarydshln**

plextarydshln (*Pkg*) plextarydshln is emulated by lwarp-arydshln.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{plextarydshln}[2018/10/20]

2 \LWR@origRequirePackage{lwarp-arydshln}

```

File 393 **lwarp-plextcolortbl.sty**

§ 505 Package **plextcolortbl**

plextcolortbl (*Pkg*) plextcolortbl is emulated by lwarp-colortbl.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{plextcolortbl}[2018/09/19]
2 \LWR@origRequirePackage{lwarp-colortbl}
```

File 394 **lwarp-plimsoll.sty**

§ 506 Package **plimsoll**

(Emulates or patches code by PALLE JØRGENSEN.)

plimsoll (*Pkg*) plimsoll is used as-is for SVG math, and emulated for MATHJAX.

The circ option is honored. For MATHJAX, \plimsollsans is the same as \plimsollroman.

for HTML output:

```
1 \LWR@ProvidesPackagePass{plimsoll}[2020/10/09]
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\plimsollroman}{\unicode{x029B5}}}
4
5 \CustomizeMathJax{\let\plimsoll\plimsollroman}
6 \CustomizeMathJax{\let\plimsollsans\plimsoll}
7
8 \ifdefstring{\stst}{^{\circ}}
9   {\CustomizeMathJax{\newcommand{\stst}{^{\circ}}}}
10  {\CustomizeMathJax{\newcommand{\stst}{^{\plimsoll}}}}
11 \end{warpMathJax}
```

File 395 **lwarp-prelim2e.sty**

§ 507 Package **prelim2e**

(Emulates or patches code by MARTIN SCHRÖDER.)

prelim2e (*Pkg*) prelim2e is ignored.

for HTML output: Discard all options for lwarp-prelim2e:

```
1 \LWR@ProvidesPackageDrop{prelim2e}[2009/05/29]
2 \newcommand{\PrelimText}{}
3 \newcommand{\PrelimTextStyle}{}
4 \newcommand{\PrelimWords}{}

```

File 396 **lwarp-prettyref.sty**

§ 508 Package **prettyref**

(Emulates or patches code by KEVIN S. RULAND.)

prettyref (*Pkg*) prettyref is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{prettyref}[1998/07/09]

```
2 \newrefformat{fig}{Figure \ref{#1}}
3 \newrefformat{tab}{Table \ref{#1}}
```

File 397 **lwarp-preview.sty**

§ 509 Package **preview**

preview (*Pkg*) preview is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{preview}[2017/04/24]


```
2 \newenvironment{preview}{}{}
3 \newenvironment{nopreview}{}{}
4 \NewDocumentCommand{\PreviewMacro}{s o o +m}{}
5 \NewDocumentCommand{\PreviewEnvironment}{s o o +m}{}
6 \newcommand{\PreviewSnarfEnvironment}[2][[]]{}
7 \NewDocumentCommand{\PreviewOpen}{s o}{}
8 \NewDocumentCommand{\PreviewClose}{s o}{}
9 \let\ifPreview\iffalse% \fi for syntax highlighting
```


File 398 **lwarp-psfrag.sty**

§ 510 Package **psfrag**

(Emulates or patches code by MICHAEL C. GRANT, DAVID CARLISLE.)

psfrag (*Pkg*) psfrag is patched for use by lwarp.

 **use psfrags** The psfrags environment is modified to use `lateximage` to encapsulate the image. Always use a psfrags environment to contain any local `\psfrag` macros and the associated `\includegraphics` or `\epsfig` calls. Outside of a psfrags environment, psfrags adjustments will not be seen by lwarp.

 **Tip:** Use a mono-spaced font for the tags in the EPS file.

for HTML output: 1 \LWR@ProvidesPackagePass{psfrag}[1998/04/11]

A `lateximage` captures the modified image from the document.

```

2 \BeforeBeginEnvironment{psfrags}{%
3   \begin{lateximage}[-psfrags-~\PackageDiagramAltText]?%
4 }
5
6 \AfterEndEnvironment{psfrags}{\end{lateximage}}

```

File 399 **lwarp-psfragx.sty**

§ 511 Package **psfragx**

(Emulates or patches code by PASCAL KOCKAERT.)

psfragx (*Pkg*) psfragx is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{psfragx}[2012/05/02]

A lateximage captures the modified image from the document.

```

2 \VerifyCommand[lwarp][psfragx]{\pfx@includegraphicx}{45FCF58D66C0BFFC685913A78CADF20D}
3
4 \def\pfx@includegraphicx#1#2{%
5   \begin{lateximage}[-psfragx-~\PackageDiagramAltText]?%
6   \mbox{\pfx@overpix{#1}{#2}\endpfx@overpix}%
7   \end{lateximage}%
8 }
9
10 \VerifyCommand[lwarp][psfragx]{\@@@overpix}{DD69D71E9C551D4D568AE4269AAAC1C0}
11
12 \def\@@@overpix[#1]<#2>[#3]#4{%
13   \begin{lateximage}[-psfragx-~\PackageDiagramAltText]?%
14   \pfx@overpix{#1,ovpfgd={#2},ovpbgd={#3}}{#4}%
15 }
16
17 \VerifyCommand[lwarp][psfragx]{\endoverpix}{722C858D87F96798ABE0BAF89CB13373}
18
19 \def\endoverpix{%
20   \endpfx@overpix%
21   \end{lateximage}%
22 }

```

File 400 **lwarp-pst-eps.sty**

§ 512 Package **pst-eps**

(Emulates or patches code by HERBERT VOSS.)

pst-eps (*Pkg*) pst-eps is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{pst-eps}[2005/05/20]

```

2 \renewenvironment{TeXtoEPS}{}{}
3 \renewcommand{\PSTtoEPS}[3][{}]{

```


File 401 **lwarp-pstool.sty**

§ 513 Package **pstool**

(Emulates or patches code by ZEBB PRIME, WILL ROBERTSON.)

pstool (*Pkg*) pstool is patched for use by lwarp.

\graphicspath is ignored, and the file directory must be stated.

 **path and filename** The filename must not have a file extension.

Use

Enter ⇒ **lwarpmk html**

followed by

Enter ⇒ **lwarpmk limages**

.

for HTML output: 1 \LWR@ProvidesPackagePass{pstool}[2018/01/20]

Each image is placed inside a lateximage to capture the results of psfrag.

```


2 \renewcommand\pstool@alwaysprocess[3][]{%
3   \begin{lateximage}[-pstool-~\PackageDiagramAltText]?%
4   \includegraphics{#2.pdf}%
5   \end{lateximage}%
6 }
7 \LetLtxMacro\pstool@neverprocess\pstool@alwaysprocess
8 \LetLtxMacro\pstool@maybeprocess\pstool@alwaysprocess
9
10 \renewcommand\pstool@psfragfig[4]{%
11   \begin{lateximage}[-pstool-~\PackageDiagramAltText]?%
12   \includegraphics{#2.pdf}%
13   \end{lateximage}%
14 }
```

File 402 **lwarp-pstricks.sty**

§ 514 Package **pstricks**

(Emulates or patches code by TIMOTHY VAN ZANDT.)

pstricks (*Pkg*) pstricks is patched for use by lwarp.

 **use pspicture** All pstricks content should be contained inside a pspicture environment.

for HTML output: 1 \LWR@ProvidesPackagePass{pstricks}[2018/01/06]

```

2 \BeforeBeginEnvironment{pspicture}{%
```

```

3   \begin{lateximage}[pspicture]%
4 }
5 \AfterEndEnvironment{pspicture}{\end{lateximage}}
6
7 \BeforeBeginEnvironment{pspicture*}{%
8   \begin{lateximage}[pspicture]%
9 }
10 \AfterEndEnvironment{pspicture*}{\end{lateximage}}

```

File 403 **lwarp-pxatbegshi.sty**

§ 515 Package **pxatbegshi**

pxatbegshi (*Pkg*) pxatbegshi is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pxatbegshi}[2017/11/04]

2 \LWR@origRequirePackage{lwarp-atbegshi}

File 404 **lwarp-pxeveryshi.sty**

§ 516 Package **pxeveryshi**

pxeveryshi (*Pkg*) pxeveryshi is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pxeveryshi}[2012/05/19]

2 \LWR@origRequirePackage{lwarp-everyshi}

File 405 **lwarp-pxfonts.sty**

§ 517 Package **pxfonts**

(Emulates or patches code by YOUNG RYU.)

pxfonts (*Pkg*) pxfonts is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{pxfonts}[2008/01/22]

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{pxfonts}
6
7 \LWR@mathjax@addgreek@l@up{}{up}
8 \end{warpMathJax}

```

File 406 **lwarp-pxftnright.sty**

§ 518 Package **pxftnright**

pxftnright (*Pkg*) pxftnright is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pxftnright}[2017/02/28]

2 \LWR@origRequirePackage{lwarp-ftnright}

File 407 **lwarp-pxjahyper.sty**

§ 519 Package **pxjahyper**

pxjahyper (*Pkg*) pxjahyper is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{pxjahyper}[2018/07/15]

File 408 **lwarp-quotchap.sty**

§ 520 Package **quotchap**

(Emulates or patches code by KARSTEN TINNEFELD, JAN KLEVER.)

quotchap (*Pkg*) quotchap is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{quotchap}[2019/07/09]

```
2 \newcommand{\@quotchap}{}
3 \newlength{\LWR@quotchapwidth}
4
5 \let\@printcites\relax
6
7 \newcommand*{\@iprintcites}{%
```

Place the quotes inside a <div> of class quotchap, of the maximum selected width:

```
8 \begin{BlockClass}[max-width: \LWR@printlength{\LWR@quotchapwidth}]{quotchap}
9 %\begin{minipage}{\LWR@quotchapwidth}
10 \@quotchap
11 %\end{minipage}
12 \end{BlockClass}
```

Deactivate the quote printing:

```
13 \global\let\@printcites\relax
14 }
15
16 \NewEnviron{savequote}[1][\linewidth]{%
```

Remember the width, adjusted for HTML, and make the length assignment global, per:

<https://tex.stackexchange.com/questions/300823/why-is-setlength-ineffective-inside-a-tabular-environment>

```
17 \setlength{\LWR@quotchapwidth}{#1*2}%
18 \global\LWR@quotchapwidth=\LWR@quotchapwidth%
```

Remember the body, and activate the quote printing:

```
19 \global\let\@quotchap\BODY
20 \global\let\@printcites\@iprintcites%
21 }
```

The quotation author is placed inside a <div> of class qauthor:

```
22 \newcommand{\qauthor}[1]{%
23   \LWR@stoppars%
24   \begin{BlockClass}{qauthor}%
25   {#1}%
26   \end{BlockClass}%
27   \LWR@startpars%
28 }
```

Fonts are ignored. Use css.

```
29 \newcommand{\qsetcnfont}[1]{%}
30 \providecommand*\quotefont{}
31 \providecommand*\qauthorfont{}
```

File 409 **lwarp-quoting.sty**

§ 521 Package **quoting**

(Emulates or patches code by THOMAS TITZ.)

quoting (*Pkg*) quoting is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{quoting}[2014/01/28]

```
2 \VerifyEnvironment[lwarp][quoting]{quoting}
3   {AEC586766C9109C2889BDED4AE083C05}{8CE7FB71438699772DFD79A2BC803AB3}
4
5 \xpatchcmd{\quoting}{\quo@begintext}
6   {\begin{LWR@blocktextcurrentfont}\quo@begintext}
7   {}
8   {\LWR@patcherror{quoting}{quoting}}
9
10 \xpatchcmd{\endquoting}{\quo@endtext}
11   {\quo@endtext\end{LWR@blocktextcurrentfont}\LWR@stoppars}
12   {}
13   {\LWR@patcherror{quoting}{endquoting}}
```

File 410 **lwarp-ragged2e.sty**

§ 522 Package **ragged2e**

(Emulates or patches code by MARTIN SCHRÖDER.)

ragged2e (*Pkg*) **ragged2e** is emulated.

Discard all options for **lwarp-ragged2e**:

for HTML output:

```

1 \LWR@ProvidesPackageDrop{ragged2e}[2009/05/21]

2 \LetLtxMacro\Centering\centering
3 \LetLtxMacro\RaggedLeft\raggedleft
4 \LetLtxMacro\RaggedRight\raggedright
5 \newcommand*\justifying{}
6 \newlength{\CenteringLeftskip}
7 \newlength{\RaggedLeftLeftskip}
8 \newlength{\RaggedRightLeftskip}
9 \newlength{\CenteringRightskip}
10 \newlength{\RaggedLeftRightskip}
11 \newlength{\RaggedRightRightskip}
12 \newlength{\CenteringParfillskip}
13 \newlength{\RaggedLeftParfillskip}
14 \newlength{\RaggedRightParfillskip}
15 \newlength{\JustifyingParfillskip}
16 \newlength{\CenteringParindent}
17 \newlength{\RaggedLeftParindent}
18 \newlength{\RaggedRightParindent}
19 \newlength{\JustifyingParindent}
20 \newenvironment*{Center}{\center}{\endcenter}
21 \newenvironment*{FlushLeft}{\flushleft}{\endflushleft}
22 \newenvironment*{FlushRight}{\flushright}{\endflushright}
23 \newenvironment*{justify}{\justifying}{\endjustifying}

```

File 411 **lwarp-realscripts.sty**

§ 523 Package **realscripts**

(Emulates or patches code by WILL ROBERTSON.)

realscripts (*Pkg*) **realscripts** is emulated. See `lwarp.css` for the `` of class `supsubscript`.

for HTML output:

```

1 \LWR@ProvidesPackagePass{realscripts}[2016/02/13]

2 \ExplSyntaxOn
3
4 \DeclareDocumentCommand \LWR@HTML@realsubscript {m} {
5   \LWR@HTML@textsubscript{#1}
6 }
7
8 \LWR@formatted{realsubscript}
9

```

```

10
11 \DeclareDocumentCommand \LWR@HTML@realsuperscript {m} {
12   \LWR@HTML@textsuperscript{#1}
13 }
14
15 \LWR@formatted{realsuperscript}
16
17
18 \ExplSyntaxOff
19
20
21 \newcommand*{\LWR@realscriptsalign}{}
22
23 \newcommand*{\LWR@setrealscriptsalign}[1]{%
24   \renewcommand*{\LWR@realscriptsalign}{}%
25   \ifthenelse{\equal{#1}{c}}{%
26     \renewcommand{\LWR@realscriptsalign}{%
27       \LWR@print@embox{text-align:center} ; %
28     }%
29   }{}%
30   \ifthenelse{\equal{#1}{r}}{%
31     \renewcommand{\LWR@realscriptsalign}{%
32       \LWR@print@embox{text-align:right} ; %
33     }%
34   }{}%
35 }
36
37 \DeclareDocumentCommand \LWR@HTML@textsubsuperscript {s O{l} mm} {%
38   \LWR@setrealscriptsalign{#2}%
39   \InlineClass[\LWR@realscriptsalign]{supsubscript}{%
40     \textsuperscript{#4}\textsubscript{#3}%
41   }%
42 }
43 \LWR@formatted{textsubsuperscript}
44
45 \FilenameNullify{%
46   \RenewDocumentCommand{\textsuperscript}{s m}{}%
47   \RenewDocumentCommand{\textsubscript}{s m}{}%
48   \renewcommand{\fakesubscript}[1]{}%
49   \renewcommand{\fakesuperscript}[1]{}%
50   \renewcommand{\realsubscript}[1]{}%
51   \renewcommand{\realsuperscript}[1]{}%
52   \renewcommand{\textsubsuperscript}[2]{}%
53   \renewcommand{\textsupersubscript}[2]{}%
54 }

```

File 412 **lwarp-refcheck.sty**

§ 524 Package **refcheck**

refcheck (*Pkg*) refcheck is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{refcheck}[2013/02/14]

```

2 \def\showrefnames{}
3 \def\norefnames{}
4 \def\showcitenames{}

```

```

5 \def\nocitenames{}
6 \def\setonmsgs{}
7 \def\setoffmsgs{}
8 \def\checkunlbd{}
9 \def\ignoreunlbd{}
10 \newcommand*\refcheckxrdoc}[2][{}]{

```

File 413 **lwarp-register.sty**

§ 525 Package **register**

(Emulates or patches code by MATTHEW LOVELL.)

register (*Pkg*) **register** is patched for use by **lwarp**.

for HTML output: 1 \LWR@ProvidesPackagePass{register}[2019/01/01]

Not using `\VerifyCommand` here because these patches are not likely to be affected by changes in the original.

```

2 \xpatchcmd{\register}
3   {\centering}
4   {%
5     \begin{center}%
6       \begin{lateximage}[-register-~\PackageDiagramAltText]?%
7     }
8   {}
9   {\LWR@patcherror{register}{register}}
10
11 \xpatchcmd{\endregister}
12   {\leftskip}
13   {%
14     \end{lateximage}\end{center}%
15     \leftskip%
16   }%
17   {}
18   {\LWR@patcherror{register}{endregister}}
19
20 \expandafter\xapptocmd\csname register*\endcsname
21   {%
22     \begin{center}%
23       \begin{lateximage}[-register-~\PackageDiagramAltText]?%
24     }
25     {}
26     {\LWR@patcherror{register}{register*}}
27
28 \expandafter\xpatchcmd\csname endregister*\endcsname
29   {\leftskip}
30   {%
31     \end{lateximage}\end{center}%
32     \leftskip%
33   }%
34   {}
35   {\LWR@patcherror{register}{endregister*}}
36
37 \setlength{\regwidth}{5in}

```

File 414 **lwarp-reysize.sty**

§ 526 Package **reysize**


(Emulates or patches code by DONALD ARSENEAU, BERNIE COSELL, MATT SWIFT.)

`reysize (Pkg)` **reysize** is patched for use by `lwarp`, and emulated for `MATHJAX`.

For HTML, only the inline macros are supported: `\textlarger`, `\textsmaller`, and `\textscale`. Each becomes an inline span of a modified font-size.

`\reysize`, `\larger`, `\smaller`, and `\relscale` are ignored.

While creating SVG math for HTML, the original definitions are temporarily restored, and so should work as expected.

 **not small** The HTML browser's setting for minimum font size may limit how small the output will be displayed.

for HTML output: 1 \LWR@ProvidesPackagePass{reysize}[2013/03/29]

```

2 \let\LWR@origreysize\reysize
3 \LetLtxMacro\LWR@origlarger\larger
4 \LetLtxMacro\LWR@origsmaller\smaller
5 \let\LWR@relscale\relscale
6 \LetLtxMacro\LWR@origtextlarger\textlarger
7 \LetLtxMacro\LWR@origtextsmaller\textsmaller
8 \let\LWR@textscale\textscale
9
10 \appto\LWR@restoreorigformatting{%
11 \let\reysize\LWR@origreysize%
12 \LetLtxMacro\larger\LWR@origlarger%
13 \LetLtxMacro\smaller\LWR@origsmaller%
14 \let\relscale\LWR@relscale%
15 \LetLtxMacro\textlarger\LWR@origtextlarger%
16 \LetLtxMacro\textsmaller\LWR@origtextsmaller%
17 \let\textscale\LWR@textscale%
18 }
19
20 \newcounter{LWR@reusizetemp}
21
22 \renewcommand*\reysize[1]{%
23 \renewcommand*\larger[1][1]{%
24 \renewcommand*\smaller[1][1]{%
25 \renewcommand*\relscale[1]{%
26
27 \renewcommand*\textlarger[2][1]{%
28 \setcounter{LWR@reusizetemp}{100+(#1*20)}%
29 \InlineClass[font-size:\arabic{LWR@reusizetemp}\%]{textlarger}{#2}%
30 }
31
32 \renewcommand*\textsmaller[2][1]{%
33 \setcounter{LWR@reusizetemp}{100-(#1*20)}%
34 \InlineClass[font-size:\arabic{LWR@reusizetemp}\%]{textsmaller}{#2}%
35 }
36

```

```

37 \renewcommand*{\textscale}[2]{%
38 \setcounter{LWR@relesizetemp}{100*\real{#1}}%
39 \InlineClass[font-size:\arabic{LWR@relesizetemp}\%]{textscale}{#2}%
40 }

```

For MATHJAX:

```


41 \begin{warpMathJax}
42 \CustomizeMathJax{\newcommand{\mathlarger}[1]{#1}}
43 \CustomizeMathJax{\newcommand{\mathsmaller}[1]{#1}}
44 \end{warpMathJax}

```

File 415 **lwarp-repeatindex.sty**

§ 527 Package **repeatindex**

repeatindex (*Pkg*) repeatindex is emulated for lwarp.

 **style file** lwarp must be used with a special style file:

```
\usepackage[makeindex,makeindexStyle={lwarp_repeatindex}]{lwarp}
```

where lwarp_repeatindex.ist may be copied from the following modified version of lwarp.ist:

```

preamble
"\begin{theindex}
  \providecommand*\lettergroupDefault[1]{}
  \providecommand*\lettergroup[1]{%
    \par\textbf{#1}\par
    \nopagebreak
  }
"
headings_flag 1
heading_prefix "
  \lettergroup{"
heading_suffix ""
delim_0 "], \hyperindexref{"
delim_1 " ", \hyperindexref{"
delim_2 " ", \hyperindexref{"
delim_n "}, \hyperindexref{"
delim_r "} -- \hyperindexref{"
delim_t ""

item_0 "\n \item ["

```

(The modifications are the `delim_0` and `item_0` entries.)

for HTML output: 1\LWR@ProvidesPackageDrop{repeatindex}[2001/10/13]

In the lwarp core, `\LWR@indexitem` is modified to accept the optional `\item` argument.

```

2 \RequirePackage{makeidx}
3 \def\entryprefix{\itshape}
4 \def\entrypostfix{\dots}

```

File 416 **lwarp-repltext.sty**

§ 528 Package **repltext**

repltext (*Pkg*) repltext is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{repltext}[2020/09/25]

```

2 \newcommand{\repltext}[2]{#2}
3 \newcommand*\prevrepl{}

```

For MATHJAX:

```

4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\repltext}[2]{#2}}
6 \end{warpMathJax}

```

File 417 **lwarp-resizegather.sty**

§ 529 Package **resizegather**

resizegather (*Pkg*) resizegather is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{resizegather}[2016/05/16]

```

2 \newcommand*\resizegathersetup[1]{}

```

File 418 **lwarp-returntograd.sty**

§ 530 Package **returntograd**

returntograd (*Pkg*) returntograd is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{returntograd}[2018/08/21]

```

2 \NewDocumentCommand\returntograd{ 0 {} }{}
3 \NewDocumentCommand\returntogradsetup { m } {}
4 \NewDocumentCommand\showdebugpagegrid {} {}

```

File 419 **lwarp-rlepsz.sty**

§ 531 Package **rlepsz**

(Emulates or patches code by MICHAEL GREENE, COLIN ROURKE.)

`rlepsz` (*Pkg*) `rlepsz` is patched for use by `lwarp`.

⚠ **Rename the style file!** The file `rlepsz.tex` must be copied to `rlepsz.sty` for `lwarp` to detect and patch it.

for HTML output:

```

1 \LWR@ProvidesPackagePass{rlepsz}% No date given.
2 \xpretocmd{\relabelbox}
3   {\begin{lateximage}}
4   {}
5   {\LWR@patcherror{rlepsz}{relabelbox}}
6
7 \xapptocmd{\endrelabelbox}
8   {\end{lateximage}}
9   {}
10  {\LWR@patcherror{rlepsz}{endrelabelbox}}
```

File 420 **lwarp-rmathbr.sty**

§ 532 Package **rmathbr**

(Emulates or patches code by DENIS RYABOV.)

`rmathbr` (*Pkg*) `rmathbr` is used as-is for SVG math, and emulated for MATHJAX.

for HTML output:

```

1 \LWR@ProvidesPackagePass{rmathbr}[2020/12/11]
2 \begin{warpMathJax}
3 \CustomizeMathJax{\def\*{~}}
4 \CustomizeMathJax{\newcommand{\cdott}{\cdot}}
5 \CustomizeMathJax{\newcommand{\nobr}{}}
6 \end{warpMathJax}
```

File 421 **lwarp-rmpage.sty**

§ 533 Package **rmpage**

`rmpage` (*Pkg*) `rmpage` is ignored.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{rmpage}[1997/09/29]
```

File 422 **lwarp-romanbar.sty**

§ 534 Package **romanbar**

(Emulates or patches code by H.-MARTIN MÜNCH.)

`romanbar` (*Pkg*) `romanbar` is patched for use by `lwarp`.

An inline class with an overline and underline is used.

for HTML output:

```

1 \LWR@ProvidesPackagePass{romanbar}[2012/01/01]
```

```

2 \DeclareRobustCommand{\Roman@bar}[1]{% #1 is in Roman, i.e. MMXII
3 \InlineClass[%
4   text-decoration: overline underline ;
5 ]{romanbar}{#1}%
6 }

```

File 423 **lwarp-romanbarpagenumber.sty**

§ 535 Package **romanbarpagenumber**

romanbarpagenumber (*Pkg*) romanbarpagenumber is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{romanbarpagenumber}[2015/02/06]

File 424 **lwarp-rotating.sty**

§ 536 Package **rotating**

(Emulates or patches code by ROBIN FAIRBAIRNS, SEBASTIAN RAHTZ, LEONOR BARROCA.)

rotating (*Pkg*) rotating is emulated.

All rotations are ignored in HTML output.

for HTML output:

```

1 \LWR@ProvidesPackagePass{rotating}[2016/08/11]
2 \RequirePackage{graphicx}

3 \LetLtxMacro\LWR@HTML@sidewaystable\table
4 \let\endLWR@HTML@sidewaystable\endtable
5 \LWR@formattedenv{sidewaystable}
6
7 \LetLtxMacro\LWR@HTML@sidewaysfigure\figure
8 \let\endLWR@HTML@sidewaysfigure\endfigure
9 \LWR@formattedenv{sidewaysfigure}
10
11 \newenvironment*{LWR@HTML@sideways}{}{}
12 \LWR@formattedenv{sideways}
13
14 \newenvironment*{LWR@HTML@turn}[1]{}{}
15 \LWR@formattedenv{turn}
16
17 \newenvironment*{LWR@HTML@rotate}[1]{}{}
18 \LWR@formattedenv{rotate}
19
20 \NewDocumentCommand{\LWR@HTML@turnbox}{m +m}{#2}
21 \LWR@formatted{turnbox}
22
23 \let\LWR@HTML@rotcaption\caption
24 \LWR@formatted{rotcaption}
25
26 \let\LWR@HTML@makerotcaption\makecaption
27 \LWR@formatted{@makerotcaption}

```

File 425 **lwarp-rotfloat.sty**

§ 537 Package **rotfloat**

(Emulates or patches code by AXEL SOMMERFELDT.)

rotfloat (*Pkg*) rotfloat is emulated.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{rotfloat}[2004/01/04]
2
3 \RequirePackage{float}
4 \RequirePackage{rotating}

```

`\newfloat` {<1: type>} {<2: placement>} {<3: ext>} [<4: within>]

Emulates the `\newfloat` command from the `float` package. Sideways floats are `\let` to the same as regular floats.

“placement” is ignored.

```

5 \RenewDocumentCommand{\newfloat}{m m m o}{%
6 \IfValueTF{#4}%
7 {%
8   \DeclareFloatingEnvironment[fileext=#3,within=#4]{#1}%
9 }%
10 {%
11   \DeclareFloatingEnvironment[fileext=#3]{#1}%
12 }%
13 \csletcs{sideways#1}{#1}%
14 \csletcs{endsideways#1}{end#1}%

```

Remember the float style:

```

15 \csedef{LWR@floatstyle@#1}{\LWR@floatstyle}%
16 \csedef{LWR@floatstyle@sideways#1}{\LWR@floatstyle}%

```

`newfloat` package automatically creates the `\listof` command for new floats, but `float` does not, so remove `\listof` here in case it is manually created later:

```

17 \cslet{listof#1s}\relax%
18 \cslet{listof#1es}\relax%
19 \cslet{listofsideways#1s}\relax%
20 \cslet{listofsideways#1es}\relax%
21 }

```

File 426 **lwarp-rviewport.sty**

§ 538 Package **rviewport**

rviewport (*Pkg*) rviewport is honored inside a `lateximage`, and otherwise ignored for HTML output.

If `rviewport` is important for an image, enclose the image inside a `lateximage` environment.

for HTML output:

```
1 \LWR@ProvidesPackagePass{rviewport}[2011/08/27]
2 \define@key{igraph}{rviewport}{}

```

File 427 **lwarp-savetrees.sty**

§ 539 Package **savetrees**

`savetrees` (*Pkg*) `savetrees` is ignored.

for HTML output: Discard all options for `lwarp-savetrees`:

```
1 \LWR@ProvidesPackageDrop{savetrees}[2016/04/13]
```

File 428 **lwarp-scalefnt.sty**

§ 540 Package **scalefnt**

(Emulates or patches code by D. CARLISLE.)

`scalefnt` (*Pkg*) `scalefnt` is ignored.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{scalefnt}
2 \DeclareRobustCommand\scalefont[1]{}

```

File 429 **lwarp-scalerel.sty**

§ 541 Package **scalerel**

(Emulates or patches code by STEVEN B. SEGLETES.)

`scalerel` (*Pkg*) `scalerel` is used as-is for SVG math, and is emulated and ignored for `MATHJAX`.

for HTML output:

```
1 \LWR@ProvidesPackagePass{scalerel}[2016/12/29]
```

For `MATHJAX`:

```
2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{scalerel}
4
5 \CustomizeMathJax{\newcommand{\scalerel}{\ifstar{\scalerelplain}{\scalerelplus}}}
6 \CustomizeMathJax{\newcommand{\scalerelplain}[3][\#2]}
7 \CustomizeMathJax{\newcommand{\scalerelplus}[3][\#2\#3]}
8 \CustomizeMathJax{\newcommand{\stretchrel}{\ifstar{\stretchrelplain}{\stretchrelplus}}}
9 \CustomizeMathJax{\newcommand{\stretchrelplain}[3][\#2]}
10 \CustomizeMathJax{\newcommand{\stretchrelplus}[3][\#2\#3]}
11 \CustomizeMathJax{\newcommand{\scaleto}[3][\#2]}

```

```

12 \CustomizeMathJax{\newcommand{\stretchto}[3][\#2]}
13 \CustomizeMathJax{\newcommand{\scaleleftright}[4][\#2\#3\#4]}
14 \CustomizeMathJax{\newcommand{\stretchleftright}[4][\#2\#3\#4]}
15 \CustomizeMathJax{\newcommand{\hstretch}[2]{\#2}}
16 \CustomizeMathJax{\newcommand{\vstretch}[2]{\#2}}
17 \CustomizeMathJax{\newcommand{\scaleobj}[2]{\#2}}
18 \CustomizeMathJax{\newcommand{\ThisStyle}[1]{\#1}}
19 \CustomizeMathJax{\newcommand{\SavedStyle}{}}
20 \CustomizeMathJax{\def\scriptstyleScaleFactor{.7}}
21 \CustomizeMathJax{\def\scriptscriptstyleScaleFactor{.5}}
22 \CustomizeMathJax{\newcommand{\discernmathstyle}{}}
23 \CustomizeMathJax{\newcommand{\ignoremathstyle}[1][T]}
24 \CustomizeMathJax{\newcommand{\Isnextbyte}[3][v]}
25 \end{warpMathJax}

```

File 430 **lwarp-schemata.sty**

§ 542 Package **schemata**

(Emulates or patches code by CHARLES P. SCHAUM.)

schemata (*Pkg*) schemata is patched for use by lwarp.

for HTML output:

```

1 \LWR@ProvidesPackagePass{schemata}[2020/11/23]

2 \LetLtxMacro\LWR@schemata@origschema\schema
3 \LetLtxMacro\LWR@schemata@origSchema\Schema
4
5 \renewcommand{\schema}[3][open]{%
6   \begin{lateximage}[-schemata~\PackageDiagramAltText]?%
7   \LWR@print@normalsize%
8   \LWR@schemata@origschema[\#1]{\#2}{\#3}%
9   \end{lateximage}%
10 }
11
12 \renewcommand{\Schema}[5][open]{%
13   \begin{lateximage}[-schemata~\PackageDiagramAltText]?%
14   \LWR@print@normalsize%
15   \LWR@schemata@origSchema[\#1]{\#2}{\#3}{\#4}{\#5}%
16   \end{lateximage}%
17 }

```

File 431 **lwarp-scrextend.sty**

§ 543 Package **scrextend**

scrextend (*Pkg*) scrextend is emulated.

This package may be loaded standalone, but is also loaded automatically if koma-script classes are in use. `\DeclareDocumentCommand` is used to overwrite the koma-script definitions.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{scrextend}[2020/01/24]

```

```

2 \DeclareDocumentCommand{\setkomafont}{m m}{}
3 \DeclareDocumentCommand{\addkomafont}{m m}{}
4 \DeclareDocumentCommand{\usekomafont}{m}{}
5
6 \DeclareDocumentCommand{\usefontofkomafont}{m}{}
7 \DeclareDocumentCommand{\useencodingofkomafont}{m}{}
8 \DeclareDocumentCommand{\usesizeofkomafont}{m}{}
9 \DeclareDocumentCommand{\usefamilyofkomafont}{m}{}
10 \DeclareDocumentCommand{\useseriesofkomafont}{m}{}
11 \DeclareDocumentCommand{\useshapeofkomafont}{m}{}
12
13 \providecommand*\coverpagetopmargin{}
14 \providecommand*\coverpagebottommargin{}
15 \providecommand*\coverpageleftmargin{}
16 \providecommand*\coverpagerightmargin{}
17

```

Title page:

```

18 \AtBeginDocument{
19   \let\LWR@koma@orig@maketitle\maketitle
20   \DeclareDocumentCommand{\maketitle}{o}{\LWR@koma@orig@maketitle}
21 }
22
23 \providecommand*\@maketitle{}
24 \renewrobustcmd{\@maketitle}{%
25   \ifdefvoid{\@titlehead}{}{%
26     \begin{BlockClass}{titlehead}%
27     \@titlehead%
28     \end{BlockClass}%
29   }%
30   \ifdefvoid{\@subject}{}{%
31     \begin{BlockClass}{subject}%
32     \@subject%
33     \end{BlockClass}%
34   }%
35   \LWR@stoppars%
36   \LWR@htmltag{\LWR@tagtitle}%
37   \@title%
38   \LWR@htmltag{\LWR@tagtitleend}%
39   \ifdefvoid{\@subtitle}{}{%
40     \begin{BlockClass}{subtitle}%
41     \@subtitle%
42     \end{BlockClass}%
43   }%
44   \LWR@startpars%
45   \begin{BlockClass}{author}%

46   \renewcommand*\cr{}%
47   \renewcommand*\crr{}%
48   \renewcommand*\noalign{}%

49   \renewcommand{\and}{%
50     \end{BlockClass}%
51     \begin{BlockClass}{oneauthor}%
52   }%
53   \begin{BlockClass}{oneauthor}%
54     \@author%
55   \end{BlockClass}%

```

```

56   \end{BlockClass}%
57   \begin{BlockClass}{titledate}%
58   \@date%
59   \end{BlockClass}%
60   \ifdefvoid{\@published}{}{%
61     \begin{BlockClass}{published}%
62     \@published%
63     \end{BlockClass}%
64   }%
65 }
66
67 \AddSubtitlePublished
68
69 \DeclareDocumentCommand{\extratitle}{m}{}
70 \DeclareDocumentCommand{\frontispiece}{m}{}
71
72 \def\@titlehead{}%
73 \DeclareDocumentCommand{\titlehead}{m}{\gdef\@titlehead{#1}}%
74
75 \def\@subject{}%
76 \DeclareDocumentCommand{\subject}{m}{\gdef\@subject{#1}}%
77
78 % \subtitle and \published are defined by \AddSubtitlePublished
79
80 \DeclareDocumentCommand{\publishers}{m}{\published{#1}}
81
82 \DeclareDocumentCommand{\uppertitleback}{m}{}
83 \DeclareDocumentCommand{\lowertitleback}{m}{}
84 \DeclareDocumentCommand{\dedication}{m}{}
85
86 \DeclareDocumentCommand{\ifthispageodd}{m m}{#1}
87
88 \DeclareDocumentCommand{\cleardoublepageusingstyle}{m}{}
89 \DeclareDocumentCommand{\cleardoubleemptypage}{}{}
90 \DeclareDocumentCommand{\cleardoubleplainpage}{}{}
91 \DeclareDocumentCommand{\cleardoublestandardpage}{}{}
92 \DeclareDocumentCommand{\cleardoubleoddpaper}{}{}
93 \DeclareDocumentCommand{\cleardoubleoddpaperusingstyle}{m}{}
94 \DeclareDocumentCommand{\cleardoubleoddpaperemptypage}{}{}
95 \DeclareDocumentCommand{\cleardoubleoddpaperplainpage}{}{}
96 \DeclareDocumentCommand{\cleardoubleoddpaperstandardpage}{}{}
97 \DeclareDocumentCommand{\cleardoubleevenpaper}{}{}
98 \DeclareDocumentCommand{\cleardoubleevenpaperusingstyle}{m}{}
99 \DeclareDocumentCommand{\cleardoubleevenpaperemptypage}{}{}
100 \DeclareDocumentCommand{\cleardoubleevenpaperplainpage}{}{}
101 \DeclareDocumentCommand{\cleardoubleevenpaperstandardpage}{}{}
102
103 \DeclareDocumentCommand{\multiplefootnoteseperator}{}{}%
104   \begingroup\let\thefootnotemark\multfootsep\@makefnmark\endgroup
105 }
106
107 \DeclareDocumentCommand{\multfootsep}{}{, }
108
109 \DeclareDocumentCommand{\footref}{m}{%
110   \begingroup
111     \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
112   \endgroup
113   \@footnotemark
114 }
115

```

```

116 \DeclareDocumentCommand{\deffootnote}{o m m m}{ }
117 \DeclareDocumentCommand{\deffootnotemark}{m}{ }
118 \DeclareDocumentCommand{\setfootnoterule}{o m}{ }
119 \DeclareDocumentCommand{\raggedfootnote}{ }{ }

120 \DeclareDocumentCommand{\dictum}{o m}{
121 \begin{LWR@BlockClassWP}{\LWR@print@embox{text-align:right}}{ }\dictum}
122 #2
123 \IfValueT{#1}
124 {
125 \LWR@stoppars%
126 \ifbool{FormatWP}
127 {\begin{BlockClass}[\LWR@print@embox{border-top: } 1px solid gray]{dictumauthor}}
128 {\begin{BlockClass}{dictumauthor}}
129 \dictumauthorformat{#1}
130 \end{BlockClass}
131 }
132 \end{LWR@BlockClassWP}
133 }
134
135 \DeclareDocumentCommand{\dictumwidth}{ }{ }
136 \DeclareDocumentCommand{\dictumauthorformat}{m}{(#1)}
137 \DeclareDocumentCommand{\dictumrule}{ }{ }
138 \DeclareDocumentCommand{\raggeddictum}{ }{ }
139 \DeclareDocumentCommand{\raggeddictumtext}{ }{ }
140 \DeclareDocumentCommand{\raggeddictumauthor}{ }{ }
141
142 \DeclareDocumentEnvironment{labeling}{o m}
143 {%
144 \def\sc@septext{#1}%
145 \list{ }{ }%
146 \let\makelabel\labelinglabel%
147 }
148 {
149 \endlist
150 }
151
152 \DeclareDocumentCommand{\labelinglabel}{m}{%
153 #1 \quad \sc@septext%
154 }
155
156 \let\addmargin\relax
157 \let\endaddmargin\relax
158 \cslet{addmargin*}{\relax}
159 \cslet{endaddmargin*}{\relax}

160 \NewDocumentEnvironment{addmargin}{s O{ } m}
161 {
162 \LWR@stoppars%
163 \setlength{\LWR@templengthtwo}{#3}
164 \ifblank{#2}
165 {
166 \begin{BlockClass}[
167 \LWR@print@embox{margin-left:\LWR@printlength{\LWR@templengthtwo}} ;
168 \LWR@print@embox{margin-right:\LWR@printlength{\LWR@templengthtwo}}
169 ]{addmargin}
170 }
171 {
172 \setlength{\LWR@templengthone}{#2}

```



```

173   \begin{BlockClass}[
174       \LWR@print@exbox{margin-left:\LWR@printlength{\LWR@templengthone}} ;
175       \LWR@print@exbox{margin-right:\LWR@printlength{\LWR@templengthtwo}}
176   ]{addmargin}
177 }
178 }
179 {\end{BlockClass}\LWR@startpars}

```

Ref to create a starred environment:

<https://tex.stackexchange.com/questions/45401/use-the-s-star-argument-with-newdocumentenvironment>

```

180
181 \ExplSyntaxOn
182 \cs_new:cpn {addmargin*} {\addmargin*}
183 \cs_new_eq:cN {endaddmargin*} \endaddmargin
184 \ExplSyntaxOff
185
186 \DeclareDocumentCommand{\marginline}{m}{\marginpar{#1}}

```

File 432 **lwarp-scrhack.sty**

§ 544 Package **scrhack**

scrhack (*Pkg*) scrhack is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{scrhack}[2018/03/30]

File 433 **lwarp-scrlayer.sty**

§ 545 Package **scrlayer**

(Emulates or patches code by MARKUS KOHM.)

scrlayer (*Pkg*) scrlayer is emulated.

 **Not fully tested!** [Please send bug reports!](#)

for HTML output: 1 \LWR@ProvidesPackageDrop{scrlayer}[2018/03/30]

```

2 \newcommand*\DeclareSectionNumberDepth[2]{}
3 \newcommand*\DeclareLayer[2]{}
4 \newcommand*\DeclareNewLayer[2]{}
5 \newcommand*\ProvideLayer[2]{}
6 \newcommand*\RedeclareLayer[2]{}
7 \newcommand*\ModifyLayer[2]{}
8 \newcommand*\Layerhalign{}
9 \newcommand*\Layervalign{}
10 \newcommand*\Layerxoffset{}
11 \newcommand*\Layeryoffset{}
12 \newcommand*\Layerwidth{}
13 \newcommand*\Layerheight{}
14 \providecommand*\LenToUnit[1]{\strip@pt\dimexpr#1*\p@/\unitlength}
15 \newcommand*\putUL[1]{}

```

```

16 \newcommand*\putUR}[1]{}
17 \newcommand*\putLL}[1]{}
18 \newcommand*\putLR}[1]{}
19 \newcommand*\putC}[1]{}
20 \newcommand*\GetLayerContents}[1]{}
21 \newcommand*\IfLayerExists}[3]{#3}
22 \newcommand*\DestroyLayer}[1]{}
23 \newcommand*\layercontentsmeasure{}
24 \newcommand*\currentpagestyle{}
25 \newcommand*\BeforeSelectAnyPageStyle}[1]{}
26 \newcommand*\AfterSelectAnyPageStyle}[1]{}
27 \newcommand*\DeclarePageStyleAlias}[2]{}
28 \newcommand*\DeclareNewPageStyleAlias}[2]{}
29 \newcommand*\ProvidePageStyleAlias}[2]{}
30 \newcommand*\RedeclarePageStyleAlias}[2]{}
31 \newcommand*\DestroyPageStyleAlias}[1]{}
32 \newcommand*\GetRealPageStyle}[1]{}
33 \newcommand*\DeclarePageStyleByLayers}[3][[]]{}
34 \newcommand*\DeclareNewPageStyleByLayers}[3][[]]{}
35 \newcommand*\ProvidePageStyleByLayers}[3][[]]{}
36 \newcommand*\RedeclarePageStyleByLayers}[3][[]]{}
37 \NewDocumentCommand*\ForEachLayerOfPageStyle}{s m m}{}
38 \newcommand*\AddLayersToPageStyle}[2]{}
39 \newcommand*\AddLayersAtBeginOfPageStyle}[2]{}
40 \newcommand*\AddLayersAtEndOfPageStyle}[2]{}
41 \newcommand*\RemoveLayersFromPageStyle}[2]{}
42 \newcommand*\AddLayersToPageStyleBeforeLayer}[3]{}
43 \newcommand*\AddLayersToPageStyleAfterLayer}[3]{}
44 \newcommand*\UnifyLayersAtPageStyle}[1]{}
45 \newcommand*\ModifyLayerPageStyleOptions}[2]{}
46 \newcommand*\AddToLayerPageStyleOptions}[2]{}
47 \newcommand*\IfLayerPageStyleExists}[3]{#3}
48 \newcommand*\IfRealLayerPageStyleExists}[3]{#3}
49 \newcommand*\IfLayerAtPageStyle}[4]{#4}
50 \newcommand*\IfSomeLayerAtPageStyle}[4]{#4}
51 \newcommand*\IfLayersAtPageStyle}[4]{#4}
52 \newcommand*\DestroyRealLayerPageStyle}[1]{}
53 \@ifundefined{footheight}{\newlength\footheight}{}
54 \DeclareDocumentCommand*\automark}{s o m}{}
55 \DeclareDocumentCommand*\manualmark}{m}{}
56 \DeclareDocumentCommand*\MakeMarkcase}{m}{#1}

57 \newcommand*\partmarkformat{}
58 \if@chapter
59 \newcommand*\chaptermarkformat{}
60 \fi
61 \newcommand*\sectionmarkformat{}
62 \DeclareDocumentCommand*\GenericMarkFormat}{m}{}

63 \newcommand*\@mkleft}[1]{}
64 \newcommand*\@mkright}[1]{}
65 \newcommand*\@mkdouble}[1]{}
66 \newcommand*\@mkboth}[2]{}
67 \newcommand*\scrLayerInitInterface}[1][[]]{}
68 \newcommand*\scrLayerAddToInterface}[3][[]]{}
69 \newcommand*\scrLayerAddCsToInterface}[3][[]]{}
70 \newcommand*\scrLayerOnAutoRemoveInterface}[2][[]]{}

```

File 434 **lwarp-scrlayer-notecolumn.sty**

§ 546 Package **scrlayer-notecolumn**

(Emulates or patches code by MARKUS KOHM.)

scrlayer-notecolumn (*Pkg*) scrlayer-notecolumn is emulated.

 **Not fully tested!** [Please send bug reports!](#)

for HTML output: 1 \LWR@ProvidesPackageDrop{scrlayer-notecolumn}[2018/02/02]

```

2 \newcommand*\DeclareNoteColumn}[2][{}]{
3 \newcommand*\DeclareNewNoteColumn}[2][{}]{
4 \newcommand*\ProvideNoteColumn}[2][{}]{
5 \newcommand*\RedeclareNoteColumn}[2][{}]{
6 \NewDocumentCommand{\makenote}{s o m}{\marginpar{#3}}
7 \newcommand*\syncwithnotecolumn}[1][{}]{
8 \newcommand*\syncwithnotecolumns}[1][{}]{
9 \newcommand*\clearnotecolumn}[1][{}]{
10 \newcommand*\clearnotecolumns}[1][{}]{

```

File 435 **lwarp-scrlayer-scrpage.sty**

§ 547 Package **scrlayer-scrpage**

(Emulates or patches code by MARKUS KOHM.)

scrlayer-scrpage (*Pkg*) scrlayer-scrpage is ignored.

 **Not fully tested!** [Please send bug reports!](#)

for HTML output: 1 \LWR@ProvidesPackageDrop{scrlayer-scrpage}[2018/03/30]

```

2 \@ifundefined{footheight}{\newlength\footheight}{}
3 \NewDocumentCommand{\lehead}{s o m}{}
4 \NewDocumentCommand{\cehead}{s o m}{}
5 \NewDocumentCommand{\rehead}{s o m}{}
6 \NewDocumentCommand{\lohead}{s o m}{}
7 \NewDocumentCommand{\cohead}{s o m}{}
8 \NewDocumentCommand{\rohead}{s o m}{}
9 \NewDocumentCommand{\lefoot}{s o m}{}
10 \NewDocumentCommand{\cefoot}{s o m}{}
11 \NewDocumentCommand{\refoot}{s o m}{}
12 \NewDocumentCommand{\lofoot}{s o m}{}
13 \NewDocumentCommand{\cofoot}{s o m}{}
14 \NewDocumentCommand{\rofoot}{s o m}{}
15 \NewDocumentCommand{\ohead}{s o m}{}
16 \NewDocumentCommand{\chead}{s o m}{}
17 \NewDocumentCommand{\ihead}{s o m}{}
18 \NewDocumentCommand{\ofoot}{s o m}{}
19 \NewDocumentCommand{\cfoot}{s o m}{}
20 \NewDocumentCommand{\ifoot}{s o m}{}

```

```

21 \NewDocumentCommand{\automark}{som}{}
22 \newcommand*{\manualmark}{}

23 \DeclareDocumentCommand{\MakeMarkcase}{m}{#1}

24 \let\headmark\leftmark
25 \providecommand{\pnumfont}{\normalfont}%
26 \DeclareRobustCommand\pagemark{{\pnumfont{\thepage}}}%

27 \newcommand*{\defpairofpagestyles}[3][{}]{
28 \newcommand*{\newpairofpagestyles}[3][{}]{
29 \newcommand*{\renewpairofpagestyles}[3][{}]{
30 \newcommand*{\providepairofpagestyles}[3][{}]{

31 \newcommand*{\clearmainofpairofpagestyles}{}
32 \newcommand*{\clearplainofpairofpagestyles}{}
33 \newcommand*{\clearpairofpagestyles}{}
34 \newcommand*{\clearscrheadings}{}
35 \newcommand*{\clearscrheadfoot}{}
36 \newcommand*{\clearscrplain}{}

37 \NewDocumentCommand{\deftriplepagestyle}{m o o m m m m m m}{}
38 \NewDocumentCommand{\newtriplepagestyle}{m o o m m m m m m}{}
39 \NewDocumentCommand{\renewtriplepagestyle}{m o o m m m m m m}{}
40 \NewDocumentCommand{\providetriplepagestyle}{m o o m m m m m m}{}
41 \newcommand*{\defpagestyle}[3]{
42 \newcommand*{\newpagestyle}[3]{
43 \newcommand*{\providepagestyle}[3]{
44 \newcommand*{\renewpagestyle}[3]{

```

File 436 **lwarp-scrpage2.sty**

§ 548 Package **scrpage2**

(Emulates or patches code by MARKUS KOHM.)

scrpage2 (*Pkg*) scrpage2 is ignored.

 **Not fully tested!** [Please send bug reports!](#)

for HTML output: 1 \LWR@ProvidesPackageDrop{scrpage2}[2018/03/30]

```

2 \@ifundefined{footheight}{\newlength\footheight}{}
3 \NewDocumentCommand{\lehead}{o m}{}
4 \NewDocumentCommand{\cehead}{o m}{}
5 \NewDocumentCommand{\rehead}{o m}{}
6 \NewDocumentCommand{\lohead}{o m}{}
7 \NewDocumentCommand{\cohead}{o m}{}
8 \NewDocumentCommand{\rohead}{o m}{}
9 \NewDocumentCommand{\lefoot}{o m}{}
10 \NewDocumentCommand{\cefoot}{o m}{}
11 \NewDocumentCommand{\refoot}{o m}{}
12 \NewDocumentCommand{\lofoot}{o m}{}
13 \NewDocumentCommand{\cofoot}{o m}{}
14 \NewDocumentCommand{\rofoot}{o m}{}

```

```

15 \NewDocumentCommand{\ohead}{o m}{}
16 \NewDocumentCommand{\chead}{o m}{}
17 \NewDocumentCommand{\ihead}{o m}{}
18 \NewDocumentCommand{\ofoot}{o m}{}
19 \NewDocumentCommand{\cfoot}{o m}{}
20 \NewDocumentCommand{\ifoot}{o m}{}
21 \DeclareDocumentCommand{\automark}{o m}{}
22 \DeclareDocumentCommand{\manualmark}{}{}
23 \DeclareDocumentCommand{\MakeMarkcase}{m}{#1}
24 \NewDocumentCommand{\deftripstyle}{m o o m m m m m}{}
25 \NewDocumentCommand{\defpagestyle}{s m m}{}
26 \NewDocumentCommand{\newpagestyle}{s m m}{}
27 \NewDocumentCommand{\renewpagestyle}{s m m}{}
28 \NewDocumentCommand{\providepagestyle}{s m m}{}
29 \newcommand{\partmarkformat}{}
30 \if@chapter
31 \newcommand{\chaptermarkformat}{}
32 \fi
33 \newcommand{\sectionmarkformat}{}
34 \newcommand{\subsectionmarkformat}{}
35 \newcommand{\subsubsectionmarkformat}{}
36 \newcommand{\paragraphmarkformat}{}
37 \newcommand{\subparagraphmarkformat}{}
38
39 \newcommand*{\clearscrheadings}{}
40 \newcommand*{\clearscrheadfoot}{}
41 \newcommand*{\clearscrplain}{}

```

File 437 **lwarp-section.sty**

§ 549 Package **section**

section (*Pkg*) **section** is ignored.

(Emulates or patches code by OLIVER PRETZEL.)

for HTML output:

```

1 \LWR@ProvidesPackageDrop{section}

2 \ifx\chapter\undefined
3 \def\chsize{\Large}\def\hdsiZe{\huge}\else
4 \def\chsize{\huge}\def\hdsiZe{\Huge}
5 \fi
6 \let\ttsiZe\LARGE
7 \let\ausiZe\large
8 \let\dasiZe\large
9 \let\secsiZe\LARGE
10 \let\subsiZe\large
11 \let\hdpos\raggedright
12 \newcounter{hddepth}
13 \let\fpind\relax
14 \def\ttfnt{}
15 \def\hdfnt{}
16 \def\fefnt{}
17 \def\thfnt{}
18 \def\pgfnt{}
19 \def\hmkfnt{}
20 \let\mkcse\uppercase

```

```

21 \def\hddot{}
22 \def\cpdot{:}
23 \def\nmdot{}
24 \ifx\secindent\undefined
25 \newdimen\secindent
26 \newskip\secpreskp
27 \newskip\secpstskp
28 \newdimen\subindent
29 \newskip\subpreskp
30 \newskip\subpstskp
31 \newskip\parpstskp
32 \newcount\c@hddepth
33 \fi

```

File 438 **lwarp-sectionbreak.sty**

§ 550 Package **sectionbreak**

(Emulates or patches code by MICHAL HOFTICH.)

sectionbreak (*Pkg*) sectionbreak is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{sectionbreak}[2018-01-03]

```

2 \renewcommand\asterism{\HTMLunicode{2042}}
3
4 \renewcommand\pre@sectionbreak{}
5 \renewcommand\post@sectionbreak{}
6
7 \renewcommand\print@sectionbreak[1]{%
8 \begin{center}
9 #1
10 \end{center}
11 }
12

```

File 439 **lwarp-sectsty.sty**

§ 551 Package **sectsty**

(Emulates or patches code by ROWLAND McDONNELL.)

sectsty (*Pkg*) sectsty is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{sectsty}[2002/02/25]

```

2 \newcommand*\partfont [1] {}
3 \newcommand*\partnumberfont [1] {}
4 \newcommand*\parttitlefont [1] {}
5 \newcommand*\chapterfont [1] {}
6 \newcommand*\chapternumberfont [1] {}
7 \newcommand*\chaptertitlefont [1] {}
8 \newcommand*\sectionfont [1] {}
9 \newcommand*\subsectionfont [1] {}

```

```

10 \newcommand*\subsubsectionfont [1] {}
11 \newcommand*\paragraphfont [1] {}
12 \newcommand*\subparagraphfont [1] {}
13 \newcommand*\minisecfont [1] {}
14 \newcommand*\allsectionsfont[1] {}
15 \newcommand{\nohang}{}

```

`\sectionrule` is only to be used in `*font` commands, thus it is ignored.

```

16 \newcommand*\sectionrule[5]{}
17
18 \def\ulemheading#1#2{}

```

File 440 **lwarp-selectp.sty**

§ 552 Package **selectp**

`selectp` (*Pkg*) `selectp` is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{selectp}% no date given

```
2 \newcommand*\outputonly[1]{}


```

File 441 **lwarp-semantic-markup.sty**

§ 553 Package **semantic-markup**

(Emulates or patches code by ANDREW A. CASHNER.)

`semantic-markup` (*Pkg*) `semantic-markup` is patched for use by `lwarp`.

 If using the `endnotes` option, add `\theendnotes` where desired.

for HTML output: 1 \LWR@ProvidesPackagePass{semantic-markup}[2018/05/21]

The endnotes must be printed by the user before the end of the document, since the end is after the HTML footer, etc.

```

2 \ifendnotes
3 \RenewDocumentCommand{\SetupEndnotes}{}{%
4   \let\footnote=\endnote
5   \AtEndDocument{\DoBeforeEndnotes{\EndnoteFont\theendnotes}}%
6 }
7 \fi

```

HTML unicode characters from musicography are used.

```

8 \RequirePackage{musicography}
9
10 \let\fl\musFlat
11 \let\sh\musSharp
12 \let\na\musNatural

```

The `\musfig` is placed inside a hashed image, with a simple alt tag.

```

13 \RequirePackage{amsmath}
14
15 \RenewDocumentCommand{\musfig}{ m m }{%
16   \LWR@subsingledollar*%
17   {#1/#2}% alt tag
18   {musfig}% addl' hashing
19   {% contents
20     \LWR@origensuredmath{%
21       \genfrac{}{}{0pt}{1}{\text{#1}}{\text{#2}}%
22     }%
23   }%
24 }

```

The `\meter` is taken from musicography, and becomes a hashed image with a simple alt tag.

```

25 \RenewDocumentCommand{\meter}{ m m }{%
26   \musMeter{#1}{#2}%
27 }

```


File 442 **lwarp-seqspl.it.sty**

§ 554 Package **seqsplit**

(Emulates or patches code by BORIS VEYTSMAN.)

`seqsplit` (*Pkg*) `seqsplit` is patched for use by `lwarp`.

For HTML output, the results are similar to print mode, and respond to window size.

 **svg math results** For SVG math, the output differs from print mode in that the contents are formatted in a minipage, which is then inline with the surrounding math.

For MATHJAX, the contents are used as-is.

for HTML output: `1 \LWR@ProvidesPackagePass{seqsplit}[2006/08/07]`

Special handling because `lwarp` uses a box for svg math, which does not normally allow line breaks, so a print-mode minipage must be used to allow line breaks. The minipage will not be wrapped inline with any surrounding math.

```

2 \begin{warpHTML}
3 \LetLtxMacro\LWR@orig@seqsplit\seqsplit
4
5 \renewcommand*{\seqsplit}[1]{%
6   \ifmmode%
7     \begin{LWR@print@minipage}{6in}%
8     \LWR@orig@seqsplit{#1}%
9     \end{LWR@print@minipage}%
10  \else%
11    \InlineClass[word-wrap:break-word]{seqsplit}{\LWR@orig@seqsplit{#1}}%
12  \fi
13 }

```


Between characters, an empty HTML comment is placed to allow a line wrap in the HTML source, without adding spaces in the output.

```

14 \AtBeginDocument{
15   \newcommand*\LWR@HTML@seqinsert}{%
16     \LWR@htmlcomment{ }%
17   }
18   \LWR@formatted{seqinsert}
19 }
20 \end{warpHTML}
21
22 \begin{warpMathJax}
23 \CustomizeMathJax{\newcommand{\seqsplit}[1]{#1}}
24 \end{warpMathJax}

```

File 443 **lwarp-setspace.sty**

§ 555 Package **setspace**

(Emulates or patches code by ROBIN FAIRBAIRNS.)

setspace (*Pkg*) **setspace** is emulated.

Discard all options for **lwarp-setspace**:

for HTML output:

```

1 \LWR@ProvidesPackageDrop{setspace}[2011/12/19]
2
3 \newcommand*\setstretch[1]{}
4 \newcommand*\SetSinglespace[1]{}
5 \newcommand*\singlespacing{}
6 \newcommand*\onehalfspacing{}
7 \newcommand*\doublespacing{}
8
9 \newenvironment*{singlespace}
10 {
11 \LWR@forcenewpage
12 \BlockClass{singlespace}
13 }
14 {\endBlockClass}
15
16 \newenvironment*{singlespace*}
17 {
18 \LWR@forcenewpage
19 \BlockClass{singlespace}
20 }
21 {\endBlockClass}
22
23 \newenvironment*{spacing}[1]{
24
25 }{
26
27 }
28
29 \newenvironment*{onehalfspace}
30 {
31 \LWR@forcenewpage
32 \BlockClass{onehalfspace}
33 }

```

```

34 {\endBlockClass}
35
36 \newenvironment*{doublespace}
37 {
38 \LWR@forcenewpage
39 \BlockClass{doublespace}
40 }
41 {\endBlockClass}

```

File 444 **lwarp-shadethm.sty**

§ 556 Package **shadethm**

(Emulates or patches code by JIM HEFFERON.)

shadethm (*Pkg*) shadethm is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{shadethm}[1999/11/23]

```

2 \newenvironment{LWR@HTML@shadebox}
3 {%
4   \convertcolorspec{named}{shadethmcolor}{HTML}\LWR@tempcolor%
5   \convertcolorspec{named}{shaderulecolor}{HTML}\LWR@tempcolortwo%
6   \begin{BlockClass}[%
7     background: \LWR@origpound\LWR@tempcolor ;
8     border: 1px solid \LWR@origpound\LWR@tempcolortwo ;
9   ]{shadebox}
10 }%
11 {\end{BlockClass}}
12 \LWR@formattedenv{shadebox}

```

File 445 **lwarp-shadow.sty**

§ 557 Package **shadow**

(Emulates or patches code by MAURO ORLANDINI.)

shadow (*Pkg*) shadow is emulated.

for HTML output: Discard all options for lwarp-shadow:

```

1 \LWR@ProvidesPackageDrop{shadow}[2003/02/19]

2 \newdimen\sboxsep
3 \newdimen\sboxrule
4 \newdimen\sdim
5
6 \newcommand{\shabox}[1]{%
7 \InlineClass{shabox}{#1}%
8 }

```

File 446 **lwarp-shapepar.sty**

§ 558 Package **shapepar**

(Emulates or patches code by DONALD ARSENEAU.)

shapepar (*Pkg*) shapepar is patched for use by lwarp. Shapes appear in print mode, as well as inside a latex image, but are ignored for HTML.

for HTML output:

```
1 \LWR@ProvidesPackagePass{shapepar}[2013/03/26]
2 \newcommand*\LWR@HTML@shapepar}[2][{}]{
3 \LWR@formatted{shapepar}
4
5 \NewDocumentCommand{\LWR@HTML@cutout}{m d()}{}
6 \LWR@formatted{cutout}
```

File 447 **lwarp-showidx.sty**

§ 559 Package **showidx**

showidx (*Pkg*) showidx is ignored.

for HTML output: Discard all options for lwarp-showidx:

```
1 \LWR@ProvidesPackageDrop{showidx}[2014/09/29]

\@wrindex is redefined \AtBeginDocument by the lwarp core.
```

File 448 **lwarp-showkeys.sty**

§ 560 Package **showkeys**

(Emulates or patches code by DAVID CARLISLE, MORTEN HØGHOLM.)

showkeys (*Pkg*) showkeys is ignored.

for HTML output: Discard all options for lwarp-showkeys:

```
1 \LWR@ProvidesPackageDrop{showkeys}[2014/10/28]
2 \NewDocumentCommand{\showkeys}{s}{}

```

File 449 **lwarp-showlabels.sty**

§ 561 Package **showlabels**

showlabels (*Pkg*) showlabels is ignored.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{showlabels}[2021/10/27]

2 \providecommand{\showlabelfont}{}
3 \providecommand{\showlabelsetlabel}[1]{}
4 \newcommand*{\showlabels}[2]{}
5 \newcommand*{\showlabelrefline}{}
6 \newcommand*{\showlabelsinline}{}

```

File 450 **lwarp-showtags.sty**

§ 562 Package **showtags**

`showtags` (*Pkg*) `showtags` is ignored.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{showtags}% no version is given

2 \newcommand{\thecitetag}[1]{}

```

File 451 **lwarp-shuffle.sty**

§ 563 Package **shuffle**

(Emulates or patches code by JULIAN GILBEY AND ANTOINE LEJAY.)

`shuffle` (*Pkg*) `shuffle` is emulated for SVG math, and also emulated for MATHJAX.

The font used for `shuffle` may not render correctly when converted to SVG math, so a picture environment drawing is used instead.

For MATHJAX, the Unicode character is used, and for `\cshuffle` a `\bar` is added.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{shuffle}[2008/10/27]
2 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}

3 \newcommand*\LWR@shuffle@start}{%
4   \hspace*{.2em}
5   \begin{picture}(.75,0.65)
6     \setlength{\unitlength}{1em}
7     \put(0,0){\line(1,0){.75}}
8     \put(0,0){\line(0,1){.5}}
9     \put(.375,0){\line(0,1){.5}}
10    \put(.75,0){\line(0,1){.5}}
11  }
12
13 \newcommand*\LWR@shuffle@finish}{%
14   \end{picture}
15   \hspace*{.75em}
16   \hspace*{.2em}
17  }
18
19 \newcommand*\shuffle}{%
20   \LWR@shuffle@start%
21   \LWR@shuffle@finish%

```

```

22 }
23
24 \newcommand*{\cshuffle}{%
25   \LWR@shuffle@start%
26   \put(.05,.65){\line(1,0){.65}}%
27   \LWR@shuffle@finish%
28 }

29 \begin{warpMathJax}
30 \CustomizeMathJax{\newcommand{\shuffle}{\mathbin{\unicode{0x29E2}}}}
31 \CustomizeMathJax{\newcommand{\cshuffle}{%
32   \mathbin{\LWRoverlaysymbols{\raise{.6ex}{-}}{\unicode{0x29E2}}}}%
33 }}
34 \end{warpMathJax}

```

File 452 **lwarp-sidecap.sty**

§ 564 Package **sidecap**

(Emulates or patches code by ROLF NIEPRASCHK, HUBERT GÄSSLEIN.)

sidecap (*Pkg*) sidecap is emulated.

for HTML output: Discard all options for lwarp-sidecap.

```
1 \LWR@ProvidesPackageDrop{sidecap}[2003/06/06]
```

See:

<http://tex.stackexchange.com/questions/45401/use-the-s-star-argument-with-newdocumentenvironment>
regarding the creation of starred environments with xparse.

```

2 \NewDocumentEnvironment{Sctable}{soo}
3 {\IfValueTF{#3}{\table[#3]}{\table}}
4 {\endtable}
5
6 \ExplSyntaxOn
7 \cs_new:cpn {Sctable*} {\Sctable*}
8 \cs_new_eq:cN {endSctable*} \endSctable
9 \ExplSyntaxOff
10
11
12 \NewDocumentEnvironment{SCfigure}{soo}
13 {\IfValueTF{#3}{\figure[#3]}{\figure}}
14 {\endfigure}
15
16 \ExplSyntaxOn
17 \cs_new:cpn {SCfigure*} {\SCfigure*}
18 \cs_new_eq:cN {endSCfigure*} \endSCfigure
19 \ExplSyntaxOff
20
21
22 \newenvironment*{wide}{}{}

```

File 453 **lwarp-sidenotes.sty**

§ 565 Package **sidenotes**

(Emulates or patches code by ANDY THOMAS, OLIVER SCHEBAUM.)

sidenotes (*Pkg*) Patched for lwarp.

for HTML output: Load the original package:

```
1 \LWR@ProvidesPackagePass{sidenotes}
```

The following patch sidenotes for use with lwarp.

An ARIA note role is not assigned since the caption is an important part of the figure.

\sidecaption

```
* [entry] [offset] {text}
2 \VerifyCommand[lwarp][sidenotes]{\sidecaption}{2EFE2196F612943BCF13746EC12E69D6}
3
4 \RenewDocumentCommand \sidecaption {s o o m}
5 {
6   \LWR@stoppars
7   \begingroup
8   \captionsetup{style=sidecaption}%
9   \IfBooleanTF{#1}
10  { % starred
11    \begin{BlockClass}[border:none ; box-shadow:none]{marginblock}%
12    \caption*{#4}%
13    \end{BlockClass}
14  }
15  { % unstarred
16    \IfNoValueOrEmptyTF{#2}
17    {\def\@sidenotes@sidecaption@tof{#4}}
18    {\def\@sidenotes@sidecaption@tof{#2}}
19    \begin{BlockClass}[border:none ; box-shadow:none]{marginblock}%
20    \caption[\@sidenotes@sidecaption@tof]{#4}
21    \end{BlockClass}
22  }
23  \endgroup
24  \LWR@startpars
25 }
```

Borrowed from the lwarp version of keyfloat:

```
26 \NewDocumentEnvironment{KFLT@sidenotes@marginfloat}{0{-1.2ex} m}
27 {% start
28   \LWR@BlockClassWP{float:right; width:2in; margin:10pt}{marginblock}%
29   \renewcommand*\@capttype{#2}%
30 }
31 {%
32   \endLWR@BlockClassWP%
33 }
34
35 \RenewDocumentEnvironment{marginfigure}{o}
```

```

36 {\begin{KFLTsidenotes@marginfloat}{figure}}
37 {\end{KFLTsidenotes@marginfloat}}
38
39 \RenewDocumentEnvironment{margintable}{o}
40 {\begin{KFLTsidenotes@marginfloat}{table}}
41 {\end{KFLTsidenotes@marginfloat}}

```

The following were changed by `sidenotes`, and now are reset back to their `lwarp`-supported originals:

Restoring the definition from the $\LaTeX 2_{\epsilon}$ `article.cls` source:

```

42 \renewenvironment{figure*}
43     {\@dblfloat{figure}}
44     {\end@dblfloat}
45
46 \renewenvironment{table*}
47     {\@dblfloat{table}}
48     {\end@dblfloat}

```

For `MATHJAX`:



Note that `sidenotes` does not support `\sidenote` inside math in print mode. Use `\sidenotemark` and `\sidenotetext` instead.

```

49 \begin{warpMathJax}
50 \providecommand{\sidenotename}{sidenote}
51 \appto\LWR@syncnotenumbers{\LWR@synconenotenummer{\LWRsidenote}{\thesidenote}}
52 \appto\LWR@syncnotenames{\LWR@synconenotename{\LWRsidenote}{\sidenotename}}
53 \CustomizeMathJax{\def\LWRsidenote{1}}
54 \CustomizeMathJax{\newcommand{\sidenotemark}[1][\LWRsidenote]{{}^{\mathrm{#1}}}}
55 \end{warpMathJax}

```

The following is not defined since is not allowed inside math in print mode, and also would have to be modified to parse the optional offset argument:

```
\CustomizeMathJax{\newcommand{\sidenote}[2][\LWRsidenote]{{}^{\mathrm{#1}}}}
```

File 454 **lwarp-simplebnf.sty**

§ 566 Package **simplebnf**

(Emulates or patches code by JAY LEE.)

`simplebnf` (*Pkg*) `simplebnf` is patched for use by `lwarp`.

for HTML output: 1 `\LWR@ProvidesPackagePass{simplebnf}[2023-11-25]`

The entire object is placed inside a `lateximage` whose `alt` text is the \LaTeX source BNF expression.

```

2 \ExplSyntaxOn
3
4 \VerifyEnvironment[lwarp][simplebnf]{bnf}
5   {A7E8911B9291D4EB7C1CD8366CD75341}{3B45D7D9107687D718F5303B6632776C}

```

```

6
7 \RenewDocumentEnvironment { bnf } { d() O{llcll} +b }
8 {
9   \begin{lateximage}[bnf:\space\detokenize{#3}]?%
10
11   \IfNoValueF { #1 }
12     { \keys_set:nn { simplebnf } { #1 } }
13
14   \__simplebnf_build_grammar:n { #3 }
15
16   \begin{@simplebnf_tblr_env}[expand=\l__simplebnf_table_tl]{#2}
17     \tl_use:N \l__simplebnf_table_tl
18   \end{@simplebnf_tblr_env}
19   \end{lateximage}%           lwarp
20 }
21 { }
22
23 \VerifyEnvironment[lwarp][simplebnf]{bnfgrammar}
24   {E7326E6CAE6E35827E866B4A08C5CEA8}{A9B27A2478E8BD67B19E94ECF8A44F14}
25
26 \RenewDocumentEnvironment { bnfgrammar } { O{llcll} O{[^\\]|\|[^\\]} O{\\|\\} +b }
27 {
28   \msg_warning:nn { simplebnf } { dep }
29   \begin{center}
30     \begin{lateximage}[bnf:\space\detokenize{#4}]?%
31       \begin{tabular}{#1}
32         \@dep__simplebnf_typeset_grammar:nnn { #2 } { #3 } { #4 }
33         \tl_use:N \l__simplebnf_table_tl
34       \end{tabular}
35     \end{lateximage}%           lwarp
36   \end{center}
37 }
38 { }
39
40 \ExplSyntaxOff

```

File 455 **lwarp-SIunits.sty**

§ 567 Package **Slunits**

(Emulates or patches code by MARCEL HELDOORN.)

SIunits (*Pkg*) Slunits is patched for use by lwarp.

For SVG math, it is recommended to use `\unit` where possible, which combines the entire expression into a single `lateximage`, and adds the `alt` tag containing the L^AT_EX code, allowing for copy/paste. When units are used outside of the `\unit` macro, each unit macro will have its own `lateximage`, and each will have the `alt` tag set according to `\MathImageAltText`, which defaults to `(math image)`.

For MATHJAX, individual units used in text will appear as SVG images, since `\ensuremath` is used in the original definitions, and `\ensuremath` often has expressions which do not work well in MATHJAX, so it is always forced to an SVG image. If, however, `\unit` is used, the result is expressed with MATHJAX instead of an SVG image.

for HTML output: 1 \LWR@ProvidesPackagePass{SIunits}[2007/12/02]

Patched for copy/paste with the HTML alt tag:

```

2 \ifbool{mathjax}{
3   \DeclareRobustCommand{\LWR@HTML@unit}[2]{%
4     \begingroup%
5     \boolfalse{LWR@HTMLsanitize@tmpb@removebackslash}%
6     \LWR@subsingledollar*% lwarp
7     {% alt tag
8       \textbackslash{}unit%
9       \{\LWR@HTMLsanitizedetokenized{\detokenize{#1}}\}%
10      \{ \LWR@HTMLsanitizedetokenized{\detokenize{#2}}\}% extra space
11    }%
12    {SIunits}% add'l hashing
13    {%
14      #1\,{#2}%
15    }% contents
16    \endgroup%
17  }
18 }{% not MathJax
19   \DeclareRobustCommand{\LWR@HTML@unit}[2]{%
20     \@inunitcommandtrue% original
21     \LWR@subsingledollar*% lwarp
22     {% alt tag
23       \textbackslash{}unit{\LWR@HTMLsanitizedetokenized{\detokenize{#1}}\}%
24       \{ \LWR@HTMLsanitizedetokenized{\detokenize{#2}}\}% extra space
25     }%
26     {SIunits}% add'l hashing
27     {%
28       \LWR@origensuredmath{% lwarp modification
29         \SI@fstyle{%
30           {#1}\@qsk\period@active{#2}%
31         }% original
32       }%
33     }% contents
34     \@inunitcommandfalse% original
35   }
36 }% not MathJax
37 \LWR@formatted{unit}

```

For MATHJAX:

```

38 \begin{warpMathJax}
39 \LWR@infoprocessingmathjax{SIunits}
40
41 \CustomizeMathJax{\newcommand{\one}{}{}}
42 \CustomizeMathJax{\newcommand{\meter}{\metre}}
43 \CustomizeMathJax{\newcommand{\deka}{\deca}}
44 \CustomizeMathJax{\newcommand{\dekad}{\decad}}
45 \CustomizeMathJax{\newcommand{\per}{/}}
46 \CustomizeMathJax{\newcommand{\usk}{\;}}
47 \CustomizeMathJax{\newcommand{\unit}[2]{#1\,{#2}}}
48 \CustomizeMathJax{\newcommand{\power}[2]{#1^{#2}}}
49
50 \AtBeginDocument{%
51   \if@redefsquare
52     \CustomizeMathJax{\renewcommand{\square}[1]{\power{#1}{2}}}
53   \else
54     \if@defsquaren
55       \CustomizeMathJax{\newcommand{\squaren}[1]{\power{#1}{2}}}
56     \else

```

```

57     \CustomizeMathJax{\renewcommand{\square}[1]{\power{#1}{2}}}
58     \fi %\if@defsquaren
59     \fi %\if@redefsquare
60 } %\AtBeginDocument
61
62 \CustomizeMathJax{\newcommand{\squared}{^2}}
63 \CustomizeMathJax{\newcommand{\cubic}[1]{\power{#1}{3}}}
64 \CustomizeMathJax{\newcommand{\cubed}{^3}}
65 \CustomizeMathJax{\newcommand{\fourth}[1]{\power{#1}{4}}}
66 \CustomizeMathJax{\newcommand{\reciprocal}[1]{\power{#1}{-1}}}
67 \CustomizeMathJax{\newcommand{\rp}{\reciprocal}}
68 \CustomizeMathJax{\newcommand{\rpsquare}[1]{\power{#1}{-2}}}
69 \CustomizeMathJax{\newcommand{\rpsquared}{^-2}}
70 \CustomizeMathJax{\newcommand{\rpcubic}[1]{\power{#1}{-3}}}
71 \CustomizeMathJax{\newcommand{\rpcubed}{^-3}}
72 \CustomizeMathJax{\newcommand{\rpfourth}[1]{\power{#1}{-4}}}
73 \CustomizeMathJax{\newcommand{\yocto}{\mathrm{y}}}
74 \CustomizeMathJax{\newcommand{\zepto}{\mathrm{z}}}
75 \CustomizeMathJax{\newcommand{\atto}{\mathrm{a}}}
76 \CustomizeMathJax{\newcommand{\femto}{\mathrm{f}}}
77 \CustomizeMathJax{\newcommand{\pico}{\mathrm{p}}}
78 \CustomizeMathJax{\newcommand{\nano}{\mathrm{n}}}
79 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\unicode{x00B5}}}}
80 \CustomizeMathJax{\newcommand{\milli}{\mathrm{m}}}
81 \CustomizeMathJax{\newcommand{\centi}{\mathrm{c}}}
82 \CustomizeMathJax{\newcommand{\deci}{\mathrm{d}}}
83 \CustomizeMathJax{\newcommand{\deca}{\mathrm{da}}}
84 \CustomizeMathJax{\newcommand{\hecto}{\mathrm{h}}}
85 \CustomizeMathJax{\newcommand{\kilo}{\mathrm{k}}}
86 \CustomizeMathJax{\newcommand{\mega}{\mathrm{M}}}
87 \CustomizeMathJax{\newcommand{\giga}{\mathrm{G}}}
88 \CustomizeMathJax{\newcommand{\tera}{\mathrm{T}}}
89 \CustomizeMathJax{\newcommand{\peta}{\mathrm{P}}}
90 \CustomizeMathJax{\newcommand{\exa}{\mathrm{E}}}
91 \CustomizeMathJax{\newcommand{\zetta}{\mathrm{Z}}}
92 \CustomizeMathJax{\newcommand{\yotta}{\mathrm{Y}}}
93 \CustomizeMathJax{\newcommand{\yoctod}{\power{10}{-24}}}
94 \CustomizeMathJax{\newcommand{\zeptod}{\power{10}{-21}}}
95 \CustomizeMathJax{\newcommand{\attod}{\power{10}{-18}}}
96 \CustomizeMathJax{\newcommand{\femtod}{\power{10}{-15}}}
97 \CustomizeMathJax{\newcommand{\picod}{\power{10}{-12}}}
98 \CustomizeMathJax{\newcommand{\nanod}{\power{10}{-9}}}
99 \CustomizeMathJax{\newcommand{\microd}{\power{10}{-6}}}
100 \CustomizeMathJax{\newcommand{\millid}{\power{10}{-3}}}
101 \CustomizeMathJax{\newcommand{\centid}{\power{10}{-2}}}
102 \CustomizeMathJax{\newcommand{\decid}{\power{10}{-1}}}
103 \CustomizeMathJax{\newcommand{\decad}{\power{10}{1}}}
104 \CustomizeMathJax{\newcommand{\hectod}{\power{10}{2}}}
105 \CustomizeMathJax{\newcommand{\kilod}{\power{10}{3}}}
106 \CustomizeMathJax{\newcommand{\megad}{\power{10}{6}}}
107 \CustomizeMathJax{\newcommand{\gigad}{\power{10}{9}}}
108 \CustomizeMathJax{\newcommand{\terad}{\power{10}{12}}}
109 \CustomizeMathJax{\newcommand{\petad}{\power{10}{15}}}
110 \CustomizeMathJax{\newcommand{\exad}{\power{10}{18}}}
111 \CustomizeMathJax{\newcommand{\zettad}{\power{10}{21}}}
112 \CustomizeMathJax{\newcommand{\yottad}{\power{10}{24}}}
113 \CustomizeMathJax{\newcommand{\gram}{\mathrm{g}}}
114 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
115 \CustomizeMathJax{\newcommand{\kilogram}{\kilo\gram}}
116 \CustomizeMathJax{\newcommand{\second}{\mathrm{s}}}

```

```

117 \CustomizeMathJax{\newcommand{\ampere}{\mathrm{A}}}
118 \CustomizeMathJax{\newcommand{\kelvin}{\mathrm{K}}}
119 \CustomizeMathJax{\newcommand{\mole}{\mathrm{mol}}}
120 \CustomizeMathJax{\newcommand{\candela}{\mathrm{cd}}}
121 \CustomizeMathJax{\newcommand{\radian}{\mathrm{rad}}}
122 \CustomizeMathJax{\newcommand{\steradian}{\mathrm{sr}}}
123 \CustomizeMathJax{\newcommand{\hertz}{\mathrm{Hz}}}
124 \CustomizeMathJax{\newcommand{\newton}{\mathrm{N}}}
125 \CustomizeMathJax{\newcommand{\pascal}{\mathrm{Pa}}}
126 \CustomizeMathJax{\newcommand{\joule}{\mathrm{J}}}
127 \CustomizeMathJax{\newcommand{\watt}{\mathrm{W}}}
128 \CustomizeMathJax{\newcommand{\coulomb}{\mathrm{C}}}
129 \CustomizeMathJax{\newcommand{\volt}{\mathrm{V}}}
130 \CustomizeMathJax{\newcommand{\farad}{\mathrm{F}}}
131 \CustomizeMathJax{\newcommand{\ohm}{\mathrm{\Omega}}}
132 \CustomizeMathJax{\newcommand{\siemens}{\mathrm{S}}}
133 \CustomizeMathJax{\newcommand{\weber}{\mathrm{Wb}}}
134 \CustomizeMathJax{\newcommand{\tesla}{\mathrm{T}}}
135 \CustomizeMathJax{\newcommand{\henry}{\mathrm{H}}}
136 \CustomizeMathJax{\newcommand{\degreecelsius}{\mathrm{\unicode{x2103}}}}
137 \CustomizeMathJax{\newcommand{\celsius}{\degreecelsius}}
138 \CustomizeMathJax{\newcommand{\lumen}{\mathrm{lm}}}
139 \CustomizeMathJax{\newcommand{\lux}{\mathrm{lx}}}
140 \CustomizeMathJax{\newcommand{\becquerel}{\mathrm{Bq}}}
141 \CustomizeMathJax{\newcommand{\sievert}{\mathrm{Sv}}}
142 \CustomizeMathJax{\newcommand{\katal}{\mathrm{kat}}}
143
144 \ifdef{\radianbase}{
145 \CustomizeMathJax{\newcommand{\radianbase}%
146     {\metre\usk\reciprocal\metre}}
147 \CustomizeMathJax{\newcommand{\steradianbase}%
148     {\squaremetre\usk\rpsquare\metre}}
149 \CustomizeMathJax{\newcommand{\hertzbase}%
150     {\reciprocal\second}}
151 \CustomizeMathJax{\newcommand{\newtonbase}%
152     {\metre\usk\kilogram\usk\second\rpsquared}}
153 \CustomizeMathJax{\newcommand{\pascalbase}%
154     {\reciprocal\metre\usk\kilogram\usk\second\rpsquared}}
155 \CustomizeMathJax{\newcommand{\joulebase}%
156     {\squaremetre\usk\kilogram\usk\second\rpsquared}}
157 \CustomizeMathJax{\newcommand{\wattbase}%
158     {\squaremetre\usk\kilogram\usk\rpcubic\second}}
159 \CustomizeMathJax{\newcommand{\coulombbase}%
160     {\ampere\usk\second}}
161 \CustomizeMathJax{\newcommand{\voltbase}%
162     {\squaremetre\usk\kilogram\usk\rpcubic\second\usk\reciprocal\ampere}}
163 \CustomizeMathJax{\newcommand{\faradbase}%
164     {\rpsquare\metre\usk\reciprocal\kilogram\usk\fourth\second\usk\ampere\squared}}
165 \CustomizeMathJax{\newcommand{\ohmbase}%
166     {\squaremetre\usk\kilogram\usk\rpcubic\second\usk\rpsquare\ampere}}
167 \CustomizeMathJax{\newcommand{\siemensbase}%
168     {\rpsquare\metre\usk\reciprocal\kilogram\usk\cubic\second\usk\ampere\squared}}
169 \CustomizeMathJax{\newcommand{\weberbase}%
170     {\squaremetre\usk\kilogram\usk\second\rpsquared\usk\reciprocal\ampere}}
171 \CustomizeMathJax{\newcommand{\teslabase}%
172     {\kilogram\usk\second\rpsquared\usk\reciprocal\ampere}}
173 \CustomizeMathJax{\newcommand{\henrybase}%
174     {\squaremetre\usk\kilogram\usk\second\rpsquared\usk\rpsquare\ampere}}
175 \CustomizeMathJax{\newcommand{\celsiusbase}%
176     {\kelvin}}

```

```
177 \CustomizeMathJax{\newcommand{\lumenbase}%
178     {\candela\usk\squaremetre\usk\rpsquare\metre}}
179 \CustomizeMathJax{\newcommand{\luxbase}%
180     {\candela\usk\squaremetre\usk\rfourth\metre}}
181 \CustomizeMathJax{\newcommand{\becquerelbase}%
182     {\hertzbase}}
183 \CustomizeMathJax{\newcommand{\graybase}%
184     {\squaremetre\usk\second\rpsquared}}
185 \CustomizeMathJax{\newcommand{\sievertbase}%
186     {\graybase}}
187 \CustomizeMathJax{\newcommand{\katalbase}%
188     {\rp\second\usk\mole }}
189 }{}
190
191 \ifdef{\derradian}{
192 \CustomizeMathJax{\newcommand{\derradian}%
193     {\metre\usk\reciprocal\metre}}
194 \CustomizeMathJax{\newcommand{\dersteradian}%
195     {\squaremetre\usk\rpsquare\metre}}
196 \CustomizeMathJax{\newcommand{\derhertz}%
197     {\reciprocal\second}}
198 \CustomizeMathJax{\newcommand{\dernewton}%
199     {\metre\usk\kilogram\usk\second\rpsquared}}
200 \CustomizeMathJax{\newcommand{\derpascal}%
201     {\newton\usk\rpsquare\metre}}
202 \CustomizeMathJax{\newcommand{\derjoule}%
203     {\newton\usk\metre}}
204 \CustomizeMathJax{\newcommand{\derwatt}%
205     {\joule\usk\reciprocal\second}}
206 \CustomizeMathJax{\newcommand{\dercoulomb}%
207     {\ampere\usk\second}}
208 \CustomizeMathJax{\newcommand{\dervolt}%
209     {\watt\usk\reciprocal\ampere}}
210 \CustomizeMathJax{\newcommand{\derfarad}%
211     {\coulomb\usk\reciprocal\volt}}
212 \CustomizeMathJax{\newcommand{\derohm}%
213     {\volt\usk\reciprocal\ampere}}
214 \CustomizeMathJax{\newcommand{\dersiemens}%
215     {\ampere\usk\reciprocal\volt}}
216 \CustomizeMathJax{\newcommand{\derweber}%
217     {\squaremetre\usk\kilogram\usk\second\rpsquared\usk\reciprocal\ampere}}
218 \CustomizeMathJax{\newcommand{\derTesla}%
219     {\weber\usk\rpsquare\metre}}
220 \CustomizeMathJax{\newcommand{\derhenry}%
221     {\weber\usk\reciprocal\ampere}}
222 \CustomizeMathJax{\newcommand{\dercelsius}%
223     {\kelvin}}
224 \CustomizeMathJax{\newcommand{\derlumen}%
225     {\candela\usk\steradian}}
226 \CustomizeMathJax{\newcommand{\derlux}%
227     {\lumen\usk\rpsquare\metre}}
228 \CustomizeMathJax{\newcommand{\derbecquerel}%
229     {\derhertz}}
230 \CustomizeMathJax{\newcommand{\dergray}%
231     {\joule\usk\reciprocal\kilogram}}
232 \CustomizeMathJax{\newcommand{\dersievert}%
233     {\dergray}}
234 \CustomizeMathJax{\newcommand{\derkatal}%
235     {\katalbase}}
236 }{}
```

```

237
238 \CustomizeMathJax{\newcommand{\minute}{\mathrm{min}}}
239 \CustomizeMathJax{\newcommand{\hour}{\mathrm{h}}}
240 \CustomizeMathJax{\newcommand{\dday}{\mathrm{d}}}
241 \CustomizeMathJax{\newcommand{\degree}{\mathrm{^\circ}}}
242 \CustomizeMathJax{\newcommand{\paminute}{^\prime}}
243 \CustomizeMathJax{\newcommand{\arcminute}{^\prime}}
244 \CustomizeMathJax{\newcommand{\pasecond}{^\prime\prime}}
245 \CustomizeMathJax{\newcommand{\arcsecond}{^\prime\prime}}
246 \CustomizeMathJax{\newcommand{\ton}{\mathrm{t}}}
247 \CustomizeMathJax{\newcommand{\tonne}{\mathrm{t}}}
248 \CustomizeMathJax{\newcommand{\liter}{\mathrm{L}}}
249 \CustomizeMathJax{\newcommand{\litre}{\mathrm{L}}}
250 \CustomizeMathJax{\newcommand{\neper}{\mathrm{Np}}}
251 \CustomizeMathJax{\newcommand{\bel}{\mathrm{B}}}
252 \CustomizeMathJax{\newcommand{\curie}{\mathrm{Ci}}}
253 \CustomizeMathJax{\newcommand{\rad}{\mathrm{rad}}}
254 \CustomizeMathJax{\newcommand{\arad}{\mathrm{rd}}}
255 \CustomizeMathJax{\newcommand{\rem}{\mathrm{rem}}}
256 \CustomizeMathJax{\newcommand{\roentgen}{\mathrm{R}}}
257 \CustomizeMathJax{\newcommand{\electronvolt}{\mathrm{\mathrm{eV}}}}
258 \CustomizeMathJax{\newcommand{\atomicmass}{\mathrm{u}}}
259 \CustomizeMathJax{\newcommand{\atomicmassunit}{\mathrm{u}}}
260 \CustomizeMathJax{\newcommand{\dalton}{\mathrm{Da}}}
261 \CustomizeMathJax{\newcommand{\are}{\mathrm{a}}}
262 \CustomizeMathJax{\newcommand{\hectare}{\mathrm{\hecto\are}}}
263 \CustomizeMathJax{\newcommand{\barn}{\mathrm{b}}}
264 \CustomizeMathJax{\newcommand{\bbar}{\mathrm{\bar{b}}}}
265 \CustomizeMathJax{\newcommand{\gal}{\mathrm{Gal}}}
266 \CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\unicode{x212B}}}}
267 \CustomizeMathJax{\newcommand{\rperminute}{\mathrm{r}\per\minute}}
268 \CustomizeMathJax{\newcommand{\rpersecond}{\mathrm{r}\per\second}}
269 \CustomizeMathJax{\newcommand{\squaremetre}{\power{\metre}{2}}}
270 \CustomizeMathJax{\newcommand{\cubicmetre}{\cubic\metre}}
271 \CustomizeMathJax{\newcommand{\graypersecond}{\gray\per\second}}
272 \CustomizeMathJax{\newcommand{\graypersecondnp}{\gray\usk\reciprocal\second}}
273 \CustomizeMathJax{\newcommand{\metrepersquaresecond}{\metre\per\second\squared}}
274 \CustomizeMathJax{\newcommand{\metrepersquaresecondnp}{\metre\usk\second\rpsquared}}
275 \CustomizeMathJax{\newcommand{\joulepermole}{\joule\per\mole}}
276 \CustomizeMathJax{\newcommand{\joulepermolenp}{\joule\usk\reciprocal\mole}}
277 \CustomizeMathJax{\newcommand{\molepercubicmetre}{\mole\per\cubic\metre}}
278 \CustomizeMathJax{\newcommand{\molepercubicmetrenp}{\mole\usk\rpcubic\metre}}
279 \CustomizeMathJax{\newcommand{\radianpersquaresecond}{\radian\per\second\squared}}
280 \CustomizeMathJax{\newcommand{\radianpersquaresecondnp}{\radian\usk\second\rpsquared}}
281 \CustomizeMathJax{\newcommand{\kilogramsquaremetrepersecond}{%
282   \kilogram\usk\squaremetre\per\second%
283 }}
284 \CustomizeMathJax{\newcommand{\kilogramsquaremetrepersecondnp}{%
285   \kilogram\usk\squaremetre\usk\reciprocal\second%
286 }}
287 \CustomizeMathJax{\newcommand{\radianpersecond}{\radian\per\second}}
288 \CustomizeMathJax{\newcommand{\radianpersecondnp}{\radian\usk\reciprocal\second}}
289 \CustomizeMathJax{\newcommand{\squaremetrepercubicmetre}{\squaremetre\per\cubic\metre}}
290 \CustomizeMathJax{\newcommand{\squaremetrepercubicmetrenp}{%
291   \squaremetre\usk\rpcubic\metre%
292 }}
293 \CustomizeMathJax{\newcommand{\katalpercubicmetre}{\katal\per\cubic\metre}}
294 \CustomizeMathJax{\newcommand{\katalpercubicmetrenp}{\katal\usk\rpcubic\metre}}
295 \CustomizeMathJax{\newcommand{\coulombpermol}{\coulomb\per\mole}}
296 \CustomizeMathJax{\newcommand{\coulombpermolnp}{\coulomb\usk\reciprocal\mole}}

```

```

297 \CustomizeMathJax{\newcommand{\amperepersquaremetre}{\ampere\per\squaremetre}}
298 \CustomizeMathJax{\newcommand{\amperepersquaremetrenp}{\ampere\usk\rpsquare\metre}}
299 \CustomizeMathJax{\newcommand{\kilogrampercubicmetre}{\kilogram\per\cubic\metre}}
300 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrenp}{\kilogram\usk\rpcubic\metre}}
301 \CustomizeMathJax{\newcommand{\squaremetrepernewtonsecond}{%
302   \squaremetre\per\newton\usk\second%
303 }}
304 \CustomizeMathJax{\newcommand{\squaremetrepernewtonsecondnp}{%
305   \squaremetre\usk\reciprocal\newton\usk\reciprocal\second%
306 }}
307 \CustomizeMathJax{\newcommand{\pascalsecond}{\pascal\usk\second}}
308 \CustomizeMathJax{\newcommand{\coulombpercubicmetre}{\coulomb\per\cubic\metre}}
309 \CustomizeMathJax{\newcommand{\coulombpercubicmetrenp}{\coulomb\usk\rpcubic\metre}}
310 \CustomizeMathJax{\newcommand{\amperepermetresecond}{\ampere\usk\metre\usk\second}}
311 \CustomizeMathJax{\newcommand{\voltpermetre}{\volt\per\metre}}
312 \CustomizeMathJax{\newcommand{\voltpermetrenp}{\volt\usk\reciprocal\metre}}
313 \CustomizeMathJax{\newcommand{\coulombpersquaremetre}{\coulomb\per\squaremetre}}
314 \CustomizeMathJax{\newcommand{\coulombpersquaremetrenp}{\coulomb\usk\rpsquare\metre}}
315 \CustomizeMathJax{\newcommand{\faradpermetre}{\farad\per\metre}}
316 \CustomizeMathJax{\newcommand{\faradpermetrenp}{\farad\usk\reciprocal\metre}}
317 \CustomizeMathJax{\newcommand{\ohmmetre}{\ohm\usk\metre}}
318 \CustomizeMathJax{\newcommand{\kilowatthour}{\kilo\watt\hour}}
319 \CustomizeMathJax{\newcommand{\wattpersquaremetre}{\watt\per\squaremetre}}
320 \CustomizeMathJax{\newcommand{\wattpersquaremetrenp}{\watt\usk\rpsquare\metre}}
321 \CustomizeMathJax{\newcommand{\joulepersquaremetre}{\joule\per\squaremetre}}
322 \CustomizeMathJax{\newcommand{\joulepersquaremetrenp}{\joule\usk\rpsquare\metre}}
323 \CustomizeMathJax{\newcommand{\newtonpercubicmetre}{\newton\per\cubic\metre}}
324 \CustomizeMathJax{\newcommand{\newtonpercubicmetrenp}{\newton\usk\rpcubic\metre}}
325 \CustomizeMathJax{\newcommand{\newtonperkilogram}{\newton\per\kilogram}}
326 \CustomizeMathJax{\newcommand{\newtonperkilogramnp}{\newton\usk\reciprocal\kilogram}}
327 \CustomizeMathJax{\newcommand{\jouleperkelvin}{\joule\per\kelvin}}
328 \CustomizeMathJax{\newcommand{\jouleperkelvinnp}{\joule\usk\reciprocal\kelvin}}
329 \CustomizeMathJax{\newcommand{\jouleperkilogram}{\joule\per\kilogram}}
330 \CustomizeMathJax{\newcommand{\jouleperkilogramnp}{\joule\usk\reciprocal\kilogram}}
331 \CustomizeMathJax{\newcommand{\coulombperkilogram}{\coulomb\per\kilogram}}
332 \CustomizeMathJax{\newcommand{\coulombperkilogramnp}{\coulomb\usk\reciprocal\kilogram}}
333 \CustomizeMathJax{\newcommand{\squaremetrepersecond}{\squaremetre\per\second}}
334 \CustomizeMathJax{\newcommand{\squaremetrepersecondnp}{%
335   \squaremetre\usk\reciprocal\second%
336 }}
337 \CustomizeMathJax{\newcommand{\squaremetrepersquaresecond}{%
338   \squaremetre\per\second\squared%
339 }}
340 \CustomizeMathJax{\newcommand{\squaremetrepersquaresecondnp}{%
341   \squaremetre\usk\second\rpsquared%
342 }}
343 \CustomizeMathJax{\newcommand{\kilogrammetrepersecond}{%
344   \kilogram\usk\metre\per\second%
345 }}
346 \CustomizeMathJax{\newcommand{\kilogrammetrepersecondnp}{%
347   \kilogram\usk\metre\usk\reciprocal\second%
348 }}
349 \CustomizeMathJax{\newcommand{\candelapersquaremetre}{\candela\per\squaremetre}}
350 \CustomizeMathJax{\newcommand{\candelapersquaremetrenp}{\candela\usk\rpsquare\metre}}
351 \CustomizeMathJax{\newcommand{\amperepermetre}{\ampere\per\metre}}
352 \CustomizeMathJax{\newcommand{\amperepermetrenp}{\ampere\usk\reciprocal\metre}}
353 \CustomizeMathJax{\newcommand{\joulepertesla}{\joule\per\tesla}}
354 \CustomizeMathJax{\newcommand{\jouleperteslanp}{\joule\usk\reciprocal\tesla}}
355 \CustomizeMathJax{\newcommand{\henrypermetre}{\henry\per\metre}}
356 \CustomizeMathJax{\newcommand{\henrypermetrenp}{\henry\usk\reciprocal\metre}}

```

```
357 \CustomizeMathJax{\newcommand{\kilogrampersecond}{\kilogram\per\second}}
358 \CustomizeMathJax{\newcommand{\kilogrampersecondnp}{\kilogram\usk\reciprocal\second}}
359 \CustomizeMathJax{\newcommand{\kilogrampersquaremetresecond}{%
360   \kilogram\per\squaremetre\usk\second%
361 }}
362 \CustomizeMathJax{\newcommand{\kilogrampersquaremetresecondnp}{%
363   \kilogram\usk\rpsquare\metre\usk\reciprocal\second%
364 }}
365 \CustomizeMathJax{\newcommand{\kilogrampersquaremetre}{\kilogram\per\squaremetre}}
366 \CustomizeMathJax{\newcommand{\kilogrampersquaremetrenp}{\kilogram\usk\rpsquare\metre}}
367 \CustomizeMathJax{\newcommand{\kilogrampermetre}{\kilogram\per\metre}}
368 \CustomizeMathJax{\newcommand{\kilogrampermetrenp}{\kilogram\usk\reciprocal\metre}}
369 \CustomizeMathJax{\newcommand{\joulepermolekelvin}{\joule\per\mole\usk\kelvin}}
370 \CustomizeMathJax{\newcommand{\joulepermolekelvinnp}{%
371   \joule\usk\reciprocal\mole\usk\reciprocal\kelvin%
372 }}
373 \CustomizeMathJax{\newcommand{\kilogramperkilomole}{\kilogram\per\kilo\mole}}
374 \CustomizeMathJax{\newcommand{\kilogramperkilomolenp}{%
375   \kilogram\usk\kilo\reciprocal\mole%
376 }}
377 \CustomizeMathJax{\newcommand{\kilogramsquaremetre}{\kilogram\usk\squaremetre}}
378 \CustomizeMathJax{\newcommand{\kilogramsquaremetrenp}{\kilogramsquaremetre}}
379 \CustomizeMathJax{\newcommand{\kilogrammetrepersquaresecond}{%
380   \kilogram\usk\metre\per\second\squared%
381 }}
382 \CustomizeMathJax{\newcommand{\kilogrammetrepersquaresecondnp}{%
383   \kilogram\usk\metre\usk\second\rpsquared%
384 }}
385 \CustomizeMathJax{\newcommand{\newtonpersquaremetre}{\newton\per\squaremetre}}
386 \CustomizeMathJax{\newcommand{\newtonpersquaremetrenp}{\newton\usk\rpsquare\metre}}
387 \CustomizeMathJax{\newcommand{\persquaremetresecond}{1\per\squaremetre\usk\second}}
388 \CustomizeMathJax{\newcommand{\persquaremetresecondnp}{%
389   \rpsquare\metre\usk\reciprocal\second%
390 }}
391 \CustomizeMathJax{\newcommand{\wattperkilogram}{\watt\per\kilogram}}
392 \CustomizeMathJax{\newcommand{\wattperkilogramnp}{\watt\usk\reciprocal\kilogram}}
393 \CustomizeMathJax{\newcommand{\wattpercubicmetre}{\watt\per\cubic\metre}}
394 \CustomizeMathJax{\newcommand{\wattpercubicmetrenp}{\watt\usk\rcubic\metre}}
395 \CustomizeMathJax{\newcommand{\wattpersquaremetresteradian}{%
396   \watt\per\squaremetre\usk\steradian%
397 }}
398 \CustomizeMathJax{\newcommand{\wattpersquaremetresteradiannp}{%
399   \watt\usk\rpsquare\metre\usk\rp\steradian%
400 }}
401 \CustomizeMathJax{\newcommand{\jouleperkilogramkelvin}{\joule\per\kilogram\usk\kelvin}}
402 \CustomizeMathJax{\newcommand{\jouleperkilogramkelvinnp}{%
403   \joule\usk\reciprocal\kilogram\usk\reciprocal\kelvin%
404 }}
405 \CustomizeMathJax{\newcommand{\squaremetreperkilogram}{\squaremetre\per\kilogram}}
406 \CustomizeMathJax{\newcommand{\rpsquaremetreperkilogram}{%
407   \squaremetre\usk\reciprocal\kilogram%
408 }}
409 \CustomizeMathJax{\newcommand{\cubicmetreperkilogram}{\cubic\metre\per\kilogram}}
410 \CustomizeMathJax{\newcommand{\rcubicmetreperkilogram}{%
411   \cubic\metre\usk\reciprocal\kilogram%
412 }}
413 \CustomizeMathJax{\newcommand{\newtonpermetre}{\newton\per\metre}}
414 \CustomizeMathJax{\newcommand{\newtonpermetrenp}{\newton\usk\reciprocal\metre}}
415 \CustomizeMathJax{\newcommand{\Celsius}{\unicode{x2103}}}
416 \CustomizeMathJax{\newcommand{\wattpermetrekelvin}{\watt\per\metre\usk\kelvin}}
```

```

417 \CustomizeMathJax{\newcommand{\wattpermetrekelvinnp}{%
418   \watt\usk\reciprocal\metre\usk\reciprocal\kelvin%
419 }}
420 \CustomizeMathJax{\newcommand{\newtonmetre}{\newton\usk\metre}
421 \CustomizeMathJax{\newcommand{\newtonmetrenp}{\newtonmetre}}}
422 \CustomizeMathJax{\newcommand{\squaremetrepercubicsecond}{%
423   \squaremetre\per\cubic\second%
424 }}
425 \CustomizeMathJax{\newcommand{\squaremetrepercubicsecondnp}{%
426   \squaremetre\usk\rpcubic\second%
427 }}
428 \CustomizeMathJax{\newcommand{\metrepersecond}{\metre\per\second}}
429 \CustomizeMathJax{\newcommand{\metrepersecondnp}{\metre\usk\reciprocal\second}}
430 \CustomizeMathJax{\newcommand{\joulepercubicmetre}{\joule\per\cubicmetre}}
431 \CustomizeMathJax{\newcommand{\joulepercubicmetrenp}{\joule\usk\rpcubic\metre}}
432 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrecoulomb}{%
433   \kilogram\per\cubic\metre\usk\coulomb%
434 }}
435 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrecoulombnp}{%
436   \kilogram\usk\rpcubic\metre\usk\reciprocal\coulomb%
437 }}
438 \CustomizeMathJax{\newcommand{\cubicmetrepersecond}{\cubicmetre\per\second}}
439 \CustomizeMathJax{\newcommand{\rpcubicmetrepersecond}{\cubicmetre\usk\reciprocal\second}}
440 \CustomizeMathJax{\newcommand{\kilogrampersecondcubicmetre}{%
441   \kilogram\per\second\usk\cubicmetre%
442 }}
443 \CustomizeMathJax{\newcommand{\kilogrampersecondcubicmetrenp}{%
444   \kilogram\usk\reciprocal\second\usk\rpcubic\metre%
445 }}
446 \end{warpMathJax}

```

File 456 **lwarp-siunitx.sty**

§ 568 Package **siunitx**

(Emulates or patches code by JOSEPH WRIGHT.)

siunitx (*Pkg*) siunitx is patched for use by lwarp, and is emulated for MATHJAX.

for HTML output:

```

1 \providecommand\DeclareRelease[3]{}
2 \providecommand\DeclareCurrentRelease[2]{}
3
4 \DeclareRelease{2}{2010-05-23}{lwarp-siunitx-v2.sty}
5 \DeclareRelease{v2}{2010-05-23}{lwarp-siunitx-v2.sty}
6 \DeclareCurrentRelease{}{2021-05-17}
7
8 \RequirePackage{xcolor}% for \convertcolorspec
9
10 \LWR@ProvidesPackagePass{siunitx}[2024-12-06]
11
12 \ExplSyntaxOn

13 \VerifyCommand[lwarp][siunitx]{\siunitx_number_format:nN}{76C110239433A6FC6441704392C40200}
14
15 \cs_set_protected:Npn \siunitx_number_format:nN #1#2
16 {
17   \group_begin:

```



```

18   \bool_if:NTF \l_siunitx_number_parse_bool
19   {
20     \siunitx_number_parse:nN {#1} \l__siunitx_number_parsed_tl
21     \tl_if_empty:NF \l__siunitx_number_parsed_tl
22     {
23       \siunitx_number_process:NN \l__siunitx_number_parsed_tl \l__siunitx_number_parsed_tl
24       \tl_set:Nx \l__siunitx_number_outputted_tl
25         { \siunitx_number_output:N \l__siunitx_number_parsed_tl }
26     }
27   }
28   {
29     \tl_set:Nn \l__siunitx_number_outputted_tl
30     {
31       \boolfalse{mathjax}%           lwarp
32       \LWR@subsingledollar{%         lwarp
33         \textbackslash( % space      lwarp ALT text
34         \LWR@HTMLsanitizedetokenized{%
35           \detokenize{#1}%
36         } \textbackslash)%           lwarp
37       }%
38       {siunitx unparsed}%           lwarp add'l hashing
39       {\ensuremath{#1}}%           lwarp
40     }
41   }
42   \exp_args:NNNV \group_end:
43   \tl_set:Nn #2 \l__siunitx_number_outputted_tl
44 }

45 \VerifyCommand[lwarp][siunitx]{\__siunitx_compound_unparsed:n}{C6CACB29BD6BD43225E174AD2FBD750C}
46
47 \cs_set_protected:Npn \__siunitx_compound_unparsed:n #1
48 {
49   \tl_if_blank:nF {#1}
50   { \seq_put_right:Nn \l__siunitx_compound_tmp_seq
51     {
52       \boolfalse{mathjax}%           lwarp
53       \LWR@subsingledollar{%         lwarp
54         \textbackslash( % space      lwarp ALT tag
55         \LWR@HTMLsanitizedetokenized{%
56           \detokenize{#1}%
57         } \textbackslash)%           lwarp
58       }%
59       {siunitx unparsed}%           lwarp add'l hashing
60       {\ensuremath{#1}}%           lwarp
61     }
62   }
63 }

```

`\LWR@siunitx@mathrm`

`{\text}`

If in text mode, use `\textrm` instead. Avoids crashing while using `\mathrm` in text mode.

```

64 \LetLtxMacro\LWR@siunitx@orig@mathrm\mathrm
65
66 \newcommand*{\LWR@siunitx@mathrm}[1]{%
67   \ifmmode{\LWR@siunitx@orig@mathrm{#1}}\else{#1}\fi
68 }

```

If not in a `lateximage`, always use text mode. Ignore current text font if resetting text family, series, and shape.

```

69 \VerifyCommand[lwarp][siunitx]{\__siunitx_print_aux:nn}{4D81B79284057560BC61DF11EF723AC8}
70
71 \cs_set_protected:Npn \__siunitx_print_aux:nn #1#2
72 {
73   \LetLtxMacro\mathrm\LWR@siunitx@mathrm%          lwarp
74   \tl_if_empty:oF {#2}
75   {
76     \tl_if_empty:cTF { \__siunitx_print_ #1 _color_tl }
77     { \use:n }
78     { \ExpandArgs { v } \textcolor { \__siunitx_print_ #1 _color_tl } }
79     {
80       \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%          lwarp
81       {
82         \use:c
83         {
84           __siunitx_print_ #1 :n
85         }
86         {#2}
87       }
88       {
89         \bool_lazy_all:nTF%          lwarp
90         {
91           {\__siunitx_print_text_family_bool}
92           {\__siunitx_print_text_series_bool}
93           {\__siunitx_print_text_shape_bool}
94         }
95         {% No font control if reset-text-family/series/shape
96         \use:c
97         {
98           siunitx_print_%          lwarp
99           text%          lwarp
100          :n%          lwarp
101          }%          lwarp
102          {#2}%          lwarp
103         }
104         {
105           \LWR@textcurrentfont{%          lwarp
106           \use:c
107           {
108             siunitx_print_%          lwarp
109             text%          lwarp
110             :n%          lwarp
111             }%          lwarp
112             {#2}%          lwarp
113           }
114         }
115       }
116     }
117   }
118 }

```

To determine whether to make a complex root be italic or upright, `\l__siunitx_complex_output_root_tl` is compared to `\LWR@siunitx@complexrm<i/j>`, and the CSS style for `ij` is set to `ijit` or `ijup`.

```

119 \newcommand*{\LWR@siunitx@complexrootstyle}{textrm}
120

```

```

121 \newcommand*\LWR@siunitx@complexrmi}{\mathrm{i}}
122 \newcommand*\LWR@siunitx@complexrmj}{\mathrm{j}}
123
124 \newcommand*\LWR@siunitx@setcomplexroot}{%
125   \renewcommand*\LWR@siunitx@complexrootstyle}{ijit}%
126   \ifdefequal{\L__siunitx_complex_output_root_tl}{\LWR@siunitx@complexrmi}%
127     {\renewcommand*\LWR@siunitx@complexrootstyle}{ijup}}%
128   {}%
129   \ifdefequal{\L__siunitx_complex_output_root_tl}{\LWR@siunitx@complexrmj}%
130     {\renewcommand*\LWR@siunitx@complexrootstyle}{ijup}}%
131   {}%
132 }

133 \VerifyCommand[lwarp][siunitx]{\L__siunitx_complex_format_cartesian_auxii:n}
134   {DC0897DBE172C13B6F7282D266BE1156}
135
136 \cs_set_protected:Npn \L__siunitx_complex_format_cartesian_auxii:n #1
137   {
138     \LWR@siunitx@setcomplexroot%          lwarp
139     \L__siunitx_complex_format_cartesian_units:n {#1}
140     \tl_if_empty:NF \L__siunitx_complex_real_tl
141     { \exp_after:wN \L__siunitx_complex_drop_exponent:nnnnnn \L__siunitx_complex_real_tl }
142     \exp_after:wN \L__siunitx_complex_format_sign:nnnnnn \L__siunitx_complex_img_tl
143     \tl_set:Nx \L__siunitx_complex_tmp_tl
144       { \siunitx_number_output:NN \L__siunitx_complex_img_tl \q_nil }
145     \exp_after:wN \L__siunitx_complex_extract_exponent:w \L__siunitx_complex_tmp_tl \q_stop
146     \tl_set:Nx \L__siunitx_complex_tmp_tl
147       {
148         \bool_lazy_or:nnTF
149         {
150           \bool_lazy_and_p:nn
151           { \L__siunitx_number_bracket_ambiguous_bool }
152           { ! \tl_if_empty_p:N \L__siunitx_complex_exp_tl }
153         }
154         {
155           ! \bool_lazy_any_p:n
156           {
157             { \tl_if_blank_p:n {#1} }
158             { \tl_if_empty_p:N \L__siunitx_complex_real_tl }
159             { \tl_if_empty_p:N \L__siunitx_complex_img_tl }
160           }
161         }
162       }
163     { \L__siunitx_complex_format_bracket:n }
164     { \use:n }
165     {
166       \siunitx_number_output:N \L__siunitx_complex_real_tl
167       \exp_not:V \L__siunitx_complex_sign_tl
168       \bool_if:NF \L__siunitx_complex_root_after_bool
169       {
170         \InlineClass{\LWR@siunitx@complexrootstyle}% lwarp
171         {
172           \exp_not:V \L__siunitx_complex_output_root_tl
173         }
174       }
175       \exp_not:V \L__siunitx_complex_tmp_tl
176       \bool_if:NT \L__siunitx_complex_root_after_bool
177       {
178         \InlineClass{\LWR@siunitx@complexrootstyle}% lwarp
179         {
180           \exp_not:V \L__siunitx_complex_output_root_tl

```

```

180         }
181     }
182 }
183 \exp_not:V \l__siunitx_complex_exp_tl
184 }
185 }

```

{<1: deg/min/sec character>} {<2: ?>} {<3: ?>} {<4: integer part of angle>} {<5: decimal point character>} {<6: decimal part of angle>} {<7: ?>} {<8: ?>}

If not in a lateximage, print a simplified version without the box measurement things which conflict with lwarp:

```

186 \VerifyCommand[lwarp][siunitx]{\__siunitx_angle_arc_print_auxii:nw}
187   {7CEE155CD4C7A9CDFEAE3AF8DD154B03}
188
189 \cs_set_protected:Npn \__siunitx_angle_arc_print_auxii:nw
190   #1#2 \q_nil #3 \q_nil #4 \q_nil #5 \q_nil #6 \q_nil #7 \q_nil #8 \q_stop
191   {
192     \mode_if_math:TF
193     { \bool_set_true:N \l__siunitx_angle_tmp_bool }
194     { \bool_set_false:N \l__siunitx_angle_tmp_bool }
195     \siunitx_print_number:n {#2#3#4}
196     \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%      lwarp
197     {%                                                    lwarp
198       \tl_if_blank:nTF {#6}
199       { \__siunitx_angle_arc_print_auxvi:n {#1} }
200       {
201         \hbox_set:Nn \l__siunitx_angle_marker_box
202         {
203           \__siunitx_angle_arc_print_auxiii:n
204           { \siunitx_print_number:n {#5} }
205         }
206         \hbox_set:Nn \l__siunitx_angle_unit_box
207         {
208           \__siunitx_angle_arc_print_auxiii:n
209           {
210             \siunitx_unit_format:nN {#1} \l__siunitx_angle_tmp_tl
211             \siunitx_print_unit:V \l__siunitx_angle_tmp_tl
212             \skip_horizontal:n { -\scriptspace }
213           }
214         }
215         \dim_compare:nNnTF { \box_wd:N \l__siunitx_angle_marker_box } >
216         { \box_wd:N \l__siunitx_angle_unit_box }
217         {
218           \__siunitx_angle_arc_print_auxiv:NN
219           \l__siunitx_angle_marker_box
220           \l__siunitx_angle_unit_box
221         }
222         {
223           \__siunitx_angle_arc_print_auxiv:NN
224           \l__siunitx_angle_unit_box
225           \l__siunitx_angle_marker_box
226         }
227         \hbox_set_to_wd:Nnn \l__siunitx_angle_marker_box
228         \l__siunitx_angle_tmp_dim
229         {
230           \hbox_overlap_right:n
231           { \box_use_drop:N \l__siunitx_angle_marker_box }
232           \hbox_overlap_right:n

```

```

233         { \box_use_drop:N \l__siunitx_angle_unit_box }
234         \tex_hfil:D
235     }
236     \box_use:N \l__siunitx_angle_marker_box
237     \skip_horizontal:N \scriptspace
238     \siunitx_print_number:n {#6}
239 }
240 }%

```

{<1: deg/min/sec character>} {<2: ?>} {<3: ?>} {<4: integer part of angle>} {<5: decimal point character>} {<6: decimal part of angle>} {<7: ?>} {<8: ?>}

```

241 {%          lwarp: not in a lateximage, simplify for HTML
242 \tl_if_blank:nTF {#6}
243 { \__siunitx_angle_arc_print_auxvi:n {#1} }
244 {
245     \__siunitx_angle_arc_print_auxiii:n
246     {
247         \siunitx_print_number:n {#5}
248     }
249     \__siunitx_angle_arc_print_auxiii:n
250     {
251         \siunitx_unit_format:nN {#1} \l__siunitx_angle_tmp_tl
252         \siunitx_print_unit:V \l__siunitx_angle_tmp_tl
253     }
254     \siunitx_print_number:n {#6}
255 }
256 }%          lwarp
257 }

```

```

258 \VerifyCommand[lwarp][siunitx]{\__siunitx_angle_arc_print_auxvi:n}
259 {603807F80B4E40084CC07396DBC89FC1}
260
261 \cs_set_protected:Npn \__siunitx_angle_arc_print_auxvi:n #1
262 {
263     \group_begin:
264     \siunitx_unit_options_apply:n {#1}
265     \keys_set:nn { siunitx }{quantity-product={}}% lwarp
266     \siunitx_unit_format:nN {#1} \l__siunitx_angle_tmp_tl
267     \siunitx_quantity_print:nV { } \l__siunitx_angle_tmp_tl
268     \group_end:
269 }

```

If not in a lateximage, print a simple inline fraction, avoiding the use of svg math:

```

270 \VerifyCommand[lwarp][siunitx]{\__siunitx_print_text_fraction:Nnn}
271 {F47521F256C661719258012969E7AE04}
272
273 \cs_set_protected:Npn \__siunitx_print_text_fraction:Nnn #1#2#3
274 {
275     \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}% lwarp
276     {%
277         \ensuremath
278         {
279             #1
280             { \mbox { \__siunitx_print_text_replace:n {#2} } }
281             { \mbox { \__siunitx_print_text_replace:n {#3} } }
282         }
283     }%

```

```

284   {%                               lwarp
285       { \mbox { \__siunitx_print_text_replace:n {#2} } }% lwarp
286         /%                               lwarp
287       { \mbox { \__siunitx_print_text_replace:n {#3} } }% lwarp
288   }%   lwarp
289 }

```

If not in a lateximage, print a \textsubscript:

```

290 \VerifyCommand[lwarp][siunitx]{\__siunitx_unit_format_qualifier_subscript:}
291   {543B01848C00E4089F0E0C53988F6A28}
292
293 \cs_set_protected:Npn \__siunitx_unit_format_qualifier_subscript:
294 {
295   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%   lwarp
296   {%
297     \__siunitx_unit_format_font:
298     \tl_set:Nx \l__siunitx_unit_part_tl
299     {
300       \c__siunitx_unit_math_subscript_tl
301       {
302         \exp_not:V \l__siunitx_unit_font_tl
303         { \exp_not:V \l__siunitx_unit_part_tl }
304       }
305     }
306   }
307   {%   lwarp simplified for HTML:
308     \__siunitx_unit_format_font:
309     \tl_set:Nx \l__siunitx_unit_part_tl
310     {
311       \textsubscript
312       {
313         \exp_not:V \l__siunitx_unit_font_tl
314         { \exp_not:V \l__siunitx_unit_part_tl }
315       }
316     }
317   }
318 }

319 \VerifyCommand[lwarp][siunitx]{\siunitx_quantity:nn}
320   {AEF3237DB5107FE46437AF1D3ABD03DE}
321
322 \cs_set_protected:Npn \siunitx_quantity:nn #1#2
323 {
324   \group_begin:
325     \siunitx_unit_options_apply:n {#2}
326     \tl_if_blank:nTF {#1}
327     {
328       \siunitx_unit_format:nN {#2} \l__siunitx_quantity_unit_tl
329       \siunitx_print_unit:V \l__siunitx_quantity_unit_tl
330     }
331     {
332       \bool_if:NTF \l__siunitx_number_parse_bool
333       { \__siunitx_quantity_parsed:nn {#1} {#2} }
334       {
335         \tl_set:Nn \l__siunitx_quantity_number_tl {
336           \boolfalse{mathjax}%   lwarp
337           \LWR@subsingledollar{% lwarp
338             \textbackslash( % space   lwarp ALT tag
339             \LWR@HTMLsanitizedetokenized{%

```

```

340         \detokenize{#1}%
341     } \textbackslash)%           lwarp
342     }%
343     {siunitx unparsed}%       lwarp add'l hashing
344     {\ensuremath{#1}}}%      lwarp
345     }
346     \siunitx_unit_format:nN {#2} \l__siunitx_quantity_unit_tl
347     \siunitx_quantity_print:VV
348     \l__siunitx_quantity_number_tl \l__siunitx_quantity_unit_tl
349     }
350     }
351 \group_end:
352 }

```

`\cancel` for HTML does not work yet.

```

353 \newcommand*{\LWR@siunitx@nocancel}[1]{%
354     \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
355     {\cancel{#1}}}% SVG
356     {#1}%           HTML
357 }
358
359 \AtBeginDocument{
360 \__siunitx_unit_set_symbolic:Npnn \cancel
361 { }
362 % { \__siunitx_unit_parse_special:n { \cancel } }
363 { \__siunitx_unit_parse_special:n { \LWR@siunitx@nocancel } }% lwarp
364 }

```

For HTML, use a simple unaligned `\num`:

```

365 \newcommand{\LWR@HTML@tablenum}[2][\num{#1}{#2}]
366 \LWR@formatted{tablenum}

```

For HTML, the `S` column is simplified to a `c` column. Keys are set locally, allowing drop-exponent, etc.

```

367 \AtBeginDocument{
368 \HTMLnewcolumnntype{S}[1][>{\begingroup\sisetup{#1}}c<{\endgroup}]
369 }

```

To define simplified units for HTML:

`\HTMLDeclareSIUnit` [*options*] [*name*] [*definition*]

```

370 \NewDocumentCommand{\HTMLDeclareSIUnit}{o +m m}
371 {
372     \ifcsdef{__siunitx_unit_ \token_to_str:N #2 :w }
373     {}
374     {
375         \PackageError{lwarp}
376         {%
377             First~use\MessageBreak
378             \space\space\protect\DeclareSIUnit{
379                 \token_to_str:N#2}{...}\MessageBreak
380             before~using\MessageBreak
381             \space\space\protect\HTMLDeclareSIUnit{
382                 \token_to_str:N#2}{...}%

```

```

383         }
384         {%
385             See~the~Lwarp~manual~section~about~special~cases,~
386             regarding~siunitx.%
387         }
388     }
389     \csNewCommandCopycs
390     { __orig_siunitx_unit_ \token_to_str:N #2 :w }
391     { __siunitx_unit_ \token_to_str:N #2 :w }
392     \DeclareSIUnit[#1]{#2}
393     {
394         \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}
395         { \csuse{ __orig_siunitx_unit_ \token_to_str:N #2 :w }
396           {#3}
397         }
398     }

399 \ExplSyntaxOff

```

HTML versions for existing units:

```

400 \AtBeginDocument{
401 \HTMLDeclareSIUnit\celsius{\LWR@siunitx@textcelsius}
402 \HTMLDeclareSIUnit\arcminute{\LWR@siunitx@textprime}
403 \HTMLDeclareSIUnit\arcsecond{\LWR@siunitx@textdblprime}
404 \HTMLDeclareSIUnit\elementarycharge{\textit{e}}
405 %
406 \HTMLDeclareSIUnit\cflight{\text{\textit{c}}\textsubscript{0}}
407 \HTMLDeclareSIUnit\bohr{\text{\textit{a}}\textsubscript{0}}
408 \HTMLDeclareSIUnit\electronmass{\text{\textit{m}}\textsubscript{e}}
409 \HTMLDeclareSIUnit\hartree{\text{\textit{E}}\textsubscript{h}}
410 \HTMLDeclareSIUnit\planckbar{\LWR@siunitx@textplanckbar}
411 }% \AtBeginDocument

```

Initial options:

```

412 \AtBeginDocument{
413 \sisetup{
414     per-mode=symbol, % fraction is not seen by pdftotext
415     angle-symbol-degree = {\LWR@siunitx@textdegree},
416     angle-symbol-minute = {\LWR@siunitx@textprime} ,
417     angle-symbol-second = {\LWR@siunitx@textdblprime} ,
418 }
419 }

```

Load late patches for lltjp-siunitx:

```

420 \AtBeginDocument{
421 \ifdef{\ltj@allalchar}
422     {\LWR@origRequirePackage{lwarp-lltjp-siunitx}}
423     {}
424 }

```

For MATHJAX:

```

425 \LWR@origRequirePackage{lwarp-common-mathjax-siunitx}
426
427 \begin{warpMathJax}
428 \CustomizeMathJax{\let\unit\si}

```



```

429 \CustomizeMathJax{\let\qty\SI}
430 \CustomizeMathJax{\let\qtylist\SIlist}
431 \CustomizeMathJax{\let\qtyrange\SIrange}
432 \CustomizeMathJax{\let\numproduct\num}
433 \CustomizeMathJax{\let\qtyproduct\SI}
434 \CustomizeMathJax{\let\complexnum\num}
435 \CustomizeMathJax{\newcommand{\complexqty}[3][[]]{(\complexnum{#2})\si{#3}}}
436 \end{warpMathJax}

```

Pass range-phrase to common-mathjax-siunitx:

```

437 \ExplSyntaxOn
438 \AtBeginDocument{
439 \edef\LWR@siunitx@rangephrase{\l_siunitx_range_phrase_tl}
440 \expandafter\CustomizeMathJax\expandafter{%
441   \expandafter\def\expandafter\LWRsiunitxrangephrase%
442   \expandafter{\LWR@siunitx@rangephrase}%
443 }
444 }
445 \ExplSyntaxOff

```

File 457 **lwarp-siunitx-v2.sty**

§ 569 Package **siunitx-v2**

(Emulates or patches code by JOSEPH WRIGHT.)

siunitx-v2 (*Pkg*) siunitx-v2 is patched for use by lwarp, and is emulated for MATHJAX.


siunitx is well supported by lwarp.


Limitations Some general limitations:

fractions Due to *pdf_{text}* limitations, fraction output is replaced by symbol output for per-mode and quotient-mode.

\cancel is not currently supported for siunitx v3.

Negative values are not automatically colored.

 **tabular** Tabular S and s columns are rendered as simple c columns, although key settings will be set. If using scientific notation, table-format, table-align-uncertainty, drop-exponent, etc.. use \tablenum for each cell. This is especially required for

 **drop-exponent** drop-exponent, without which the value will be shown incorrectly.

 **table-auto-round** table-auto-round is ignored.

Math rendering Math may be rendered in several ways in the same document:

For math mode with `svg display`: The original siunitx code is used while generating the SVG image.

For HTML text mode: lwarp uses siunitx code patched for HTML, and simplified units.

For math expressions while using `MATHJAX`: A limited emulation is used. Most functions work reasonably well, but many options cannot be emulated. The result usually looks fine, and otherwise is enough to get the meaning across.


Custom units siunitx allows customized units:

```
\DeclareSIUnit {<name>} {<definition>}
```

`\DeclareSIUnit` declares a version of the unit for the print version. This is also used when the unit is printed in `svg math` or a `lateximage`. It is also used for HTML if an HTML-specific version is not defined with `\HTMLDeclareSIUnit`.

```
\DeclareSIUnit\myunit{\ensuremath{\text{m}_y}}
```

```
\HTMLDeclareSIUnit {<name>} {<definition>}
```

 **v3 only!** Use this after the print unit has been defined. For siunitx v3, `\HTMLDeclareSIUnit` declares a simplified version of the unit for HTML, for example if the print-mode unit uses `TeX boxes` or `\ensuremath`:

```
\HTMLDeclareSIUnit\myunit{\text{m}\textsubscript{\textit{y}}}
```


It is also possible to provide a custom unit for `MATHJAX`:

```
\CustomizeMathJax{\newcommand{\myunit}{\text{m}_y}}
```


Predefined units Most units work as-is with HTML. For the following units, lwarp has already set `\HTMLDeclareSIUnit`: `\celsius`, `\arcminute`, `\arcsecond`, `\elementarycharge`, `\clight`, `\bohr`, `\electronmass`, `\hartree`, `\planckbar`.

 **MathJax**

Document modifications required for `MATHJAX`

 **`\sisetup`**

- Place `\sisetup` in the preamble before `\begin{document}`. Changes made later may be ignored, especially with `MATHJAX`. The `MATHJAX` emulation also ignores most macro options.


 **complex numbers**

- Complex numbers are displayed as entered, ignoring `output-complex-root`.

custom units

- Custom units may be added with `\CustomizeMathJax`. For example, from `lwarp-common-mathjax-siunitx`:

```
\CustomizeMathJax{\newcommand{\hartree}{\mathit{E}_{\mathrm{h}}}}
\CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\unicode{x212B}}}}
```

 **unit spacing**

- Units work better using `~` between units instead of using periods.

⚠ `\square`, `\cubic`

- To square or cube compound units, enclose the following compound units in braces:

```
\cubic{\centi\meter}
```

Single units do not require braces.

- For `\numlist`, the argument is printed as text as-is, so use space between semicolons for improved readability.

⚠ Missing \$ inserted

- If using `parse-numbers = false`, also use `\num` or `\qty`. `siunitx=siunitx>Missing $ inserted`.

Also see [MATHJAX option](#), section 8.7.5.

for HTML output:

```
1 \RequirePackage{xcolor}% for \convertcolorspec
2
3 \LWR@ProvidesPackagePass{siunitx}[=v2]% 2021-04-17

4 \AtBeginDocument{% in case textcomp was not loaded
5   \DeclareSIUnit\bohr{\textit{a}\textsubscript{0}}
6   \DeclareSIUnit\clight{\textit{c}\textsubscript{0}}
7   \DeclareSIUnit\elementarycharge{\textit{e}}
8   \DeclareSIUnit\electronmass{\textit{m}\textsubscript{e}}
9   \DeclareSIUnit\hartree{\textit{E}\textsubscript{h}}
10  \DeclareSIUnit\planckbar{\LWR@siunitx@textplanckbar}
11}% AtBeginDocument
```

Support the S and s column types:

```
12 \AtBeginDocument{
13 \HTMLnewcolumnstype{S}[1][>{\begingroup\sisetup{#1}}c<{\endgroup}}
14 \HTMLnewcolumnstype{s}[1][>{\begingroup\sisetup{#1}}c<{\endgroup}}
15 }
```

`\@ensuredmath` is not supported inside an `\hbox`, so it must temporarily be restored to its original. Similar for `\mbox`. SVG math is created explicitly when necessary, using `\LWR@subsingledollar`.

```
16
17 \ExplSyntaxOn
18 %
```

Modified to use the print version of `\@ensuredmath` to avoid having a `lateximage` each time.

```
19 \AtBeginDocument{
20 \cs_set_protected:Npn \__siunitx_print_text:
21 {
22   \LetLtxMacro\@ensuredmath\LWR@origensuredmath%          lwarp
23   \tl_replace_all:Nnn \__siunitx_print_arg_tl { - }
24     { \textminus }
25   \__siunitx_print_text_aux:
26   \tl_replace_all:Nnn \__siunitx_print_arg_tl { \mp }
27     { \ensuremath { \mp } }
28   \tl_remove_all:Nn \__siunitx_print_arg_tl { \mathord }
29   \cs_set_eq:NN \PrintSubscript \__siunitx_print_text_sub:n
30   \cs_set_eq:NN \PrintSuperscript \__siunitx_print_text_super:n
31   \__siunitx_print_text_aux:NnN
```

```

32   _ { math_subscript } \__siunitx_print_text_sub:n
33   _ { active } \__siunitx_print_text_sub:n
34   ^ { math_superscript } \__siunitx_print_text_super:n
35   ^ { active } \__siunitx_print_text_super:n
36   \q_recursion_tail ? ?
37   \q_recursion_stop
38   \l__siunitx_print_arg_tl
39 }
40 }

```

Modified to set set HTML \textcolor if not black:

```

41 \cs_new_protected:Npn \LWR@HTML@__siunitx_print_aux:
42 {
43   \text
44   {
45     \__siunitx_ensure_ltr:n
46     {
47       \color@begingroup
48 %
49       \__siunitx_print_color:
50       \__siunitx_font_shape:
51       \__siunitx_font_weight:
52       \use:c
53       {
54         __siunitx_ \l__siunitx_print_type_tl _
55         text \l__siunitx_font_family_tl :
56       }

57 %       \bool_if:NTF \l__siunitx_font_math_mode_bool
58 %       {
59 %         \__siunitx_print_math:
60 %       }
61       {
62         \LWR@findcurrenttextcolor% lwarp
63         \ifdefstring{\LWR@tempcolor}{000000}% lwarp
64         { \__siunitx_print_text:}% lwarp
65         {% lwarp
66           \LWR@textcurrentcolor{% lwarp
67             \__siunitx_print_text:
68             }% lwarp
69         }% lwarp
70       }
71       \color@endgroup
72 %
73     }
74   }
75 }
76 \LWR@formatted{__siunitx_print_aux:}
77
78 \cs_new_protected:Npn \LWR@HTML@__siunitx_set_math_fam:n #1 {
79   \group_begin:
80 %   \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
81 %   \LetLtxMacro\mbox\LWR@print@mbox% lwarp
82 %   \hbox_set:Nn \l__siunitx_tmp_box
83 %   {
84 %     \ensuremath
85 %     {
86 %       \use:c { math #1 }
87 %     }

```

```

88         \int_const:cn { c__siunitx_math #1 _int } { \fam }
89     }
90 }
91% }
92 \group_end:
93 }
94 \LWR@formatted{__siunitx_set_math_fam:n}
95
96 \cs_new_protected:Npn \LWR@HTML@__siunitx_combined_output:n #1 {
97%
98     \group_begin:% lwarp
99     \bool_if:NTF \l__siunitx_number_parse_bool
100     {
101         \tl_clear:N \l__siunitx_number_out_tl
102         \bool_set_false:N \l__siunitx_number_compound_bool
103         \__siunitx_number_output_parse:n {#1}
104     }
105     {

```

For parse-numbers=false:

```

106     \__siunitx_unit_output_pre_print:
107     \begingroup%
108         \boolfalse{mathjax}%
109%     \__siunitx_print:nn { number } { \ensuremath {#1} }
110         \LWR@subsingledollar%
111         {% alt text
112             \textbackslash( % space
113                 \LWR@HTMLsanitizedetokenized{%
114                     \detokenize{#1}%
115                 } \textbackslash)%
116         }
117         {siunitx}% addl hashing
118         {%
119             \__siunitx_print:nn { number } {%
120                 \LWR@origensuredmath{#1}%
121             }%
122         }%
123     \endgroup%
124     \__siunitx_unit_output_print:
125 }
126 \group_end:% lwarp
127%
128 }
129 \LWR@formatted{__siunitx_combined_output:n}

```

For parse-numbers=false:

```

130 \cs_new_protected:Npn \LWR@HTML@__siunitx_range_numbers_aux:n #1
131 {
132     \bool_if:NTF \l__siunitx_number_parse_bool
133     {
134         \tl_clear:N \l__siunitx_number_out_tl
135         \tl_clear:N \l__siunitx_number_out_saved_tl
136         \bool_set_false:N \l__siunitx_number_compound_bool
137         \__siunitx_number_output_parse:n {#1}
138         \bool_if:NT \l__siunitx_number_compound_bool
139         { \msg_error:nxx { siunitx } { multi-part-range } {#1} }
140     }
141     {

```

```

142     \__siunitx_unit_output_pre_print:
143     \begingroup%     lwarp
144         \boolfalse{mathjax}%     lwarp
145 %         \__siunitx_print:nn { number } {#1}
146         \LWR@subsingledollar%     lwarp
147             {% alt text
148                 \textbackslash( % space
149                 \LWR@HTMLsanitizedetokenized{%
150                     \detokenize{#1}%
151                 } \textbackslash)%     lwarp
152             }%
153             {siunitx}% addl hashing
154             {%
155                 \__siunitx_print:nn { number } {%
156                     \LWR@origensuredmath{#1}%
157                 } %     lwarp
158             }%     lwarp
159     \endgroup%     lwarp
160     \__siunitx_unit_output_print:
161 }
162 }
163 \LWR@formatted{__siunitx_range_numbers_aux:n}

```

For parse-numbers=false:

```

164 \cs_new_protected:Npn \LWR@HTML@__siunitx_angle_print_direct_aux:nn #1#2 {
165   \tl_if_empty:nF {#1}
166   {
167     \tl_set:Nn \l__siunitx_unit_tl {#2}
168     \begingroup%     lwarp
169         \boolfalse{mathjax}%     lwarp
170 %         \__siunitx_print:nn { number } {#1}
171         \LWR@subsingledollar{%     lwarp
172             \textbackslash( % space
173             \LWR@HTMLsanitizedetokenized{%
174                 \detokenize{#1}%
175             } \textbackslash)%     lwarp
176         }%
177         {siunitx}%
178         {%
179             \__siunitx_print:nn { number } {
180                 \LWR@origensuredmath{#1}%
181             }%     lwarp
182         }%     lwarp
183     \endgroup%     lwarp
184     \__siunitx_unit_output_print:
185   }
186 }
187 \LWR@formatted{__siunitx_angle_print_direct_aux:nn}
188 %

```

For quotients, the fraction code is replaced by the symbol code:

```

189 \cs_new_protected:Npn \LWR@HTML@__siunitx_number_output_quotient_fraction: {
190   \bool_set_true:N \l__siunitx_number_compound_bool
191   \__siunitx_number_output_quotient_aux_i:
192   \tl_set_eq:NN \l__siunitx_number_out_tl
193     \l__siunitx_number_numerator_tl
194   \tl_put_right:NV \l__siunitx_number_out_tl \l__siunitx_output_quotient_tl
195   \tl_put_right:NV \l__siunitx_number_out_tl

```

```

196   \l__siunitx_number_denominator_tl
197   \__siunitx_number_output_single_aux:
198 }
199 \LWR@formatted{__siunitx_number_output_quotient_fraction:}

```

For units, the fraction code is replaced by the symbol code:

```

200 \cs_new_protected:Npn \LWR@HTML@__siunitx_unit_format_fraction_fraction: {
201   \__siunitx_unit_format_fraction_symbol_aux:
202   \int_compare:nNt { \l__siunitx_unit_denominator_int } > { 1 }
203   {
204     \bool_if:NT \l__siunitx_unit_denominator_bracket_bool
205     {
206       \tl_put_left:NV \l__siunitx_unit_denominator_tl \l__siunitx_bracket_open_tl
207       \tl_put_right:NV \l__siunitx_unit_denominator_tl \l__siunitx_bracket_close_tl
208     }
209   }
210   \tl_set_eq:NN \l__siunitx_unit_tl \l__siunitx_unit_numerator_tl
211   \tl_put_right:NV \l__siunitx_unit_tl \l__siunitx_per_symbol_tl
212   \tl_put_right:NV \l__siunitx_unit_tl \l__siunitx_unit_denominator_tl
213 }
214 \LWR@formatted{__siunitx_unit_format_fraction_fraction:}

215 \cs_new_protected:Npn \LWR@HTML@__siunitx_angle_print_astronomy_aux: {
216   \prop_get:NnNT \l__siunitx_number_out_prop { mantissa-integer }
217   \l__siunitx_tmpa_tl
218   { \__siunitx_print:nV { number } \l__siunitx_tmpa_tl }
219   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}% lwarp
220   {% lateximage
221     \hbox_set:Nn \l__siunitx_angle_marker_box
222     {
223       \__siunitx_print:nn { number } { { \l__siunitx_output_decimal_tl } }
224     }
225     \hbox_set:Nn \l__siunitx_angle_unit_box
226     {
227       \__siunitx_print:nV { unit } \l__siunitx_unit_tl
228       \skip_horizontal:n { -\scriptspace }
229     }
230     \__siunitx_angle_print_astronomy_aux:n { marker }
231     \__siunitx_angle_print_astronomy_aux:n { unit }
232     \hbox_set:Nn \l__siunitx_angle_marker_box
233     {
234       \box_use:N \l__siunitx_angle_marker_box
235       \box_use:N \l__siunitx_angle_unit_box
236     }
237     \dim_compare:nNtF
238     { \l__siunitx_angle_marker_dim } > { \l__siunitx_angle_unit_dim }
239     { \__siunitx_angle_print_astronomy_marker: }
240     { \__siunitx_angle_print_astronomy_unit: }
241   }% lateximage
242   {% not a lateximage
243     \__siunitx_print:nn { number } { { \l__siunitx_output_decimal_tl } }
244     \__siunitx_print:nV { unit } \l__siunitx_unit_tl
245   }% not a lateximage
246   \prop_get:NnNT \l__siunitx_number_out_prop { mantissa-decimal }
247   \l__siunitx_tmpa_tl
248   { \__siunitx_print:nV { number } \l__siunitx_tmpa_tl }
249 }
250 \LWR@formatted{__siunitx_angle_print_astronomy_aux:}

```

```

251 \cs_new_protected:Npn \LWR@HTML@__siunitx_textsuperscript:n #1 {\textsuperscript{#1}}
252 \LWR@formatted{__siunitx_textsuperscript:n}
253
254 \cs_new_eq:NN \LWR@HTML@__siunitx_print_text_super:n \textsuperscript
255 \LWR@formatted{__siunitx_print_text_super:n}
256
257 \cs_new_eq:NN \LWR@HTML@__siunitx_print_text_sub:n \textsubscript
258 \LWR@formatted{__siunitx_print_text_sub:n}

```

\LWR@origenduresmath is added here in case the user asks for \mathrm , etc. for output-exponent-marker.

```

259 \cs_new_protected:Npn \LWR@HTML@__siunitx_number_format_final_exponent: {
260   \prop_get:NnN \l__siunitx_number_out_prop { exponent }
261   \l__siunitx_tmpa_tl
262   \tl_if_empty:NTF \l__siunitx_output_exponent_tl
263     {
264       \tl_set:Nx \l__siunitx_tmpa_tl
265         { ^ { \exp_not:V \l__siunitx_tmpa_tl } }
266       \tl_put_left:NV \l__siunitx_tmpa_tl \l__siunitx_exponent_base_tl
267     }
268     {
269       \tl_set:Nx \l__siunitx_tmpa_tl
270         {
271           \LWR@origensuredmath{%   lwarp
272             \exp_not:V \l__siunitx_output_exponent_tl
273             }%   lwarp
274           \exp_not:N \mathord
275           \exp_not:V \l__siunitx_tmpa_tl
276         }
277     }
278   \prop_put:NnV \l__siunitx_number_out_prop { exponent-result }
279   \l__siunitx_tmpa_tl
280 }
281 \LWR@formatted{__siunitx_number_format_final_exponent:}

```

\LWR@origensuredmath is added here to avoid using an image for the exponent product.

```

282 \cs_new_protected:Npn \LWR@HTML@__siunitx_number_format_final_combined: {
283   \__siunitx_number_format_brackets:n { mantissa }
284   \prop_get:NnN \l__siunitx_number_out_prop { mantissa-result }
285   \l__siunitx_tmpa_tl
286   \tl_if_empty:NT \l__siunitx_output_exponent_tl
287     {
288       \tl_put_right:Nx \l__siunitx_tmpa_tl
289         {
290           \exp_not:N \LWR@origensuredmath%   lwarp
291           {
292             \bool_if:NTF \l__siunitx_tight_bool
293               { { \exp_not:V \l__siunitx_exponent_product_tl } }
294               { { } \exp_not:V \l__siunitx_exponent_product_tl { } }
295           }
296         }
297     }
298   \prop_get:NnN \l__siunitx_number_out_prop { exponent-result }
299   \l__siunitx_tmpb_tl
300   \tl_put_right:NV \l__siunitx_tmpa_tl \l__siunitx_tmpb_tl
301   \prop_put:NnV \l__siunitx_number_out_prop { result }

```



```

302 \l__siunitx_tmpa_tl
303 \prop_put:Nnn \l__siunitx_number_out_prop
304 { result-bracket-exponent } { true }
305 }
306 \LWR@formatted{__siunitx_number_format_final_combined:}

```

\LWR@origensuredmath is added here to avoid using an image for the exponent product.

```

307 \cs_new_protected:Npn \LWR@HTML@__siunitx_number_output_parts_aux: {
308   \bool_if:NTF \l__siunitx_multi_repeat_bool
309   {
310     \prop_if_in:NnT \l__siunitx_number_out_prop { mantissa-result }
311     {
312       \__siunitx_number_output_parts_aux:n { mantissa }
313       \__siunitx_number_output_parts_aux:n { complex }
314     }
315     \prop_get:NnNT \l__siunitx_number_out_prop { exponent-result }
316     \l__siunitx_tmpa_tl
317     {
318       \prop_if_in:NnT \l__siunitx_number_out_prop { mantissa-result }
319       {
320         \tl_put_left:Nx \l__siunitx_tmpa_tl
321         {
322           \exp_not:N \LWR@origensuredmath
323           {
324             \bool_if:NTF \l__siunitx_tight_bool
325             { { \exp_not:V \l__siunitx_exponent_product_tl } }
326             { { } \exp_not:V \l__siunitx_exponent_product_tl { } }
327           }
328         }
329         \prop_put:NnV \l__siunitx_number_out_prop { exponent }
330         \l__siunitx_tmpa_tl
331       }
332       \__siunitx_number_output_parts_print:n { exponent }
333     }
334   }
335   { \__siunitx_number_output_single: }
336 }
337 \LWR@formatted{__siunitx_number_output_parts_aux:}

```

\LWR@origensuredmath is added here to avoid using an image for the exponent product.

```

338 \cs_new_protected:Npn \LWR@HTML@__siunitx_unit_output_print: {
339   \int_compare:nNnF { \l__siunitx_unit_prefix_int } = { 0 }
340   {
341     \tl_set:Nx \l__siunitx_tmpa_tl
342     {
343       \bool_if:NTF \l__siunitx_tight_bool
344       {
345         \exp_not:N \LWR@origensuredmath% \lwrap
346         { { \exp_not:V \l__siunitx_exponent_product_tl } }
347       }
348       {
349         \exp_not:N \LWR@origensuredmath% \lwrap
350         { { } \exp_not:V \l__siunitx_exponent_product_tl { } }
351       }
352       \int_use:N \l__siunitx_unit_prefix_base_int
353       ^ { \int_use:N \l__siunitx_unit_prefix_int }

```

```

354     }
355     \__siunitx_print:nV { number } \l__siunitx_tmpa_tl
356   }
357   \tl_if_empty:NF \l__siunitx_unit_tl
358   {
359     \__siunitx_unit_output_number_sep:
360     \__siunitx_print:nV { unit } \l__siunitx_unit_tl
361   }
362 }
363 \LWR@formatted{__siunitx_unit_output_print:}

```

`\LWR@origensuredmath` is added here to avoid using an image for the exponent product.

```

364 \cs_new_protected:Npn \LWR@HTML@__siunitx_range_exponent:
365 {
366   \bool_if:NT \l__siunitx_process_fixed_bool
367   {
368     \tl_set_eq:NN \l__siunitx_tmpa_tl \l__siunitx_exponent_product_tl
369     \bool_if:NT \l__siunitx_tight_bool
370     {
371       \tl_set:Nx \l__siunitx_tmpa_tl
372       { \exp_not:N \mathord \exp_not:o \l__siunitx_tmpa_tl }
373     }
374     \tl_set:Nx \l__siunitx_tmpa_tl
375     {
376       \exp_not:N \LWR@origensuredmath { %      lwarp
377         { } \exp_not:o \l__siunitx_tmpa_tl { }
378       }
379       10 \exp_not:N \PrintSuperscript
380       { \int_use:N \l__siunitx_process_fixed_int }
381     }
382     \__siunitx_print:nV { number } \l__siunitx_tmpa_tl
383   }
384 }
385 \LWR@formatted{__siunitx_range_exponent:}

```

`\LWR@origensuredmath` is added here to avoid using an image for the exponent product.

```

386 \cs_new_protected:Npn \LWR@HTML@__siunitx_table_print_S_reserved_exponent_product:
387 {
388   \tl_set_eq:NN \l__siunitx_tmpb_tl \l__siunitx_exponent_product_tl
389   \bool_if:NT \l__siunitx_tight_bool
390   {
391     \tl_set:Nx \l__siunitx_tmpb_tl
392     { \exp_not:N \mathord \exp_not:o \l__siunitx_tmpb_tl }
393   }
394   \tl_set:Nx \l__siunitx_tmpa_tl
395   {
396     \exp_not:N \LWR@origensuredmath { { } \exp_not:o \l__siunitx_tmpb_tl { } }
397     \exp_not:o \l__siunitx_tmpa_tl
398   }
399 }
400 \LWR@formatted{__siunitx_table_print_S_reserved_exponent_product:}

```

`\LWR@origensuredmath` is added here to avoid using an image for the output product.

```

401 \cs_new_protected:Npn \LWR@HTML@__siunitx_number_output_product_aux: {
402   \bool_set_true:N \l__siunitx_number_compound_bool
403   \__siunitx_number_preprocess:V \l__siunitx_number_arg_tl
404   \bool_if:NF \l__siunitx_error_bool
405   {
406     \tl_if_empty:NTF \l__siunitx_number_multi_tl
407     { \__siunitx_number_output_parse_aux: }
408     { \__siunitx_number_output_quotient: }
409     \tl_if_empty:NF \l__siunitx_number_next_tl
410     {
411       \bool_if:NTF \l__siunitx_tight_bool
412       {
413         \__siunitx_print:nn { number }
414         { \LWR@origensuredmath { \l__siunitx_output_product_tl } }
415       }
416       {
417         \__siunitx_print:nn { number }
418         { \LWR@origensuredmath { } { \l__siunitx_output_product_tl { } } }
419       }
420     }
421   }
422 }
423 }
424 \LWR@formatted{__siunitx_number_output_product_aux:}

```

Used to detect the math font.

```

425 \cs_set_protected:Npn \__siunitx_set_math_fam:n #1 {
426   \group_begin:
427   \hbox_set:Nn \l__siunitx_tmp_box
428   {
429     \LWR@origensuredmath%      lwarp
430     {
431       \use:c { math #1 }
432       {
433         \int_const:cn { c__siunitx_math #1 _int } { \fam }
434       }
435     }
436   }
437   \group_end:
438 }

```

Force \text:

```

439 \cs_set_protected:Npn \__siunitx_range_numbers:nn #1#2
440 {
441   \__siunitx_range_numbers_aux:n {#1}
442   \text{\l__siunitx_range_phrase_tl}%      lwarp
443   \__siunitx_range_numbers_aux:n {#2}
444 }

```

Force \text:

```

445 \cs_set_protected:Npn \__siunitx_range_unit:nnnn #1#2#3#4 {
446   \__siunitx_unit_parse_options:nn {#1} {#2}
447   \bool_if:NTF \l__siunitx_range_repeat_bool
448   {
449     \__siunitx_unit_in:nn {#1} {#2}
450     \__siunitx_range_numbers_aux:n {#3}
451     \text{\l__siunitx_range_phrase_tl}%      lwarp

```

```

452     \__siunitx_range_numbers_aux:n {#4}
453   }
454   {
455     \bool_if:NT \l__siunitx_process_fixed_bool
456       { \bool_set_true:N \l__siunitx_process_drop_exponent_bool }
457     \bool_if:NT \l__siunitx_range_brackets_bool
458       { \__siunitx_print:nV { number } \l__siunitx_bracket_open_tl }
459     \__siunitx_range_numbers:nn {#3} {#4}
460     \bool_if:NT \l__siunitx_range_brackets_bool
461       { \__siunitx_print:nV { number } \l__siunitx_bracket_close_tl }
462     \__siunitx_range_exponent:
463     \__siunitx_unit_output_number_sep:
464     \__siunitx_unit_output:nn {#1} {#2}
465   }
466 }

467 \ExplSyntaxOff

468 \AtBeginDocument{
469 \sisetup{
470   detect-mode=true,
471   per-mode=symbol, % fraction is not seen by pdftotext
472   text-celsius = {\LWR@siunitx@textcelsius},
473   text-degree = {\LWR@siunitx@textdegree},
474   text-arcminute = {\LWR@siunitx@textprime} ,
475   text-arcsecond = {\LWR@siunitx@textdblprime} ,
476 }
477 }

478 \LWR@origRequirePackage{lwarp-common-mathjax-siunitx}

    Passing range-phrase to common-mathjax-siunitx does not seem to work with v2
    using translator as it does with v3 using translations. The range-phrase therefore
    is set to an en-dash.

479 \AtBeginDocument{
480 \CustomizeMathJax{\def\LWRsiunitxrangephrase{\unicode{x2013}}}
481 }

```

File 458 **lwarp-common-mathjax-siunitx.sty**

§ 570 Package **common-mathjax-siunitx**

(Emulates or patches code by JOSEPH WRIGHT.)

common-mathjax-siunitx (*Pkg*) common-mathjax-siunitx adds MATHJAX for siunitx and siunitx-v2.

for HTML output:
MATHJAX

For MATHJAX.

The following runs much faster as separate \CusomizeMathJax calls instead of one single call.

```

1 \begin{warpMathJax}
2 \LWR@infoprocessingmathjax{siunitx}

3 \CustomizeMathJax{\newcommand{\tothe}[1]{^{#1}}}
4 \CustomizeMathJax{\newcommand{\raiseto}[2]{^{#2}^{#1}}}

```

Used as an end marker when parsing values:

```
5 \CustomizeMathJax{\newcommand{\LWRsiunitxEND}{}}
```

`\ang`

`[\langle options \rangle] \{ \langle value \rangle \}`

```
6 \CustomizeMathJax{\def\LWRsiunitxang#1;#2;#3;#4\LWRsiunitxEND{%
7   \ifblank{#1}{\num{#1}\degree}%
8   \ifblank{#2}{\num{#2}^{\unicode{x2032}}}% \prime
9   \ifblank{#3}{\num{#3}^{\unicode{x2033}}}% \dblprime
10 }}
11 \CustomizeMathJax{\newcommand{\ang}[2][\LWRsiunitxang#2; ; \LWRsiunitxEND]}
```

`\num`

`[\langle options \rangle] \{ \langle value \rangle \}`

`\num` handles optional powers (e, E, d, D), multiples (x), plus and minus, and period or comma decimal output.

To split the string, `\def` is used with parameter delimiters. When each of the following macros is used, extra delimiters are padded to the end of the arguments of each macro when used, and the final argument of each collects any extra unused delimiters.

The number is split by dimensions (x), then by powers (E, e, D, d), then by plus / minus (+-, `\pm`), then by plus and minus (+, -), then into pieces before and after the decimal point or decimal comma.

Determine if the number is output with a decimal period or a decimal comma. The enclosing braces tell MATHJAX to not add extra space after the punctuation.

```
12 \ExplSyntaxOn
13 \AtBeginDocument{
14   \ifdefstring{\l__siunitx_output_decimal_tl}{,}{.}
15   \CustomizeMathJax{\def\LWRsiunitxdecimal{,}}
16   \CustomizeMathJax{\def\LWRsiunitxdecimal{.}}
17 }
18 \ExplSyntaxOff
```

Any units which must be distributed across multiple dimensions:

```
19 \CustomizeMathJax{\def\LWRsiunitxdistribunit{}}
```

`siunitx` accepts either commas or periods as decimal points. `\LWRsiunitxprintdecimal` splits its input by periods then commas, parsing out before and after sections to print on either side of the decimal point.

`\LWRsiunitxENDTWO` is used only by `\LWRsiunitxprintdecimalsubtwo`, to avoid a parsing conflict with the more widely-used `\LWRsiunitxEND`.

The following splits by decimal commas:

```
20 \CustomizeMathJax{\newcommand{\LWRsiunitxENDTWO}{}}
21
22 \CustomizeMathJax{\def\LWRsiunitxprintdecimalsubtwo#1,#2,#3\LWRsiunitxENDTWO{}}
```

If nothing is ahead of the decimal comma, add a leading zero:

```
23   \ifblank{#1}{0}{\mathrm{#1}}%
```

If something is after the decimal comma, print the decimal and the fraction:

```
24   \ifblank{#2}%
25     {}%
26     {%
27     {\LWRsiunitxdecimal}%
```

```

28         \mathrm{#2}%
29     }%
30 }}

```

The following splits by decimal periods:

```

31 \CustomizeMathJax{\def\LWRsiunitxprintdecimalsub#1.#2.#3\LWRsiunitxEND{%
32     \LWRsiunitxprintdecimalsubtwo#1, \LWRsiunitxENDTWO%
33     \ifblank{#2}%
34     {}%
35     {%
36         {\LWRsiunitxdecimal}%
37         \LWRsiunitxprintdecimalsubtwo#2, \LWRsiunitxENDTWO%
38     }%
39 }}
40
41 \CustomizeMathJax{\newcommand{\LWRsiunitxprintdecimal}[1]{%
42     \LWRsiunitxprintdecimalsub#1... \LWRsiunitxEND%
43 }}

```

The following splits by +

```

44 \CustomizeMathJax{\def\LWRsiunitxnumplus#1+#2+#3\LWRsiunitxEND{%
45     \ifblank{#2}%
46     {%
47         \LWRsiunitxprintdecimal{#1}%
48     }% no plus
49     {%
50         \ifblank{#1}%
51         {\LWRsiunitxprintdecimal{#2}}% leading plus, ignore
52         {% a+b
53             \LWRsiunitxprintdecimal{#1}%
54             \unicode{x02B}% plus sign
55             \LWRsiunitxprintdecimal{#2}%
56         }%
57     }%
58     \LWRsiunitxdistribunit%
59 }}

```

The following splits by -

```

60 \CustomizeMathJax{\def\LWRsiunitxnumminus#1-#2-#3\LWRsiunitxEND{%
61     \ifblank{#2}%
62     {\LWRsiunitxnumplus#1+++ \LWRsiunitxEND}%
63     {%
64         \ifblank{#1}{\LWRsiunitxprintdecimal{#1}}%
65         \unicode{x02212}% mathematical minus sign
66         \LWRsiunitxprintdecimal{#2}%
67         \LWRsiunitxdistribunit%
68     }%
69 }}

```

The following splits by \pm

```

70 \CustomizeMathJax{\def\LWRsiunitxnumpmmacro#1\pm#2\pm#3\LWRsiunitxEND{%
71     \ifblank{#2}%
72     {\LWRsiunitxnumminus#1--- \LWRsiunitxEND}%
73     {%
74         \LWRsiunitxprintdecimal{#1}%
75         \unicode{x0B1}% \pm
76         \LWRsiunitxprintdecimal{#2}%
77         \LWRsiunitxdistribunit%
78     }%
79 }}

```

The following splits by +-

```
80 \CustomizeMathJax{\def\LWRsiunitxnumpm#1+-#2+-#3\LWRsiunitxEND{%
81   \ifblank{#2}%
82     {\LWRsiunitxnumpmmacro#1\pm\pm\pm\LWRsiunitxEND}%
83     {%
84       \LWRsiunitxprintdecimal{#1}%
85       \unicode{x0B1}% \pm
86       \LWRsiunitxprintdecimal{#2}%
87       \LWRsiunitxdistribunit%
88     }%
89 }}
```

Processes scientific notation. Special handling for a mantissa which is either empty or only a minus sign.

```
90 \CustomizeMathJax{\newcommand{\LWRsiunitxnumscientific}[2]{%
91   \ifblank{#1}%
92     {}%
93     {%
94       \ifstrequal{#1}{-}%
95         {-}%
96         {\LWRsiunitxprintdecimal{#1}\times}%
97     }%
98   10^{\LWRsiunitxprintdecimal{#2}}%
99   \LWRsiunitxdistribunit%
100 }}
```

The following splits by D

```
101 \CustomizeMathJax{\def\LWRsiunitxnumD#1D#2D#3\LWRsiunitxEND{%
102   \ifblank{#2}%
103     {\LWRsiunitxnumpm#1+--\LWRsiunitxEND}%
104     {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}%
105 }}
```

The following splits by d

```
106 \CustomizeMathJax{\def\LWRsiunitxnumd#1d#2d#3\LWRsiunitxEND{%
107   \ifblank{#2}%
108     {\LWRsiunitxnumD#1DDD\LWRsiunitxEND}%
109     {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}%
110 }}
```

The following splits by E

```
111 \CustomizeMathJax{\def\LWRsiunitxnumE#1E#2E#3\LWRsiunitxEND{%
112   \ifblank{#2}%
113     {\LWRsiunitxnumd#1ddd\LWRsiunitxEND}%
114     {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}%
115 }}
```

The following splits by e

```
116 \CustomizeMathJax{\def\LWRsiunitxnume#1e#2e#3\LWRsiunitxEND{%
117   \ifblank{#2}%
118     {\LWRsiunitxnumE#1EEE\LWRsiunitxEND}%
119     {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}%
120 }}
```

The following splits by x

```
121 \CustomizeMathJax{\def\LWRsiunitxnumx#1x#2x#3x#4\LWRsiunitxEND{%
122   \ifblank{#2}%
123     {\LWRsiunitxnume#1eee\LWRsiunitxEND}%
124 }}
```

```

124      {%
125          \ifblank{#3}%
126          {%
127              \LWRsiunitxnume#1eee\LWRsiunitxEND%
128              \times%
129              \LWRsiunitxnume#2eee\LWRsiunitxEND%
130          }%
131      {%
132          \LWRsiunitxnume#1eee\LWRsiunitxEND%
133          \times%
134          \LWRsiunitxnume#2eee\LWRsiunitxEND%
135          \times%
136          \LWRsiunitxnume#3eee\LWRsiunitxEND%
137      }%
138  }%
139 }}

```

```

140 \CustomizeMathJax{\newcommand{\num}[2][]{%
141     \LWRsiunitxnumx#2xxxxx\LWRsiunitxEND%
142 }}

```

 \backslash si

[*options*] {*unit*}

~ is converted to a thin space. Not able to convert period to thin space because the period might be in \raiseto , for example.

```

143 \CustomizeMathJax{\newcommand{\si}[2][]{%
144     \mathrm{\gsubstitute{#2}{~}{\,}}%
145 }}

```

 \backslash SI

[*options*] {*value*} [*prefix*] {*unit*}

\backslash SI has a second optional arg, which is parsed using \ifnextchar .

```

146 \CustomizeMathJax{\def\LWRsiunitxSIopt#1[#2]#3{%
147     \def\LWRsiunitxdistribunit{\, \si{#3}}%
148     #2\num{#1}%
149     \def\LWRsiunitxdistribunit{}}%
150 }}
151
152 \CustomizeMathJax{\newcommand{\LWRsiunitxSI}[2]{%
153     \def\LWRsiunitxdistribunit{\, \si{#2}}%
154     \num{#1}%
155     \def\LWRsiunitxdistribunit{}}%
156 }}
157 \CustomizeMathJax{\newcommand{\SI}[2][]{%
158     \ifnextchar[%
159         {\LWRsiunitxSIopt{#2}}%
160         {\LWRsiunitxSI{#2}}%
161 }}

```

 \backslash numlist

[*options*] {*list*}

\backslash numList should only be used in text mode. If used in MATHJAX, it is merely printed as text, so add space around the semicolons.

```

162 \CustomizeMathJax{\newcommand{\numlist}[2][]{\text{#2}}}

```

 \backslash numrange

[*options*] {*value1*} {*value2*}

`\numrange` should only be used in text mode. If used in MATHJAX math, an en-dash is used instead of the range-phrase.

```
163 \CustomizeMathJax{\newcommand{\numrange}[3][[]]{%
164   \num{#2}\ \LWRsiunitxrangephrase\ \num{#3}%
165 }}
```

`\SIlist`

`[<options>] {<list>}`

`\SIlist` and `\SIrange` should only be used in text mode. If used in MATHJAX, a simple emulation is provided.

```
166 \CustomizeMathJax{\newcommand{\SIlist}[3][[]]{\text{#2}\, \si{#3}}}
```

`\SIrange`

`[<options>] {<value1>} {<value2>} {<unit>}`

```
167 \CustomizeMathJax{\newcommand{\SIrange}[4][[]]{%
168   \num{#2}\, #4\ \LWRsiunitxrangephrase\ \num{#3}\, #4%
169 }}
```

`\tablenum`

`[<options>] {<value>}`

```
170 \CustomizeMathJax{\newcommand{\tablenum}[2][[]]{\mathrm{#2}}}
```

```
171 \CustomizeMathJax{\newcommand{\ampere}{\mathrm{A}}}
172 \CustomizeMathJax{\newcommand{\candela}{\mathrm{cd}}}
173 \CustomizeMathJax{\newcommand{\kelvin}{\mathrm{K}}}
174 \CustomizeMathJax{\newcommand{\kilogram}{\mathrm{kg}}}
175 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
176 \CustomizeMathJax{\newcommand{\mole}{\mathrm{mol}}}
177 \CustomizeMathJax{\newcommand{\second}{\mathrm{s}}}
178 %
179 \CustomizeMathJax{\newcommand{\becquerel}{\mathrm{Bq}}}
180 \CustomizeMathJax{\newcommand{\degreeCelsius}{\unicode{x2103}}}
181 \CustomizeMathJax{\newcommand{\coulomb}{\mathrm{C}}}
182 \CustomizeMathJax{\newcommand{\farad}{\mathrm{F}}}
183 \CustomizeMathJax{\newcommand{\gray}{\mathrm{Gy}}}
184 \CustomizeMathJax{\newcommand{\hertz}{\mathrm{Hz}}}
185 \CustomizeMathJax{\newcommand{\henry}{\mathrm{H}}}
186 \CustomizeMathJax{\newcommand{\joule}{\mathrm{J}}}
187 \CustomizeMathJax{\newcommand{\katal}{\mathrm{kat}}}
188 \CustomizeMathJax{\newcommand{\lumen}{\mathrm{lm}}}
189 \CustomizeMathJax{\newcommand{\lux}{\mathrm{lx}}}
190 \CustomizeMathJax{\newcommand{\newton}{\mathrm{N}}}
191 \CustomizeMathJax{\newcommand{\ohm}{\mathrm{\Omega}}}
192 \CustomizeMathJax{\newcommand{\pascal}{\mathrm{Pa}}}
193 \CustomizeMathJax{\newcommand{\radian}{\mathrm{rad}}}
194 \CustomizeMathJax{\newcommand{\siemens}{\mathrm{S}}}
195 \CustomizeMathJax{\newcommand{\sievert}{\mathrm{Sv}}}
196 \CustomizeMathJax{\newcommand{\steradian}{\mathrm{sr}}}
197 \CustomizeMathJax{\newcommand{\tesla}{\mathrm{T}}}
198 \CustomizeMathJax{\newcommand{\volt}{\mathrm{V}}}
199 \CustomizeMathJax{\newcommand{\watt}{\mathrm{W}}}
200 \CustomizeMathJax{\newcommand{\weber}{\mathrm{Wb}}}
201 \CustomizeMathJax{\newcommand{\day}{\mathrm{d}}}
202 \CustomizeMathJax{\newcommand{\degree}{\mathrm{^\circ}}}
203 \CustomizeMathJax{\newcommand{\hectare}{\mathrm{ha}}}
204 \CustomizeMathJax{\newcommand{\hour}{\mathrm{h}}}
205 \CustomizeMathJax{\newcommand{\litre}{\mathrm{L}}}
206 \CustomizeMathJax{\newcommand{\liter}{\mathrm{L}}}
```

```

207 \CustomizeMathJax{\newcommand{\arcminute}{^\prime}}
208 \CustomizeMathJax{\newcommand{\minute}{\mathrm{min}}}
209 \CustomizeMathJax{\newcommand{\arcsecond}{^\prime\prime}}
210 \CustomizeMathJax{\newcommand{\tonne}{\mathrm{t}}}
211 \CustomizeMathJax{\newcommand{\astronomicalunit}{au}}
212 \CustomizeMathJax{\newcommand{\atomicmassunit}{u}}
213 \CustomizeMathJax{\newcommand{\bohr}{\mathit{a}_0}}
214 \CustomizeMathJax{\newcommand{\clight}{\mathit{c}_0}}
215 \CustomizeMathJax{\newcommand{\dalton}{\mathrm{D}_\mathrm{a}}}
216 \CustomizeMathJax{\newcommand{\electronmass}{\mathit{m}_\mathrm{e}}}
217 \CustomizeMathJax{\newcommand{\electronvolt}{\mathrm{eV}}}
218 \CustomizeMathJax{\newcommand{\elementarycharge}{\mathit{e}}}
219 \CustomizeMathJax{\newcommand{\hartree}{\mathit{E}_\mathrm{h}}}
220 \CustomizeMathJax{\newcommand{\planckbar}{\mathit{\unicode{x210F}}}}
221 \CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\unicode{x212B}}}}
222 \CustomizeMathJax{\let\LWRorigbar\bar}
223 \CustomizeMathJax{\newcommand{\bar}{\mathrm{bar}}}
224 \CustomizeMathJax{\newcommand{\barn}{\mathrm{b}}}
225 \CustomizeMathJax{\newcommand{\bel}{\mathrm{B}}}
226 \CustomizeMathJax{\newcommand{\decibel}{\mathrm{dB}}}
227 \CustomizeMathJax{\newcommand{\knot}{\mathrm{kn}}}
228 \CustomizeMathJax{\newcommand{\mmHg}{\mathrm{mmHg}}}
229 \CustomizeMathJax{\newcommand{\nauticalmile}{\mathrm{M}}}
230 \CustomizeMathJax{\newcommand{\neper}{\mathrm{Np}}}
231 %
232 \CustomizeMathJax{\newcommand{\yocto}{\mathrm{y}}}
233 \CustomizeMathJax{\newcommand{\zepto}{\mathrm{z}}}
234 \CustomizeMathJax{\newcommand{\atto}{\mathrm{a}}}
235 \CustomizeMathJax{\newcommand{\femto}{\mathrm{f}}}
236 \CustomizeMathJax{\newcommand{\pico}{\mathrm{p}}}
237 \CustomizeMathJax{\newcommand{\nano}{\mathrm{n}}}
238 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\unicode{x00B5}}}}
239 \CustomizeMathJax{\newcommand{\milli}{\mathrm{m}}}
240 \CustomizeMathJax{\newcommand{\centi}{\mathrm{c}}}
241 \CustomizeMathJax{\newcommand{\deci}{\mathrm{d}}}
242 \CustomizeMathJax{\newcommand{\deca}{\mathrm{da}}}
243 \CustomizeMathJax{\newcommand{\hecto}{\mathrm{h}}}
244 \CustomizeMathJax{\newcommand{\kilo}{\mathrm{k}}}
245 \CustomizeMathJax{\newcommand{\mega}{\mathrm{M}}}
246 \CustomizeMathJax{\newcommand{\giga}{\mathrm{G}}}
247 \CustomizeMathJax{\newcommand{\tera}{\mathrm{T}}}
248 \CustomizeMathJax{\newcommand{\peta}{\mathrm{P}}}
249 \CustomizeMathJax{\newcommand{\exa}{\mathrm{E}}}
250 \CustomizeMathJax{\newcommand{\zetta}{\mathrm{Z}}}
251 \CustomizeMathJax{\newcommand{\yotta}{\mathrm{Y}}}
252 %
253 \CustomizeMathJax{\newcommand{\percent}{\mathrm{\%}}}
254 %
255 \CustomizeMathJax{\newcommand{\meter}{\mathrm{m}}}
256 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
257 %
258 \CustomizeMathJax{\newcommand{\gram}{\mathrm{g}}}
259 \CustomizeMathJax{\newcommand{\kg}{\kilo\gram}}
260 \CustomizeMathJax{\newcommand{\of}[1]{_\mathrm{\#1}}}
261 \CustomizeMathJax{\newcommand{\squared}{^2}}
262 \CustomizeMathJax{\newcommand{\square}[1]{\mathrm{\#1}^2}}
263 \CustomizeMathJax{\newcommand{\cubed}{^3}}
264 \CustomizeMathJax{\newcommand{\cubic}[1]{\mathrm{\#1}^3}}

265 \CustomizeMathJax{\newcommand{\per}{\, \mathrm{/}}}

```

```
266 \CustomizeMathJax{\newcommand{\celsius}{\unicode{x2103}}}
267 %
268 \CustomizeMathJax{\newcommand{\fg}{\femto\gram}}
269 \CustomizeMathJax{\newcommand{\pg}{\pico\gram}}
270 \CustomizeMathJax{\newcommand{\ng}{\nano\gram}}
271 \CustomizeMathJax{\newcommand{\ug}{\micro\gram}}
272 \CustomizeMathJax{\newcommand{\mg}{\milli\gram}}
273 \CustomizeMathJax{\newcommand{\g}{\gram}}
274 \CustomizeMathJax{\newcommand{\kg}{\kilo\gram}}
275 %
276 \CustomizeMathJax{\newcommand{\amu}{\mathrm{u}}}
277 %
278 \CustomizeMathJax{\newcommand{\pm}{\pico\metre}}
279 \CustomizeMathJax{\newcommand{\nm}{\nano\metre}}
280 \CustomizeMathJax{\newcommand{\um}{\micro\metre}}
281 \CustomizeMathJax{\newcommand{\mm}{\milli\metre}}
282 \CustomizeMathJax{\newcommand{\cm}{\centi\metre}}
283 \CustomizeMathJax{\newcommand{\dm}{\deci\metre}}
284 \CustomizeMathJax{\newcommand{\m}{\metre}}
285 \CustomizeMathJax{\newcommand{\km}{\kilo\metre}}
286 %
287 \CustomizeMathJax{\newcommand{\as}{\atto\second}}
288 \CustomizeMathJax{\newcommand{\fs}{\femto\second}}
289 \CustomizeMathJax{\newcommand{\ps}{\pico\second}}
290 \CustomizeMathJax{\newcommand{\ns}{\nano\second}}
291 \CustomizeMathJax{\newcommand{\us}{\micro\second}}
292 \CustomizeMathJax{\newcommand{\ms}{\milli\second}}
293 \CustomizeMathJax{\newcommand{\s}{\second}}
294 %
295 \CustomizeMathJax{\newcommand{\fmol}{\femto\mol}}
296 \CustomizeMathJax{\newcommand{\pmol}{\pico\mol}}
297 \CustomizeMathJax{\newcommand{\nmol}{\nano\mol}}
298 \CustomizeMathJax{\newcommand{\umol}{\micro\mol}}
299 \CustomizeMathJax{\newcommand{\mmol}{\milli\mol}}
300 \CustomizeMathJax{\newcommand{\mol}{\mol}}
301 \CustomizeMathJax{\newcommand{\kmol}{\kilo\mol}}
302 %
303 \CustomizeMathJax{\newcommand{\pA}{\pico\ampere}}
304 \CustomizeMathJax{\newcommand{\nA}{\nano\ampere}}
305 \CustomizeMathJax{\newcommand{\uA}{\micro\ampere}}
306 \CustomizeMathJax{\newcommand{\mA}{\milli\ampere}}
307 \CustomizeMathJax{\newcommand{\A}{\ampere}}
308 \CustomizeMathJax{\newcommand{\kA}{\kilo\ampere}}
309 %
310 \CustomizeMathJax{\newcommand{\ul}{\micro\litre}}
311 \CustomizeMathJax{\newcommand{\ml}{\milli\litre}}
312 \CustomizeMathJax{\newcommand{\l}{\litre}}
313 \CustomizeMathJax{\newcommand{\hl}{\hecto\litre}}
314 \CustomizeMathJax{\newcommand{\uL}{\micro\liter}}
315 \CustomizeMathJax{\newcommand{\mL}{\milli\liter}}
316 \CustomizeMathJax{\newcommand{\L}{\liter}}
317 \CustomizeMathJax{\newcommand{\hL}{\hecto\liter}}
318 %
319 \CustomizeMathJax{\newcommand{\mHz}{\milli\hertz}}
320 \CustomizeMathJax{\newcommand{\Hz}{\hertz}}
321 \CustomizeMathJax{\newcommand{\kHz}{\kilo\hertz}}
322 \CustomizeMathJax{\newcommand{\MHz}{\mega\hertz}}
323 \CustomizeMathJax{\newcommand{\GHz}{\giga\hertz}}
324 \CustomizeMathJax{\newcommand{\THz}{\tera\hertz}}
325 %
```

```

326 \CustomizeMathJax{\newcommand{\mN}{\milli\newton}}
327 \CustomizeMathJax{\newcommand{\N}{\newton}}
328 \CustomizeMathJax{\newcommand{\kN}{\kilo\newton}}
329 \CustomizeMathJax{\newcommand{\MN}{\mega\newton}}
330 %
331 \CustomizeMathJax{\newcommand{\Pa}{\pascal}}
332 \CustomizeMathJax{\newcommand{\kPa}{\kilo\pascal}}
333 \CustomizeMathJax{\newcommand{\MPa}{\mega\pascal}}
334 \CustomizeMathJax{\newcommand{\GPa}{\giga\pascal}}
335 %
336 \CustomizeMathJax{\newcommand{\mohm}{\milli\ohm}}
337 \CustomizeMathJax{\newcommand{\kohm}{\kilo\ohm}}
338 \CustomizeMathJax{\newcommand{\Mohm}{\mega\ohm}}
339 %
340 \CustomizeMathJax{\newcommand{\pV}{\pico\volt}}
341 \CustomizeMathJax{\newcommand{\nV}{\nano\volt}}
342 \CustomizeMathJax{\newcommand{\uV}{\micro\volt}}
343 \CustomizeMathJax{\newcommand{\mV}{\milli\volt}}
344 \CustomizeMathJax{\newcommand{\V}{\volt}}
345 \CustomizeMathJax{\newcommand{\kV}{\kilo\volt}}
346 %
347 \CustomizeMathJax{\newcommand{\W}{\watt}}
348 \CustomizeMathJax{\newcommand{\uW}{\micro\watt}}
349 \CustomizeMathJax{\newcommand{\mW}{\milli\watt}}
350 \CustomizeMathJax{\newcommand{\kW}{\kilo\watt}}
351 \CustomizeMathJax{\newcommand{\MW}{\mega\watt}}
352 \CustomizeMathJax{\newcommand{\GW}{\giga\watt}}
353 %
354 \CustomizeMathJax{\newcommand{\J}{\joule}}
355 \CustomizeMathJax{\newcommand{\uJ}{\micro\joule}}
356 \CustomizeMathJax{\newcommand{\mJ}{\milli\joule}}
357 \CustomizeMathJax{\newcommand{\kJ}{\kilo\joule}}
358 %
359 \CustomizeMathJax{\newcommand{\eV}{\electronvolt}}
360 \CustomizeMathJax{\newcommand{\meV}{\milli\electronvolt}}
361 \CustomizeMathJax{\newcommand{\keV}{\kilo\electronvolt}}
362 \CustomizeMathJax{\newcommand{\MeV}{\mega\electronvolt}}
363 \CustomizeMathJax{\newcommand{\GeV}{\giga\electronvolt}}
364 \CustomizeMathJax{\newcommand{\TeV}{\tera\electronvolt}}
365 %
366 \CustomizeMathJax{\newcommand{\kWh}{\kilo\watt\hour}}
367 %
368 \CustomizeMathJax{\newcommand{\F}{\farad}}
369 \CustomizeMathJax{\newcommand{\fF}{\femto\farad}}
370 \CustomizeMathJax{\newcommand{\pF}{\pico\farad}}
371 %
372 \CustomizeMathJax{\newcommand{\K}{\mathrm{K}}}
373 %
374 \CustomizeMathJax{\newcommand{\dB}{\mathrm{dB}}}
375 %
376 \CustomizeMathJax{\newcommand{\kibi}{\mathrm{Ki}}}
377 \CustomizeMathJax{\newcommand{\mebi}{\mathrm{Mi}}}
378 \CustomizeMathJax{\newcommand{\gibi}{\mathrm{Gi}}}
379 \CustomizeMathJax{\newcommand{\tebi}{\mathrm{Ti}}}
380 \CustomizeMathJax{\newcommand{\pebi}{\mathrm{Pi}}}
381 \CustomizeMathJax{\newcommand{\exbi}{\mathrm{Ei}}}
382 \CustomizeMathJax{\newcommand{\zebi}{\mathrm{Zi}}}
383 \CustomizeMathJax{\newcommand{\yobi}{\mathrm{Yi}}}
384 \end{warpMathJax}

```

File 459 **lwarp-skmath.sty**

§ 571 Package **skmath**

(Emulates or patches code by SIMON SIGURDHSSON.)

skmath (*Pkg*) **skmath** is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{skmath}[2019/10/15]

Only defined if package option requested:

```
2 \begin{warpMathJax}
3 \ExplSyntaxOn
4 \bool_if:NT\g__skmath_define_common_sets_bool{
5 \CustomizeMathJax{\newcommand{\N}{\mathbb{N}}}
6 \CustomizeMathJax{\newcommand{\Z}{\mathbb{Z}}}
7 \CustomizeMathJax{\newcommand{\Q}{\mathbb{Q}}}
8 \CustomizeMathJax{\newcommand{\R}{\mathbb{R}}}
9 \CustomizeMathJax{\newcommand{\C}{\mathbb{C}}}
10 }
```

skmath is using `\l3keys`, which does not seem to have an equivalent to `\@ifpackagewith`. To detect package options, comparisons with the following are made to see if various macros have been defined as follows:

```
11 \cs_gset_nopar:Npn\LWR__skmath_imaginary_unit:n#1{#1}
12 \cs_gset_nopar:Npn\LWR__skmath_natural_log_e:{{e}}
13 \cs_gset_nopar:Npn\LWR__skmath_integral_d:{{d}}
14 \cs_gset_nopar:Npn\LWR__skmath_total_derivative_d:{{d}}
```

If notation=iso, use upright, else italic:

```
15 \cs_if_eq:NNTF \__skmath_imaginary_unit:n \LWR__skmath_imaginary_unit:n
16   {
17     \CustomizeMathJax{\newcommand{ii}{\mathit{i}}}
18     \CustomizeMathJax{\newcommand{jj}{\mathit{j}}}
19   }
20   {
21     \CustomizeMathJax{\newcommand{ii}{\mathrm{i}}}
22     \CustomizeMathJax{\newcommand{jj}{\mathrm{j}}}
23   }
```

If notation=iso, use upright, else italic:

```
24 \cs_if_eq:NNTF \__skmath_natural_log_e: \LWR__skmath_natural_log_e:
25   { \CustomizeMathJax{\newcommand{ee}{\mathit{e}}} }
26   { \CustomizeMathJax{\newcommand{ee}{\mathrm{e}}} }
```

skmath uses `\DeclarePairedDelimiter` from `mathtools` for `\abs` and `\norm`, and **lwarp** uses this to automatically define MATHJAX definitions for each.

If notation=english, use slanted, else upright:

```

27 \cs_if_eq:NNTF \__skmath_integral_d: \LWR__skmath_integral_d:
28   { \CustomizeMathJax{\newcommand{\d}{\mathit{d}}}} }
29   { \CustomizeMathJax{\newcommand{\d}{\mathrm{d}}}} }

```

Used to parse comma and caret arguments for `\pd` and `\td`:

```
30 \CustomizeMathJax{\def\LWRskmathEND{}}
```

Parse the arguments with up to four commas. Argument 6 contains any leftover commas.

```

31 \CustomizeMathJax{\def\LWRskmathpdstarsub#1#2,#3,#4,#5,#6\LWRskmathEND{
32   #1_{#2#3#4#5}%
33 }}
34
35 \CustomizeMathJax{\newcommand{\LWRskmathpdstar}[2]{%
36   \LWRskmathpdstarsub{#1}#2,,,\LWRskmathEND%
37 }}

```

Parse the arguments with up to two carets. Argument 3 contains any leftover carets. `\LWRskmathpdplus` is used to only place a plus sign starting after the first term. `\LWRskmathpdone` is used to only place a 1 digit if a second or later term does not have a power.

```

38 \CustomizeMathJax{\def\LWRskmathpdnumerator#1^#2^#3\LWRskmathEND{%
39   \ifblank{#1}{}{
40     \ifblank{#2}{\LWRskmathpdplus\LWRskmathpdone}{\LWRskmathpdplus#2}
41   }
42 }}

```

Parse the arguments with up to two carets. Argument 3 contains any leftover carets.

```

43 \CustomizeMathJax{\def\LWRskmathpdndenominator#1^#2^#3\LWRskmathEND{%
44   \ifblank{#1}{}{%
45     \ifblank{#2}{
46       {\partial{#1}}%
47       {\partial{#1}^{#2}}%
48     }%
49 }}

```

Factored from `\LWRskmathpdnostarsub`, following:

The phrase `^{}` appears to be required while parsing the carets. `\LWRskmathpdplus` is used to only place a plus sign starting after the first term. `\LWRskmathpdone` is used to only place a 1 digit if a second or later term does not have a power.

This may not be recursion-safe. (Is there really such a thing as nested differentials?)

```

50 \CustomizeMathJax{\newcommand{\LWRskmathdonumerator}[5]{%
51   \partial^{%
52     \def\LWRskmathpdplus{}%
53     \LWRskmathpdnumerator#2^{}}{\LWRskmathEND%
54     \def\LWRskmathpdplus{+}%
55     \def\LWRskmathpdone{1}%
56     \LWRskmathpdnumerator#3^{}}{\LWRskmathEND%
57     \LWRskmathpdnumerator#4^{}}{\LWRskmathEND%

```

```

58     \LWRskmathpdnumerator#5^{}}\LWRskmathEND%
59   }%
60   {#1}%
61 }}
62
63 \CustomizeMathJax{\newcommand{\LWRskmathdodenominator}[4]{%
64   \LWRskmathpddenominator#1^{}}\LWRskmathEND%
65   \ifblank{#2}{\,%
66   \LWRskmathpddenominator#2^{}}\LWRskmathEND%
67   \ifblank{#3}{\,%
68   \LWRskmathpddenominator#3^{}}\LWRskmathEND%
69   \ifblank{#4}{\,%
70   \LWRskmathpddenominator#4^{}}\LWRskmathEND%
71 }}

```

Parse the arguments with up to four commas. Argument 6 contains any leftover commas.

```

72 \CustomizeMathJax{\def\LWRskmathpdnostarsub#1#2,#3,#4,#5,#6\LWRskmathEND{
73   \ifblank{#3}{\def\LWRskmathpdone{}}{\def\LWRskmathpdone{1}}
74   \frac
75     {\LWRskmathdonumerator{#1}{#2}{#3}{#4}{#5}}%
76     {\LWRskmathdodenominator{#2}{#3}{#4}{#5}}%
77 }}
78
79 \CustomizeMathJax{\newcommand{\LWRskmathpdnostar}[2]{%
80   \LWRskmathpdnostarsub{#1}#2,,,,,\LWRskmathEND%
81 }}

```

```

82 \CustomizeMathJax{\newcommand{\pd}{\ifstar\LWRskmathpdstar\LWRskmathpdnostar}}

```

If notation=english or legacy, use slanted, else upright:

```

83 \cs_if_eq:NNTF \__skmath_total_derivative_d: \LWR__skmath_total_derivative_d:
84   { \CustomizeMathJax{\newcommand{\LWRskmathtd}{\mathit{d}}} }
85   { \CustomizeMathJax{\newcommand{\LWRskmathtd}{\mathrm{d}}} }

86 \CustomizeMathJax{\def\LWRskmathtdsub#1#2^#3\LWRskmathEND{%
87   \frac
88     {\LWRskmathtd^{#3}{#1}}
89     {\LWRskmathtd{#2}^{#3}}
90 }}
91
92 \CustomizeMathJax{\newcommand{\td}[2]{%
93   \LWRskmathtdsub{#1}#2^{\LWRskmathEND%
94 }}

95 \CustomizeMathJax{\newcommand{\E}[1]{%
96   \operatorname{E}\left[#1\right]%
97 }}

98 \CustomizeMathJax{\let\given\mid}
99
100 \CustomizeMathJax{\newcommand{\P}[1]{%
101   \operatorname{P}%
102   \left[#1\right]%
103 }}

```

```

104 \CustomizeMathJax{\newcommand{\var}[1]{%
105   \operatorname{Var}\left(#1\right)%
106 }}
107
108 \CustomizeMathJax{\newcommand{\cov}[2]{%
109   \operatorname{Cov}\left(#1,#2\right)%
110 }}

```

Common code for `\sin` etc:

```

111 \CustomizeMathJax{\newcommand{\LWRskmathtrigtwo}[2][]{%
112   \ifblank{#1}{\^{#1}}%
113   \ifblank{#2}{\left(#2\right)%
114 }}
115
116 \CustomizeMathJax{\newcommand{\LWRskmathtrig}[1]{%
117   \operatorname{#1}%
118   \LWRskmathtrigtwo%
119 }}

120 \CustomizeMathJax{\renewcommand{\sin}{\LWRskmathtrig{sin}}}
121 \CustomizeMathJax{\renewcommand{\arcsin}{\LWRskmathtrig{arcsin}}}
122
123 \CustomizeMathJax{\renewcommand{\cos}{\LWRskmathtrig{cos}}}
124 \CustomizeMathJax{\renewcommand{\arccos}{\LWRskmathtrig{arccos}}}
125
126 \CustomizeMathJax{\renewcommand{\tan}{\LWRskmathtrig{tan}}}
127 \CustomizeMathJax{\renewcommand{\arctan}{\LWRskmathtrig{arctan}}}
128
129 \CustomizeMathJax{\renewcommand{\cot}{\LWRskmathtrig{cot}}}
130
131 \CustomizeMathJax{\renewcommand{\sinh}{\LWRskmathtrig{sinh}}}
132 \CustomizeMathJax{\renewcommand{\cosh}{\LWRskmathtrig{cosh}}}
133 \CustomizeMathJax{\renewcommand{\tanh}{\LWRskmathtrig{tanh}}}

```

Common code for `\ln` and `\log`:

```

134 \CustomizeMathJax{\newcommand{\LWRskmathlogtwo}[2][]{%
135   \ifblank{#1}{_{#1}}%
136   \ifblank{#2}{\left(#2\right)%
137 }}
138
139 \CustomizeMathJax{\newcommand{\LWRskmathlog}[1]{%
140   \operatorname{#1}%
141   \LWRskmathlogtwo%
142 }}

143 \CustomizeMathJax{\renewcommand{\ln}{\LWRskmathlog{ln}}}
144 \CustomizeMathJax{\renewcommand{\log}{\LWRskmathlog{log}}}

145 \CustomizeMathJax{\newcommand{\LWRskmathexpparens}[1]{%
146   \operatorname{exp}%
147   \ifblank{#1}{\left(#1\right)%
148 }}

```

See the `skmath` source for the original of the following:

```

149 \CustomizeMathJax{\newcommand{\LWRskmathexpnostar}[1]{%

```



```

150   \mathchoice
151     {\ee^{#1}}
152     {\LWRskmathexpparens{#1}}
153     {\LWRskmathexpparens{#1}}
154     {\LWRskmathexpparens{#1}}
155 }}
156
157 \CustomizeMathJax{\renewcommand{\exp}{\ifstar\LWRskmathexpparens\LWRskmathexpnostar}}

```

Common code for `\min` etc:

```

158 \CustomizeMathJax{\newcommand{\LWRskmathminstar}[2][]{%
159   \operatorname{\LWRskmathminname}%
160   \ifblank{#1}{}{%
161     _{\mathchoice{\mathclap{#1}}{#1}{#1}{#1}}
162   }%
163   \ifblank{#2}{}{#2}%
164 }}

165 \CustomizeMathJax{\newcommand{\LWRskmathminnostar}[2][]{%
166   \ifblank{#1}%
167     {\operatorname{\LWRskmathminname}}%
168     {%
169       \underset%
170         {\mathchoice{\mathclap{#1}}{#1}{#1}{#1}}%
171         {\operatorname{\LWRskmathminname}}%
172       }%
173   \ifblank{#2}{}{\left\{#2\right\}}%
174 }}

```

`\LWRskmathminname` seems to be recursion-safe since it is used immediately.

```

175 \CustomizeMathJax{\newcommand{\LWRskmathmin}[1]{%
176   \def\LWRskmathminname{#1}%
177   \ifstar\LWRskmathminstar\LWRskmathminnostar%
178 }}

179 \CustomizeMathJax{\renewcommand{\min}{\LWRskmathmin{min}}}
180 \CustomizeMathJax{\renewcommand{\argmin}{\arg\LWRskmathmin{min}}}
181
182 \CustomizeMathJax{\renewcommand{\max}{\LWRskmathmin{max}}}
183 \CustomizeMathJax{\renewcommand{\argmax}{\arg\LWRskmathmin{max}}}
184 \CustomizeMathJax{\renewcommand{\sup}{\LWRskmathmin{sup}}}
185 \CustomizeMathJax{\renewcommand{\inf}{\LWRskmathmin{inf}}}

186 \CustomizeMathJax{\let\bar\overline}
187
188 \CustomizeMathJax{\let\vec\boldsymbol}

```

Remember the original definitions:

```

189 \CustomizeMathJax{\let\LWRskmathRe\Re}
190 \CustomizeMathJax{\let\LWRskmathIm\Im}

```

Redefine depending on notation=`iso`:

```

191 \bool_if:NTF\g__skmath_iso_complex_parts_bool{
192   \CustomizeMathJax{\renewcommand{\Re}[1]{%

```

```

193     \LWRskmathRe%
194     \ifblank{#1}{\left(#1\right)}%
195   }}
196   \CustomizeMathJax{\renewcommand{\Im}[1]{%
197     \LWRskmathIm%
198     \ifblank{#1}{\left(#1\right)}%
199   }}
200 }{
201   \CustomizeMathJax{\renewcommand{\Re}[1]{%
202     \operatorname{Re}%
203     \ifblank{#1}{#1}%
204   }}
205   \CustomizeMathJax{\renewcommand{\Im}[1]{%
206     \operatorname{Im}%
207     \ifblank{#1}{#1}%
208   }}
209 }
210
211 \ExplSyntaxOff
212 \end{warpMathJax}

```

File 460 **lwarp-slantsc.sty**

§ 572 Package **slantsc**

(Emulates or patches code by HARALD HARDERS.)

`slantsc` (*Pkg*) `slantsc` is emulated for HTML, and used as-is for print output.

for HTML output: 1 \LWR@ProvidesPackagePass{slantsc}[2012/01/01]

```

2 \newcommand*\LWR@HTML@noscsshape{}
3 \LWR@formatted{noscsshape}
4
5 \FilenameNullify{%
6   \LetLtxMacro\noscsshape\empty%
7 }

```

File 461 **lwarp-slashed.sty**

§ 573 Package **slashed**

(Emulates or patches code by DAVID CARLISLE.)

`slashed` (*Pkg*) `slashed` works as-s for HTML SVG math. For MATHJAX, emulation is provided.

for HTML output: 1 \LWR@ProvidesPackagePass{slashed}[1997/01/16]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\slashed}[1]{\cancel{#1}}}
4 \end{warpMathJax}

```

File 462 **lwarp-soul.sty**

§ 574 Package **soul**

(Emulates or patches code by MELCHIOR FRANZ.)

soul (*Pkg*) soul is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{soul}[2003/11/17]
2 \RequirePackage{xcolor}% for \convertcolorspec

Storage for the colors to use:

```
3 \newcommand*\LWR@soululcolor{}
4
5 \newcommand*\LWR@soulstcolor{}
6
7 % \definecolor{LWR@soulhlcolordefault}{HTML}{F8E800}
8 % \newcommand*\LWR@soulhlcolor{LWR@soulhlcolordefault}
9 \newcommand*\LWR@soulhlcolor{}
```

\so `{<text>}`

Basic markup with css:

```
10 \newcommand{\so}[1]{%
11 \InlineClass(letter-spacing:.2ex){letterspacing}{#1}%
12 }
```

\caps `{<text>}`

```
13 \newcommand{\caps}[1]{%
14 \InlineClass%
15 (font-variant:small-caps;letter-spacing:.1ex)%
16 {capsspacing}{#1}%
17 }
```

\LWR@soulcolor `{<text>} {<color>} {<class>} {<colorstyle>} {<FormatWPstyle>}`

Add colors if not empty:

```
18 \newcommand{\LWR@soulcolor}[5]{%
19 \ifcseempty{#2}%
20 {%
21 \InlineClass(#5){#3}{#1}%
22 }%
23 {%
24 \convertcolorspec{named}{\@nameuse{#2}}{HTML}\LWR@tempcolor%
25 \LWR@htmlspanclass[#5;#4:\LWR@origpound\LWR@tempcolor]{#3}{#1}%
26 }%
27 }
```

```
28 \newcommand{\ul}[1]{%
29 \LWR@soulcolor{#1}{LWR@soululcolor}{uline}{text-decoration-color}%
30 {text-decoration:underline; text-decoration-skip: auto;}}
```

```

31 }
32
33 \newcommand{\st}[1]{
34 \LWR@soulcolor{#1}{LWR@soulstcolor}{sout}{text-decoration-color}%
35   {text-decoration:line-through}%
36 }
37
38 \newcommand{\hl}[1]{
39 \LWR@soulcolor{#1}{LWR@soulhlcolor}{highlight}{background-color}%
40   {background:\LWR@origpound{ }F8E800}
41 }

```

Nullified:

```

42 \newcommand*\soulaccent}[1]{}
43 \newcommand*\soulregister}[2]{}
44 \newcommand\sloppyword}[1]{#1}
45 \newcommand*\sodef}[5]{\DeclareRobustCommand*#1[1]{\so{##1}}}
46 \newcommand*\resetso{}
47 \newcommand*\capsdef}[5]{}
48 \newcommand*\capsreset{}
49 \newcommand*\capssave}[1]{}
50 \newcommand*\capsselect}[1]{}
51 \newcommand*\setul}[2]{}
52 \newcommand*\resetul{}
53 \newcommand*\setuldepth}[1]{}
54 \newcommand*\setuloverlap}[1]{}
55 \newcommand*\s<{}

```

Set colors:

```

56 \newcommand*\setulcolor}[1]{\renewcommand{\LWR@soululcolor}{#1}}
57 \newcommand*\setstcolor}[1]{\renewcommand{\LWR@soulstcolor}{#1}}
58 \newcommand*\sethlcolor}[1]{\renewcommand{\LWR@soulhlcolor}{#1}}

```

Long versions of the user-level macros:

```

59 \let\textso\so
60 \let\textul\ul
61 \let\texthl\hl
62 \let\textcaps\caps

```

File 463 **lwarp-soulpos.sty**

§ 575 Package **soulpos**

(Emulates or patches code by JAVIER BEZOS.)

soulpos (*Pkg*) **soulpos** is emulated.

for HTML output:

```

1 \RequirePackage{soul}
2 \RequirePackage{soulutf8}
3 \LWR@ProvidesPackageDrop{soulpos}[2012/02/25]

4 \NewDocumentCommand{\ulposdef}{m o m}{}
5

```

```

6 \newdimen\ulwidth
7
8 \newcommand\ifulstarttype[1]{%
9 \expandafter\@secondoftwo%
10 }
11
12 \newcommand\ifulendtype[1]{%
13 \expandafter\@secondoftwo%
14 }
15
16 \newcommand{\ulstarttype}{0}
17 \newcommand{\ulendtype}{0}
18 \newcommand\ulpostolerance{0}%

```

File 464 **lwarp-soulutf8.sty**

§ 576 Package **soulutf8**

soulutf8 (*Pkg*) soulutf8 is emulated.

lwarp's HTML output naturally supports UTF-8 encoding.

for HTML output: 1 \LWR@ProvidesPackageDrop{soulutf8}[2016/05/16]
2 \RequirePackage{soul}

File 465 **lwarp-splitbib.sty**

§ 577 Package **splitbib**

(Emulates or patches code by NICOLAS MARKEY.)

splitbib (*Pkg*) splitbib is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{splitbib}[2005/12/22]

```

2 \def\NMSB@stylebox#1#2{%
3 \begin{BlockClass}[text-align:center ; border: 1px solid black]{splitbibbox}
4   \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{#1#2}}
5 \end{BlockClass}
6 }
7
8 \def\NMSB@stylebar#1#2{%
9 \begin{BlockClass}[%
10   text-align:center ;
11   border-top: 1px solid black ;
12   border-bottom: 1px solid black ;
13 ]{splitbibbar}
14   \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{#1#2}}
15 \end{BlockClass}
16 }
17
18 \def\NMSB@styledash#1#2{%
19 \begin{BlockClass}[%
20   text-align:center ;

```

```

21 ]}{splitbibdash}
22   \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{---~#1#2~---}}
23 \end{BlockClass}
24 }
25
26 \def\NMSB@stylenone#1#2{%
27   \par
28 }
29
30 \def\NMSB@stylesimple#1#2{%
31   \par
32   \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{#1#2}}
33   \par
34 }

```


File 466 **lwarp-splitidx.sty**

§ 578 Package **splitidx**

(Emulates or patches code by MARKUS KOHM.)

`splitidx` (*Pkg*) `splitidx` is patched for use by `lwarp`.

If the `latexmk` option is selected for `lwarp`, *latexmk* will compile the document but will *not* compile the indexes. **lwarpmk printindex** and **lwarpmk htmlindex** will still be required.

 `\thepage` When using `\AtWriteToIndex` or `\AtNextWriteToIndex`, the user must not refer to `\thepage` during HTML output, as the concept of a page number is meaningless. Instead, do

```

\addtocounter{LWR@autoindex}{1}
\LWR@new@label{LWRindex-\arabic{LWR@autoindex}}

```

where the `\index`-like action occurs, and then refer to `\arabic{LWR@autoindex}` instead of `\thepage` where the reference should occur.

See section 702.17 in the `lwarp-patch-memoir` package for the `\@wrsindexhyp` macro as an example.

for HTML output:

```

1 \LWR@ProvidesPackagePass{splitidx}[2016/02/18]
2 \VerifyCommand[lwarp][splitidx]{\newindex}{84695DF9965D5007036BA0B4023C59B5}
3
4 \catcode`\_ =12%
5 \xpatchcmd{\newindex}
6   {\jobname-#2.idx}
7   {\jobname-#2_html.idx}
8   {}
9   {\LWR@patcherror{splitidx}{@newindex}}
10 \catcode`\_ =8%

```

Patched to use `lwarp`'s automatic indexing counter instead of `\thepage`:

```

11 \VerifyCommand[lwarp][splitidx]{\@wrsindex}{6E1A6193E20ABD0DFD6A1FC3F35113A6}
12

```

```

13 \renewcommand*{\@wrsindex}[2][]{%
14   \ifx\relax#1\relax
15     \if@splitidx
16       \@wrsindex[idx]{#2}%
17     \else
18       \def\@tempa{#2}%
19       \if@verbindindex\@onelevel@sanitize\@tempa\fi
20       \@wrindex{\@tempa}%
21     \fi
22   \else
23     \def\@tempa{#2}%
24     \csname index@#1@hook\endcsname
25 %     \expandafter\ifx\csname @wrsindex\endcsname\relax
26     \addtocounter{LWR@autoindex}{1}%          lwarp
27 %     \@wrsindex{#1}{\@tempa}{\thepage}%
28     \@wrsindex{#1}{\@tempa}{\arabic{LWR@autoindex}}%
29 %     \else
30 %     \def\@tempb{\@wrsindex{#1}}%
31 %     \expandafter\@tempb\@tempa||\%
32 %     \fi

```

The label is assigned after the file write to avoid conflict with cleveref.

```

33   \label{LWRindex-\arabic{LWR@autoindex}}%   lwarp
34   \endgroup
35   \@esphack
36 \fi
37 }

```

lwarp defines sectioning commands with xparse, so the below patches are done as temporary redefinitions instead of being \let.

Not using \VerifyCommand here since the patches are not likely to be affected by changes in the original.

```

38 \xpatchcmd{\printsubindex}
39   {\let\section\subsection}
40   {\renewcommand*{\section}{\subsection}}
41   {}
42   {\LWR@patcherror{splitidx}{printsubindex-section}}
43
44 \xpatchcmd{\printsubindex}
45   {\let\chapter\section}
46   {\renewcommand*{\chapter}{\section}}
47   {}
48   {\LWR@patcherror{splitidx}{printsubindex-chapter}}
49
50 \xpatchcmd{\printsubindex}
51   {\let\@makechapterhead\section}
52   {\def\@makechapterhead{\section}}
53   {}
54   {\LWR@patcherror{splitidx}{printsubindex-chapter}}

```

File 467 **lwarp-srcltx.sty**§ 579 Package **srcltx**

srcltx (*Pkg*) srcltx is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{srcltx}[2006/11/12]

```

2 \newif\ifSRCOK \SRCOKfalse
3 \newcommand*{srcIncludeHook[1]}{}
4 \newcommand*{srcInputHook[1]}{}
5 \newcommand*{MainFile}{}
6 \def\MainFile{\jobname.tex}
7 \newcommand*{CurrentInput}{}
8 \gdef\CurrentInput{\MainFile}
9 \newcommand{Input}{}
10 \let\Input\input

```

File 468 **lwarp-srctex.sty**§ 580 Package **srctex**

srctex (*Pkg*) srctex is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{srctex}[2006/11/12]
2 \LWR@origRequirePackage{lwarp-srcltx}

File 469 **lwarp-stabular.sty**§ 581 Package **stabular**

(Emulates or patches code by SIGITAS TOLUŠIS.)

stabular (*Pkg*) stabular is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{stabular}[2014/03/20]

Env stabular [*<vpos>*] [*<colspec>*]

```

2 \newenvironment{stabular}[2][c]
3 {
4 \begin{tabular}[\#1]{\#2}
5 \renewcommand{\noalign}[1]{}
6 }
7 {\end{tabular}}

```

Env stabular [*<width>*] [*<vpos>*] [*<colspec>*]

```

8 \NewDocumentEnvironment{stabular*}{m o m}

```



```

9 {
10 \begin{tabular}[#2]{#3}
11 \renewcommand{\noalign}[1]{ }
12 }
13 \end{tabular}}

```

File 470 **lwarp-stackengine.sty**

§ 582 Package **stackengine**

(Emulates or patches code by STEVEN B. SEGLETES.)

stackengine (*Pkg*) stackengine is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{stackengine}[2017/02/13]

Not using `\VerifyCommand` here because these patches appear to be fairly transparent to changes in the original

The original version is necessary for the patched `\@stack` and `\stackanchor`, where nesting `lateximages` does not work:

```

2 \LetLtxMacro\LWR@orig@stackengine\stackengine

3 \renewcommand*{\stackengine}[8]{%
4   \ifstrequal{#4}{0}%
5     {\begin{lateximage}[\ImageAltText]?}%
6     {\begin{lateximage}[\ImageAltText]?[vertical-align:top]}%
7   \LWR@orig@stackengine{#1}{#2}{#3}{#4}{#5}{#6}{#7}{#8}%
8   \end{lateximage}%
9 }

```

`\@stack` uses a `lateximage` with a vertical alignment:

```

10 \LetLtxMacro\LWR@orig@stack\@stack
11
12 \xpatchcmd{\LWR@orig@stack}{\stackengine}{\LWR@orig@stackengine}
13   {}
14   {\LWR@patcherror{stackengine}{\LWR@orig@stack}}
15
16 \renewcommand*{\@stack}[4]{%
17   \ifstrequal{#3}{0}%
18     {\begin{lateximage}[\ImageAltText]?}%
19     {\begin{lateximage}[\ImageAltText]?[vertical-align:top]}%
20   \LWR@orig@stack{#1}{#2}{#3}{#4}%
21   \end{lateximage}%
22 }

```

The lapping macros are disabled for HTML:

```

23 \newcommand*\LWR@HTML@stacklap[4]{#3}
24 \LWR@formatted{@stacklap}

```

`\stackanchor` is patched for two instances of `\stackengine`. A `lateximage` with vertical alignment is used.

```

25 \xpatchcmd{\stackanchor}{\stackengine}{\LWR@orig@stackengine}
26   {}
27   {\LWR@patcherror{stackengine}{stackanchor patch 1}}
28
29 \xpatchcmd{\stackanchor}{\stackengine}{\LWR@orig@stackengine}
30   {}
31   {\LWR@patcherror{stackengine}{stackanchor patch 2}}
32
33 \xpretocmd{\stackanchor}
34   {\begin{lateximage}[\ImageAltText]?[vertical-align:middle]}%
35   {}
36   {\LWR@patcherror{stackengine}{stackanchor pre}}
37
38 \xapptocmd{\stackanchor}{\end{lateximage}}
39   {}
40   {\LWR@patcherror{stackengine}{stackanchor app}}

```

\Centerstack is simply placed inside a lateximage with a vertical alignment:

```

41 \xpretocmd{\Centerstack}
42   {\begin{lateximage}[\ImageAltText]?[vertical-align:middle]}%
43   {}
44   {\LWR@patcherror{stackengine}{Centerstack pre}}
45
46 \xapptocmd{\Centerstack}{\end{lateximage}}
47   {}
48   {\LWR@patcherror{stackengine}{Centerstack app}}

```

\savestack reverts to print mode while saving the box, then places it inside a lateximage when used:

```

49 \VerifyCommand[lwarp][stackengine]{\savestack}{4B06A7F9D3F0B829FE293FB452D43430}
50
51 \renewcommand*\savestack[2]{%
52   \xdef\sv@name{\stack@macro@name{#1}}%
53   \ifundefined{\sv@name content}{%
54     \expandafter\newsavebox\expandafter{\csname\sv@name content\endcsname}%
55   }{}%
56   \begingroup%      lwarp
57   \LWR@restoreorigformatting%      lwarp
58   \RenewDocumentEnvironment{lateximage}{s o s t? o o d()}{}{}% lwarp: inside group
59   \expandafter\LWR@gsavebox\csname\sv@name content\endcsname{#2}%
60   \expandafter\gdef\expandafter#1\expandafter{%
61     \expandafter\begin\expandafter{lateximage\expandafter}%      lwarp
62     \expandafter\usebox\expandafter%
63     {\csname\sv@name content\endcsname}%
64     \expandafter\end\expandafter{lateximage\expandafter}%      lwarp
65   }%
66   \endgroup%      lwarp
67 }

```

File 471 **lwarp-stackrel.sty**

§ 583 Package **stackrel**

(Emulates or patches code by HEIKO OBERDIEK.)

stackrel (*Pkg*) **stackrel** is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output:

```

1 \LWR@ProvidesPackagePass{stackrel}[2016/05/16]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\renewcommand{\stackrel}[3][]{%
4   \mathrel{\mathop{#3}\limits_{#1}^{#2}}}%
5 }}
6
7 \CustomizeMathJax{\newcommand{\stackbin}[3][]{%
8   \mathbin{\mathop{#3}\limits_{#1}^{#2}}}%
9 }}
10 \end{warpMathJax}


```


File 472 **lwarp-stalex2.sty**


§ 584 Package **stalex2**

(Emulates or patches code by RODNEY A SPARAPANI.)


stalex2 (*Pkg*) **stalex2** is patched for use by lwarp, and emulated for MATHJAX.

 As of this version, option autobold does not appear to work for PDF output.

 For MATHJAX, the tilde character ~ does not create \sim. Use \sim directly.

 Because MATHJAX has limited conditional processing:

- \wrap only creates square braces, no matter what its optional arguments.
- \P, \pCau, \pN, and \pU do not handle special cases.

 **\and** To have \and work if using \maketitle, place the following after the start of the document:

```

\newcommand*{\and}{%
  \relax\ifmmode
    \expandafter\;\mb{\mathrm{and}}\;%
  \else%
    \expandafter\STATEXand%
  \fi%
}

```

for HTML output:

```

1 \LWR@ProvidesPackagePass{stalex2}[2011/09/14]

```

```

2 \newcommand*{\LWR@HTML@Alpha}[1][]{%
3   \fcolorbox{black}{ForestGreen}{\textcolor{white}{\textsf{ALPHA}}}%
4   \textbf{\textcolor{ForestGreen}{\textsf{#1}}}%
5 }
6 \LWR@formatted{Alpha}
7
8 \newcommand*{\LWR@HTML@List}[1]{%
9   \textbf{\textcolor{Dandelion}{\textsf{L}\textsubscript{\textit{#1}}}}%
10 }

```

```

11 \LWR@formatted{List}
12
13 \newcommand*{\LWR@HTML@Snd}[1][ ]{%
14   \fcolorbox{black}{Dandelion}{\textcolor{white}{\textsf{2nd}}}%
15   \textbf{\textcolor{Dandelion}{\textsf{#1}}}%
16 }
17 \LWR@formatted{Snd}
18
19 \begin{warpMathJax}
20 \LWR@infoprocessingmathjax{statex2}
21
22 \CustomizeMathJax{\newcommand{\cpi}{\boldsymbol{\pi}}}
23 \CustomizeMathJax{\newcommand{\c}[1]{\boldsymbol{\mathrm{#1}}}}
24 \CustomizeMathJax{\newcommand{\sfsL}[1]{\mathsf{#1}}}% not slanted
25
26 \if@manualbold
27 \CustomizeMathJax{\newcommand{\mb}[1]{#1}}
28 \else
29 \CustomizeMathJax{\newcommand{\mb}[1]{\boldsymbol{#1}}}
30 \fi
31
32 \CustomizeMathJax{\newcommand{\diag}{\mb{\mathrm{diag}}}}
33 \CustomizeMathJax{\newcommand{\blockdiag}{\mb{\mathrm{blockdiag}}}}
34 \CustomizeMathJax{\newcommand{\verf}{\mb{\mathrm{erf}}}}
35 \CustomizeMathJax{\newcommand{\logit}{\mb{\mathrm{logit}}}}
36 \CustomizeMathJax{\newcommand{\trace}{\mb{\mathrm{trace}}}}
37
38 \CustomizeMathJax{\newcommand{\chisq}{\mb{\chi^2}}}
39 \CustomizeMathJax{\newcommand{\deriv}[2]{\mb{\frac{d}{d{#1}}}\wrap{\mb{#2}}}}
40 \CustomizeMathJax{\newcommand{\derivf}[2]{\mb{\frac{d}{d{#2}}}\wrap{\mb{#1}}}}
41 \CustomizeMathJax{\newcommand{\e}[1]{\mb{\mathrm{e}^{#1}}}}
42 \CustomizeMathJax{\newcommand{\E}[2][ ]{\mb{\mathrm{E}}_{\mb{#1}}}\wrap{\mb{#2}}}
43 \CustomizeMathJax{\newcommand{\ha}{\mb{\frac{\alpha}{2}}}}
44 \CustomizeMathJax{\newcommand{\I}[2][ ]{%
45   \mb{\mathrm{I}}_{\mb{#1}} \LWRwrapparen{\mb{#2}}}%
46 }}
47 \CustomizeMathJax{\newcommand{\IBeta}[2]{%
48   \mb{\frac{\Gamma[#+#2]}{\Gamma[#\Gamma[#2]]}}%
49 }}
50 \CustomizeMathJax{\newcommand{\If}{\; \mb{\mathrm{if}} \; \;}}
51 \CustomizeMathJax{\newcommand{\im}{\mb{\mathrm{i}}}}
52 \CustomizeMathJax{\newcommand{\ol}{\overline{}}}
53 \CustomizeMathJax{\newcommand{\ow}{\; \mb{\mathrm{otherwise}} \; \;}}
54 \CustomizeMathJax{\newcommand{\pderiv}[2]{%
55   \mb{\frac{\partial}{\partial #1}}\wrap{\mb{#2}}}%
56 }}
57 \CustomizeMathJax{\newcommand{\pderivf}[2]{%
58   \mb{\frac{\partial}{\partial #2}}\wrap{\mb{#1}}}%
59 }}
60 \CustomizeMathJax{\newcommand{\sd}{\mb{\sigma}}}
61 \CustomizeMathJax{\newcommand{\ul}{\underline{}}}
62 \CustomizeMathJax{\newcommand{\V}[2][ ]{\mb{\mathrm{V}}_{\mb{#1}}}\wrap{\mb{#2}}}
63 \CustomizeMathJax{\newcommand{\vs}{\; \mb{\mathrm{vs.}} \; \;}}
64 \CustomizeMathJax{\newcommand{\where}{\; \mb{\mathrm{where}} \; \;}}
65 \CustomizeMathJax{\newcommand{\wrap}[2][ ]{\left[ #2 \right]}}% only [ ]
66 \CustomizeMathJax{\newcommand{\LWRwrapparen}[1]{\left( #1 \right)}}% lwarp
67
68 % \CustomizeMathJax{\renewcommand{\sim}{\mb{\sim}}}% doesn't work,
69 % replace <space>~<space> with <space>\sim<space>
70

```

```

71 \CustomizeMathJax{\newcommand{\iid}\;\stackrel{\mb{\mathrm{iid}}}{\sim}\;}
72 \CustomizeMathJax{\newcommand{\ind}\;\stackrel{\mb{\mathrm{ind}}}{\sim}\;}
73 \CustomizeMathJax{\newcommand{\indpr}{%
74   \;\stackrel{\mb{\mathrm{ind}}}{\stackrel{\mb{\mathrm{prior}}}{\sim}}\;}
75 }}
76 \CustomizeMathJax{\newcommand{\post}\;\stackrel{\mb{\mathrm{post}}}{\sim}\;}
77 \CustomizeMathJax{\newcommand{\prior}\;\stackrel{\mb{\mathrm{prior}}}{\sim}\;}
78
79 \CustomizeMathJax{\let\STATEXGamma=\Gamma}
80 \CustomizeMathJax{\renewcommand{\Gamma}[1][\mb{\STATEXGamma}]\LWRwrapparen{\mb{#1}}}}
81 %
82 \CustomizeMathJax{\renewcommand{\and}\;\mb{\mathrm{and}}\;}
83 %
84 \CustomizeMathJax{\newcommand{\H}\{\mb{\mathrm{H}}\}}
85 %
86 \CustomizeMathJax{\newcommand{\P}[2][\mb{\mathrm{P}}]_{\mb{#1}}\wrap{\mb{#2}}}}
87 %
88 \CustomizeMathJax{\newcommand{\|}\{\mb{\mid}\}}
89
90 \CustomizeMathJax{\newcommand{\B}[1]{\mb{\mathrm{B}}}\LWRwrapparen{\mb{#1}}}}
91 \CustomizeMathJax{\newcommand{\BB}[1]{\mb{\mathrm{BetaBin}}}\LWRwrapparen{\mb{#1}}}}
92 \CustomizeMathJax{\newcommand{\Bin}[2]{\mb{\mathrm{Bin}}}\LWRwrapparen{\mb{#1},\ #2}}}}
93 \CustomizeMathJax{\newcommand{\Dir}[1]{\mb{\mathrm{Dirichlet}}}\LWRwrapparen{\mb{#1}}}}
94 \CustomizeMathJax{\newcommand{\HG}[3]{%
95   \mb{\mathrm{Hypergeometric}}}\LWRwrapparen{\mb{#1},\ #2,\ #3}}%
96 }}
97 \CustomizeMathJax{\newcommand{\M}[2]{%
98   \mb{\mathrm{Multinomial}}}\LWRwrapparen{\mb{#1},\ #2}}%
99 }}
100 \CustomizeMathJax{\newcommand{\NB}[2]{\mb{\mathrm{NegBin}}}\LWRwrapparen{\mb{#1},\ #2}}}}
101 \CustomizeMathJax{\newcommand{\Poi}[1]{\mb{\mathrm{Poisson}}}\LWRwrapparen{\mb{#1}}}}
102 \CustomizeMathJax{\let\Poisson=\Poi}
103
104 \CustomizeMathJax{\newcommand{\pBB}[4][x]{%
105   \mb{\frac{\Gamma[#2+1]\Gamma[#3+1]\Gamma[#2+#4-#1]\Gamma[#3+#4]}
106     {\Gamma[#1+1]\Gamma[#2-#1+1]\Gamma[#2+#3+#4]\Gamma[#3]\Gamma[#4]}}%
107   \I[#1]{\{\0, 1,\ .,\ #2\}}, \where #3>0,\; #4>0 \and n=1, 2,\ .}%
108 }}
109 \CustomizeMathJax{\newcommand{\pBin}[3][x]{%
110   \mb{\binom{#2}{#1}#3^{#1}} \LWRwrapparen{\mb{\{1-#3\}^{#2-#1}}}}%
111   \mb{\I[#1]{\{\0,1,\ .,\ #2\}}, \where p \in (0, 1) \and n=1, 2,\ .}%
112 }}
113 \CustomizeMathJax{\newcommand{\pPoi}[2][x]{%
114   \mb{\frac{1}{#1!}#2^{#1}e^{-#2}}\I[#1]{\{\0, 1,\ .\}}, \where #2>0}%
115 }}
116
117 \CustomizeMathJax{\newcommand{\Cau}[2]{\mb{\mathrm{Cauchy}}}\LWRwrapparen{\mb{#1},\ #2}}}}
118 \CustomizeMathJax{\let\Cauchy=\Cau}
119 \CustomizeMathJax{\newcommand{\Chi}[2][\mb{#1}]}
120   \chisq_{\mb{#1}}\LWRwrapparen{\mb{#2}}}%
121 }}
122 \CustomizeMathJax{\let\Chisq=\Chi}
123 \CustomizeMathJax{\newcommand{\Bet}[2]{\mb{\mathrm{Beta}}}\LWRwrapparen{\mb{#1},\ #2}}}}
124 \CustomizeMathJax{\let\Beta=\Bet}
125 \CustomizeMathJax{\newcommand{\Exp}[1]{\mb{\mathrm{Exp}}}\LWRwrapparen{\mb{#1}}}}
126 \CustomizeMathJax{\newcommand{\F}[2]{\mb{\mathrm{F}}}\LWRwrapparen{\mb{#1},\ #2}}}}
127 \CustomizeMathJax{\newcommand{\Gam}[2]{\mb{\mathrm{Gamma}}}\LWRwrapparen{\mb{#1},\ #2}}}}
128 \CustomizeMathJax{\newcommand{\IC}[1]{\mb{\mathrm{\chi^{-2}}}}\LWRwrapparen{\mb{#1}}}}
129 \CustomizeMathJax{\newcommand{\IG}[2]{%
130   \mb{\mathrm{Gamma}^{-1}}}\LWRwrapparen{\mb{#1},\ #2}}%

```

```

131 }}
132 \CustomizeMathJax{\newcommand{\IW}[2]{%
133   \mb{\mathrm{Wishart}^{-1}}\LWRwrapparen{\mb{#1}, \ #2}}%
134 }}
135 \CustomizeMathJax{\newcommand{\Log}[2]{%
136   \mb{\mathrm{Logistic}}\LWRwrapparen{\mb{#1}, \ #2}}%
137 }}
138 \CustomizeMathJax{\newcommand{\LogN}[2]{%
139   \mb{\mathrm{Log}\!-\!N}\LWRwrapparen{\mb{#1}, \ #2}}%
140 }}
141 \CustomizeMathJax{\newcommand{\N}[3][x]{%
142   \mb{\mathrm{N}}_{\mb{#1}}\LWRwrapparen{\mb{#2}, \ #3}}%
143 }}
144 \CustomizeMathJax{\newcommand{\Par}[2]{\mb{\mathrm{Pareto}}\LWRwrapparen{\mb{#1}, \ #2}}}}
145 \CustomizeMathJax{\let\Parto=\Par}
146 \CustomizeMathJax{\newcommand{\Tsq}[2]{\mb{\mathrm{T}^2}}\LWRwrapparen{\mb{#1}, \ #2}}}}
147 \CustomizeMathJax{\newcommand{\U}[1]{\mb{\mathrm{U}}}\LWRwrapparen{\mb{#1}}}}
148 \CustomizeMathJax{\newcommand{\W}[2]{\mb{\mathrm{Wishart}}}\LWRwrapparen{\mb{#1}, \ #2}}}}
149
150 \CustomizeMathJax{\renewcommand{\t}[1]{\mb{\mathrm{t}}}\LWRwrapparen{\mb{#1}}}}
151
152 \CustomizeMathJax{\newcommand{\pBeta}[3][x]{%
153   \IBeta{#2}{#3}%
154   #1^{#2-1}\LWRwrapparen{1-#1}^{#3-1}\II[#1]{0, \ 1}, \ \text{where } #2>0 \ \text{and } #3>0}%
155 }}
156 \CustomizeMathJax{\newcommand{\pCau}[3][x]{%
157   \ifthenelse{equal{#2, #3}{0, 1}}{\frac{1}{\cpi}\LWRwrapparen{1+#1}^2}}%
158   {\frac{1}{#3\cpi}\left\{1+\wrap{\LWRwrapparen{x-#2}/#3}^2\right\}}, \ \text{where } #3>0}%
159 }}% no special case for 0,1
160 \CustomizeMathJax{\newcommand{\pChi}[2][x]{%
161   \frac{2^{-#2/2}}{\Gamma[#2/2]}#1^{#2/2-1}\e^{-#1/2}}%
162   \II[#1]{0, \infty}, \ \text{where } #2>0}%
163 }}
164 \CustomizeMathJax{\newcommand{\pExp}[2][x]{%
165   \frac{1}{#2}\e^{-#1/#2}\II[#1]{0, \infty},%
166   \ \text{where } #2>0}%
167 }}
168 \CustomizeMathJax{\newcommand{\pGam}[3][x]{%
169   \frac{#3^{#2}}{\Gamma[#2]}#1^{#2-1}\e^{-#3#1}}%
170   \II[#1]{0, \infty}, \ \text{where } #2>0 \ \text{and } #3>0}%
171 }}
172 \CustomizeMathJax{\newcommand{\pN}[3][x]{%
173   \ifthenelse{equal{#2, #3}{0, 1}}%
174   {\frac{1}{\sqrt{2\cpi}}\e^{-#1^2/2}}%
175   {\frac{1}{\sqrt{2\cpi \cdot #3}}\e^{-\LWRwrapparen{#1-#2}^2/2 \cdot #3}}%
176 }}% no test for 0,1, must add \cdot
177 \CustomizeMathJax{\newcommand{\pPar}[3][x]{%
178   \frac{#3}{#2}\LWRwrapparen{1+#1/#2}^{#3+1}\II[#1]{0, \infty},%
179   \ \text{where } #2>0 \ \text{and } #3>0}%
180 }}
181 \CustomizeMathJax{\newcommand{\pU}[3][x]{%
182   \ifthenelse{equal{#2, #3}{0, 1}}{\II[#1]{0, \ 1}}%
183   {\frac{1}{#3-#2}\II[#1]{#2, \ #3}, \ \text{where } #2<#3}%
184 }}% no special case for 0,1
185
186 \CustomizeMathJax{\newcommand{\=} [1]{\bar{#1}}}
187 \CustomizeMathJax{\let\^{\widehat}}
188 \CustomizeMathJax{\let\~{\widetilde}}
189 \CustomizeMathJax{\newcommand{\'} [1]{\LWRwrapparen{\mb{#1}}}}
190 \CustomizeMathJax{\newcommand{\b} [1]{\bar{#1}}}

```

```

191 \CustomizeMathJax{\newcommand{\c}[1]{\mb{\mathrm{#1}}}}
192 \CustomizeMathJax{\newcommand{\d}[1]{\,\mb{\mathrm{d}}{#1}}}
193 \CustomizeMathJax{\newcommand{\.}{\mb{\ldots}}}
194 \end{warpMathJax}


```


File 473 **lwarp-statistics.sty**

§ 585 Package **statistics**

(Emulates or patches code by JULIEN RIVAUD.)

statistics (*Pkg*) statistics is patched for use by lwarp.

 **\color** The statistics documentation examples include the use of the `\color` macro. Use `\textcolor` instead.

 **math** The statistics package uses math arrays, but the HTML version uses text tabulars to allow text copy/paste. If math is required, use `\ensuremath` or `\(` and `\)` as needed.

Pre/postline is ignored, and `\hline` is used instead. Each table will have an `\hline` above and below as a frame.

for HTML output: 1 \LWR@ProvidesPackagePass{statistics}[2019/09/29]

2 \ExplSyntaxOn

To use text tabular instead of math array. This allows text copy/paste of the results.

In the following, all changes for the Lwarp package are labelled "lwarp".

Redefined using the lwarp version of &:

```

3 \VerifyCommand[lwarp][statistics]{\__statistics_table_make:nn}
4   {DC8BA2460EA83AE75FA0C0F00E775B5E}
5
6 \StartDefiningTabulars%   lwarp, no other changes below
7 \cs_set_protected_nopar:Nn \__statistics_table_make:nn {
8   \int_compare:nT
9     { 0 < \l__statistics_table_maxcols_int
10      = \l__statistics_nbvals_int } {
11     \__statistics_table_end:
12     \tl_use:N \l__statistics_table_sep_tl
13     \__statistics_table_start:
14   }
15   \int_incr:N \l__statistics_nbvals_int
16   \int_incr:N \l__statistics_currange_int
17   \fp_add:Nn \l__statistics_curtotal_fp { #2 }
18   \__statistics_set_if_shown:N \l_tmpa_bool
19   \tl_set:Nx \l_tmpa_tl {
20     \exp_not:n { & \tl_set:Nn \currentcolumn } {
21       \int_use:N \l__statistics_currange_int
22     }
23   }
24   \bool_if:NTF \l_tmpa_bool {
25     \tl_put_right:Nn \l_tmpa_tl

```

```

26         {\\_statistics_table_shown_format:n}
27     }{
28         \\tl_put_right:Nn \\l_tmpa_tl
29         {\\_statistics_table_hidden_format:n}
30     }
31     \\seq_put_right:Nn \\l__statistics_store_values_seq { #1 }
32     \\bool_if:NT \\l__statistics_table_values_bool {
33         \\tl_put_right:Nx \\l__statistics_table_values_tl {
34             \\exp_not:V \\l_tmpa_tl {
35                 \\exp_not:n {
36                     \\_statistics_table_values_format:n { #1 }
37                 }
38             }
39         }
40     }
41     \\seq_put_right:Nx \\l__statistics_store_counts_seq { \\fp_eval:n {#2} }
42     \\bool_if:NT \\l__statistics_table_counts_bool {
43         \\tl_put_right:Nx \\l__statistics_table_counts_tl {
44             \\exp_not:V \\l_tmpa_tl {
45                 \\exp_not:n {
46                     \\_statistics_table_counts_format:n {
47                         { \\_statistics_table_allcounts_format:n { #2 } }
48                     }
49                 }
50             }
51         }
52     }
53     \\bool_if:NT \\l__statistics_table_icc_bool {
54         \\tl_put_right:Nx \\l__statistics_table_icc_tl {
55             \\exp_not:V \\l_tmpa_tl {
56                 \\exp_not:n { \\_statistics_table_icc_format:n }
57                 {
58                     \\exp_not:n{ \\_statistics_table_allcounts_format:n }
59                     { \\fp_use:N \\l__statistics_curtotal_fp }
60                 }
61             }
62         }
63     }
64     \\bool_if:NT \\l__statistics_table_dcc_bool {
65         \\tl_put_right:Nx \\l__statistics_table_dcc_tl {
66             \\exp_not:V \\l_tmpa_tl {
67                 \\exp_not:n { \\_statistics_table_dcc_format:n }
68                 {
69                     \\exp_not:n{ \\_statistics_table_allcounts_format:n }
70                     {
71                         \\fp_eval:n {
72                             \\l__statistics_total_fp
73                             - \\l__statistics_curtotal_fp
74                             + #2
75                         }
76                     }
77                 }
78             }
79         }
80     }
81     \\fp_set:Nn \\l__statistics_table_curICF_fp {
82         round(\\l__statistics_curtotal_fp
83             / \\l__statistics_total_fp,
84             \\l__statistics_table_round_int)
85     }

```



```

86 \bool_if:NT \l__statistics_table_frequencies_bool {
87   \tl_put_right:Nx \l__statistics_table_frequencies_tl {
88     \exp_not:V \l_tmpa_tl {
89       \exp_not:n { \l__statistics_table_frequencies_format:n }
90       {
91         \exp_not:n{ \l__statistics_table_allfreqs_format:n }
92         {
93           \fp_eval:n {
94             \l__statistics_table_curICF_fp
95             - \l__statistics_table_prevICF_fp
96           }
97         }
98       }
99     }
100   }
101 }
102 \bool_if:NT \l__statistics_table_icf_bool {
103   \tl_put_right:Nx \l__statistics_table_icf_tl {
104     \exp_not:V \l_tmpa_tl {
105       \exp_not:n { \l__statistics_table_icf_format:n }
106       {
107         \exp_not:n{ \l__statistics_table_allfreqs_format:n }
108         { \fp_to_decimal:N \l__statistics_table_curICF_fp }
109       }
110     }
111   }
112 }
113 \bool_if:NT \l__statistics_table_dcf_bool {
114   \tl_put_right:Nx \l__statistics_table_dcf_tl {
115     \exp_not:V \l_tmpa_tl {
116       \exp_not:n { \l__statistics_table_dcf_format:n }
117       {
118         \exp_not:n{ \l__statistics_table_allfreqs_format:n }
119         {
120           \fp_eval:n {
121             1 - \l__statistics_table_prevICF_fp
122           }
123         }
124       }
125     }
126   }
127 }
128 \fp_set_eq:NN
129   \l__statistics_table_prevICF_fp
130   \l__statistics_table_curICF_fp
131 }
132 \StopDefiningTabulars% lwarp

```

Redefined using tabular. Also, preline and postline do not work correctly with `lwarp`, which looks for certain tokens to detect `\hlines`, so `\hline` is used instead.

```

133 \VerifyCommand[lwarp][statistics]{\l__statistics_table_end:}
134   {B2F9FC5A36B44E6E06A8D9807FCBAA6D}
135
136 \cs_set_protected_nopar:Nn \l__statistics_table_end: {
137   \tl_set:Nx \l__statistics_table_preamble_tl {
138 %     \exp_not:n { \begin{array}[ ]
139     \exp_not:n {\begin{tabular}[ ]% lwarp
140     \exp_not:V \l__statistics_table_valign_tl
141     \exp_not:n { ] }

```

```

142         { \exp_not:V \l__statistics_table_headcoltype_tl
143           \prg_replicate:nn { \l__statistics_nbvals_int }
144           { \exp_not:V \l__statistics_table_coltype_tl } }
145     }
146     \seq_clear:N \l__statistics_table_contents_seq
147     \clist_map_inline:nn { values, counts, icc, dcc, frequencies, icf, dcf } {
148       \bool_if:cT { l__statistics_table_##1_bool } {
149         \seq_put_right:Nv
150           \l__statistics_table_contents_seq
151           { l__statistics_table_##1_tl }
152       }
153     }
154 %   $
155     \tl_use:N \l__statistics_table_preamble_tl
156     \hline%     lwarp
157     \l__statistics_table_preline_tl
158     \seq_use:Nn
159       \l__statistics_table_contents_seq
160       { \l__statistics_table_newline_tl }
161     \\
162 %     \l__statistics_table_postline_tl
163     \hline%     lwarp
164 %   \end{array}$
165   \end{tabular}%     lwarp
166 }

```

With `lwarp`, `\ensuremath` creates an SVG image, but its alt tag does not contain the text of the contents for copy/paste, since these expressions are usually not simple text. For the `statistics` package, copy/paste is restored by using text instead of math output.

For the leftmost column. Redefined to use text output:

```

167 \VerifyCommand[lwarp][statistics]{\__statistics_table_start:}
168   {624FAC0783057B481861D9F02764F6C5}
169
170 \cs_set_protected_nopar:Nn \__statistics_table_start: {
171   \int_zero:N \l__statistics_nbvals_int
172   \clist_pop:NNT \l__statistics_table_maxcols_clist \l_tmpa_tl {
173     \int_set:Nn \l__statistics_table_maxcols_int { \l_tmpa_tl }
174   }
175   \clist_map_inline:nn { values, counts, frequencies, icc, icf, dcc, dcf } {
176     \tl_set:cx { l__statistics_table_##1_tl } {
177 %       \exp_not:N \ensuremath {
178 %         \exp_not:N \hbox {
179 %           \exp_not:c { l__statistics_table_##1_name_tl }
180 %         }
181 %       }
182     }
183   }
184 }

```

For the first row. Redefined to use text output:

```

185 \VerifyCommand[lwarp][statistics]{\__statistics_IN:w}
186   {DD1B22587CFB4DEDBEE4D8E9A1E0CCAF}
187
188 \RenewDocumentCommand \__statistics_IN:w { m u{;} u{;} m } {
189 %   \ensuremath{ \left#1 \num{#2} \mathbin{;} \num{#3} \right#4 }
190   #1 #2 ; #3 #4%     lwarp

```

```

191 }
192
193 \__statistics_setup:nn { table } {
194 %   values/format = \ensuremath{#1},
195   values/format = {#1},%   lwarp
196 }

```

Added \ExplSyntaxOn/Off to avoid errors. (In once instance, a double subscript error appeared.)

```

197 \VerifyCommand[lwarp][statistics]{\StatsGraph}
198   {998267D2E90514DBDFD5544FB69AD6C8}
199
200 \RenewDocumentCommand \StatsGraph { +O{} +m +O{} } {
201   \group_begin:
202   \int_gincr:N \g__statistics_graph_last_int
203   \tl_set:Nx \l_tmpa_tl {
204     \exp_not:n { g__statistics_graph_xstep_ }
205     \int_use:N \g__statistics_graph_last_int
206     \exp_not:n { _tl }
207   }
208   \tl_if_exist:cTF { \l_tmpa_tl } {
209     \fp_gset:Nn \g__statistics_graph_xstep_fp
210       { \tl_use:c { \l_tmpa_tl } }
211   }{
212     \fp_gset:Nn \g__statistics_graph_xstep_fp { \c_one_int }
213   }
214   \__statistics_setup:nn { graph } { #1, #3 }
215   \tl_if_single:nTF { #2 } {
216     \cs_if_exist:NF #2 { #2 }
217     \tl_set_eq:NN \l__statistics_data_tl #2
218   }{
219     \tl_set:Nn \l__statistics_data_tl { #2 }
220   }
221   \fp_zero:N \l__statistics_graph_maxheight_fp
222   \fp_set:Nn \l__statistics_graph_minvalue_fp {inf}
223   \fp_set:Nn \l__statistics_graph_maxvalue_fp {-inf}
224   \fp_zero:N \l__statistics_total_fp
225   \int_zero:N \l__statistics_nbvals_int
226   \bool_set_true:N \l__statistics_graph_allranges_bool
227   \keyval_parse:NNV
228     \__statistics_graph_prepare:n
229     \__statistics_graph_prepare:nn
230     \l__statistics_data_tl
231   \tl_clear:N \l__statistics_graph_tikzdata_tl
232   \tl_clear:N \l__statistics_graph_tikzinfo_tl
233   \int_zero:N \l__statistics_currange_int
234   \bool_if:NTF \l__statistics_graph_allranges_bool {
235     \bool_if:NTF \l__statistics_graph_cumulative_bool {
236 \ExplSyntaxOn%   lwarp
237     \__statistics_graph_dopicture_cumulative:
238 \ExplSyntaxOff%   lwarp
239     }{
240 \ExplSyntaxOn%   lwarp
241     \__statistics_graph_dopicture_hist:
242 \ExplSyntaxOff%   lwarp
243     }
244   }{
245 \ExplSyntaxOn%   lwarp
246     \__statistics_graph_dopicture_comb:

```

```

247 \ExplSyntaxOff%   lwarp
248   }
249   \iow_now:Nx \@auxout {
250     \exp_not:n {
251       \ExplSyntaxOn
252       \tl_gset:cn
253     }
254     {
255       \exp_not:n {g__statistics_graph_xstep_}
256       \int_use:N \g__statistics_graph_last_int
257       \exp_not:n {_tl}
258     }
259     {
260       \fp_to_decimal:N \g__statistics_graph_xstep_fp
261     }
262     \exp_not:n {
263       \ExplSyntaxOff
264     }
265   }
266   \group_end:
267 }
268
269 \ExplSyntaxOff

```

File 474 **lwarp-statmath.sty**

§ 586 Package **statmath**

(Emulates or patches code by SEBASTIAN ANKARGREN.)

statmath (*Pkg*) statmath is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output:

```

1 \LWR@ProvidesPackagePass{statmath}[2018/03/08]
2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoProcessingmathjax{statmath}
6
7 \ifdefequal{\abcbf}{\mathbf}
8   {\CustomizeMathJax{\newcommand{\abcbf}[1]{\mathbf{#1}}}}
9   {\CustomizeMathJax{\newcommand{\abcbf}[1]{\boldsymbol{#1}}}}
10
11 \CustomizeMathJax{\newcommand{\greekbf}[1]{\boldsymbol{#1}}}
12
13 \CustomizeMathJax{\newcommand{\bfA}{\abcbf A}}
14 \CustomizeMathJax{\newcommand{\bfB}{\abcbf B}}
15 \CustomizeMathJax{\newcommand{\bfC}{\abcbf C}}
16 \CustomizeMathJax{\newcommand{\bfD}{\abcbf D}}
17 \CustomizeMathJax{\newcommand{\bfE}{\abcbf E}}
18 \CustomizeMathJax{\newcommand{\bfF}{\abcbf F}}
19 \CustomizeMathJax{\newcommand{\bfG}{\abcbf G}}
20 \CustomizeMathJax{\newcommand{\bfH}{\abcbf H}}
21 \CustomizeMathJax{\newcommand{\bfI}{\abcbf I}}
22 \CustomizeMathJax{\newcommand{\bfJ}{\abcbf J}}
23 \CustomizeMathJax{\newcommand{\bfK}{\abcbf K}}
24 \CustomizeMathJax{\newcommand{\bfL}{\abcbf L}}

```

```

25 \CustomizeMathJax{\newcommand{\bfM}{\abcbf M}}
26 \CustomizeMathJax{\newcommand{\bfN}{\abcbf N}}
27 \CustomizeMathJax{\newcommand{\bfO}{\abcbf O}}
28 \CustomizeMathJax{\newcommand{\bfP}{\abcbf P}}
29 \CustomizeMathJax{\newcommand{\bfQ}{\abcbf Q}}
30 \CustomizeMathJax{\newcommand{\bfR}{\abcbf R}}
31 \CustomizeMathJax{\newcommand{\bfS}{\abcbf S}}
32 \CustomizeMathJax{\newcommand{\bfT}{\abcbf T}}
33 \CustomizeMathJax{\newcommand{\bfU}{\abcbf U}}
34 \CustomizeMathJax{\newcommand{\bfV}{\abcbf V}}
35 \CustomizeMathJax{\newcommand{\bfW}{\abcbf W}}
36 \CustomizeMathJax{\newcommand{\bfX}{\abcbf X}}
37 \CustomizeMathJax{\newcommand{\bfY}{\abcbf Y}}
38 \CustomizeMathJax{\newcommand{\bfZ}{\abcbf Z}}
39 \CustomizeMathJax{\newcommand{\bfa}{\abcbf a}}
40 \CustomizeMathJax{\newcommand{\bfb}{\abcbf b}}
41 \CustomizeMathJax{\newcommand{\bfc}{\abcbf c}}
42 \CustomizeMathJax{\newcommand{\bfd}{\abcbf d}}
43 \CustomizeMathJax{\newcommand{\bfe}{\abcbf e}}
44 \CustomizeMathJax{\newcommand{\bff}{\abcbf f}}
45 \CustomizeMathJax{\newcommand{\bfg}{\abcbf g}}
46 \CustomizeMathJax{\newcommand{\bfh}{\abcbf h}}
47 \CustomizeMathJax{\newcommand{\bfi}{\abcbf i}}
48 \CustomizeMathJax{\newcommand{\bfj}{\abcbf j}}
49 \CustomizeMathJax{\newcommand{\bfk}{\abcbf k}}
50 \CustomizeMathJax{\newcommand{\bfl}{\abcbf l}}
51 \CustomizeMathJax{\newcommand{\bfm}{\abcbf m}}
52 \CustomizeMathJax{\newcommand{\bfn}{\abcbf n}}
53 \CustomizeMathJax{\newcommand{\bfo}{\abcbf o}}
54 \CustomizeMathJax{\newcommand{\bfp}{\abcbf p}}
55 \CustomizeMathJax{\newcommand{\bfq}{\abcbf q}}
56 \CustomizeMathJax{\newcommand{\bfr}{\abcbf r}}
57 \CustomizeMathJax{\newcommand{\bfs}{\abcbf s}}
58 \CustomizeMathJax{\newcommand{\bft}{\abcbf t}}
59 \CustomizeMathJax{\newcommand{\bfu}{\abcbf u}}
60 \CustomizeMathJax{\newcommand{\bfv}{\abcbf v}}
61 \CustomizeMathJax{\newcommand{\bfw}{\abcbf w}}
62 \CustomizeMathJax{\newcommand{\bfx}{\abcbf x}}
63 \CustomizeMathJax{\newcommand{\bfy}{\abcbf y}}
64 \CustomizeMathJax{\newcommand{\bfz}{\abcbf z}}
65
66 \LWR@mathjax@addgreek@l@bf@it{bf}{}% Greek lowercase bold face italic
67 \LWR@mathjax@addgreek@u@bfup*{bf}{}% Greek uppercase bold face upright, cap macros.
68
69 \CustomizeMathJax{\newcommand{\bfzero}{\greekbf 0}}
70
71 \CustomizeMathJax{\DeclareMathOperator{\cov}{Cov}}
72 \CustomizeMathJax{\DeclareMathOperator{\E}{E}}
73 \CustomizeMathJax{\DeclareMathOperator{\V}{V}}
74 \CustomizeMathJax{\newcommand{\inas}{\overset{a. s.}{\to}}}
75 \CustomizeMathJax{\newcommand{\indist}{\overset{d}{\to}}}
76 \CustomizeMathJax{\newcommand{\inprob}{\overset{p}{\to}}}
77 \CustomizeMathJax{\DeclareMathOperator{\plim}{plim}}
78 \CustomizeMathJax{\DeclareMathOperator{\tr}{tr}}
79 \CustomizeMathJax{\DeclareMathOperator{\vc}{vec}}
80 \CustomizeMathJax{\DeclareMathOperator{\vcs}{vecs}}
81 \CustomizeMathJax{\DeclareMathOperator{\vch}{vech}}
82 \CustomizeMathJax{\DeclareMathOperator{\diag}{diag}}
83 \CustomizeMathJax{\DeclareMathOperator{\argmin}{arg\,min}}
84 \CustomizeMathJax{\DeclareMathOperator{\argmax}{arg\,max}}

```

```
85 \end{warpMathJax}
```

File 475 **lwarp-steinmetz.sty**

§ 587 Package **steinmetz**

(Emulates or patches code by ENRICO GREGORIO.)

steinmetz (*Pkg*) steinmetz is patched for use by lwarp. Emulation is provided for MATHJAX

for HTML output:

```
1 \LWR@ProvidesPackagePass{steinmetz}[2009/06/14]

2 \renewcommand{\phase}[2][]{%
3   \begin{lateximage}*[steinmetz\{\detokenize{#2}\}]?%
4   \ensuremath{\underline{/#2}}
5   \end{lateximage}
6 }
7
8 \begin{warpMathJax}
9 \CustomizeMathJax{\newcommand{\phase}[2][]{\underline{/#2}}}
10 \end{warpMathJax}
```

File 476 **lwarp-stfloats.sty**

§ 588 Package **stfloats**

stfloats (*Pkg*) stfloats is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{stfloats}[2017/03/27]

stfloats may have been preloaded by a ltj* class.

The following are provided in case they have not yet been defined:

```
2 \providecommand*\fnbelowfloat{}
3 \providecommand*\fnunderfloat{}
4 \providecommand*\setbaselinefloat{}
5 \providecommand*\setbaselinefixed{}

```

Nullified for HTML:

```
6 \renewcommand*\fnbelowfloat{}
7 \renewcommand*\fnunderfloat{}
8 \renewcommand*\setbaselinefloat{}
9 \renewcommand*\setbaselinefixed{}

```

File 477 **lwarp-struktex.sty**

§ 589 Package **struktex**

(Emulates or patches code by JOBST HOFFMANN.)

struktex (*Pkg*) **struktex** is patched for use by **lwarp**.

for HTML output:

```

1 \LWR@ProvidesPackagePass{struktex}

2 \BeforeBeginEnvironment{struktogramm}{%
3   \begin{lateximage}[-struktex-~\PackageDiagramAltText]?%
4 }
5 \AfterEndEnvironment{struktogramm}{\end{lateximage}}
6
7 \newenvironment{LWR@HTML@centernss}{\begin{center}}{\end{center}}
8 \LWR@formattedenv{centernss}
9
10 \newcommand{\LWR@HTML@CenterNssFile}[1]{%
11   \begin{center}
12     \input{#1.nss}
13   \end{center}
14 }
15 \LWR@formatted{CenterNssFile}
16
17 \newcommand{\LWR@HTML@centernssfile}{\LWR@HTML@CenterNssFile}
18 \LWR@formatted{centernssfile}

```

File 478 **lwarp-subcaption.sty**

§ 590 Package **subcaption**

(Emulates or patches code by AXEL SOMMERFELDT.)

subcaption (*Pkg*) **subcaption** is patched for use by **lwarp**.

for HTML output: 1 \LWR@ProvidesPackagePass{subcaption}[2018/05/01]

Tells **lwarp** to ignore minipage widths inside a subfigure or subtable. In print mode the minipages are used to place the items next to each other. In HTML they are placed side-by-side automatically.

```

2 \xpretocmd{\subcaption@iiminipage}
3   {\minipagefullwidth}
4   {}
5   {\LWR@patcherror{subcaption}{subcaption@iiminipage}}

```

Likewise for a `\subcaptionbox`:

```

6 \xpretocmd{\subcaptionbox}
7   {\minipagefullwidth}
8   {}
9   {\LWR@patcherror{subcaption}{subcaptionbox}}

```

File 479 **lwarp-subfig.sty**

§ 591 Package **subfig**

(Emulates or patches code by STEVEN DOUGLAS COCHRAN.)

subfig (*Pkg*) subfig is supported and patched by lwarp.

⚠ **table numbering** To have correct sub table numbers:

```
\usepackage{caption}
\captionsetup[table]{position=top}
```

⚠ **lof/lotdepth** At present, the package options for lofdepth and lotdepth are not working. These counters must be set separately after the package has been loaded.

⚠ **horizontal spacing** In the document source, use \hfill and \hspace* between subfigures to spread them apart horizontally. The use of other forms of whitespace may cause paragraph tags to be generated, resulting in subfigures appearing on the following lines instead of all on a single line.

for HTML output: Accept all options for lwarp-subfig:

```
1 \LWR@ProvidesPackagePass{subfig}[2005/06/28]
```

```
{\langle 1 type \rangle} [\langle 2 lof entry \rangle] [\langle 3 caption \rangle] {\langle 4 contents \rangle}
```

The outer minipage allows side-by-side subfloats with \hfill between.

```
2 \VerifyCommand[lwarp][subfig]{\sf@@@subfloat}{B29FEC2418FD15B9E58ACF593B81BA93}
```

```
3
```

```
4 \long\def\sf@@@subfloat#1[#2][#3]#4{%
```

```
5 \begin{minipage}{\linewidth}% lwarp
```

```
6 \IfValueTF{#2}{%
```

```
7   \LWR@setlatestname{#2}%
```

```
8 }{%
```

```
9   \IfValueTF{#3}{%
```

```
10     \LWR@setlatestname{#3}%
```

```
11   }{%
```

```
12 }%
```

```
13 \LWR@stoppars% lwarp
```

```
14 \@ifundefined{FBsc@max}{}%
```

```
15   {\FB@readaux{\let\FBsuboheight\relax}}%
```

```
16 \@tempcnta=\@ne
```

```
17 \if@minipage
```

```
18   \@tempcnta=\z@
```

```
19 \else\ifdim \lastskip=\z@ \else
```

```
20   \@tempcnta=\tw@
```

```
21 \fi\fi
```

```
22 \ifmaincaptiontop
```

```
23   \sf@top=\sf@nearskip
```

```
24   \sf@bottom=\sf@farskip
```

```
25 \else
```

```
26   \sf@top=\sf@farskip
```

```
27   \sf@bottom=\sf@nearskip
```

```
28 \fi
```

```
29 \leavevmode
```

```
30 %   \setbox\@tempboxa \hbox{#4}%
```

```
31 %   \@tempdima=\wd\@tempboxa
```

```
32 %   \@ifundefined{FBsc@max}{}%
```

```
33 %     {\global\advance\Xhsize-\wd\@tempboxa
```

```
34 %     \dimen@=\ht\@tempboxa
```

```
35 %     \advance\dimen@\dp\@tempboxa
```

```
36 %     \ifdim\dimen@>\FBso@max
```

```
37 %       \global\FBso@max\dimen@
```

```
\sf@@@subfloat
```



```
38%         \fi}%
```

Do not use boxes, which interfere with lateximages:

```
39%     \vtop%
40     \bgroup
41%     \vbox%
42     \bgroup
43     \ifcase\@tempcnta
44     \@minipagefalse
45     \or
46%     \vskip\sf@top
47     \or
48     \ifdim \lastskip=\z@ \else
49%     \@tempskipb\sf@top\relax\@addvskip
50     \fi
51     \fi
52     \sf@ifpositiontop{%
53     \ifx \@empty#3\relax \else
54     \sf@subcaption{#1}{#2}{#3}%
55%     \vskip\sf@capskip
56%     \vskip\sf@captopadj
57     \fi\egroup
58%     \hrule width0pt height0pt depth0pt
59     \LWR@startpars% lwarp
60%     \box\@tempboxa
61     #4
62     \LWR@stoppars% lwarp
63     }{%
64     \LWR@startpars% lwarp
65     \@ifundefined{FBsc@max}%
66     {
67%     \box\@tempboxa
68     #4
69     }%
70     {\ifx\FBsuboheight\relax
71%     \box\@tempboxa
72     #4
73     \else
74%     \vbox to \FBsuboheight{\FBafil\box\@tempboxa\FBbfil}%
75     #4
76     \fi}%
77     \LWR@stoppars% lwarp
78     \egroup
79     \ifx \@empty#3\relax \else
80%     \vskip\sf@capskip
81%     \hrule width0pt height0pt depth0pt
82     \sf@subcaption{#1}{#2}{#3}%
83     \fi
84     }%
85%     \vskip\sf@bottom
86     \egroup
87     \@ifundefined{FBsc@max}{}%
88     {\addtocounter{FRobj}{-1}%
89     \ifnum\c@FRobj=0\else
90     \subfloatrowsep
91     \fi}%
92     \ifmaincaptiontop\else
93     \global\advance\@nameuse{c@\@capttype}\m@ne
94     \fi
95 \end{minipage}% lwarp
```

```

96 \LWR@startpars% lwarp
97 \endgroup\ignorespaces%
98 }%

```

\sf@subcaption

```

    {<1 type>} {<2 lof entry>} {<3 caption>}
99 \VerifyCommand[lwarp][subfig]{\sf@subcaption}{63123F93BADE8F3BBC127012A832A4C4}
100
101 \long\def\sf@subcaption#1#2#3{%
102 \LWR@stoppars% lwarp
103 \ifx \relax#2\relax \else
104   \bgroup
105     \let\label=\@gobble
106     \let\protect=\string
107     \def\@subcaplabel{%
108       \caption@lstfmt{\@nameuse{p@#1}}{\@nameuse{the#1}}}%
109     \sf@updatecaptionlist{#1}{#2}{\the\value{\@capttype}}{\the\value{#1}}%
110   \egroup
111   \fi
112   \bgroup
113   \ifx \relax#3\relax
114     \let\captionlabelsep=\relax
115   \fi
116 %   \setbox0\vbox{%
117 %     \hbext@the\@tempdima{%
118 %
119 % %       \hss
120 % %       \parbox[t]{\the\@tempdima}{%
121 % %         \caption@make
122 % %           {\@nameuse{sub\@capttype name}}%
123 % %           {\@nameuse{thesub\@capttype}}%
124 % %           {#3}
125 % % %       }%
126 % %       \hss
127 % %     }
128 % %   }%
129   \@ifundefined{FBsc@max}%
130 %   {\box0}%
131   {
132 %   \parbox[t]{\the\@tempdima}{%
133 \LWR@traceinfo{sfsubcap B1}% lwarp
134   \LWR@figcaption% lwarp
135   \caption@make
136     {\@nameuse{sub\@capttype name}}%
137     {\@nameuse{thesub\@capttype}}%
138     {\LWR@isolate{#3}}%
139   \endLWR@figcaption% lwarp
140 \LWR@traceinfo{sfsubcap B2}% lwarp
141 %   }%
142 %   }%
143 %   {\dimen@ht0%
144 %     \advance\dimen@dp0%
145 %     \ifdim\dimen@>\FBsc@max
146 %       \global\FBsc@max\dimen@
147 %     \fi
148 %     \FB@readaux{\let\FBsubcheight\relax}%
149 %     \ifx\FBsubcheight\relax
150 %       \def\next{
151 % \parbox[t]{\the\@tempdima}

```

```

152         }%
153     \else
154         \def\next{
155 %     \parbox[t][\FBsubcheight][t]{\the\@tempdima}
156         }%
157     \fi
158 %     \vbox{%
159 %         \hb@xt@\the\@tempdima{%
160
161 %             \hss
162 %             \next{%
163 \LWR@traceinfo{sfsubcap C1}% lwarp
164             \caption@make
165                 {\@nameuse{sub\@capttype name}}%
166                 {\@nameuse{thesub\@capttype}}%
167                 {#3}
168 \LWR@traceinfo{sfsubcap C1}% lwarp
169 %     }%
170 %         \hss
171
172 %     }
173 % }
174 %}%
175 \egroup
176 \LWR@startpars% lwarp
177 }

```

`\subfloat@label`Patches for `\sf@sub@label`:

```

178 \xpretocmd{\subfloat@label}
179   {\LWR@ensuredoingapar}
180   {}
181   {\LWR@patcherror{subfig}{subfloat@label}}

```

Patches for `\subref`.`\sf@subref``{\langle label \rangle}`

The unstarred version uses a `\ref` link whose printed text comes from the `sub@<label>`:

```

182 \renewcommand{\sf@subref}[1]{%
183     \LWR@subnewref{#1}{sub#1}%
184 }

```

`\sf@@subref``{\langle label \rangle}`

The starred version uses the printed `sub@<label>` which is stored as if it were a page number:

```

185 \renewcommand{\sf@@subref}[1]{\LWR@orig@pageref{sub#1}}

```

Defining new subfloats. The `l@sub<type>` for each is redefined.

`\@newsubfloat``[\langle keys/values \rangle] {\langle float name \rangle}`

```

186 \LetLtxMacro\LWR@orig@newsubfloat\@newsubfloat
187
188 \def\@newsubfloat[#1]#2{%
189 \LWR@orig@newsubfloat[#1]{#2}%

```

```
190 \renewcommand{\l@sub#2}[2]{\hypertocfloat{2}{sub#2}{\ext@sub#2}{##1}{##2}}%
191 }
```

Pre-defined for figures and tables:

```
\l@subfigure      {\langle text \rangle} {\langle pagenum \rangle}
```

```
192 \renewcommand{\l@subfigure}[2]{\hypertocfloat{2}{subfigure}{lof}{#1}{#2}}
```

```
\l@subtable      {\langle text \rangle} {\langle pagenum \rangle}
```

```
193 \renewcommand{\l@subtable}[2]{\hypertocfloat{2}{subtable}{lot}{#1}{#2}}
```

File 480 **lwarp-subfigure.sty**

§ 592 Package **subfigure**

subfigure (*Pkg*) subfigure is emulated by subfig.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{subfigure}[2002/03/15]
2 \RequirePackage{subfig}

3 \LetLtxMacro\subfigure\subfloat
4 \LetLtxMacro\subtable\subfloat
5 \LetLtxMacro\Subref\subref
6 \@ifundefined{figuretopcaptrue}{\newif\iffiguretopcap}{\}
7 \newif\ifsubfiguretopcap
8 \newif\ifsubcaphang
9 \newif\ifsubcapcenter
10 \newif\ifsubcapcenterlast
11 \newif\ifsubcapnooneline
12 \newif\ifsubcapraggedright
13 \newskip\subfigtopskip
14 \newskip\subfigcapskip
15 \newdimen\subfigcaptopadj
16 \newskip\subfigbottomskip
17 \newdimen\subfigcapmargin
18 \newskip\subfiglabelskip
19 \newcommand*\subcapsize{\}
20 \newcommand*\subcaplabelfont{\}
21 \newcommand*\subcapfont{\}
```

File 481 **lwarp-subsubscripts.sty**

§ 593 Package **subsubscripts**

(Emulates or patches code by RICCARDO BRESCIANI.)

subsubscripts (*Pkg*) subsubscripts is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output:

```
1 \LWR@ProvidesPackagePass{subsubscripts}[2009/10/27]
```

The larger skips are used here.

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{%
4   \newcommand{\fourscriptsC}[7]{%
5     {}^{\#2}_{\#3}\hspace{\#6}\#1\hspace{\#7}\#4_{\#5}%
6   }
7 }
8 \CustomizeMathJax{%
9   \newcommand{\lrsubscriptsC}[5]{%
10    \fourscriptsC{\#1}{\#2}{\#3}{\#4}{\#5}%
11  }
12 }
13 \CustomizeMathJax{%
14   \newcommand{\lrsuperscriptsC}[5]{%
15    \fourscriptsC{\#1}{\#2}{\#3}{\#4}{\#5}%
16  }
17 }
18 \CustomizeMathJax{%
19   \newcommand{\fourscripts}[5]{%
20    \fourscriptsC{\#1}{\#2}{\#3}{\#4}{\#5}{0ex}{0ex}%
21  }
22 }
23 \CustomizeMathJax{%
24   \newcommand{\lrsubscripts}[3]{\fourscripts{\#1}{\#2}{\#3}}
25 }
26 \CustomizeMathJax{%
27   \newcommand{\lrsuperscripts}[3]{\fourscripts{\#1}{\#2}{\#3}}
28 }
29 \CustomizeMathJax{%
30   \newcommand{\twolscripts}[4][-.16ex]{\#3_{\#4}\hspace{\#1}\#2}
31 }
32 \CustomizeMathJax{%
33   \newcommand{\tworscripts}[4][-.07ex]{\#2\hspace{\#1}\#3_{\#4}}
34 }
35 \CustomizeMathJax{%
36   \newcommand{\lsubscript}[3][-.16ex]{\twolscripts[\#1]{\#2}{\#3}}
37 }
38 \CustomizeMathJax{%
39   \newcommand{\lsuperscript}[3][-.16ex]{\twolscripts[\#1]{\#2}{\#3}}
40 }
41 \CustomizeMathJax{%
42   \newcommand{\rsubscript}[3][-.07ex]{\tworscripts[\#1]{\#2}{\#3}}
43 }
44 \CustomizeMathJax{%
45   \newcommand{\rsuperscript}[3][-.07ex]{\tworscripts[\#1]{\#2}{\#3}}
46 }
47 \end{warpMathJax}

```


File 482 **lwarp-supertabular.sty**

§ 594 Package **supertabular**

(Emulates or patches code by JOHANNES BRAAMS, THEO JURRIENS.)

supertabular (*Pkg*) supertabular is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{supertabular}[2004/02/20]


 **Misplaced alignment tab character &** For \tablefirsthead, etc., enclose them as follows:

```

\StartDefiningTabulars
\tablefirsthead
. . .
\StopDefiningTabulars

```

See section 8.10.1.

 **lateximage** `supertabular` and `xtab` are not supported inside a `lateximage`.

```

2 \newcommand{\LWRST@firsthead}{}
3
4 \newcommand{\tablefirsthead}[1]{%
5   \long\gdef\LWRST@firsthead{#1}%
6 }
7
8 \newcommand{\tablehead}[1]{}
9 \newcommand{\tabletail}[1]{}
10
11 \newcommand{\LWRST@lasttail}{}
12
13 \newcommand{\tablelasttail}[1]{%
14   \long\gdef\LWRST@lasttail{#1}%
15 }

16 \newcommand{\tablecaption}[2][]{%
17   \long\gdef\LWRST@caption{%
18     \ifblank{#1}%
19       {\caption{#2}}%
20       {\caption[#1]{#2}}%
21   }%
22 }
23
24 \let\topcaption\tablecaption
25 \let\bottomcaption\tablecaption

26 \newcommand*{\LWRST@caption}{}
27
28 \newcommand*{\shrinkheight}[1]{}
29
30 \NewDocumentEnvironment{supertabular}{s o m}
31 {%
32 \LWR@traceinfo{supertabular}%
33 \begin{table}%
34 \LWRST@caption%
35 \begin{tabular}{#3}%
36 \TabularMacro\ifdefvoid{\LWRST@firsthead}%
37 {\LWR@getmynexttoken}%
38 {\expandafter\LWR@getmynexttoken\LWRST@firsthead}%
39 }%
40 {%
41 \ifdefvoid{\LWRST@lasttail}%
42 {}%
43 }%
44 \TabularMacro\ResumeTabular%
45 \LWRST@lasttail%
46 }%
47 \end{tabular}%
48 \end{table}%

```

```

49 \gdef\LWRST@caption{}%
50 \LWR@traceinfo{supertabular done}%
51 }
52
53 \NewDocumentEnvironment{mpsupertabular}{s o m}
54 {\minipage{\linewidth}\supertabular{#3}}
55 {\endsupertabular\endminipage}

```

File 483 **lwarp-svg.sty**

§ 595 Package **svg**

(Emulates or patches code by PHILIP ILTEN, FALK HANISCH.)

svg (*Pkg*) **svg** is patched for use by **lwarp**.

for HTML output:

```

1 \LWR@ProvidesPackagePass{svg}[2020/10/23]
2 \xpretocmd{\includesvg}%
3   {\begin{lateximage}}%
4   {}%
5   {\LWR@patcherror{svg}{includesvg}}
6
7 \xapptocmd{\includesvg}%
8   {\end{lateximage}}%
9   {}%
10  {\LWR@patcherror{svg}{includesvg}}
11
12 \xpretocmd{\includeinkscape}%
13   {\begin{lateximage}}%
14   {}%
15   {\LWR@patcherror{svg}{includeinkscape}}
16
17 \xapptocmd{\includeinkscape}%
18   {\end{lateximage}}%
19   {}%
20   {\LWR@patcherror{svg}{includeinkscape}}

```

File 484 **lwarp-swfigure.sty**

§ 596 Package **swfigure**

(Emulates or patches code by CLAUDIO BECCARI.)

swfigure (*Pkg*) **swfigure** is emulated.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{swfigure}[2020-11-10]
2 \NewDocumentEnvironment{DFimage}%
3   {O{SW} m O{#4} m o D(){0.8} D<>{0} D||{0.25} D!{}}%
4   {%
5     \begin{figure}
6     \centering

```

```

7   \includegraphics{#2}
8   \caption[#3]{#4}
9   \IfValueT{#5}{\label{#5}}
10  \end{figure}
11 }%
12 {}%

```

File 485 **lwarp-sympytex.sty**

§ 597 Package **sympytex**

(Emulates or patches code by TIM MOLTEÑO.)

sympytex (*Pkg*) sympytex is patched for use by lwarp.

for HTML output:

```

1 \LWR@ProvidesPackagePass{sympytex}[2014/05/16]

2 \AfterEndPreamble{
3
4 \AtBeginEnvironment{sympyblock}{%
5   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
6     }%
7     {%
8       \LWR@forcenewpage%
9       \LWR@atbeginverbatim{verbatim}%
10    }%
11 }
12
13 \AfterEndEnvironment{sympyblock}{%
14   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
15     }%
16     {%
17       \LWR@afterendverbatim%
18     }%
19 }
20
21 }

```

File 486 **lwarp-syntonly.sty**

§ 598 Package **syntonly**

(Emulates or patches code by FRANK MITTELBACH, RAINER SCHÖPF.)

syntonly (*Pkg*) syntonly is ignored.

for HTML output: Discard all options for lwarp-syntonly:

```

1 \LWR@ProvidesPackageDrop{syntonly}[2017/06/30]

2 \newif\ifsyntax@
3 \syntax@false
4
5 \newcommand*{\syntonly}{}

```

```
6
7 \@onlypreamble\syntaxonly
```

```
8 \def\nopages@{}
```

File 487 **lwarp-tabfigures.sty**

§ 599 Package **tabfigures**

tabfigures (*Pkg*) tabfigures is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{tabfigures}[2012/01/24]

File 488 **lwarp-tablefootnote.sty**

§ 600 Package **tablefootnote**

tablefootnote (*Pkg*) tablefootnote is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{tablefootnote}[2014/01/26]

This works because in HTML tables are no longer floats.

```
2 \LetLtxMacro\tablefootnote\footnote
```

File 489 **lwarp-tables.sty**

§ 601 Package **tables**

(Emulates or patches code by DONALD ARSENEAU.)

tables (*Pkg*) tables is emulated. \LWR@hline is used to handle the optional argument when tables is loaded.

for HTML output: 1 \LWR@ProvidesPackageDrop{tables}

```
2 \newdimen\tablineseq
3 \newdimen\arraylineseq
4 \newdimen\extraruleseq
```

File 490 **lwarp-tabularx.sty**

§ 602 Package **tabularx**

(Emulates or patches code by DAVID CARLISLE.)

`tabularx` (*Pkg*) `tabularx` is emulated by `lwarp`.

for HTML output: Discard all options for `lwarp-tabularx`:

```
1 \LWR@ProvidesPackageDrop{tabularx}[2016/02/03]
2 \RequirePackage{array}
```

`\tabularxcolumn` is ignored. All `X` columns will be `p` for now. The width is ignored.

```
3 \def\tabularxcolumn#1{p{#1}}
4 \newcolumnntype{X}{p{1in}}

5 \DeclareDocumentEnvironment{tabularx}{m o m}
6   {\tabular{#3}}
7   {\endtabular}
8
9 \DeclareDocumentEnvironment{tabularx*}{m o m}
10  {\tabular{#3}}
11  {\endtabular}
```

File 491 **lwarp-tabulary.sty**

§ 603 Package **tabulary**

(Emulates or patches code by DAVID CARLISLE.)

`tabulary` (*Pkg*) `tabulary` is emulated by `lwarp`.

for HTML output: Discard all options for `lwarp-tabulary`.

Column types `L`, `C`, `R`, and `J` are emulated by `lwarp` core code.

```
1 \LWR@ProvidesPackageDrop{tabulary}[2014/06/11]
2 \RequirePackage{array}
```

```
3 \NewDocumentEnvironment{tabulary}{m o m}
4 {\tabular{#3}}
5 {\endtabular}
6
7 \NewDocumentEnvironment{tabulary*}{m o m}
8 {\tabular{#3}}
9 {\endtabular}
```

```
10 \newcolumnntype{L}{L}
11 \newcolumnntype{C}{c}
12 \newcolumnntype{R}{r}
13 \newcolumnntype{J}{L}
```

```
14 \newdimen\tymin
15 \newdimen\tymax
16 \def\tyformat{}
```

File 492 **lwarp-tagpdf.sty**§ 604 Package **tagpdf**

tagpdf (*Pkg*) tagpdf adds alt text, for images only. (HTML only has alternate text for images.)

The overall strategy is that tagpdf is deactivated, and slightly patched to process alt tags. Also see tagpdf-base, tagpdf-mc-code-generic, and tagpdf-mc-code-lua, following tagpdf.

for HTML output:

```

1 \RequirePackage{tagpdf-base}% *88*
2 \LWR@ProvidesPackagePass{tagpdf}[2022-08-24]

3 \ExplSyntaxOn
4
5 \keys_define:nn { __tag / struct }
6 {
7   alt .code:n      = % Alt property
8   {
9     \str_set_convert:Noon
10%    \l__tag_tmpa_str
11%    { #1 }
12%    { default }
13%    { utf16/hex }
14%    \__tag_prop_gput:cnx
15%    { g__tag_struct_int_eval:n {\c@g__tag_struct_abs_int}_prop }
16%    { Alt }
17%    { <\l__tag_tmpa_str> }
18    \gdef\LWR@ThisAltText{\detokenize\expandafter{#1}}%    lwarp
19  },
20 }
21
22 \ExplSyntaxOff

```

The package is deactivated on load, and also each time \tagpdfsetup is used.

```
23 \LWR@tagpdf@deactivate
```

File 493 **lwarp-tagpdf-base.sty**§ 605 Package **tagpdf-base**

(Emulates or patches code by ULRIKE FISCHER.)

tagpdf-base (*Pkg*) tagpdf-base is patched for use by lwarp.

for HTML output:

```

1 \LWR@ProvidesPackagePass{tagpdf-base}[2022-08-24]

2 \ExplSyntaxOn
3
4 \newcommand*\LWR@tagpdf@deactivate{
5   \keys_set:nn { __tag / setup } {

```

```
6         activate/spaces = false ,
7         activate/mc = false ,
8         activate/tree = false ,
9         activate/struct = false ,
10        activate/struct-dest = false
11    }
12 }
13
14 \RenewDocumentCommand \tagpdfsetup { m }{
15     \keys_set:nn { __tag / setup } { #1 }
16     \LWR@tagpdf@deactivate
17 }
18
19 \cs_set_protected:Npn \__tag_whatsits: {}% *88* new
20
21 % *88*
22 %\RenewDocumentCommand \tagmcbegin { m }
23 % {
24 %%     \tag_mc_begin:n {#1}
25 %%     \keys_set:nn { __tag / mc } {#1}
26 % }
27
28 % *88*
29 %\RenewDocumentCommand \tagmcbegin { m }
30 % {
31 %%     \tag_mc_end:
32 %%     \ThisAltText{}%     lwarp
33 % }
34 \cs_set_protected:Nn \tag_mc_end: {% *8* probably not needed because whatsits disabled above
35     \__tag_whatsits:
36     \ThisAltText{}%     lwarp
37 }
38
39 %\RenewDocumentCommand \tagmcuse { m }
40 % {
41 %%     \tag_mc_use:n {#1}
42 % }
43
44 %\RenewDocumentCommand \tagstructbegin { m }
45 % {
46 %% *88*     \keys_set:nn { __tag / struct } { #1 }%     lwarp
47 %%     \tag_struct_begin:n {#1}% *88* was disabled
48 % }
49
50 %\RenewDocumentCommand \tagstructend { }
51 % {
52 %%     \tag_struct_end:
53 %%     \ThisAltText{}%     lwarp
54 % }
55 \cs_set_protected:Npn \tag_struct_end: {% *88* maybe not needed
56     \ThisAltText{}%     lwarp
57 }
58
59 %\RenewDocumentCommand \tagstructuse { m }
60 % {
61 %%     \tag_struct_use:n {#1}% *88* was disabled
62 % }
63
64 \ExplSyntaxOff
```

File 494 **lwarp-tagpdf-mc-code-generic.sty**

§ 606 Package **tagpdf-mc-code-generic**

(Emulates or patches code by ULRIKE FISCHER.)

tagpdf-mc-code-generic (*Pkg*) tagpdf-mc-code-generic is patched for use by lwarp.

```

for HTML output: 1 \LWR@ProvidesPackagePass{tagpdf-mc-code-generic}[2022-08-24]

2 \ExplSyntaxOn
3
4 % From tagpdf-mc-code-generic.sty:
5 \keys_define:nn { __tag / mc }
6 {
7   tag .code:n = % the name (H,P,Span) etc
8   {
9     \tl_set:Nc \l__tag_mc_key_tag_tl { #1 }
10    \tl_gset:Nc \g__tag_mc_key_tag_tl { #1 }
11  },
12  raw .code:n =
13  {
14    \tl_put_right:Nc \l__tag_mc_key_properties_tl { #1 }
15  },
16  alt .code:n      = % Alt property
17  {
18    \str_set_convert:Noon
19    \l__tag_tmpa_str
20    { #1 }
21    { default }
22    { utf16/hex }
23    \tl_put_right:Nn \l__tag_mc_key_properties_tl { /Alt~< }
24    \tl_put_right:No \l__tag_mc_key_properties_tl { \l__tag_tmpa_str~> }
25    \gdef\LWR@ThisAltText{\detokenize\expandafter{#1}}%      lwarp
26  },
27  alttxt .meta:n = {alt=#1},
28  actualtext .code:n      = % ActualText property
29  {
30    \tl_if_empty:oF{#1}
31    {
32      \str_set_convert:Noon
33      \l__tag_tmpa_str
34      { #1 }
35      { default }
36      { utf16/hex }
37      \tl_put_right:Nn \l__tag_mc_key_properties_tl { /ActualText~< }
38      \tl_put_right:No \l__tag_mc_key_properties_tl { \l__tag_tmpa_str~> }
39    }
40  },
41  label .tl_set:N      = \l__tag_mc_key_label_tl,
42  artifact .code:n     =
43  {
44    \exp_args:Nne
45    \keys_set:nn
46    { __tag / mc }
47    { __artifact-bool, __artifact-type=#1 }

```

```

48     },
49     artifact .default:n = {notype}
50 }
51
52 \ExplSyntaxOff

```

File 495 **lwarp-tagpdf-mc-code-lua.sty**

§ 607 Package **tagpdf-mc-code-lua**

(Emulates or patches code by ULRIKE FISCHER.)

tagpdf-mc-code-lua (*Pkg*) tagpdf-mc-code-lua is patched for use by lwarp.

for HTML output:

```

1 \LWR@ProvidesPackagePass{tagpdf-mc-code-lua}[2022-08-24]

2 \ExplSyntaxOn
3
4 \keys_define:nn { __tag / mc }
5 {
6   tag .code:n = %
7   {
8     \tl_set:Nc \l__tag_mc_key_tag_tl { #1 }
9     \tl_gset:Nc \g__tag_mc_key_tag_tl { #1 }
10    \lua_now:e
11    {
12      ltx.__tag.func.store_mc_data(\__tag_get_mc_abs_cnt:,"tag","#1")
13    }
14  },
15  raw .code:n =
16  {
17    \tl_put_right:Nc \l__tag_mc_key_properties_tl { #1 }
18    \lua_now:e
19    {
20      ltx.__tag.func.store_mc_data(\__tag_get_mc_abs_cnt:,"raw","#1")
21    }
22  },
23  alt .code:n = % Alt property
24  {
25    \str_set_convert:Nc \l__tag_tmpa_str
26    { #1 }
27    { default }
28    { utf16/hex }
29    \tl_put_right:Nc \l__tag_mc_key_properties_tl { /Alt~< }
30    \tl_put_right:Nc \l__tag_mc_key_properties_tl { \l__tag_tmpa_str>~ }
31    \lua_now:e
32    {
33      ltx.__tag.func.store_mc_data
34      (
35        \__tag_get_mc_abs_cnt:,"alt","/Alt~<\str_use:N \l__tag_tmpa_str>"
36      )
37    }
38  }
39  \gdef\LWR@ThisAltText{\detokenize\expandafter{#1}}% lwarp
40  },
41  alttext .meta:n = {alt=#1},
42  actualtext .code:n = % Alt property

```

```

43     {
44 %     \tl_if_empty:oF{#1}
45 %     {
46 %         \str_set_convert:Noon
47 %         \l__tag_tmpa_str
48 %         { #1 }
49 %         { default }
50 %         { utf16/hex }
51 %         \tl_put_right:Nn \l__tag_mc_key_properties_tl { /Alt~< }
52 %     \tl_put_right:No \l__tag_mc_key_properties_tl { \l__tag_tmpa_str>~ }
53 %     \lua_now:e
54 %     {
55 %         ltx.__tag.func.store_mc_data
56 %         (
57 %             \__tag_get_mc_abs_cnt:,
58 %             "actualtext",
59 %             "/ActualText~<\str_use:N \l__tag_tmpa_str>"
60 %         )
61 %     }
62 % }
63 },
64 label .code:n =
65 {
66 %     \tl_set:Nn\l__tag_mc_key_label_tl { #1 }
67 %     \lua_now:e
68 %     {
69 %         ltx.__tag.func.store_mc_data
70 %         (
71 %             \__tag_get_mc_abs_cnt:,"label", "#1"
72 %         )
73 %     }
74 },
75 __artifact-store .code:n =
76 {
77 %     \lua_now:e
78 %     {
79 %         ltx.__tag.func.store_mc_data
80 %         (
81 %             \__tag_get_mc_abs_cnt:,"artifact", "#1"
82 %         )
83 %     }
84 },
85 artifact .code:n =
86 {
87 %     \exp_args:Nne
88 %     \keys_set:nn
89 %     { __tag / mc }
90 %     { __artifact-bool, __artifact-type=#1, tag=Artifact }
91 %     \exp_args:Nne
92 %     \keys_set:nn
93 %     { __tag / mc }
94 %     { __artifact-store=\l__tag_mc_artifact_type_tl }
95 },
96 artifact .default:n = { notype }
97 }
98
99 \ExplSyntaxOff

```

File 496 **lwarp-tascmac.sty**

§ 608 Package **tascmac**

tascmac (*Pkg*) tascmac is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{tascmac}[2018/03/09]

```

2 \newenvironment*{boxnote}
3   {
4     \BlockClass[
5       padding: .5ex ;
6       border: 1px solid black ;
7       border-top: 1px dashed black ;
8     ]{boxnote}
9   }
10  {\endBlockClass}
11
12 \newenvironment*{screen}[1][[]
13   {
14     \BlockClass[
15       padding: .5ex ;
16       border: 1px solid gray ;
17       border-radius: 8pt
18     ]{boxnote}
19   }
20  {\endBlockClass}
21
22 \newenvironment*{itembox}[2][[]
23   {
24     \BlockClass[
25       padding: .5ex ;
26       border: 1px solid gray ;
27       border-radius: 8pt
28     ]{boxnote}
29     \InlineClass{itemboxtitle}{#2}\par
30   }
31  {\endBlockClass}
32
33 \newenvironment*{shadebox}
34   {
35     \BlockClass[
36       padding: .5ex ;
37       border: 1px solid black ;
38       box-shadow: 3px 3px 3px \#808080 ;
39     ]{boxnote}
40   }
41  {\endBlockClass}
42
43 \newcommand*{\mask}[2]{%
44   \InlineClass[background: lightgray]{mask}{#1}%
45 }
46
47 \newcommand*{\maskbox}[5]{%
48   \InlineClass[background: lightgray]{mask}{#5}%
49 }
```



```

50
51 \newcommand*\Maskbox}[6]{%
52   \InlineClass[
53     background: lightgray ;
54     border: #5 solid black
55   ]{mask}{#6}%
56 }
57
58 \newcommand*\keytop}[2][{}]{%
59   \InlineClass[%
60     padding: .2ex ;
61     border: 1px solid black ;
62     border-radius: .7ex ;
63   ]{keytop}{#2}%
64 }
65
66 \def\yen{\HTMLUnicode{00A5}}
67
68 \def\return{\HTMLUnicode{23CE}}
69
70 \def\Return{\HTMLUnicode{23CE}}
71
72 \def\ascii{ASCII Corporation}
73
74 \def\Ascii{ASCII Corporation}
75
76 \def\ASCII{ASCII Corporation}

```

File 497 **lwarp-tcolorbox.sty**

§ 609 Package **tcolorbox**

(Emulates or patches code by THOMAS F. STURM.)

tcolorbox (*Pkg*) tcolorbox is patched for use by lwarp.

See section 8.3.8 for limitations.

for HTML output: 1 \LWR@ProvidesPackagePass{tcolorbox}[2023/06/19]

```

2 \newbool{LWR@havetcblower}
3 \boolfalse{LWR@havetcblower}

```

Colors are supported via HTML styles:

```

4 \newcommand{\LWR@tcolorbox@findcolors}{%
5   \convertcolorspec{named}{tcbcolback}{HTML}\LWR@tcbcolback
6   \convertcolorspec{named}{tcbcolframe}{HTML}\LWR@tcbcolframe
7   \iftcb@titlefilled%
8     \convertcolorspec{named}{tcbcolbacktitle}{HTML}\LWR@tcbcolbacktitle
9   \else
10    \convertcolorspec{named}{tcbcolframe}{HTML}\LWR@tcbcolbacktitle
11  \fi
12  \convertcolorspec{named}{tcbcoltitle}{HTML}\LWR@tcbcoltitle
13  \convertcolorspec{named}{tcbcolupper}{HTML}\LWR@tcbcolupper
14  \convertcolorspec{named}{tcbcollower}{HTML}\LWR@tcbcollower
15 }

```

```

16
17 \newcommand*{\LWR@tcolorbox@titlecolorstyles}{%
18   border-top: 1px solid \LWR@origpound\LWR@tcbcolframe ;
19   border-bottom: 1px solid \LWR@origpound\LWR@tcbcolframe ;
20   background: \LWR@origpound\LWR@tcbcolbacktitle ;
21   color: \LWR@origpound\LWR@tcbcoltitle ;
22 }

```

The title is placed inside its own <div> of class tcolorboxtitle.

```

23 \newcommand*{\LWR@showtitle@[1]}{%
24   \begin{BlockClass}[
25     \LWR@tcolorbox@titlecolorstyles
26   ]{tcolorboxtitle}
27 %       \cmdKV@LWR@tcolorbox@title\par
28   \kvtcb@before@title#1\kvtcb@after@title
29   \end{BlockClass}
30 }

```

If no title, a non-breakable space is used to take some vertical space.

```

31 \newcommand*{\LWR@showtitle@[1]}{%
32   \iftcb@titlevisible
33   \LWR@showtitle@{#1}
34   \else
35   \LWR@showtitle@{~}
36   \fi
37 }
38
39 \newcommand*{\LWR@tcolorbox@dophantom}{%
40 %   \sbox\tcb@phantombox{\kvtcb@phantom}%
41 %   \iftcb@hasPhantom%
42 %     \box\tcb@phantombox%
43 %     \tcb@hasPhantomfalse%
44 %   \fi%
45   \kvtcb@phantom
46   \let\kvtcb@phantom\@empty%
47 }

```

The tcolorbox is placed inside an external <div> of class #1, which is tcolorbox or tcolorbox inlineminipage. The upper and lower parts are placed into their own internal <div>s of class tcolorboxupper and tcolorboxlower.

```

48 \newcommand*{\LWR@tcolorboxstart@[1]}{
49   \LWR@tcolorbox@findcolors
50   \begin{BlockClass}[
51     border: 1px solid \LWR@origpound\LWR@tcbcolframe ;
52     background: \LWR@origpound\LWR@tcbcolback ;
53   ]{#1}
54   \LWR@tcolorbox@dophantom%
55   \ifdefined\kvtcb@title}
56     {}
57     {
58       \LWR@showtitle{\kvtcb@title}
59     }
60   \begin{BlockClass}[
61     color: \LWR@origpound\LWR@tcbcolupper ;
62   ]{tcolorboxupper}
63 }

```

Floats enclose the tcolorbox.

```

64 \newcommand*\LWR@tcolorbox@dostartfloat}{%
65   \ifx\kvtcb@float\@empty%
66 %     \tcb@set@normal@unbroken@beforeafter%
67   \else%
68 %     \edef\tcb@before@unbroken{%
69 %       \noexpand\tcb@float@env@begin{tcbfloat}[\kvtcb@float]%
70 %       \noexpand\kvtcb@everyfloat%
71 %     }%
72 %     \let\tcb@after@unbroken=\tcb@float@env@end%
73 %     \tcb@float@env@begin{tcbfloat}[\kvtcb@float]
74 %     \noexpand\kvtcb@everyfloat
75   \fi%
76 }
77
78 \newcommand*\LWR@tcolorbox@doendfloat}{%
79   \ifx\kvtcb@float\@empty%
80   \else%
81     \tcb@float@env@end%
82   \fi%
83 }

```

Footnotes are handled via the main footnote mechanism, and pending notes are printed before and after each tcolorbox. Footnote numbering will not match the print output.

Not using `\VerifyCommand` here because tcolorbox changes meaning.

```

84 \renewenvironment{tcolorbox}[1][
85   {
86     \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
87     {
88       \PackageError{lwarp}
89         {%
90         Lwarp cannot process a tcolorbox inside a lateximage\MessageBreak
91         or SVG math.\MessageBreak
92         Enter 'H' for possible solutions%
93         }
94     }%
95     Use \protect\tcbox, \protect\tcboxmath, or
96     \protect\tcbhighmath\space instead.\MessageBreak%
97     (Inside math, you probably want to use these anyhow.)%
98   }
99   }{\relax}
100   \LWR@printpendingfootnotes
101   \tcb@layer@inc
102   \tcb@apply@box@options{#1}
103   \LWR@tcolorbox@dostartfloat%
104 %   \tcbset{title=#1}
105   \boolfalse{LWR@havetcblower}
106   \LWR@tcolorboxstart{tcolorbox}
107   \tcb@insert@before@upper%
108 }
109 {
110   \ifbool{LWR@havetcblower}{%
111     \tcb@insert@after@lower%
112   }{%
113     \tcb@insert@after@upper%
114   }%

```

```

115     \end{BlockClass}
116     \LWR@printpendingfootnotes
117     \tcb@layer@dec
118     \end{BlockClass}
119     \LWR@tcolorbox@doendfloat%
120 }

```

For the lower part, the upper part is finished then the lower is started.

`\tcblower` is `\let` to `\tcb@error@nolower` globally, which gives an error in print mode, but is redefined here for HTML.

```

121 \newcommand{\LWR@HTML@tcb@error@nolower}{%
122   \tcb@insert@after@upper%
123   \end{BlockClass}
124   \begin{BlockClass}[%
125     border-top: 1px dashed \LWR@origpound\LWR@tcbcolframe ;
126     color: \LWR@origpound\LWR@tcbcollower ;
127   ]{tcolorboxlower}
128   \tcb@insert@before@lower%
129 }
130 \LWR@formatted{tcb@error@nolower}

```

Starred and unstarred `\tcbline` are simple `\hrules`.

```

131 \AtBeginDocument{
132 \ifdef{\tcbline}{
133   \newcommand*\LWR@sub@tcbline}{%
134     \begin{BlockClass}{hrule}
135     \end{BlockClass}
136   }
137   \newcommand{\LWR@HTML@tcbline}{\@ifstar\LWR@sub@tcbline\LWR@sub@tcbline}
138   \LWR@formatted{tcbline}
139 }{}
140 }
141
142 \newcommand{\LWR@HTML@tcbbox}[2][]{
143   \LWR@printpendingfootnotes
144   \LWR@tcolorbox@doendfloat%
145   \begin{group}
146     \tcb@layer@inc
147     \tcb@apply@box@options{#1}
148 %     \tcbset{title=#1}
149     \boolfalse{LWR@havetcblower}
150     \LWR@tcolorboxstart{tcolorbox inlineminipage}
151     \tcb@insert@before@upper%
152     #2
153     \ifbool{LWR@havetcblower}{%
154       \tcb@insert@after@lower%
155     }{%
156       \tcb@insert@after@upper%
157     }%
158     \end{BlockClass}
159     \LWR@printpendingfootnotes
160     \end{BlockClass}
161     \tcb@layer@dec%
162   \endgroup%
163   \LWR@tcolorbox@doendfloat%
164   \global\booltrue{LWR@minipagethispar}%
165 }

```

```

166 \LWR@formatted{tcbbox}
167
168 \appto\LWR@restoreMathJaxformatting{%
169   \renewcommand{tcbbox}[2][\#2]%
170 }

```

Patches for the subtitle, which is placed inside a <div> of class tcolorboxsubtitle.

```

171 \xpatchcmd\tcbsubtitle}
172   {\begingroup}
173   {\begingroup\let\kvtcb@title\relax\begin{BlockClass}{tcolorboxsubtitle}}
174   {}
175   {\LWR@patcherror{tcolorbox}{tcbsubtitle}}
176
177 \xpatchcmd\tcbsubtitle}
178   {\endgroup}
179   {\end{BlockClass}\endgroup}
180   {}
181   {\LWR@patcherror{tcolorbox}{tcbsubtitleB}}

```

\tcboxfit is the same as \tcbbox.

```

182 \AtBeginDocument{
183   \ifdef\tcbboxfit}{%
184     \let\LWR@HTML@tcbboxfit\tcbbox%
185     \LWR@formatted{tcbboxfit}
186   }{}
187 }

```

\tcbtitle is patched to support the text font.

```

188 \VerifyCommand[lwarp][tcolorbox]{\tcbtitle}{8C821A2BDC95C579A4FA340365D9A5CB}
189
190 \LetLtxMacro\LWR@HTML@tcbtitle\tcbtitle
191 \xpatchcmd{\LWR@HTML@tcbtitle}
192   {\tcb@insert@before@title\tcbtitletext}
193   {\tcb@insert@before@title\LWR@textcurrentfont{\LWR@textcurrentcolor{\tcbtitletext}}}
194   {}
195   {\LWR@patcherror{tcolorbox}{\LWR@HTML@tcbtitle}}
196 \LWR@formatted{tcbtitle}

```

List-of:

```

197 \renewcommand*\l@tcolorbox[2]{\hypertocfloat{1}{tcolorbox}{lof}{\#1}{\#2}}

```

Theorem limitations. An error is printed if the document uses math, ams equation, etc. \tcbboxmath and \tcbhighmath are ignored for HTML.

```

198 \AtBeginDocument{
199 \pgfkeysifdefined{/tcb/libload/theorems}{
200
201   \def\LWR@HTML@tcb@hack@amsmath{%
202     \PackageError{lwarp}
203     {%
204       tcolorbox ``math'', ``ams equation'', and related\MessageBreak
205       are not supported.\MessageBreak
206       \protect\tcbboxmath\space and
207       \protect\tcbhighmath\space are emulated.\MessageBreak
208       Enter 'H' for possible solutions%

```

```

209         }
210         {%
211         Remove tcolorbox math-related options, and instead\MessageBreak
212         use the usual math environments inside each tcolorbox.%
213         }
214     }
215     \LWR@formatted{tcb@hack@amsmath}
216
217     % Cause an error if using math:
218     \tcbset{%
219         math upper/.style={before upper*=\tcb@hack@amsmath,after upper*=$},%
220         math lower/.style={before lower*=\tcb@hack@amsmath,after lower*=$},%
221     }
222
223     \appto\LWR@restoreorigformatting{%
224     \tcbset{%
225         math upper/.style={before upper*=$\displaystyle,after upper*=$},%
226         math lower/.style={before lower*=$\displaystyle,after lower*=$},%
227     }%
228     }
229
230     \newcommand{\LWR@HTML@tcbboxmath}[2][\#2]
231     \LWR@formatted{tcbboxmath}
232     \newcommand{\LWR@HTML@tcbhighmath}[2][\#2]
233     \LWR@formatted{tcbhighmath}
234     \appto\LWR@restoreMathJaxformatting{%
235         \renewcommand{\tcbboxmath}[2][\#2]%
236         \renewcommand{\tcbhighmath}[2][\#2]%
237     }
238 }{\}% theorems loaded
239 }{\}% AtBeginDocument

```

For MATHJAX:

```

240 \CustomizeMathJax{\newcommand{\tcbset}[1]{}}
241 \CustomizeMathJax{\newcommand{\tcbsetforeverylayer}[1]{}}
242 \CustomizeMathJax{\newcommand{\tcbbox}[2][\boxed{\text{\#2}}}}
243 \CustomizeMathJax{\newcommand{\tcbboxfit}[2][\boxed{\#2}}}}
244 \CustomizeMathJax{\newcommand{\tcblower}{}}
245 \CustomizeMathJax{\newcommand{\tcbline}{}}
246 \CustomizeMathJax{\newcommand{\tcbtitle}{}}
247 \CustomizeMathJax{\newcommand{\tcbsubtitle}[2][\mathrm{\#2}}}}
248 \CustomizeMathJax{\newcommand{\tcbboxmath}[2][\boxed{\#2}}}}
249 \CustomizeMathJax{\newcommand{\tcbhighmath}[2][\boxed{\#2}}}}


```

File 498 **lwarp-tensor.sty**

§ 610 Package **tensor**

(Emulates or patches code by PHILIP G. RATCLIFFE.)

tensor (*Pkg*) tensor is used as-is for SVG math, and is emulated for MATHJAX.

 **spacing** Compressed spacing and left justification are not possible with MATHJAX.

for HTML output: 1\LWR@ProvidesPackagePass{tensor}[2004/12/20]

For MATHJAX. Special handling is required to parse the superscript and subscript arguments.

When a superscript or subscript is seen, it is processed and then the remainder is processed recursively.

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\def\LWRtensorindicessthreesub#1#2{{_{#2}}\LWRtensorindicessthree}}
4 \CustomizeMathJax{\def\LWRtensorindicessthreesup#1#2{{^{#2}}\LWRtensorindicessthree}}
```

If not a superscript nor a subscript, processing stops.

```
5 \CustomizeMathJax{\newcommand{\LWRtensorindicessthreenotsup}{}}
```

Check ahead for a superscript or a subscript.

```
6 \CustomizeMathJax{\newcommand{\LWRtensorindicessthreenotsub}{
7   \ifnextchar ^ \LWRtensorindicessthreesup \LWRtensorindicessthreenotsup
8 }}
9
10 \CustomizeMathJax{\newcommand{\LWRtensorindicessthree}{
11   \ifnextchar _ \LWRtensorindicessthreesub \LWRtensorindicessthreenotsub
12 }}
```

Ignore star.

```
13 \CustomizeMathJax{\newcommand{\LWRtensorindicesstwo}{
14   \ifstar\LWRtensorindicessthree\LWRtensorindicessthree
15 }}
```

Remove the outer brace of the argument.

```
16 \CustomizeMathJax{\newcommand{\indices}[1]{\LWRtensorindicesstwo#1}}
```

Attempting to use `\vphantom` here does not work:

```
17 \CustomizeMathJax{\newcommand{\LWRtensortwo}[3][[]]{\indices{#1}{#2}\indices{#3}}}
```

Ignore star.

```
18 \CustomizeMathJax{\newcommand{\tensor}{\ifstar\LWRtensortwo\LWRtensortwo}}
```

In text mode, `\nuclide` is converted to an svg image.

```
19 \CustomizeMathJax{%
20   \newcommand{\LWRnuclidetwo}[2][[]]{%
21     {%
22       \vphantom{\mathrm{#2}}%
23       }^{\LWRtensornucleonnumber}_{#1}%
24       \mathrm{#2}%
25     }%
26   }%
27 }

28 \CustomizeMathJax{%
29   \newcommand{\nuclide}[1][[]]{%
30     \def\LWRtensornucleonnumber{#1}%
31     \LWRnuclidetwo%
```

```

32   }%
33 }
34 \end{warpMathJax}

```

File 499 **lwarp-termcal.sty**

§ 611 Package **termcal**

(Emulates or patches code by BILL MITCHELL.)

termcal (*Pkg*) termcal is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{termcal}% questionable date in the .sty file

Nullify the @ because everything is being done in a token list.

```

2 \xpatchcmd{\endcalendar}
3   {@{}}
4   {}
5   {}
6   {\LWR@patcherror{termcal}{endcalendar}}

```

Remove the hbox:

```

7 \xpatchcmd{\ca@doaday}
8   {\hbox to \hsize{\calprintdate\hfill\ifclassday\calprintclass\fi}}
9   {%
10    \calprintdate\hfill\ifclassday\calprintclass\fi%
11   }
12   {}
13   {\LWR@patcherror{termcal}{ca@doaday}}

```

Change each of two ampersands to call the lwarp tabular version:

```

14 \xpatchcmd{\calday}
15   {&}
16   {\LWR@tabularampersand}
17   {}
18   {\LWR@patcherror{termcal}{calday}}
19
20 \xpatchcmd{\calday}
21   {&}
22   {\LWR@tabularampersand}
23   {}
24   {\LWR@patcherror{termcal}{calday B}}

```

File 500 **lwarp-textarea.sty**

§ 612 Package **textarea**

(Emulates or patches code by ALEXANDER I. ROZHENKO.)

textarea (*Pkg*) textarea is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{textarea}[2005/12/26]


```

2 \newcommand\StartFromTextArea{}
3 \newcommand\StartFromHeaderArea{}
4 \newcommand*\RestoreTextArea{}
5 \newcommand*\ExpandTextArea[1][*]{}
6 \let\NCC@restoretextarea\empty

```

File 501 **lwarp-textcomp.sty**

§ 613 Package **textcomp**


(Emulates or patches code by FRANK MITTELBACH, ROBIN FAIRBAIRNS, WERNER LEMBERG.)

`textcomp` (*Pkg*) `textcomp` is patched for use by `lwarp`.

For `MATHJAX`, the `MATHJAX` package is used.

§ 613.1 Limitations

Some `textcomp` symbols do not have Unicode equivalents, and thus are not supported.

 **missing symbols** Many `textcomp` symbols are not supported by many system / browser fonts. In the CSS try referencing fonts which are more complete, but expect to see gaps in coverage.

§ 613.2 Package loading

for HTML output: `1 \LWR@ProvidesPackagePass{textcomp}[2017/04/05]`

§ 613.3 HTML symbols

For `HTML`, use `HTML` entities or direct Unicode, depending on the engine.

`\AtBeginDocument` improves support for `LuaLATEX` and `XqLATEX`.

§ 613.3.1 pdfL^AT_EX symbols

```

2 \AtBeginDocument{
3 \ifPDFTeX% pdflatex or dvi latex
4 \newcommand*\LWR@HTML@textdegree{\HTMLentity{deg}}
5 \newcommand*\LWR@HTML@textcelsius{\HTMLunicode{2103}}
6 \newcommand*\LWR@HTML@textohm{\HTMLunicode{2126}}
7 \newcommand*\LWR@HTML@textmu{\HTMLunicode{00B5}}
8 \newcommand*\LWR@HTML@textlquill{\HTMLunicode{2045}}
9 \newcommand*\LWR@HTML@textrquill{\HTMLunicode{2046}}
10 \newcommand*\LWR@HTML@textcircledP{\HTMLunicode{2117}}
11 \newcommand*\LWR@HTML@texttwelvewardash{\HTMLunicode{2014}}% emdash
12 \newcommand*\LWR@HTML@textthreequartersemdash{\HTMLunicode{2014}}% emdash
13 \newcommand*\LWR@HTML@textmho{\HTMLunicode{2127}}
14 \newcommand*\LWR@HTML@textnaira{\HTMLunicode{20A6}}
15 \newcommand*\LWR@HTML@textpeso{\HTMLunicode{20B1}}
16 \newcommand*\LWR@HTML@textrecipe{\HTMLunicode{211E}}
17 \newcommand*\LWR@HTML@textinterrobang{\HTMLunicode{203D}}
18 \newcommand*\LWR@HTML@textinterrobangdown{\HTMLunicode{2E18}}
19 \newcommand*\LWR@HTML@textperthousand{\HTMLunicode{2030}}

```

```

20 \newcommand*\LWR@HTML@textpertenthousand{\HTMLUnicode{2031}}
21 \newcommand*\LWR@HTML@textbaht{\HTMLUnicode{0E3F}}
22 \newcommand*\LWR@HTML@textdiscount}{\%}
23 \newcommand*\LWR@HTML@textservicemark{\HTMLUnicode{2120}}
24 \else

```

§ 613.3.2 X₃LaTeX and LuaLaTeX symbols

NOTE: Some of the following do not print well in the listing. Consult the .dtx or .sty file for the actual characters.

```

25 \newcommand*\LWR@HTML@textdegree}{°}
26 \newcommand*\LWR@HTML@textcelsius}{°C}
27 \newcommand*\LWR@HTML@textohm}{Ω}
28 \newcommand*\LWR@HTML@textmu}{μ}
29 \newcommand*\LWR@HTML@textlquill}{℄}
30 \newcommand*\LWR@HTML@textrquill}{℅}
31 \newcommand*\LWR@HTML@textcircledP}{Ⓟ}
32 \newcommand*\LWR@HTML@texttwelveudash}{–}% emdash
33 \newcommand*\LWR@HTML@textthreequartersemdash}{—}% emdash
34 \newcommand*\LWR@HTML@textmho}{℧}
35 \newcommand*\LWR@HTML@textnaira}{₦}
36 \newcommand*\LWR@HTML@textpeso}{₱}
37 \newcommand*\LWR@HTML@textrecipe}{℞}
38 \newcommand*\LWR@HTML@textinterrobang}{‡}
39 \newcommand*\LWR@HTML@textinterrobangdown}{‡↓}
40 \newcommand*\LWR@HTML@textperthousand}{‰}
41 \newcommand*\LWR@HTML@textpertenthousand}{‱}
42 \newcommand*\LWR@HTML@textbaht}{฿}
43 \newcommand*\LWR@HTML@textdiscount}{\%}
44 \newcommand*\LWR@HTML@textservicemark}{ℹ}
45 \fi
46
47 \LWR@formatted{textdegree}
48 \LWR@formatted{textcelsius}
49 \LWR@formatted{textohm}
50 \LWR@formatted{textmu}
51 \LWR@formatted{textlquill}
52 \LWR@formatted{textrquill}
53 \LWR@formatted{textcircledP}
54 \LWR@formatted{texttwelveudash}
55 \LWR@formatted{textthreequartersemdash}
56 \LWR@formatted{textmho}
57 \LWR@formatted{textnaira}
58 \LWR@formatted{textpeso}
59 \LWR@formatted{textrecipe}
60 \LWR@formatted{textinterrobang}
61 \LWR@formatted{textinterrobangdown}
62 \LWR@formatted{textperthousand}
63 \LWR@formatted{textpertenthousand}
64 \LWR@formatted{textbaht}
65 \LWR@formatted{textdiscount}
66 \LWR@formatted{textservicemark}

```

§ 613.4 **HTML diacritics**

For HTML, Unicode diacritical marks are used:

```
67 \newcommand*\LWR@HTML@capitalcedilla}[1]{#1\HTMLUnicode{0327}}
68 \newcommand*\LWR@HTML@capitalogonek}[1]{#1\HTMLUnicode{0328}}
69 \newcommand*\LWR@HTML@capitalgrave}[1]{#1\HTMLUnicode{0300}}
70 \newcommand*\LWR@HTML@capitalacute}[1]{#1\HTMLUnicode{0301}}
71 \newcommand*\LWR@HTML@capitalcircumflex}[1]{#1\HTMLUnicode{0302}}
72 \newcommand*\LWR@HTML@capitaltilde}[1]{#1\HTMLUnicode{0303}}
73 \newcommand*\LWR@HTML@capitaldieresis}[1]{#1\HTMLUnicode{0308}}
74 \newcommand*\LWR@HTML@capitalhungarumlaut}[1]{#1\HTMLUnicode{30B}}
75 \newcommand*\LWR@HTML@capitalring}[1]{#1\HTMLUnicode{30A}}
76 \newcommand*\LWR@HTML@capitalcaron}[1]{#1\HTMLUnicode{30C}}
77 \newcommand*\LWR@HTML@capitalbreve}[1]{#1\HTMLUnicode{306}}
78 \newcommand*\LWR@HTML@capitalmacron}[1]{#1\HTMLUnicode{304}}
79 \newcommand*\LWR@HTML@capitaldotaccent}[1]{#1\HTMLUnicode{307}}
```

`\textcircled` becomes a span with a rounded border. `\providecommand` is used to avoid conflict with `xunicode`.

```
80 \providecommand*\LWR@HTML@textcircled}[1]{%
81   \InlineClass[border: 1px solid \LWR@currenttextcolor]{textcircled}{#1}%
82 }
83
84 \LWR@formatted{capitalcedilla}
85 \LWR@formatted{capitalogonek}
86 \LWR@formatted{capitalgrave}
87 \LWR@formatted{capitalacute}
88 \LWR@formatted{capitalcircumflex}
89 \LWR@formatted{capitaltilde}
90 \LWR@formatted{capitaldieresis}
91 \LWR@formatted{capitalhungarumlaut}
92 \LWR@formatted{capitalring}
93 \LWR@formatted{capitalcaron}
94 \LWR@formatted{capitalbreve}
95 \LWR@formatted{capitalmacron}
96 \LWR@formatted{capitaldotaccent}
97
98 \LWR@formatted{textcircled}
```

Nullify `textcomp` macros when generating filenames:

```
99 \FilenameNullify{%
100   \renewcommand*\textdegree}{}%
101   \renewcommand*\textcelsius}{}%
102   \renewcommand*\textohm}{}%
103   \renewcommand*\textmu}{}%
104   \renewcommand*\textlquill}{}%
105   \renewcommand*\textrquill}{}%
106   \renewcommand*\textcircledP}{}%
107   \renewcommand*\texttwelveudash}{}%
108   \renewcommand*\textthreequartersemdash}{}%
109   \renewcommand*\textmho}{}%
110   \renewcommand*\textnaira}{}%
111   \renewcommand*\textpeso}{}%
112   \renewcommand*\textrecipe}{}%
113   \renewcommand*\textinterrobang}{}%
114   \renewcommand*\textinterrobangdown}{}%
115   \renewcommand*\textperthousand}{}%
```

```

116 \renewcommand*\textpertenthousand{}%
117 \renewcommand*\textbaht{}%
118 \renewcommand*\textdiscount{}%
119 \renewcommand*\textservicemark{}%
120 \renewcommand*\textcircled}[1]{#1}%
121 \renewcommand*\capitalcedilla}[1]{#1}%
122 \renewcommand*\capitalogonek}[1]{#1}%
123 \renewcommand*\capitalgrave}[1]{#1}%
124 \renewcommand*\capitalacute}[1]{#1}%
125 \renewcommand*\capitalcircumflex}[1]{#1}%
126 \renewcommand*\capitaltilde}[1]{#1}%
127 \renewcommand*\capitaldieresis}[1]{#1}%
128 \renewcommand*\capitalhungarumlaut}[1]{#1}%
129 \renewcommand*\capitalring}[1]{#1}%
130 \renewcommand*\capitalcaron}[1]{#1}%
131 \renewcommand*\capitalbreve}[1]{#1}%
132 \renewcommand*\capitalmacron}[1]{#1}%
133 \renewcommand*\capitaldotaccent}[1]{#1}%
134 }% FilenameNullify
135
136 }% AtBeginDocument

```

For MATHJAX:

```
137 \CustomizeMathJax{\require{textcomp}}
```

File 502 **lwarp-textfit.sty**

§ 614 Package **textfit**

`textfit (Pkg)` textfit is emulated.

Text is placed into a `` of class `textfit`. Sizes are approximated, and also limited by browser min/max font-size settings.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{textfit}[1994/04/15]

2 \newsavebox{\LWR@textfitbox}
3
4 \newcommand*\LWR@textfitscale}[2]{%
5 \setlength{\LWR@templengthone}{#1}%
6 \setlength{\LWR@templengthtwo}{%
7   1em*\ratio{\LWR@templengthone}{\LWR@templengthtwo}%
8 }%
9 \InlineClass[font-size:\LWR@printlength{\LWR@templengthone}]{textfit}{#2}%
10 }
11
12 \newcommand*\scaletowidth}[2]{%
13 \sbox{\LWR@textfitbox}{#2}%
14 \settowidth{\LWR@templengthtwo}{\usebox{\LWR@textfitbox}}%
15 \LWR@textfitscale{#1}{#2}%
16 }
17
18 \newcommand*\scaletoheight}[2]{%
19 \sbox{\LWR@textfitbox}{#2}%
20 \settoheight{\LWR@templengthtwo}{\usebox{\LWR@textfitbox}}%
21 \LWR@textfitscale{#1}{#2}%

```

22 }

File 503 **lwarp-textpos.sty**

§ 615 Package **textpos**

(Emulates or patches code by NORMAN GRAY.)

textpos (*Pkg*) textpos is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{textpos}[2020/09/26]

```

2 \NewDocumentEnvironment{textblock}{m o r()}{}{}
3 \NewDocumentEnvironment{textblock*}{m o r()}{}{}
4 \newcommand*{\TPGrid}[3]{}
5 \def\TPShowGrid{\@ifstar{\@TPShowGrid}{\@TPShowGrid}}
6 \def\@TPShowGrid#1#2{}
7 \NewDocumentCommand{\TPMargin}{s o}{}
8 \newcommand*{\textblockcolour}[1]{}
9 \newcommand*{\textblockrulecolour}[1]{}
10 \newcommand*{\textblockcolor}[1]{}
11 \newcommand*{\textblockrulecolor}[1]{}
12 \newcommand*{\tekstblokkulur}[1]{}
13 \newcommand*{\tekstblokrulekulur}[1]{}
14 \newlength{\TPHorizModule}
15 \newlength{\TPVertModule}
16 \newlength{\TPboxrulesize}
17 \newcommand{\textblocklabel}[1]{}
18 \newcommand*{\showtextsize}{}
19 \newcommand{\textblockorigin}[2]{}
20 \newcommand*{\TPoptions}[1]{}
21 \newcommand*{\TPreferencePosition}[1]{}

```

File 504 **lwarp-theorem.sty**

§ 616 Package **theorem**

(Emulates or patches code by FRANK MITTELBACH.)

theorem (*Pkg*) theorem is patched for use by lwarp.

Table 21: Theorem package — css styling of theorems and proofs

Theorem: <div> of class theorembody<theoremstyle>

Theorem Header: of class theoremheader

where <theoremstyle> is plain, break, etc.

for HTML output: 1 \LWR@ProvidesPackagePass{theorem}[2023/07/05]

§ 616.1 Remembering the theorem style

Storage for the style being used for new theorems:

```
2 \newcommand{\LWR@newtheoremstyle}{plain}
```

Patched to remember the style being used for new theorems:

```
3 \VerifyCommand[lwarp][theorem]{\theoremstyle}{B805673118A2EA934449A9B7D25A5D33}
4
5 \gdef\theoremstyle#1{%
6   \ifundefined{th@#1}{\@warning
7     {Unknown theoremstyle `#1'. Using `plain'}%
8     \theoremstyle{plain}%
9     \renewcommand{\LWR@newtheoremstyle}{plain}% lwarp
10  }%
11  {%
12    \theoremstyle{#1}%
13    \renewcommand{\LWR@newtheoremstyle}{#1}% lwarp
14  }%
15  \begingroup
16    \csname th@the\theoremstyle \endcsname
17  \endgroup}
```

Patched to remember the style for this theorem type, and set it later when the environment is started.

```
18 \VerifyCommand[lwarp][theorem]{\xthm}{D6164703589C684059381DB798F89158}
19
20 \gdef\xthm#1#2[#3]{%
21   \expandafter\ifdefinable\csname #1\endcsname
22   {%
23     \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
24     \@definecounter{#1}\newctr{#1}[#3]%
25     \expandafter\xdef\csname the#1\endcsname
26       {\expandafter \noexpand \csname the#3\endcsname
27         \thmcountersep \thmcounter{#1}}}%
28   \def\@tempa{\global\@namedef{#1}}%
29   \expandafter \@tempa \expandafter{%
30     \csname th@the \theoremstyle
31       \expandafter \endcsname \the \theorem@bodyfont
32     \thm{#1}{#2}}%
33   \global \expandafter \let \csname end#1\endcsname \@endtheorem
34   \AtBeginEnvironment{#1}{\edef\LWR@thmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
35   }}
36
37 \VerifyCommand[lwarp][theorem]{\ynthm}{C5A12EBEFD5C5628C65B16A01DFB4}
38
39 \gdef\ynthm#1#2{%
40   \expandafter\ifdefinable\csname #1\endcsname
41   {
42     \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
43     \@definecounter{#1}%
44     \expandafter\xdef\csname the#1\endcsname{\thmcounter{#1}}%
45     \def\@tempa{\global\@namedef{#1}}\expandafter \@tempa
46     \expandafter{\csname th@the \theoremstyle \expandafter
47       \endcsname \the\theorem@bodyfont \thm{#1}{#2}}%
48     \global \expandafter \let \csname end#1\endcsname \@endtheorem
49     \AtBeginEnvironment{#1}{\edef\LWR@thmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
50   }}
```

```

51
52 \VerifyCommand[lwarp][theorem]{\@othm}{93B7CCDCEFD36BEEF31477D6D390AC3}
53
54 \gdef\@othm#1[#2]#3{%
55   \expandafter\ifx\csname c@#2\endcsname\relax
56   \@nocounterr{#2}%
57   \else
58   \expandafter\ifdefinable\csname #1\endcsname
59   {
60   \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
61   \expandafter \xdef \csname the#1\endcsname
62     {\expandafter \noexpand \csname the#2\endcsname}%
63   \def\@tempa{\global\@namedef{#1}}\expandafter \@tempa
64   \expandafter{\csname th@the \theoremstyle \expandafter
65     \endcsname \the\theorem@bodyfont \@thm{#2}{#3}}%
66   \global \expandafter \let \csname end#1\endcsname \@endtheorem
67   \AtBeginEnvironment{#1}{\edef\LWR@thmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
68   }%
69   \fi}

```

§ 616.2 css patches

The following are patched for css.

These were in individual files thp.sty for plain, thmb.sty for margin break, etc. They are gathered together here.

Each theorem is encased in a BlockClass environment of class theorembody<style>.

Each header is encased in an \InlineClass of class theoremheader.

```

70 \gdef\th@plain{%
71   \def\@begintheorem##1##2{%
72     \item[
73       \InlineClass{theoremheader}{##1\ ##2}
74     ]
75   }%
76 \def\@opargbegintheorem##1##2##3{%
77   \item[
78     \InlineClass{theoremheader}{##1\ ##2\ (##3)}
79   ]
80   }
81 }
82
83 \gdef\th@break{%
84   \def\@begintheorem##1##2{%
85     \item[
86       \InlineClass{theoremheader}{##1\ ##2}\newline%
87     ]
88   }%
89 \def\@opargbegintheorem##1##2##3{%
90   \item[
91     \InlineClass{theoremheader}{##1\ ##2\ (##3)}\newline
92   ]
93   }
94 }
95
96 \gdef\th@marginbreak{%
97   \def\@begintheorem##1##2{
98     \item[

```

```

99     \InlineClass{theoremheader}{##2 \quad ##1}\newline
100   ]
101   }%
102 \def\@opargbegintheorem##1##2##3{%
103   \item[
104     \InlineClass{theoremheader}{##2 \quad ##1\ %
105     (##3)}\newline
106   ]
107   }
108 }
109
110 \gdef\th@changebreak{%
111   \def\@begintheorem##1##2{
112     \item[
113       \InlineClass{theoremheader}{##2\ ##1}\newline
114     ]
115     }%
116 \def\@opargbegintheorem##1##2##3{%
117   \item[
118     \InlineClass{theoremheader}{ ##2\ ##1\ %
119     (##3)}\newline
120   ]
121   }
122 }
123
124 \gdef\th@change{%
125   \def\@begintheorem##1##2{
126     \item[
127       \InlineClass{theoremheader}{##2\ ##1}
128     ]
129     }%
130 \def\@opargbegintheorem##1##2##3{%
131   \item[
132     \InlineClass{theoremheader}{##2\ ##1\ (##3)}
133   ]
134   }
135 }
136
137 \gdef\th@margin{%
138   \def\@begintheorem##1##2{
139     \item[
140       \InlineClass{theoremheader}{##2 \quad ##1}
141     ]
142     }%
143 \def\@opargbegintheorem##1##2##3{%
144   \item[
145     \InlineClass{theoremheader}{##2 \quad ##1\ (##3)}
146   ]
147   }
148 }

```

Patched for css:

```

149 \VerifyCommand[lwarp][theorem]{\@thm}{4632915C52ABB4DB5D462AA58A80BAF2}
150
151 \gdef\@thm#1#2{\refstepcounter{#1}%
152 \LWR@forcenewpage% lwarp
153
154 \LWR@printpendingfootnotes%
155
156 lwarp

```



```

154 \BlockClass{theorembody\LWR@thisthmstyle}% lwarp
155 \trivlist
156 \@topsep \theorempreskipamount % used by first \item
157 \@topsepadd \theorempostskipamount % used by \@endparenv
158 \ifnextchar [%
159 {\@ythm{#1}{#2}}%
160 {\@begintheorem{#2}{\csname the#1\endcsname}\ignorespaces}}
161
162 \VerifyCommand[lwarp][theorem]{\endtheorem}
163 {9798301819F2CA2E46673F8937BABE99}
164 \gdef\@endtheorem{%
165 \endtrivlist

166 \LWR@printpendingfootnotes% lwarp

167 \endBlockClass
168 }

```

File 505 **lwarp-thinsp.sty**

§617 Package **thinsp**

thinsp (*Pkg*) thinsp is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{thinsp}[2016/10/02]

```

2 \AtBeginDocument{
3 \let\thinthinspace\relax% defined by some packages
4 \newcommand*{\thinthinspace}{\thinspace}
5 }
6
7 \newcommand*{\stretchthinspace}{\thinspace}
8 \newcommand*{\stretchthinthinspace}{\thinthinspace}
9 \newcommand*{\stretchnegthinspace}{\negthinspace}

```

File 506 **lwarp-thm-listof.sty**

§618 Package **thm-listof**

(Emulates or patches code by ULRICH M. SCHWARZ, YUKAI CHOU.)

thm-listof (*Pkg*) thm-listof is part of thmtools, and is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{thm-listof}[2019/12/22]

For font control, see the generated HTML and use CSS per amsthm or ntheorem.

Other thm-* package may be loaded by thm-listof.

```

2 \IfPackageAtLeastTF{thm-listof}{2020/08/01}{% v0.72
3 \VerifyCommand[lwarp][thm-listof]{\thmtlo@newentry}{AF7BF291DC508ED71058DAF745F9C018}
4 \def\thmtlo@newentry{%
5 \csdef{l@thmt@envname}##1##2{\hypertocfloat{1}{figure}{lof}{##1}{##2}}%

```

```

6 }
7 }{% earlier than v0.72
8 \xpatchcmd{\listoftheorems}
9   {%
10     \xa\protected@edef\csname l@thmt@envname\endcsname{%
11       \@x@dottedtocline{1}{1.5em}{\@x\thmt@listnumwidth}%
12     }%
13   }
14   {%
15     \csdef{l@thmt@envname}##1##2{\hypertocfloat{1}{figure}{lof}{##1}{##2}}%
16   }
17   {}
18   {\LWR@patcherror{thm-listof}{listoftheorems}}
19
20 \xpatchcmd{thmt@mklistcmd}
21   {%
22     \xa\protected@edef\csname l@thmt@envname\endcsname{%
23       \@x@dottedtocline{1}{1.5em}{\@x\thmt@listnumwidth}%
24     }%
25   }
26   {%
27     \csdef{l@thmt@envname}##1##2{\hypertocfloat{1}{figure}{lof}{##1}{##2}}%
28   }
29   {}
30   {\LWR@patcherror{thm-listof}{thmt@mklistcmd}}
31 }

```

File 507 **lwarp-thm-restate.sty**

§ 619 Package **thm-restate**

(Emulates or patches code by ULRICH M. SCHWARZ.)

thm-restate (*Pkg*) thm-restate is part of thmtools, and is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{thm-restate}[2020/08/01]

```

2 \VerifyCommand[lwarp][thm-restate]{\thmt@restatable}{C912622BBA051C5F22994335F66976AB}
3
4 \xpatchcmd{thmt@restatable}
5   {\@ifstar}
6   {\edef\LWR@thisthmstyle{#2}\@ifstar}
7   {}
8   {\LWR@patcherror{thm-restate}{thmt@restatable}}

```

File 508 **lwarp-thmbox.sty**

§ 620 Package **thmbox**

(Emulates or patches code by EMMANUEL BEFFARA.)

thmbox (*Pkg*) thmbox is emulated for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{thmbox}[2005/04/24]

```

2 \renewenvironment{thmbox}[2][[]%
3   {%
4     \begin{BlockClass}{thmbox}
5     \begin{BlockClass}{thmboxtitle}
6     #2
7     \end{BlockClass}
8   }
9   {\end{BlockClass}}
10
11 \renewenvironment{proof}[1][[]
12   {%
13     \begin{BlockClass}{thmboxproof}%
14     \InlineClass{thmboxproofname}{\proofname\ #1\unskip\,:}
15   }
16   {%
17     \quad\HTMLUnicode{220E}
18     \end{BlockClass}
19   }
20
21 \renewenvironment{example}[1][\examplename]%
22   {%
23     \begin{BlockClass}{thmboxexample}%
24     \InlineClass{thmboxexamplename}{#1\,:}
25   }
26   {\end{BlockClass}}
27
28 \renewenvironment{leftbar}[1][[]%
29   {\begin{BlockClass}{thmboxleftbar}}
30   {\end{BlockClass}}

```

File 509 **lwarp-thmtools.sty**

§ 621 Package **thmtools**

(Emulates or patches code by ULRICH M. SCHWARZ.)

thmtools (*Pkg*) thmtools is patched for use by lwarp.

Also see thm-listof and thm-restate.

for HTML output: 1 \LWR@ProvidesPackagePass{thmtools}[2020/08/01]

The following patches either thm-amsthm or thm-ntheorem.

```

2 \def\thmt@headstyle@margin{%
3   \InlineClass{amsthmnumbertheorem}{\NUMBER}
4   \
5   \InlineClass{amsthmnametheorem}{\NAME}
6   \InlineClass{amsthmnotetheorem}{\NOTE}
7 }
8
9 \let\thmt@headstyle@swapnumber\thmt@headstyle@margin

```

File 510 **lwarp-threadcol.sty**

§ 622 Package **threadcol**

threadcol (*Pkg*) threadcol is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{threadcol}[2013/01/06]

2 \newcommand{\setthreadname}[1]{}

File 511 **lwarp-threeparttable.sty**

§ 623 Package **threeparttable**

(Emulates or patches code by DONALD ARSENEAU.)

threeparttable (*Pkg*) threeparttable is emulated.

Table note are contained inside a css <div> of class tnotes. If enumitem is used, the note item labels are also individually highlighted with an additional css of class tnoteitemheader, otherwise they are plain text.

for HTML output: 1 \LWR@ProvidesPackageDrop{threeparttable}[2003/06/13]

Env threeparttable

[<*alignment*>]

2 \newenvironment*{threeparttable}[1][b]
 3 {\def\@captive{table}}
 4 {}

Env tablenotes

[<*options*>]

5 \newenvironment*{tablenotes}[1][
 6 {%
 7 \LWR@forcenewpage
 8 \BlockClass{tnotes}%
 9 \description%
 10 }
 11 {%
 12 \enddescription%
 13 \endBlockClass%
 14 }

\tnote

{<*text*>}

15 \newcommand{\tnote}[1]{\LWR@htmlspan{sup}{#1}}

Env measuredfigure

[<*alignment*>]

16 \newenvironment*{measuredfigure}[1][t]

```

17   {\def\@capttype{figure}}
18   {}

```

File 512 **lwarp-threeparttablex.sty**

§624 Package **threeparttablex**

threeparttablex (*Pkg*) threeparttablex is patched for use by lwarp.

threeparttablex is used with longtable and booktabs as follows:

```

\begin{longtable}{ [column specifiers] }
[ . . . ] \endfirsthead % or \endhead, for print and HTML
\warpprintonly{ % not used in HTML
[ . . . ] \endhead % or \endfirsthead
[ . . . ] \endfoot
\bottomrule \insertTableNotes \endlastfoot
}
. . . table contents . . .
\warpHTMLonly{ % HTML last footer
\bottomrule
\UseMinipageWidths % optional
\insertTableNotes
\endlastfoot
}
\end{longtable}

```

table width The table notes are created using a `\multicolumn`. By default the width is not specified to the browser, so long table notes can cause the table to be spread out horizontally. For HTML output, `lwarp` guesses the width of the table depending on the number of columns, then restricts its guess to a min/max range. To use this guess for the width of the table notes, use `\UseMinipageWidths` before `\insertTableNotes`. The width is then specified, and in many cases the result is an improvement in overall table layout.

for HTML output: `1 \LWR@ProvidesPackagePass{threeparttablex}[2013/07/23]`

The width is guessed depending on the number of columns, then limited to a min/max.

```

2 \renewcommand\insertTableNotes{%
3   \setlength{\LWR@templengthone}{.375in*\value{LWR@tabletotalLaTeXcols}}%
4   \setlength{\LWR@templengthone}{\minof{\textwidth}{\LWR@templengthone}}%
5   \setlength{\LWR@templengthone}{\maxof{2.5in}{\LWR@templengthone}}%
6   \multicolumn{\value{LWR@tabletotalLaTeXcols}}{c}{%
7     \parbox{\LWR@templengthone}{%
8       \begin{tablenotes}[\TPTL@optarg]%
9         \TPTL@font%
10        \TPTL@body%
11        \end{tablenotes}%
12      }%
13   }%
14 }

15 \providecommand{\TPTL@tnotex}{}
16 \renewcommand{\TPTL@tnotex}[2]{\tnote{\nameref{#2}}}

```

File 513 **lwarp-thumb.sty**

§ 625 Package **thumb**

thumb (*Pkg*) thumb is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{thumb}[1997/12/24]

```
2 \newcommand*\Overviewpage{}
3 \newlength{\thumbheight}
4 \newlength{\thumbwidth}
```

File 514 **lwarp-thumbs.sty**

§ 626 Package **thumbs**

thumbs (*Pkg*) thumbs is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{thumbs}[2014/03/09]


```
2 \newcommand{\addthumb}[4]{}
3 \newcommand{\addtitlethumb}[5]{}
4 \newcommand{\stopthumb}{}
5 \newcommand{\continuethumb}{}
6 \newcommand{\thumbsoverview}[1]{}
7 \newcommand{\thumbsoverviewback}[1]{}
8 \newcommand{\thumbsoverviewverso}[1]{}
9 \newcommand{\thumbsoverviewdouble}[1]{}
10 \newcommand{\thumbnewcolumn}{}
11 \newcommand{\addthumbsoverviewtocontents}[2]{}
12 \newcommand{\thumbsnophantom}{}
```

File 515 **lwarp-tikz.sty**

§ 627 Package **tikz**

(Emulates or patches code by TILL TANTAU.)

tikz (*Pkg*) tikz is supported.

 **displaymath and matrices** If using display math with `tikzpicture` or `\tikz`, along with matrices with the `&` character, the document must be modified as follows:

```
\usepackage{tikz}
\tikzset{every picture/.style={ampersand replacement=\&}}
```

and each instance of `&` in the `tikz` expression must be replaced with `\&`.

Accept all options for `lwarp-tikz`:

```
1 \LWR@ProvidesPackagePass{tikz}[2015/08/07]
```

catcodes `lwarp` changes the catcode of `$` for its own use. The `TikZ babel` library temporarily changes catcodes back to normal for `TikZ`'s use. `tikz v3.0.0` introduced the `babel` library which handles catcode changes. For older versions, `lwarp` must change `$`'s catcode itself.

Also see:

<https://tex.stackexchange.com/questions/16199/test-if-a-package-or-package-option-is-loaded>

```
2 \newbool{LWR@tikzbabel}
3
4 \IfPackageAtLeastTF{tikz}{2013/12/20}% Test for Tikz version v3.0.0
5 {\usetikzlibrary{babel}\booltrue{LWR@tikzbabel}}
6 {\boolfalse{LWR@tikzbabel}}
```

Env `pgfpicture`

The `\pgfpicture` environment is enclosed inside a `\lateximage`. Enclose the low-level `\pgfpicture` in a `lateximage`. This is also used by the higher-level `\tikz` and `tikzpicture`.

```
7 \preto\pgfpicture{%
8   \begin{lateximage}[-tikz-~\PackageDiagramAltText]?%
9   \ifbool{LWR@tikzbabel}% Test for Tikz version v3.0.0
10  {}%
11  {\catcode`\$=3}% dollar sign is math shift
12 }
13
14 \appto\endpgfpicture{\end{lateximage}}
```

`TikZ` is placed inside an `svg` image, so use the original meanings of the following:

```
15 \LetLtxMacro\pgfutil@minipage\LWR@print@minipage
16 \let\pgfutil@endminipage\endLWR@print@minipage
17
18 \let\pgfutil@raggedleft\LWR@print@raggedleft
19 \let\pgfutil@raggedright\LWR@print@raggedright

20 \def\pgfutil@font@tiny{\LWR@print@tiny}
21 \def\pgfutil@font@scriptsize{\LWR@print@scriptsize}
22 \def\pgfutil@font@footnotesize{\LWR@print@footnotesize}
23 \def\pgfutil@font@small{\LWR@print@small}
24 \def\pgfutil@font@normalsize{\LWR@print@normalsize}
25 \def\pgfutil@font@large{\LWR@print@large}
26 \def\pgfutil@font@Large{\LWR@print@Large}
27 \def\pgfutil@font@huge{\LWR@print@huge}
28 \def\pgfutil@font@Huge{\LWR@print@Huge}
29
30 \def\pgfutil@font@itshape{\LWR@print@itshape}
31 \def\pgfutil@font@bfseries{\LWR@print@bfseries}
32
33 \def\pgfutil@font@normalfont{\LWR@print@normalfont}
```

File 516 **lwarp-tikz-imagelabels.sty**

§ 628 Package **tikz-imagelabels**

(Emulates or patches code by TOBIAS PLÜSS.)

tikz-imagelabels (*Pkg*) tikz-imagelabels is patched for use by lwarp.

for HTML output:

```

1 \LWR@ProvidesPackagePass{tikz-imagelabels}[2019/06/27]
2 \BeforeBeginEnvironment{annotationimage}{%
3   \begin{lateximage}[-tikz-imagelabels~\PackageDiagramAltText]?%
4 }
5
6 \AfterEndEnvironment{annotationimage}{\end{lateximage}}
```

File 517 **lwarp-titles.sty**

§ 629 Package **titles**

(Emulates or patches code by JAVIER BEZOS.)

titles (*Pkg*) titles is loaded and used by lwarp during HTML output. All user options and macros are ignored and disabled.

Discard all options for lwarp-titles:

for HTML output:

```

1 \LWR@ProvidesPackageDrop{titles}[2016/03/15]

\pagestyle and \thispagestyle are already disabled in the lwarp code.
```

```

\newpagestyle      {<name> [<style>] {<commands>}}
2 \NewDocumentCommand{\newpagestyle}{m o m}{}

```

```

\renewpagestyle   {<name> [<style>] {<commands>}}
3 \NewDocumentCommand{\renewpagestyle}{m o m}{}

```

```

\sethead          [<el>] [<ec>] [<er>] {<ol>} {<oc>} {<or>}
4 \NewDocumentCommand{\sethead}{o o o m m m}{}

```

```

\setfoot          [<el>] [<ec>] [<er>] {<ol>} {<oc>} {<or>}
5 \NewDocumentCommand{\setfoot}{o o o m m m}{}

```

```

\settitledmarks   * {<names>}
6 \NewDocumentCommand{\settitledmarks}{s m}{}

```

<code>\headrule</code>	<code>7 \newcommand*\headrule{}</code>
<code>\footrule</code>	<code>8 \newcommand*\footrule{}</code>
<code>\setheadrule</code>	<code>{\langle length \rangle}</code> <code>9 \newcommand*\setheadrule[1]{}</code>
<code>\setfootrule</code>	<code>{\langle length \rangle}</code> <code>10 \newcommand*\setfootrule[1]{}</code>
<code>\makeheadrule</code>	<code>11 \newcommand*\makeheadrule{}</code>
<code>\makefootrule</code>	<code>12 \newcommand*\makefootrule{}</code>
<code>\setmarkboth</code>	<code>{\langle code \rangle}</code> <code>13 \newcommand{\setmarkboth}[1]{}</code>
<code>\widenhead</code>	<code>14 \NewDocumentCommand{\widenhead}{s o o m m}{}</code>
<code>\bottitlemarks</code>	<code>15 \newcommand*\bottitlemarks{}</code>
<code>\toptitlemarks</code>	<code>16 \newcommand*\toptitlemarks{}</code>
<code>\firsttitlemarks</code>	<code>17 \newcommand*\firsttitlemarks{}</code>
<code>\nexttitlemarks</code>	<code>18 \newcommand*\nexttoptitlemarks{}</code>
<code>\outertitlemarks</code>	<code>19 \newcommand*\outertitlemarks{}</code>
<code>\innertitlemarks</code>	<code>20 \newcommand*\innertitlemarks{}</code>

<code>\newtitlemark</code>	<code>* {<name>}</code>
	21 <code>\NewDocumentCommand{\newtitlemark}{s m}{}</code>
<code>\pretitlemark</code>	<code>* {<section>}{<text>}</code>
	22 <code>\NewDocumentCommand{\pretitlemark}{s m m}{}</code>
<code>\ifsamemark</code>	<code>{<group>}{<command>}{<>true>}{<>false>}</code>
	23 <code>\newcommand{\ifsamemark}[4]{}</code>
<code>\setfloathead</code>	<code>* [<.>] [<.>] [<.>] {<.>} {<.>} {<.>} {<extra>} [<which>]</code>
	24 <code>\NewDocumentCommand{\setfloathead}{s o o o m m m m m}{}</code>
<code>\setfloatfoot</code>	<code>* [<.>] [<.>] [<.>] {<.>} {<.>} {<.>} {<extra>} [<which>]</code>
	25 <code>\NewDocumentCommand{\setfloatfoot}{s o o o m m m m m}{}</code>
<code>\nextfloathead</code>	<code>* [<.>] [<.>] [<.>] {<.>} {<.>} {<.>} {<extra>} [<which>]</code>
	26 <code>\NewDocumentCommand{\nextfloathead}{s o o o m m m m m}{}</code>
<code>\nextfloatfoot</code>	<code>* [<.>] [<.>] [<.>] {<.>} {<.>} {<.>} {<extra>} [<which>]</code>
	27 <code>\NewDocumentCommand{\nextfloatfoot}{s o o o m m m m m}{}</code>
<code>\newmarkset</code>	<code>{<markset>}</code>
	28 <code>\newcommand{\newmarkset}[1]{}</code>
<code>\newextramark</code>	<code>* {<markset>}{<macro-name>}</code>
	29 <code>\NewDocumentCommand{\newextramarkset}{s m m}{}</code>
<code>\botextramarks</code>	<code>{<markset>}</code>
	30 <code>\newcommand{\botextramarks}[1]{}</code>
<code>\topextramarks</code>	<code>{<markset>}</code>
	31 <code>\newcommand{\topextramarks}[1]{}</code>
<code>\firstextramarks</code>	<code>{<markset>}</code>
	32 <code>\newcommand{\firstextramarks}[1]{}</code>
<code>\nextextramarks</code>	<code>{<markset>}</code>
	33 <code>\newcommand{\nexttopextramarks}[1]{}</code>
<code>\outerextramarks</code>	<code>{<markset>}</code>
	34 <code>\newcommand{\outerextramarks}[1]{}</code>

```
\innerextramarks      {<markset>}
35 \newcommand{\innerextramarks}[1]{}

```

File 518 **lwarp-titleref.sty**

§ 630 Package **titleref**

titleref (*Pkg*) titleref is emulated.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{titleref}[2001/04/05]
2
3 \LetLtxMacro\titleref\nameref
4
5 \providecounter{LWR@currenttitle}
6
7 \newcommand*{\currenttitle}{%
8   \addtocounter{LWR@currenttitle}{1}%
9   \label{currenttitle\arabic{LWR@currenttitle}}%
10  \nameref{currenttitle\arabic{LWR@currenttitle}}%
11 }
12
13 \newcommand*{\theTitleReference}[2]{}

```

File 519 **lwarp-titlesec.sty**

§ 631 Package **titlesec**

(Emulates or patches code by JAVIER BEZOS.)

titlesec (*Pkg*) titlesec is emulated. All user options and macros are ignored and disabled.

Discard all options for lwarp-titlesec:

for HTML output:

```
1 \LWR@ProvidesPackageDrop{titlesec}[2016/03/21]
2
3 \newbool{LWR@loadtitleps}
4 \boolfalse{LWR@loadtitleps}
5
6 \DeclareOption{pagestyles}{
7   \booltrue{LWR@loadtitleps}
8 }
9
10 \DeclareOption*{}
11
12 \ProcessOptions\relax
13
14 \ifbool{LWR@loadtitleps}{
15   \RequirePackage{lwarp-titleps}
16 }{}

```

```
\titleLabel          {<label-format>}
17 \newcommand*{\titleLabel}[1]{}

```

```

\titleformat*      {\command} {\format}

\titleformat      {\command} [⟨shape⟩] {\format} {\label} {\sep} {\before} [⟨after⟩]
18 \newcommand\titleformat{%
19   \ifstar{\ttl@format@s}%
20     {\ttl@format@i}}
21 \newcommand{\ttl@format@s}[1]{}
22 \NewDocumentCommand{\ttl@format@i}{m o m m m o}{}

\chaptertitlename

23 \ifundefined{@chapapp}{\let\@chapapp\chaptername}{}
24 \newcommand\chaptertitlename{\@chapapp}

\titlespacing      * {\command} {\left} {\before} {\after} [⟨right⟩]
25 \NewDocumentCommand{\titlespacing}{s m m m m o}{}

\filright

26 \newcommand*\filright{}

\filcenter

27 \newcommand*\filcenter{}

\filleft

28 \newcommand*\filleft{}

\fillast

29 \newcommand*\fillast{}

\filinner

30 \newcommand*\filinner{}

\filouter

31 \newcommand*\filouter{}

\wordsep

32 \newcommand\wordsep{\fontdimen\tw@font \@plus
33   \fontdimen\thr@font \@minus \fontdimen4font}

\titleline      * [⟨align⟩] {\material}
34 \NewDocumentCommand{\titleline}{s o m}{}

\titlerule      [⟨height⟩]
35 \providecommand*\titlerule{\ifstar{\ttl@row}{\ttl@rule}}

```

```

36 \newcommand*{\ttl@rule}[1][{}]{
37 \newcommand*{\ttl@row}[2][{}]{

\iftitlemeasuring      {\langle true\rangle} {\langle false\rangle}
38 \newcommand{\iftitlemeasuring}[2]{#2}

\assignpagestyle      {\langle command\rangle} {\langle pagestyle\rangle}
39 \newcommand{\assignpagestyle}[2]{#2}

\titleclass            {\langle name\rangle} [\langle startlevel\rangle] {\langle class\rangle} [\langle cmd\rangle]
40 \NewDocumentCommand{\titleclass}{m o m o}{}
```

File 520 **lwarp-titletoc.sty**

§ 632 Package **titletoc**

(Emulates or patches code by JAVIER BEZOS.)

`titletoc (Pkg)` `titletoc` is emulated. All user options and macros are ignored and disabled.

Discard all options for `lwarp-titletoc`:

for HTML output: 1 \LWR@ProvidesPackageDrop{titletoc}[2011/12/15]

```

\dottedcontents      {\langle section\rangle} [\langle left\rangle] {\langle above\rangle} {\langle label\rangle} {\langle leader\rangle}
2 \NewDocumentCommand{\dottedcontents}{m o m m m}{}

\titlecontents      * {\langle section\rangle} [\langle left\rangle] {\langle above\rangle} {\langle numbered\rangle} {\langle numberless\rangle} {\langle filler\rangle} [\langle below
or begin\rangle] [\langle separator\rangle] [\langle end\rangle]
3 \newcommand{\titlecontents}{\@ifstar{\ttl@tcstar}{\ttl@tcnostar}}
4 \NewDocumentCommand{\ttl@tcstar}{m o m m m m o o o}{}
5 \NewDocumentCommand{\ttl@tcnostar}{m o m m m m o}{}

\contentsmargin     [\langle correction\rangle] {\langle right\rangle}
6 \newcommand{\contentsmargin}[2][{}]{

\thecontentslabel

7 \newcommand*{\thecontentslabel}{thecontentslabel}

\thecontentspage

8 \newcommand*{\thecontentspage}{thecontentspage}

\contentslabel      [\langle format\rangle] {\langle space\rangle}
9 \newcommand{\contentslabel}[2][{}]{\thecontentslabel}
```

<code>\contentspage</code>	<code>[\langle format \rangle]</code> 10 <code>\newcommand{\contentspage}[1][\thecontentspage]</code>
<code>\contentspush</code>	<code>{\langle text \rangle}</code> 11 <code>\newcommand{\contentspush}[1]{}</code>
<code>\contentsuse</code>	<code>{\langle name \rangle} {\langle text \rangle}</code> 12 <code>\newcommand{\contentsuse}[2]{}</code>
<code>\startcontents</code>	<code>[\langle name \rangle]</code> 13 <code>\newcommand*\startcontents}[1][{}]</code>
<code>\stopcontents</code>	<code>[\langle name \rangle]</code> 14 <code>\newcommand*\stopcontents}[1][{}]</code>
<code>\resumecontents</code>	<code>[\langle name \rangle]</code> 15 <code>\newcommand*\resumecontents}[1][{}]</code>
<code>\printcontents</code>	<code>[\langle name \rangle] {\langle prefix \rangle} {\langle start \rangle} {\langle code \rangle}</code> 16 <code>\newcommand{\printcontents}[4][{}]</code>
<code>\startlist</code>	<code>[\langle name \rangle] {\langle list \rangle}</code> 17 <code>\newcommand{\startlist}[2][{}]</code>
<code>\stoplist</code>	<code>[\langle name \rangle] {\langle list \rangle}</code> 18 <code>\newcommand{\stoplist}[2][{}]</code>
<code>\resumelist</code>	<code>[\langle name \rangle] {\langle list \rangle}</code> 19 <code>\newcommand{\resumelist}[2][{}]</code>
<code>\printlist</code>	<code>[\langle name \rangle] {\langle list \rangle} {\langle prefix \rangle} {\langle code \rangle}</code> 20 <code>\newcommand{\printlist}[4][{}]</code>

File 521 **lwarp-titling.sty**

§ 633 Package **titling**

(Emulates or patches code by PETER WILSON.)

titling (*Pkg*)

package support lwarp supports the native L^AT_EX titling commands, and also supports the packages
△ load order authblk and titling. If both are used, authblk should be loaded before titling.

`\published` and `\subtitle` If using the `titling` package, additional titlepage fields for `\published` and `\subtitle` may be added by using `\AddSubtitlePublished` in the preamble. See section 71.8.

The various titling footnote restyling commands have no effect.

Pass all options to `lwarp-titling`:

for HTML output: `1 \LWR@ProvidesPackagePass{titling}[2009/09/04]`

`\@bsmtitleempty` Patch `\@bsmtitleempty`:

```
2 \let\LWR@orig@bsmtitleempty\@bsmtitleempty
3 \renewcommand*{\@bsmtitleempty}{%
4 \LWR@orig@bsmtitleempty%
5 }
```

`\keepthetitle` Patch `\keepthetitle`:

```
6 \let\LWR@origkeepthetitle\keepthetitle
7 \renewcommand*{\keepthetitle}{%
8 \LWR@orig@keepthetitle%
9 }
```

`\killtitle` Patch `\killtitle`:

```
10 \let\LWR@origkilltitle\killtitle
11 \renewcommand*{\killtitle}{%
12 \LWR@orig@killtitle%
13 }
```

`titlingpage` (*env.*)

```
14 \renewenvironment*{titlingpage}
15 {%
```

Start an HTML titlepage div:

```
16 \LWR@printpendingfootnotes
17 \begin{titlepage}
```

Prepare for a custom version of `\maketitle` inside the `titlingpage`:

```
18 \LWR@maketitlesetup
19 \let\maketitle\LWR@titlingmaketitle
20 }
21 {
```

At the end of the environment, end the HTML titlepage div:

```
22 \end{titlepage}
23 }
```

Patch the pre/post title/author/date to add HTML tags, then initialize:

```
24 \AtBeginDocument{
25   \pretitle{}
26   \posttitle{}
```

```

27
28   \preauthor{}
29   \postauthor{}
30
31   \predate{}
32   \postdate{}
33 }

```

`\LWR@maketitlesetup` Patches `\thanks` macros.

```
34 \renewcommand*\LWR@maketitlesetup}{%
```

Redefine the footnote mark:

```

35   \def\@makefnmark{\textsuperscript{\@thefnmark}}%

       \thefootnote ⇒ \nameuse{arabic}{footnote}, or
       \thefootnote ⇒ \nameuse{fnsymbol}{footnote}

```

Redefine the footnote text:

```
36   \long\def\@makefntext##1{%
```

Make the footnote mark and some extra horizontal space for the tags:

```

37       \makethanksmark~%

       \makethanksmark ⇒ \thanksfootmark ⇒ \tamark ⇒
       \@thefnmark ⇒ \itshape a (or similar)

```

Print the text:

```

38       {##1}%
39   }% \@makefntext
40 }

```

`\thanksfootmark`

```

41 \renewcommand{\thanksfootmark}{%
42 %   \hb@xt@\thanksmarkwidth{\hfil\normalfont%
43       \thanksscript{%
44         \thanksfootpre \tamark \thanksfootpost%
45       }%
46 %   }%
47 }

```

`\maketitle` HTML mode. Creates an HTML titlepage div and typesets the title, etc.

Code from the titling package is adapted, simplified, and modified for HTML output.

```
48 \renewcommand*\maketitle}{%
```

An HTML titlepage `<div>` is used for all classes.

```
49   \begin{titlepage}
```


Select which kind of footnote marks to use:

```
50 \bsmarkseries
```

Set up special patches:

```
51 \LWR@maketitlesetup
```

Typeset the title, etc:

```
52 \@maketitle
```

Immediately generate any \thanks footnotes:

```
53 \LWR@stoppars\@thanks\LWR@startpars
```

Close the HTML titlepage div:

```
54 \end{titlepage}
```

Reset the footnote counter:

```
55 \@bscontmark
56 }
```

`\@maketitle` Typesets the title, etc. Patched for HTML.

```
57 \providecommand*\@maketitle{}
58 \renewrobustcmd*\@maketitle{%
59   \maketitlehooka
60   {
61     \LWR@stoppars\LWR@htmltag{\LWR@tagtitle}%
62     \@spretitle \@title \@bsposttitle%
63     \LWR@htmltag{\LWR@tagtitleend}\LWR@startpars%
64   }
65   \maketitlehookb
66   {
67     \begin{BlockClass}{author}
68     \renewcommand{\and}{%
69       \end{BlockClass}%
70       \begin{BlockClass}{oneauthor}%
71     }
72     \begin{BlockClass}{oneauthor}%
73     \@spreauthor \@author \@bspstauthor%
74     \end{BlockClass}%
75     \end{BlockClass}%
76   }
77   \maketitlehookc
78   {
79     \begin{BlockClass}{titledate}%
80     \@spretdate \@date \@bspstdate%
81     \end{BlockClass}%
82   }
83   \maketitlehookd
84 }
```

`\LWR@titlingmaketitle` `\maketitle` for use inside an HTML titlingpage environment.

```
85 \renewcommand*{\LWR@titlingmaketitle}{%
```

Keep pending footnotes out of the title block:

```
86 \LWR@stoppars\@thanks\LWR@startpars
```

Select which kind of footnote marks to use:

```
87 \@bsmarkseries
```

Set up special patches:

```
88 \LWR@maketitlesetup
```

Typeset the title, etc:

```
89 \@maketitle
```

Immediately generate any \thanks footnotes:

```
90 \LWR@stoppars\@thanks\LWR@startpars
```

Reset the footnote counter:

```
91 \@bscontmark
92 }
```

```
\thanksmarkseries {<series>}
```

Sets the type of footnote marks used by \thanks, where type is ‘arabic’, ‘roman’, ‘fnsymbol’, etc.

```
93 \renewcommand{\thanksmarkseries}[1]{%
94 \def\@bsmarkseries{\renewcommand{\thefootnote}{\@nameuse{#1}{footnote}}}%
95 }
```

Set default titlepage thanks footnote marks. See section [71.7](#).

```
96 \IfClassLoadedTF{memoir}{
97   \thanksmarkseries{arabic}
98 }{% not memoir
99 \if@titlepage
100   \thanksmarkseries{arabic}
101 \else
102   \thanksmarkseries{fnsymbol}
103 \fi
104 }% not memoir
```

File 522 **lwarp-tocbasic.sty**

§ 634 Package **tocbasic**

(Emulates or patches code by MARKUS KOHM.)

tocbasic (Pkg) tocbasic is nullified for lwarp.

This package may be loaded standalone, but is also loaded automatically if koma-script classes are in use. `\DeclareDocumentCommand` is used to overwrite the koma-script definitions.

for HTML output:

```

1 \LWR@ProvidesPackagePass{tocbasic}[2018/12/30]

2 \DeclareDocumentCommand{\usetocbasicnumberline}{o}{}
3 \DeclareDocumentCommand{\DeclareTOCStyleEntry}{o m m}{}
4 \DeclareDocumentCommand{\DeclareTOCStyleEntries}{o m m}{}
5 \DeclareDocumentCommand{\DeclareTOCEntryStyle}{m o m}{}
6 \DeclareDocumentCommand{\DefineTOCEntryOption}{m o m}{}
7 \DeclareDocumentCommand{\DefineTOCEntryBooleanOption}{m o m m m}{}
8 \DeclareDocumentCommand{\DefineTOCEntryCommandOption}{m o m m m}{}
9 \DeclareDocumentCommand{\DefineTOCEntryIfOption}{m o m m m}{}
10 \DeclareDocumentCommand{\DefineTOCEntryLengthOption}{m o m m m}{}
11 \DeclareDocumentCommand{\DefineTOCEntryNumberOption}{m o m m m}{}
12 \DeclareDocumentCommand{\CloneTOCEntryStyle}{m m}{}
13 \DeclareDocumentCommand{\TOCEntryStyleInitCode}{m m}{}
14 \DeclareDocumentCommand{\TOCEntryStyleStartInitCode}{m m}{}

```

File 523 **lwarp-tocbibind.sty**

§ 635 Package **tocbibind**

(Emulates or patches code by PETER WILSON.)

`tocbibind` (*Pkg*) `tocbibind` is patched for use by `lwarp`.

placement and toc options An index may be placed inline with other HTML text, or on its own HTML page:

`makeidx` (*Pkg*) **Inline, with a manual toc entry:**

A commonly-used method to introduce an index in a L^AT_EX document:

```

\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname}% or chapter
\printindex

```

`makeidx` (*Pkg*) **On its own HTML page, with a manual toc entry:**

```

\begin{warpprint}
\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname}% or chapter
\end{warpprint}
\ForceHTMLPage
\ForceHTMLTOC
\printindex

```

`tocbibind` (*Pkg*) **Inline, with an automatic toc entry:**

The `tocbibind` package may be used to automatically place an entry in the TOC.

```

\usepackage[nottoc]{tocbibind}
. . .
\cleardoublepage
\phantomsection % to fix print-version index link
\printindex

```

tocbibind (*Pkg*) **On its own HTML page, with an automatic TOC entry:**

```
\usepackage[nottoc]{tocbibind}
...
\cleardoublepage
\phantomsection % to fix print-version index link
\ForceHTMLPage
\printindex
```

numindex (*Opt*) [tocbibind] **Use the tocbibind numindex option to generate a numbered index. Without this option, the index heading has no number.**

[numbered index section](#)

Other packages, such as imakeidx, may also have options for including the index in the Table of Contents.

for HTML output:

```
1 \let\simplechapterdelim\relax
2
3 \LWR@ProvidesPackagePass{tocbibind}[2010/10/13]

4 \renewenvironment{theindex}%
5 {%
6   \if@bibchapter
7     \if@donumindex
8       \chapter{\indexname}
9     \else
10    \if@dotocind
11      \chapter*{\indexname}
12      \addcontentsline{toc}{chapter}{\LWR@isolate{\indexname}}
13    \else
14      \chapter*{\indexname}
15    \fi
16  \fi
17 \else
18   \if@donumindex
19     \section{\indexname}
20   \else
21     \if@dotocind
22       \section*{\indexname}
23       \addcontentsline{toc}{\@tocextra}{\LWR@isolate{\indexname}}
24     \else
25       \section*{\indexname}
26     \fi
27   \fi
28 \fi
29 \LetLtxMacro\item\LWR@indexitem%
30 \LetLtxMacro\subitem\LWR@indexsubitem%
31 \LetLtxMacro\subsubitem\LWR@indexsubsubitem%
32 }{}
```

The following code is shared by anonchap.

```
33 \DeclareDocumentCommand{\simplechapter}{0}{\@empty}}{%
34   \def\@chapcntformat##1{%
35     #1~\csname the##1\endcsname\simplechapterdelim\quad%
36   }%
37 }
38
39 \DeclareDocumentCommand{\restorechapter}}{%
40 \let\@chapcntformat\@secntformat%
41 }
```

File 524 **lwarp-tocdata.sty**

§ 636 Package **tocdata**

(Emulates or patches code by BRIAN DUNN.)

tocdata (*Pkg*) tocdata is patched for use by lwarp.

```

for HTML output: 1 \LWR@ProvidesPackagePass{tocdata}[2019/07/06]

2 \renewcommand*\LWR@maybetocdata}{%
3   \ifdefempty{\TD@thistocdata}{}{%
4     \quad \InlineClass{authorartist}{\tocdataformat{\TD@thistocdata}}%
5     \def\TD@thistocdata{}
6   }
7 }

8 \renewrobustcmd{\tocdatapartprint}[4]
9 {%
10  \InlineClass{authorartist}{%
11    \quad --- %
12    \TDOptionalnameprint{#1}\TDOptionalnameprint{#2}#3#4%
13  }%
14 }
15
16 \@ifundefined{chapter}{}{
17   \let\tocdatachapterprint\tocdatapartprint
18 }
19 \let\tocdatasectionprint\tocdatapartprint
20 \let\tocdatasubsectionprint\tocdatapartprint
21
22 \newcommand*\LWR@TD@settetalign}[1]{%
23   \def\LWR@TD@textalign{justify}%
24   \ifcsstring{TD@#1align}{\centering}%
25     {\def\LWR@TD@textalign{center}}%
26     {}%
27   \ifcsstring{TD@#1align}{\raggedleft}%
28     {\def\LWR@TD@textalign{right}}%
29     {}%
30   \ifcsstring{TD@#1align}{\raggedright}%
31     {\def\LWR@TD@textalign{left}}%
32     {}%
33 }
34
35 \renewcommand{\TDartistauthorprint}[5]{%
36   \LWR@TD@settetalign{#1}%
37   \begin{BlockClass}[text-align:\LWR@TD@textalign]{floatnotes}%
38   \InlineClass{authorartist}{\TDOptionalnameprint{#2}\TDOptionalnameprint{#3}#4#5}%
39   \end{BlockClass}%
40 }
41
42 \newcommand*\LWR@TD@setnamealign}[1]{%
43   \def\LWR@TD@textalign{justify}%
44   \ifcsstring{TD@#1textalign}{\centering}%
45     {\def\LWR@TD@textalign{center}}%

```

```

46     {}%
47     \ifcsstring{TD@#1textalign}{\raggedleft}%
48     {\def\LWR@TD@textalign{right}}%
49     {}%
50     \ifcsstring{TD@#1textalign}{\raggedright}%
51     {\def\LWR@TD@textalign{left}}%
52     {}%
53 }
54
55 \renewcommand{\TDartistauthortextprint}[2]{%
56   \LWR@TD@setnamealign{#1}%
57   \begin{BlockClass}[text-align:\LWR@TD@textalign]{floatnotes}%
58   #2%
59   \end{BlockClass}%
60 }

```

File 525 **lwarp-tocenter.sty**

§ 637 Package **tocenter**

tocenter (*Pkg*) tocenter is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{tocenter}[2004/12/09]

```

2 \NewDocumentCommand{\ToCenter}{s o m m}{ }
3 \NewDocumentCommand{\FromMargins}{s o m m m m}{ }

```

File 526 **lwarp-tocloft.sty**

§ 638 Package **tocloft**

(Emulates or patches code by PETER WILSON.)

tocloft (*Pkg*) tocloft is emulated. Most user options and macros are ignored and disabled. \newlistof and \cftchapterprecis are supported.

tocloft (*Pkg*) If using tocloft with tocbibind, anonchap, fncychap, or other packages which change chapter title formatting, load tocloft with its titles option, which tells tocloft to use standard L^AT_EX commands to create the titles, allowing other packages to work with it.



tocloft & other packages

Discard all options for lwarp-tocloft:

for HTML output: 1 \LWR@ProvidesPackageDrop{tocloft}[2017/08/31]

```

\tocloftpagestyle      {<style>}
2 \newcommand{\tocloftpagestyle}[1]{ }

```

```

\cftmarktoc
3 \newcommand*{\cftmarktoc}{ }

```

<code>\cfttoctitlefont</code>	4 <code>\newcommand*{\cfttoctitlefont}{}</code>
<code>\cftaftertocitle</code>	5 <code>\newcommand*{\cftaftertocitle}{} 6 \newlength{\cftbeforetoctitleskip} 7 \newlength{\cftaftertocitleskip}</code>
<code>\cftmarklof</code>	8 <code>\newcommand*{\cftmarklof}{} 9 \newcommand*{\cftloftitlefont}{} 10 \newcommand*{\cftafterloftitle}{} 11 \newlength{\cftbeforeloftitleskip} 12 \newlength{\cftafterloftitleskip}</code>
<code>\cftloftitlefont</code>	
<code>\cftafterloftitle</code>	
<code>\cftmarklot</code>	13 <code>\newcommand*{\cftmarklot}{} 14 \newcommand*{\cftlottitlefont}{} 15 \newcommand*{\cftafterlottitle}{} 16 \newlength{\cftbeforelottitleskip} 17 \newlength{\cftafterlottitleskip}</code>
<code>\cftlottitlefont</code>	
<code>\cftafterlottitle</code>	
<code>\cftdot</code>	18 <code>\providecommand*{\cftdot}{.}</code>
<code>\cftdotsep</code>	19 <code>\providecommand*{\cftdotsep}{1}</code>
<code>\cftnodots</code>	20 <code>\providecommand*{\cftnodots}{5000}</code>

`\cftdotfill` {*<sep>*}

21 \providecommand{\cftdotfill}[1]{}

`\cftsetpnumwidth` {*<length>*}

22 \DeclareDocumentCommand{\cftsetpnumwidth}{m}{}

`\cftsetrmarg` {*<length>*}

23 \DeclareDocumentCommand{\cftsetrmarg}{m}{}

`\cftpnumalign` {*<alignment>*}

24 \DeclareDocumentCommand{\cftpnumalign}{m}{}

25 \LWR@providelength{\cftparskip}

The part-related items are also provided by memoir:

26 \LWR@providelength{\cftbeforepartskip}

27 \LWR@providelength{\cftpartindent}

28 \LWR@providelength{\cftpartnumwidth}

29 \providecommand*\cftpartfont{}

30 \providecommand*\cftpartpresnum{}

31 \providecommand*\cftpartaftersnum{}

32 \providecommand*\cftpartaftersnumb{}

33 \providecommand*\cftpartleader{}

34 \providecommand*\cftpartdotsep}{1}

35 \providecommand*\cftpartpagefont{}

36 \providecommand*\cftpartafterpnum{}

memoir uses the full name “chapter” instead of “chap”:

37 \LWR@providelength{\cftbeforechapskip}

38 \LWR@providelength{\cftchapindent}

39 \LWR@providelength{\cftchapnumwidth}

40 \newcommand*\cftchapfont{}

41 \newcommand*\cftchappresnum{}

42 \newcommand*\cftchapaftersnum{}

43 \newcommand*\cftchapaftersnumb{}

44 \newcommand*\cftchapleader{}

45 \newcommand*\cftchapdotsep}{1}

46 \newcommand*\cftchappagefont{}

47 \newcommand*\cftchapafterpnum{}

The following do not appear in memoir:

48 \LWR@providelength{\cftbeforesecskip}

49 \LWR@providelength{\cftsecindent}

50 \LWR@providelength{\cftsecnumwidth}

51 \newcommand*\cftsecfont{}

52 \newcommand*\cftsecpresnum{}

53 \newcommand*\cftsecaftersnum{}

54 \newcommand*\cftsecaftersnumb{}

55 \newcommand*\cftsecleader{}

56 \newcommand*\cftsecdotsep}{1}

57 \newcommand*\cftsecpagefont{}

58 \newcommand*\cftsecafterpnum{}


```
59 \LWR@providelength{\cftbeforesubsecskip}
60 \LWR@providelength{\cftsubsecindent}
61 \LWR@providelength{\cftsubsecnumwidth}
62 \newcommand*{\cftsubsecfont}{}
63 \newcommand*{\cftsubsecpresnum}{}
64 \newcommand*{\cftsubsecaftersnum}{}
65 \newcommand*{\cftsubsecaftersnumb}{}
66 \newcommand*{\cftsubsecleader}{}
67 \newcommand*{\cftsubsecdotsep}{1}
68 \newcommand*{\cftsubsecpagefont}{}
69 \newcommand*{\cftsubsecafterpnum}{}

70 \LWR@providelength{\cftbeforesubsubsecskip}
71 \LWR@providelength{\cftsubsubsecindent}
72 \LWR@providelength{\cftsubsubsecnumwidth}
73 \newcommand*{\cftsubsubsecfont}{}
74 \newcommand*{\cftsubsubsecpresnum}{}
75 \newcommand*{\cftsubsubsecaftersnum}{}
76 \newcommand*{\cftsubsubsecaftersnumb}{}
77 \newcommand*{\cftsubsubsecleader}{}
78 \newcommand*{\cftsubsubsecdotsep}{1}
79 \newcommand*{\cftsubsubsecpagefont}{}
80 \newcommand*{\cftsubsubsecafterpnum}{}

81 \LWR@providelength{\cftbeforeparaskip}
82 \LWR@providelength{\cftparaindent}
83 \LWR@providelength{\cftparanumwidth}
84 \newcommand*{\cftparafont}{}
85 \newcommand*{\cftparapresnum}{}
86 \newcommand*{\cftparaaftersnum}{}
87 \newcommand*{\cftparaaftersnumb}{}
88 \newcommand*{\cftparaleader}{}
89 \newcommand*{\cftparadotsep}{1}
90 \newcommand*{\cftparapagefont}{}
91 \newcommand*{\cftparaafterpnum}{}

92 \LWR@providelength{\cftbeforesubparaskip}
93 \LWR@providelength{\cftsubparaindent}
94 \LWR@providelength{\cftsubparanumwidth}
95 \newcommand*{\cftsubparafont}{}
96 \newcommand*{\cftsubparapresnum}{}
97 \newcommand*{\cftsubparaaftersnum}{}
98 \newcommand*{\cftsubparaaftersnumb}{}
99 \newcommand*{\cftsubparaleader}{}
100 \newcommand*{\cftsubparadotsep}{1}
101 \newcommand*{\cftsubparapagefont}{}
102 \newcommand*{\cftsubparaafterpnum}{}

103 \LWR@providelength{\cftbeforefigskip}
104 \LWR@providelength{\cftfigindent}
105 \LWR@providelength{\cftfignumwidth}
106 \newcommand*{\cftfigfont}{}
107 \newcommand*{\cftfigpresnum}{}
108 \newcommand*{\cftfigaftersnum}{}
109 \newcommand*{\cftfigaftersnumb}{}
110 \newcommand*{\cftfigleader}{}
111 \newcommand*{\cftfigdotsep}{1}
112 \newcommand*{\cftfigpagefont}{}
113 \newcommand*{\cftfigafterpnum}{}

```

```

114 \LWR@providelength{\cftbeforesubfigskip}
115 \LWR@providelength{\cftsubfigindent}
116 \LWR@providelength{\cftsubfignumwidth}
117 \newcommand*\cftsubfigfont{}
118 \newcommand*\cftsubfigpresnum{}
119 \newcommand*\cftsubfigaftersnum{}
120 \newcommand*\cftsubfigaftersnumb{}
121 \newcommand*\cftsubfigleader{}
122 \newcommand*\cftsubfigdotsep{1}
123 \newcommand*\cftsubfigpagefont{}
124 \newcommand*\cftsubfigafterpnum{}

125 \LWR@providelength{\cftbeforetabskip}
126 \LWR@providelength{\cfttabindent}
127 \LWR@providelength{\cfttabnumwidth}
128 \newcommand*\cfttabfont{}
129 \newcommand*\cfttabpresnum{}
130 \newcommand*\cfttabaftersnum{}
131 \newcommand*\cfttabaftersnumb{}
132 \newcommand*\cfttableader{}
133 \newcommand*\cfttabdotsep{1}
134 \newcommand*\cfttabpagefont{}
135 \newcommand*\cfttabafterpnum{}

136 \LWR@providelength{\cftbeforesubtabskip}
137 \LWR@providelength{\cftsubtabindent}
138 \LWR@providelength{\cftsubtabnumwidth}
139 \newcommand*\cftsubtabfont{}
140 \newcommand*\cftsubtabpresnum{}
141 \newcommand*\cftsubtabaftersnum{}
142 \newcommand*\cftsubtabaftersnumb{}
143 \newcommand*\cftsubtableader{}
144 \newcommand*\cftsubtabdotsep{1}
145 \newcommand*\cftsubtabpagefont{}
146 \newcommand*\cftsubtabafterpnum{}

147 \DeclareDocumentCommand{\cftsetindents}{m m m}{}

148 \providecommand{\cftpagenumbersoff}[1]{}
149 \providecommand{\cftpagenumberon}[1]{}

\newlistentry
    [⟨within⟩] {⟨counter⟩} {⟨ext⟩} {⟨level-1⟩}
150 \DeclareDocumentCommand{\newlistentry}{o m m m}
151 {%
152 \LWR@traceinfo{newlistentry #2 #3 #4}%
153 \IfValueTF{#1}%
154 {%
155     \@ifundefined{c@#2}{%
156         \newcounter{#2}[#1]%
157         \expandafter\edef\csname the#2\endcsname{%
158             \expandafter\noexpand\csname the#1\endcsname.\noexpand\arabic{#2}%
159         }%
160     }{}%
161 }%
162 {%
163     \@ifundefined{c@#2}{%
164         \newcounter{#2}%

```

```

165     }{}%
166 }%
167 \@namedef{l@#2}##1##2{%
168   \hypertocfloat{1}{#2}{#3}{##1}{##2}%
169   \def\cftwhatismyname{#2}% from memoir
170 }%
171 \expandafter\newlength\csname cftbefore#2skip\endcsname%
172 \expandafter\newlength\csname cft#2indent\endcsname%
173 \expandafter\newlength\csname cft#2numwidth\endcsname%
174 \@namedef{cft#2font}{}%
175 \@namedef{cft#2presnum}{}%
176 \@namedef{cft#2aftersnum}{}%
177 \@namedef{cft#2aftersnumb}{}%
178 \@namedef{cft#2leader}{}%
179 \@namedef{cft#2dotsep}{1}%
180 \@namedef{cft#2pagefont}{}%
181 \@namedef{cft#2afterpnum}{}%
182 \@namedef{toclevel@#2}{#4}%
183 \@namedef{cft#2fillnum}##1{}%
184 \LWR@traceinfo{newlistentry done}%
185 }

```

`\newlistof`

`{<within>} {<type>} {<ext>} {<listofname>}`

Emulated through the `\newfloat` mechanism.

```

186 \DeclareDocumentCommand{\newlistof}{o m m m}
187 {%
188   \IfValueTF{#1}%
189     {\newlistentry[#1]{#2}{#3}{0}}%
190     {\newlistentry{#2}{#3}{0}}%
191   \@namedef{ext@#2}{#3}%
192   \@ifundefined{c@#3depth}{\newcounter{#3depth}}{}%
193   \setcounter{#3depth}{1}%
194   \@namedef{cftmark#3}{}%
195   \@namedef{listof#2}{\LWR@listof{#2}{#4}}%
196   \@namedef{@cftmake#3title}{}%
197   \expandafter\newlength\csname cftbefore#3titleskip\endcsname%
198   \expandafter\newlength\csname cftafter#3titleskip\endcsname%
199   \@namedef{cft#3titlefont}{}%
200   \@namedef{cftafter#3title}{}%
201   \@namedef{cft#3prehook}{}%
202   \@namedef{cft#3posthook}{}%
203 }

```

`\cftchapterprecis`

`{<text>}`

```

204 \newcommand{\cftchapterprecis}[1]{%
205   \cftchapterprecishere{#1}
206   \cftchapterprecistoc{#1}}
207 \newcommand{\cftchapterprecishere}[1]{%
208   \begin{quote}\textit{#1}\end{quote}}
209 \newcommand{\cftchapterprecistoc}[1]{
210   \addtocontents{toc}{%
211     {
212       \protect\begin{quote}#1\protect\end{quote}}
213   }
214 }

```

File 527 **lwarp-tocstyle.sty**§ 639 Package **tocstyle**

tocstyle (*Pkg*) tocstyle is ignored.

 **Not fully tested!** [Please send bug reports!](#)

for HTML output:

```

1 \LWR@ProvidesPackageDrop{tocstyle}[2017/02/23]

2 \newcommand*\usetocstyle[2][]{ }
3 \newcommand*\deactivatetocstyle[1][]{ }
4 \newcommand*\reactivatetocstyle[1][]{ }
5 \NewDocumentCommand{\settocfeature}{o o m m}{}
6 \NewDocumentCommand{\settocstylefeature}{o m m}{}
7 \NewDocumentCommand{\newtocstyle}{o o m m}{}
8 \newcommand*\aliastoc[2]{}
9 \newcommand*\showtoc[2]{}
10 \newcommand{\iftochasdepth}[4]{}

```

File 528 **lwarp-todo.sty**§ 640 Package **todo**

(Emulates or patches code by FEDERICO GARCIA.)

todo (*Pkg*) todo is patched for use by lwarp.

for HTML output:

```

1 \LWR@ProvidesPackagePass{todo}[2010/03/31]

2 \renewcommand\todoitem[2]{%
3   \refstepcounter{todo}%
4   \item[%
5     \HTMLUnicode{2610} \quad%
6     \ref{todopage:\thetodo}
7   ] : {\todoformat\ifx#1\todotmark\else\textbf{#1} \fi}#2%
8   \label{todo\lbl:\thetodo}%
9 }%
10
11 \renewcommand\doneitem[2]{%
12   \stepcounter{todo}%
13   \item[%
14     \HTMLUnicode{2611} \quad%
15     \ref{todopage:\thetodo}
16   ] \@nameuse{@done\the\c@todo}:
17   {\todoformat\ifx#1\todotmark\else\textbf{#1} \fi}#2%
18 }

```

The following are not errors because the code will still compile and be usable if the patch is not possible.

```
19 \xpatchcmd{\@displaytodo}
```

```

20   {\todoformat #1}{\todoformat \textbf{#1}}{}
21   {\PackageWarning{lwarp-todo}{Unable to patch @displaytodo.}}
22
23 \xpatchcmd{\@displayfulltodo}
24   {\todoformat #1}{\todoformat \textbf{#1}}{}
25   {\PackageWarning{lwarp-todo}{Unable to patch @displayfulltodo.}}
26
27 \patchcmd{\todoenv}{\itshape see text.}{\textit{see text.}}{}
28   {\PackageWarning{lwarp-todo}{Unable to patch todoenv.}}
29
30 \patchcmd{\astodos}{\todoformat #1}{\todoformat \textbf{#1}}{}
31   {\PackageWarning{lwarp-todo}{Unable to patch astodos.}}

```

If `cleveref` is in use, name the new todo notes:

```

32 \AtBeginDocument{
33 \ifdef{\crefname}{
34   \crefname{todo}{todo}{todos}
35   \Crefname{todo}{Todo}{Todos}
36 }{}
37 }

```

File 529 **lwarp-todonotes.sty**

§ 641 Package **todonotes**

(Emulates or patches code by HENRIK SKOV MIDTIBY.)

`todonotes (Pkg)` `todonotes` is emulated.

The documentation for `todonotes` and `luatodonotes` have an example with a `todo` inside a caption. If this example does not work it will be necessary to move the `todo` outside of the caption.

for HTML output:

```

1 \LWR@ProvidesPackagePass{todonotes}[2012/07/25]
2 \if@todonotes@disabled
3 \else
4
5 \newcommand{\ext@todo}{tdo}
6
7 \renewcommand{\l@todo}[2]{\hypertocfloat{1}{\todo}{ldo}{#1}{#2}}
8
9
10 \let\LWRTODONOTES@orig@todotoc\todotoc
11
12 \renewcommand*\l@todotoc{%
13 \LWR@phantomsection%
14 \LWRTODONOTES@orig@todotoc%
15 }
16
17 \renewcommand{\@todonotes@drawMarginNoteWithLine}{
18 \fcolorbox
19   {\@todonotes@currentbordercolor}
20   {\@todonotes@currentbackgroundcolor}
21   {\arabic{\@todonotes@numberoftodonotes}}
22 }
23 \marginpar{\@todonotes@drawMarginNote}

```

```

21 }
22
23 \renewcommand{\@todonotes@drawInlineNote}{%
24 \fcolorboxBlock%
25   {\@todonotes@currentbordercolor}%
26   {\@todonotes@currentbackgroundcolor}%
27   {%
28     \if@todonotes@authorgiven%
29     {\@todonotes@author:\,}%
30     \fi%
31     \@todonotes@text%
32   }%
33 }
34
35 \renewcommand{\@todonotes@drawMarginNote}{%
36   \if@todonotes@authorgiven%
37     \@todonotes@author\par%
38   \fi%
39   \arabic{\@todonotes@numberoftodonotes}: %
40   \fcolorbox%
41   {\@todonotes@currentbordercolor}%
42   {\@todonotes@currentbackgroundcolor}%
43   {%
44     \@todonotes@sizecommand%
45     \@todonotes@text %
46   }%
47 }%
48
49 \renewcommand{\@todonotes@drawLineToRightMargin}{}
50
51 \renewcommand{\@todonotes@drawLineToLeftMargin}{}
52
53 \renewcommand{\missingfigure}[2][]{%
54 \setkeys{todonotes}{#1}%
55 \addcontentsline{tdo}{todo}{\@todonotes@MissingFigureText: #2}%
56 \fcolorboxBlock%
57   {\@todonotes@currentbordercolor}%
58   {\@todonotes@currentfigcolor}%
59   {%
60     \setlength{\fboxrule}{4pt}%
61     \fcolorbox{red}{white}{Missing figure} \quad #2%
62   }
63 }
64
65 \LetLtxMacro\LWRTODONOTES@orig@todo\@todo
66
67 \RenewDocumentCommand{\@todo}{o m}{%
68 \begingroup%
69 \renewcommand*\phantomsection{}%
70 \IfValueTF{#1}{%
71   \LWRTODONOTES@orig@todo[#1]{#2}%
72 }{%
73   \LWRTODONOTES@orig@todo{#2}%
74 }
75 \endgroup%
76 }
77
78 \fi% \if@todonotes@disabled

```

File 530 **lwarp-topcapt.sty**

§ 642 Package **topcapt**

topcapt (*Pkg*) topcapt is emulated.


for HTML output: 1 \LWR@ProvidesPackageDrop{topcapt}[2004/12/11]

2 \LetLtxMacro\topcaption\caption

File 531 **lwarp-tram.sty**

§ 643 Package **tram**

tram (*Pkg*) tram is emulated.

 **block only** The HTML emulation uses a <div>, which must not appear inside an HTML or an HTML paragraph. For this reason, the tram environment should only be used to contain paragraphs inside a \parbox or minipage. tram should not be used to mark up inline text.

To disable tram, allowing source compatibility with inline uses:

```
\begin{warpHTML}
\renewenvironment{tram}[1][{}]{ }
\end{warpHTML}
```

for HTML output: 1 \LWR@ProvidesPackageDrop{tram}[2013/04/04]

```
2 \newenvironment{tram}[1][{}]{
3   {\BlockClass[background:lightgray]{tram}}
4   {\endBlockClass}}
```

File 532 **lwarp-transparent.sty**

§ 644 Package **transparent**

(Emulates or patches code by HEIKO OBERDIEK.)

transparent (*Pkg*) transparent is emulated. \texttransparent works for inline objects. \transparent only works for \includegraphics.

 **Not X_YL^AT_EX!** Note that transparent does not work with X_YL^AT_EX.

for HTML output: 1 \LWR@ProvidesPackagePass{transparent}[2019/11/29]

```
2 \newcommand*\LWR@HTML@transparent[1]{\edef\LWR@opacity{#1}}
3
4 \LWR@formatted{transparent}
```

```

5
6
7 \newcommand*\LWR@HTML@texttransparent}[2]{%
8 \begingroup%
9 \transparent{#1}%
10 \InlineClass[opacity: #1]{transparent}{#2}%
11 \endgroup%
12 }
13
14 \LWR@formatted{texttransparent}

```

File 533 **lwarp-trimclip.sty**

§ 645 Package **trimclip**

`trimclip (Pkg)` trimclip is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{trimclip}[2018/04/08]

The third argument, the text, is not touched. This allows `\bgroup / \egroup`, and verbatim content.

```

2 \csdef{trimbox}{\@ifstar\@gobble\@gobble}
3 \csletcs{trimbox*}{trimbox}
4 \def\endtrimbox{}
5 \csletcs{endtrimbox*}{endtrimbox}
6
7 \csletcs{clipbox}{trimbox}
8 \csletcs{clipbox*}{trimbox}
9 \csletcs{endclipbox}{endtrimbox}
10 \csletcs{endclipbox*}{endtrimbox}
11
12 \csletcs{marginbox}{trimbox}
13 \csletcs{marginbox*}{trimbox}
14 \csletcs{endmarginbox}{endtrimbox}
15 \csletcs{endmarginbox*}{endtrimbox}

```

File 534 **lwarp-trivfloat.sty**

§ 646 Package **trivfloat**

(Emulates or patches code by JOSEPH WRIGHT.)

`trivfloat (Pkg)` trivfloat is forced to use the built-in lwarp emulation for floats.

To create a new float type and change its name:

```

\trivfloat{example}
\renewcommand{\examplename}{Example Name}
\crefname{example}{example}{examples}
\Crefname{example}{Example}{Examples}

```

Discard all options for `lwarp-trivfloat`. This tells `trivfloat` not to use `floatrow` or `memoir`.

```
1 \LWR@ProvidesPackageDrop{trivfloat}[2009/04/23]
2 \LWR@origRequirePackage{trivfloat}
```

`\tfl@chapter@fix` Nullified at the beginning of the document. Is used by `trivfloat` to correct float chapter numbers, but is not needed for `lwarp`.

```
3 \AtBeginDocument{\DeclareDocumentCommand{\tfl@chapter@fix}{m m}{}}
```

§ 646.1 **Combining `\newfloat`, `\trivfloat`, and `algorithmicx`**

For both print and HTML output:

- ⚠ When using `float`, `trivfloat`, or `algorithmicx` at the same time, be aware of conflicting file usage. `algorithmicx` uses `.loa`. `trivfloat` by default starts with `.loa` and goes up for additional floats, skipping `.lof` and `.lot`.
- ⚠ When using `\newfloat`, be sure to manually assign higher letters to the `\newfloat` files to avoid `.loa` used by `algorithmicx`, and any files used by `trivfloat`. Also avoid using `.lof` and `.lot`.
- ⚠ When using `\trivfloat`, you may force it to avoid conflicting with `algorithmicx` by starting `trivfloat`'s file extensions with `.lob`:

```
\makeatletter
\setcounter{tfl@float@cnt}{1} % start trivfloats with .lob
\makeatletter
```

File 535 **lwarp-truncate.sty**

§ 647 Package **truncate**

`truncate (Pkg)` `truncate` is ignored.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{truncate}[2001/08/20]
2 \providecommand{\TruncateMarker}{}
3 \newcommand{\truncate}[3][\TruncateMarker]{#3}
```

File 536 **lwarp-turnthepage.sty**

§ 648 Package **turnthepage**

`turnthepage (Pkg)` `turnthepage` is ignored.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{turnthepage}[2011/03/24]
2 \newcommand{\turnthepage}{}
```

File 537 **lwarp-twoup.sty**

§ 649 Package **twoup**

twoup (*Pkg*) **twoup** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{twoup}[2007/02/26]

2 \newcommand{\cleartolastpage}{}

File 538 **lwarp-txfonts.sty**

§ 650 Package **txfonts**

(Emulates or patches code by YOUNG RYU.)

txfonts (*Pkg*) **txfonts** is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{txfonts}[2008/01/22]

For MATHJAX:

```
2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{txfonts}
6
7 \LWR@mathjax@addgreek@l@up{}{up}
8 \end{warpMathJax}
```

File 539 **lwarp-txgreeks.sty**

§ 651 Package **txgreeks**

(Emulates or patches code by JEAN-FRANÇOIS BURNOL.)

txgreeks (*Pkg*) **txgreeks** is used as-is for SVG math, and is emulated for MATHJAX.

The MATHJAX emulation honors all package options.

for HTML output: 1 \LWR@ProvidesPackagePass{txgreeks}[2011/03/16]

```
2
3 \LWR@infoprocessingmathjax{txgreeks}
4 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
5
6 \begin{warpMathJax}
7 \iftgs@uplower% upright lowercase Greek
8   \LWR@mathjax@addgreek@l@up{}{}
```

```

9 \LWR@mathjax@addgreek@l@it{other}{}
10 \else% italic lowercase Greek
11 \LWR@mathjax@addgreek@l@it{}{}
12 \LWR@mathjax@addgreek@l@up{other}{}
13 \fi
14
15 \iftgs@itupper % italic uppercase Greek
16 \LWR@mathjax@addgreek@u@it*{}{}
17 \LWR@mathjax@addgreek@u@up*{other}{}
18 \LWR@mathjax@addgreek@u@up*{var}{}
19 \else% upright uppercase Greek
20 \LWR@mathjax@addgreek@u@up*{}{}
21 \LWR@mathjax@addgreek@u@it*{other}{}
22 \LWR@mathjax@addgreek@u@it*{var}{}
23 \fi
24 \end{warpMathJax}

```

File 540 **lwarp-typearea.sty**

§ 652 Package **typearea**

(Emulates or patches code by MARKUS KOHM.)

typearea (*Pkg*) typearea is emulated.

This package may be loaded standalone, but is also loaded automatically if koma-script classes are in use. `\DeclareDocumentCommand` is used to overwrite the koma-script definitions.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{typearea}[2018/03/30]

2 \DeclareDocumentCommand{\typearea}{o m}{}
3 \DeclareDocumentCommand{\reacalctypearea}{}{}
4 \@ifundefined{footheight}{\newlength\footheight}{}
5 \DeclareDocumentCommand{\areaset}{o m m}{}
6 \DeclareDocumentCommand{\activateareas}{}{}
7 \DeclareDocumentCommand{\storeareas}{m}{}
8 \DeclareDocumentCommand{\BeforeRestoreareas}{s m}{}
9 \DeclareDocumentCommand{\AfterRestoreareas}{s m}{}
10 \DeclareDocumentCommand{\AfterCalculatingTypearea}{s m}{}
11 \DeclareDocumentCommand{\AfterSettingArea}{s m}{}

```

File 541 **lwarp-typicons.sty**

§ 653 Package **typicons**

(Emulates or patches code by ARTHUR VIGIL, XAVIER DANAUX.)

typicons (*Pkg*) typicons is patched for use by lwarp.

If `\ticon` is used, the name of the icon is used in the `alt` tag. Otherwise, for each of the individual icon macros, a generic `alt` tag is used.

for HTML output:

```

1 \LWR@ProvidesPackagePass{typicons}[2015/05/20]

```

```

2 \LetLtxMacro\LWR@orig@symbol\symbol
3
4 \let\LWR@orig@typicon@TI\TI
5
6 \newcommand*\LWR@typicon@symbol[1]{%
7   \begin{lateximage}*[typicon][typicon#1]%
8   \begingroup%
9     \LWR@orig@typicon@TI%
10    \LWR@orig@symbol{#1}%
11   \endgroup%
12   \end{lateximage}%
13 }
14
15 \renewcommand*\TI{%
16   \LetLtxMacro\symbol\LWR@typicon@symbol%
17 }
18
19 \renewcommand*\ticon[1]
20 {%
21   \begin{lateximage}*[#1 icon]?[typicon#1]%
22   \TI\csname ticon@#1\endcsname%
23   \end{lateximage}%
24 }

```

File 542 **lwarp-ulem.sty**

§ 654 Package **ulem**

(Emulates or patches code by DONALD ARSENEAU.)

ulem (*Pkg*) Patched for use by lwarp.

for HTML output: Use the original package:

```
1 \LWR@ProvidesPackagePass{ulem}[2012/05/18]
```

Basic markup commands, using CSS:

```

2 \NewDocumentCommand{\LWR@HTML@uline}{+m}{%
3   \InlineClass%
4     (text-decoration:underline; text-decoration-skip: auto)%
5     {uline}{\LWR@isolate{#1}}%
6 }
7 \LWR@formatted{uline}
8
9 \NewDocumentCommand{\LWR@HTML@uuline}{+m}{%
10  \InlineClass%
11    (%
12      text-decoration:underline; text-decoration-skip: auto;%
13      text-decoration-style:double%
14    )%
15    {uuline}{\LWR@isolate{#1}}%
16 }
17 \LWR@formatted{uuline}
18
19 \NewDocumentCommand{\LWR@HTML@uwave}{+m}{%
20  \InlineClass%

```

```

21      (%)
22          text-decoration:underline; text-decoration-skip: auto;%
23          text-decoration-style:wavy%
24      )%
25      {uwave}{\LWR@isolate{#1}}%
26 }
27 \LWR@formatted{uwave}
28
29 \NewDocumentCommand{\LWR@HTML@sout}{+m}{%
30     \InlineClass%
31     (text-decoration:line-through)%
32     {sout}{\LWR@isolate{#1}}%
33 }
34 \LWR@formatted{sout}
35
36 \NewDocumentCommand{\LWR@HTML@xout}{+m}{%
37     \InlineClass%
38     (text-decoration:line-through)%
39     {xout}{\LWR@isolate{#1}}%
40 }
41 \LWR@formatted{xout}
42
43 \NewDocumentCommand{\LWR@HTML@dashuline}{+m}{%
44     \InlineClass%
45     (%)
46         text-decoration:underline;%
47         text-decoration-skip: auto;%
48         text-decoration-style:dashed%
49     )%
50     {dashuline}{\LWR@isolate{#1}}%
51 }
52 \LWR@formatted{dashuline}
53
54 \NewDocumentCommand{\LWR@HTML@dotuline}{+m}{%
55     \InlineClass%
56     (%)
57         text-decoration:underline;%
58         text-decoration-skip: auto;%
59         text-decoration-style: dotted%
60     )%
61     {dotuline}{\LWR@isolate{#1}}%
62 }
63 \LWR@formatted{dotuline}

```

Nullified/emulated macros:

```

64 \NewDocumentCommand{\LWR@HTML@markoverwith}{m}{ }
65 \LWR@formatted{markoverwith}
66
67 \NewDocumentCommand{\LWR@HTML@ULon}{+m}{\uline{#1}\egroup}
68 \LWR@formatted{ULon}

```

File 543 **lwarp-umoline.sty**

§ 655 Package **umoline**

(Emulates or patches code by HIROSHI NAKASHIMA.)

umoline (*Pkg*) **umoline** is patched for use by **lwarp**.

for HTML output: 1 \LWR@ProvidesPackagePass{umoline}[2000/07/11]

```

2 \newcommand*\LWR@HTML@Underline}[1]{%
3   \InlineClass{uline}{#1}%
4 }
5 \LWR@formatted{Underline}
6
7 \newcommand*\LWR@HTML@Midline}[1]{%
8   \InlineClass{sout}{#1}%
9 }
10 \LWR@formatted{Midline}
11
12 \newcommand*\LWR@HTML@Overline}[1]{%
13   \InlineClass{oline}{#1}%
14 }
15 \LWR@formatted{Overline}
16
17 \newcommand*\LWR@HTML@UMoline}[2]{%
18   \InlineClass{uline}{#2}%
19 }
20 \LWR@formatted{UMoline}
21
22 \NewDocumentCommand{\LWR@HTML@UMospace}{s m o}{\hspace*{#2}}
23 \LWR@formatted{UMospace}
24
25 \NewDocumentCommand{\LWR@HTML@UMOnewline}{s}{\newline}
26 \LWR@formatted{UMOnewline}

```

File 544 **lwarp-underscore.sty**

§ 656 Package **underscore**

underscore (*Pkg*) **underscore** is ignored.


for HTML output: 1 \LWR@ProvidesPackageDrop{underscore}[2006/09/13]

File 545 **lwarp-unicode-math.sty**


§ 657 Package **unicode-math**

(Emulates or patches code by WILL ROBERTSON.)

unicode-math (*Pkg*) **unicode-math** is supported as-is for HTML with **svgmath**.

 **MATHJAX** If the document source includes embedded Unicode characters, these may not be reproduced correctly for *pdftotext*, and thus not display correctly in **MATHJAX**.

Symbol font commands are emulated, but not all combinations are supported by **MATHJAX**, especially with the dedicated Greek macros. Symbol macros such as `\symbfsf` may not be sans or bold. For Greek, use the Unicode equivalent, if necessary.

 `\mathversion` The MATHJAX emulation does not change with the use of `\mathversion`. Whatever emulation is established at the begin of the document will remain.

The option `sans-style` honors upright and italic, but italic will not be sans, in order to support Greek macros.

Greek macros such as `\alpha` respond to the `math-style` option. Latin symbols does not, per MATHJAX limitations, unless placed inside `\symbit` or similar.

Macros from the categories `\mathopen`, `\mathclose`, and `\mathfence` are emulated. Due to current MATHJAX limitations, not all stretch to the correct height.

Also emulated are macros from the categories `\mathpunct`, `\mathover`, `\mathunder`, `\mathaccent`, `\mathbotaccent`, and `\mathop`.

The individual `unicode-math` macros of categories `\mathbin`, `\mathord`, and `\mathrel` are not emulated for MATHJAX, as there are more than two thousand of them, but they may be added as needed. Place the following in the document preamble after loading `unicode-math`, including a definition for each macro which is used in the document but undefined in MATHJAX:

```
\begin{warpMathJax}
\CustomizeMathJax{\newcommand{\uplus}{\mathbin{\unicode{x0228E}}}}
...
\end{warpMathJax}
```

Use `\mathrel`, `\mathbin`, etc. depending on the category of each macro. For a list of macro names and symbols, see **texdoc unimath-symbols**.

for HTML output:

```
1 \LWR@ProvidesPackagePass{unicode-math}[2019/09/26]
2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{unicode-math}
6
7 % Not all are possible in MathJax.
8 \CustomizeMathJax{\let\symnormal\mathit}
9 \CustomizeMathJax{\let\symliteral\mathrm}
10 \CustomizeMathJax{\let\symbb\mathbb}
11 \CustomizeMathJax{\let\symbbit\mathbb}% not italic
12 \CustomizeMathJax{\let\symcal\mathcal}
13 \CustomizeMathJax{\let\symscr\mathscr}
14 \CustomizeMathJax{\let\symfrac\mathfrak}
15
16 \CustomizeMathJax{\let\symsfup\mathsf}
17
18 \CustomizeMathJax{\let\symsfit\mathit}% not sans
19 % \CustomizeMathJax{\newcommand{\symsfit}[1]{%
20 %   \mmlToken{mi}[mathvariant="sans-serif-italic"]{#1}}% not greek
21 % }
22
23 \CustomizeMathJax{\let\symbfsf\mathbf}% not sans
24 % \CustomizeMathJax{\newcommand{\symbfsf}[1]{%
25 %   \mmlToken{mi}[mathvariant="bold-sans-serif"]{#1}}% not greek
26 % }
27
28 \CustomizeMathJax{\let\symbfup\mathbf}
```

```

29 \CustomizeMathJax{\newcommand{\symsfit}[1]{\boldsymbol{#1}}}
30 \CustomizeMathJax{\let\symsfcal\mathcal}% not bold
31
32 \CustomizeMathJax{\let\symsfscr\mathscr}% not bold
33 % \CustomizeMathJax{\newcommand{\symsfscr}[1]{
34 %     \mmlToken{mi}[mathvariant="math-bold-script"]{#1}}% not greek
35 % }
36
37 \CustomizeMathJax{\let\symsffrak\mathfrak}% not bold
38 % \CustomizeMathJax{\newcommand{\symsffrak}[1]{%
39 %     \mmlToken{mi}[mathvariant="math-bold-fraktur"]{#1}}% not greek
40 % }
41
42 \CustomizeMathJax{\let\symsfsfup\mathbf}% not sans
43 % \CustomizeMathJax{\newcommand{\symsfsfup}[1]{%
44 %     \mmlToken{mi}[mathvariant="bold-sans-serif"]{#1}}% not greek
45 % }
46
47 \CustomizeMathJax{\newcommand{\symsfsfit}[1]{\boldsymbol{#1}}}% not sans
48 % \CustomizeMathJax{\newcommand{\symsfsfit}[1]{%
49 %     \mmlToken{mi}[mathvariant="sans-serif-bold-italic"]{#1}}% not greek
50 % }
51
52 % Duplicates below are commented out.
53 \CustomizeMathJax{\let\symsup\mathrm}
54 \CustomizeMathJax{\let\symsbf\mathbf}% \symsfup defined above
55 \CustomizeMathJax{\let\symsit\mathit}
56 % \CustomizeMathJax{\let\symsfit\mathit}% not bold

57 \ExplSyntaxOn
58 \AtBeginDocument{
59 \bool_if:NTF \g__um_sfliteral_bool
60   {\CustomizeMathJax{\let\symsf\symsfup}}
61   {
62     \bool_if:NTF \g__um_upsans_bool
63       {\CustomizeMathJax{\let\symsf\symsfup}}
64       {\CustomizeMathJax{\let\symsf\symsfit}}
65   }
66 }
67 \ExplSyntaxOff

68 % \CustomizeMathJax{\let\symsfsfup\mathbf}% not sans
69 % \CustomizeMathJax{\let\symsfit\mathit}% not sans
70 % \CustomizeMathJax{\let\symsfsfit\mathit}% not bold nor sans
71 \CustomizeMathJax{\let\symsitt\mathit}
72 % \CustomizeMathJax{\let\symsbb\mathbb}
73 % \CustomizeMathJax{\let\symsbbit\mathbb}% not italic
74 % \CustomizeMathJax{\let\symscr\mathscr}
75 % \CustomizeMathJax{\let\symsfscr\mathscr}% not bold
76 % \CustomizeMathJax{\let\symsfrak\mathfrak}
77 \CustomizeMathJax{\let\symsffrac\mathbfrac}

```

Some symbol categories defined by unicode-math, in case they are used inside custom macros:

```

78 \CustomizeMathJax{\newcommand{\mathfence}[1]{\mathord{#1}}}
79 \CustomizeMathJax{\newcommand{\mathover}[1]{#1}}
80 \CustomizeMathJax{\newcommand{\mathunder}[1]{#1}}
81 \CustomizeMathJax{\newcommand{\mathaccent}[1]{#1}}

```



```
82 \CustomizeMathJax{\newcommand{\mathbotaccent}[1]{#1}}
83 \CustomizeMathJax{\newcommand{\mathalpha}[1]{\mathord{#1}}}
```

math-style is one of: ISO, TeX, french, upright, or literal, which set `\g__um_upGreek_bool` and `\g__um_upgreek_bool`.

```
84 \ExplSyntaxOn
85
86 \AtBeginDocument{
87 \bool_if:NTF \g__um_upGreek_bool
88   {\LWR@mathjax@addgreek@u@up*{}{}}
89   {\LWR@mathjax@addgreek@u@it*{}{}}
90
91 \bool_if:NTF \g__um_upgreek_bool
92   {\LWR@mathjax@addgreek@l@up*{}{}}
93   {\LWR@mathjax@addgreek@l@it*{}{}}
94 }
95
96 \LWR@mathjax@addgreek@u@up*{up}{ }
97 \LWR@mathjax@addgreek@u@it*{it}{ }
98 \LWR@mathjax@addgreek@l@up*{up}{ }
99 \LWR@mathjax@addgreek@l@it*{it}{ }
100
101 \ExplSyntaxOff
102
103 \CustomizeMathJax{\let\lparen(}
104 \CustomizeMathJax{\let\rparen)}
105 \CustomizeMathJax{\newcommand{\cuberoot}[1]{\,\,{}^3\!\!\sqrt{#1}}\,}
106 \CustomizeMathJax{\newcommand{\fourthroot}[1]{\,\,{}^4\!\!\sqrt{#1}}\,}
```

Many `\mathopen/\mathclose` delimiters are defined in `lwarp_mathjax.txt`, where `\left/\right` support is added.

```
107 \CustomizeMathJax{\newcommand{\longdivision}[1]{\mathord{\unicode{x027CC}#1}}}
108
109 \CustomizeMathJax{\newcommand{\mathcomma}{,}}
110 \CustomizeMathJax{\newcommand{\mathcolon}{:}}
111 \CustomizeMathJax{\newcommand{\mathsemicolon}{;}}
112
113 \CustomizeMathJax{\newcommand{\overbracket}[1]{\mathinner{\overline{\ulcorner#1\urcorner}}}}
114 \CustomizeMathJax{\newcommand{\underbracket}[1]{\mathinner{\underline{\llcorner#1\lrcorner}}}}
115
116 \CustomizeMathJax{\newcommand{\overbar}[1]{\mathord{#1\unicode{x00305}}}}
117 \CustomizeMathJax{\newcommand{\ovhook}[1]{\mathord{#1\unicode{x00309}}}}
118 \CustomizeMathJax{\newcommand{\ocirc}[1]{\mathord{#1\unicode{x0030A}}}}
119 \CustomizeMathJax{\newcommand{\candra}[1]{\mathord{#1\unicode{x00310}}}}
120 \CustomizeMathJax{\newcommand{\oturnedcomma}[1]{\mathord{#1\unicode{x00312}}}}
121 \CustomizeMathJax{\newcommand{\ocommatopright}[1]{\mathord{#1\unicode{x00315}}}}
122 \CustomizeMathJax{\newcommand{\droang}[1]{\mathord{#1\unicode{x0031A}}}}
123 \CustomizeMathJax{\newcommand{\leftharpoonaccent}[1]{\mathord{#1\unicode{x020D0}}}}
124 \CustomizeMathJax{\newcommand{\rightharpoonaccent}[1]{\mathord{#1\unicode{x020D1}}}}
125 \CustomizeMathJax{\newcommand{\vertoverlayer}[1]{\mathord{#1\unicode{x020D2}}}}
126 \CustomizeMathJax{\newcommand{\leftarrowaccent}[1]{\mathord{#1\unicode{x020D0}}}}
127 \CustomizeMathJax{\newcommand{\annuity}[1]{\mathord{#1\unicode{x020E7}}}}
128 \CustomizeMathJax{\newcommand{\widebridgeabove}[1]{\mathord{#1\unicode{x020E9}}}}
129 \CustomizeMathJax{\newcommand{\asteraccent}[1]{\mathord{#1\unicode{x020F0}}}}
130 \CustomizeMathJax{\newcommand{\threeunderdot}[1]{\mathord{#1\unicode{x020E8}}}}
131
132 \CustomizeMathJax{\newcommand{\Bbbsum}{\mathop{\unicode{x2140}}\limits}}
```

```

133 \CustomizeMathJax{\newcommand{\oint}{\mathop{\unicode{x222F}}\limits}}
134 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x2230}}\limits}}
135 \CustomizeMathJax{\newcommand{\intclockwise}{\mathop{\unicode{x2231}}\limits}}
136 \CustomizeMathJax{\newcommand{\ointclockwise}{\mathop{\unicode{x2232}}\limits}}
137 \CustomizeMathJax{\newcommand{\ointctrlockwise}{\mathop{\unicode{x2233}}\limits}}
138 \CustomizeMathJax{\newcommand{\varointclockwise}{\mathop{\unicode{x2232}}\limits}}
139 \CustomizeMathJax{\newcommand{\leftouterjoin}{\mathop{\unicode{x27D5}}\limits}}
140 \CustomizeMathJax{\newcommand{\rightouterjoin}{\mathop{\unicode{x27D6}}\limits}}
141 \CustomizeMathJax{\newcommand{\fullouterjoin}{\mathop{\unicode{x27D7}}\limits}}
142 \CustomizeMathJax{\newcommand{\bigbot}{\mathop{\unicode{x27D8}}\limits}}
143 \CustomizeMathJax{\newcommand{\bigtop}{\mathop{\unicode{x27D9}}\limits}}
144 \CustomizeMathJax{\newcommand{\xsol}{\mathop{\unicode{x29F8}}\limits}}
145 \CustomizeMathJax{\newcommand{\xbsol}{\mathop{\unicode{x29F9}}\limits}}
146 \CustomizeMathJax{\newcommand{\bigcupdot}{\mathop{\unicode{x2A03}}\limits}}
147 \CustomizeMathJax{\newcommand{\bigsqcap}{\mathop{\unicode{x2A05}}\limits}}
148 \CustomizeMathJax{\newcommand{\conjquant}{\mathop{\unicode{x2A07}}\limits}}
149 \CustomizeMathJax{\newcommand{\disjquant}{\mathop{\unicode{x2A08}}\limits}}
150 \CustomizeMathJax{\newcommand{\bigtimes}{\mathop{\unicode{x2A09}}\limits}}
151 \CustomizeMathJax{\newcommand{\modtwosum}{\mathop{\unicode{x2A0A}}\limits}}
152 \CustomizeMathJax{\newcommand{\sumint}{\mathop{\unicode{x2A0B}}\limits}}
153 \CustomizeMathJax{\newcommand{\intbar}{\mathop{\unicode{x2A0D}}\limits}}
154 \CustomizeMathJax{\newcommand{\intBar}{\mathop{\unicode{x2A0E}}\limits}}
155 \CustomizeMathJax{\newcommand{\fint}{\mathop{\unicode{x2A0F}}\limits}}
156 \CustomizeMathJax{\newcommand{\cirfnint}{\mathop{\unicode{x2A10}}\limits}}
157 \CustomizeMathJax{\newcommand{\awint}{\mathop{\unicode{x2A11}}\limits}}
158 \CustomizeMathJax{\newcommand{\rrpolint}{\mathop{\unicode{x2A12}}\limits}}
159 \CustomizeMathJax{\newcommand{\scpolint}{\mathop{\unicode{x2A13}}\limits}}
160 \CustomizeMathJax{\newcommand{\npolint}{\mathop{\unicode{x2A14}}\limits}}
161 \CustomizeMathJax{\newcommand{\pointint}{\mathop{\unicode{x2A15}}\limits}}
162 \CustomizeMathJax{\newcommand{\sqint}{\mathop{\unicode{x2A16}}\limits}}
163 \CustomizeMathJax{\newcommand{\intlarhk}{\mathop{\unicode{x2A17}}\limits}}
164 \CustomizeMathJax{\newcommand{\intx}{\mathop{\unicode{x2A18}}\limits}}
165 \CustomizeMathJax{\newcommand{\intcap}{\mathop{\unicode{x2A19}}\limits}}
166 \CustomizeMathJax{\newcommand{\intcup}{\mathop{\unicode{x2A1A}}\limits}}
167 \CustomizeMathJax{\newcommand{\upint}{\mathop{\unicode{x2A1B}}\limits}}
168 \CustomizeMathJax{\newcommand{\lowint}{\mathop{\unicode{x2A1C}}\limits}}
169 \CustomizeMathJax{\newcommand{\bigtriangleleft}{\mathop{\unicode{x2A1E}}\limits}}
170 \CustomizeMathJax{\newcommand{\zcmp}{\mathop{\unicode{x2A1F}}\limits}}
171 \CustomizeMathJax{\newcommand{\zpipe}{\mathop{\unicode{x2A20}}\limits}}
172 \CustomizeMathJax{\newcommand{\zproject}{\mathop{\unicode{x2A21}}\limits}}
173 \CustomizeMathJax{\newcommand{\biginterleave}{\mathop{\unicode{x2AFC}}\limits}}
174 \CustomizeMathJax{\newcommand{\bigtalloblong}{\mathop{\unicode{x2AFF}}\limits}}
175 \CustomizeMathJax{\newcommand{\varabicmaj}{\mathop{\unicode{x1EEF0}}\limits}}
176 \CustomizeMathJax{\newcommand{\varabicjad}{\mathop{\unicode{x1EEF1}}\limits}}
177
178 \end{warpMathJax}

```

File 546 **lwarp-units.sty**

§ 658 Package **units**

(Emulates or patches code by AXEL REICHERT.)

units (*Pkg*) units is patched for use by lwarp.

Values are not styled by CSS, and take the style of the surrounding HTML text.

Units are styled according to the print version, so they will be forced to upright roman in HTML if the print version does so. It may be necessary to adjust the document's body css to match the print version.

for HTML output:

```

1 \LWR@ProvidesPackagePass{units}[1998/08/04]

2 \DeclareRobustCommand*\LWR@HTML@unit}[2][[%
3 \ifblank{#1}%
4   {\LWR@textcurrentfont{#2}}%
5   {%
6     #1%
7     \ifthenelse{\boolean{B@UnitsLoose}}{~}{\,%
8     \LWR@textcurrentfont{#2}}%
9   }%
10 }
11 \LWR@formatted{unit}

12 \DeclareRobustCommand*\LWR@HTML@unitfrac}[3][[%
13 \ifblank{#1}%
14   {%
15     \nicefrac{#2}{#3}%
16   }%
17   {%
18     #1%
19     \ifthenelse{\boolean{B@UnitsLoose}}{~}{\,%
20     \nicefrac{#2}{#3}}%
21   }%
22 }
23
24 \LWR@formatted{unitfrac}

```

For MATHJAX:

```

25 \begin{warpMathJax}
26 \CustomizeMathJax{\newcommand{\unit}[2][[#1 \mathinner{#2}]}
27 \CustomizeMathJax{\newcommand{\unitfrac}[3][[#1 \mathinner{{}^{\#2}\!/_{\#3}}]}
28 \end{warpMathJax}

```

File 547 **lwarp-unitsdef.sty**

§ 659 Package **unitsdef**

(Emulates or patches code by PATRICK HAPPEL.)

unitsdef (*Pkg*) **unitsdef** is patched for use by **lwarp**.

for HTML output:

```

1 \LWR@ProvidesPackagePass{unitsdef}[2005/01/04]

2 \newcommand{\LWR@HTML@unitvaluesep}{\,%
3 \LWR@formatted{unitvaluesep}
4
5 \newcommand{\LWR@HTML@unittimes}{@@setunitsepfalse\HTMLUnicode{22c5}}% \cdot
6 \LWR@formatted{unittimes}
7
8 \newunit{\LWR@HTML@arcmin}{%
9   \HTMLUnicode{2032}% prime

```

```

10 }
11 \LWR@formatted{arcmin}
12
13 \newunit{\LWR@HTML@arcsec}{%
14   \HTMLUnicode{2033}% dbl prime
15 }
16 \LWR@formatted{arcsec}
17
18 \newrobustcmd{\LWR@HTML@SI}[2]{%
19   \begingroup%
20   \let\unit@xspace\relax%
21   \unitSIdef\selectfont%
22     \LWR@textcurrentfont{#1#2}% lwarp
23   \endgroup%
24 }
25 \LWR@formatted{SI}

```

File 548 **lwarp-upgreek.sty**

§ 660 Package **upgreek**

(Emulates or patches code by WALTER SCHMIDT.)

upgreek (*Pkg*) upgreek is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{upgreek}[2003/02/12]

For MATHJAX:

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\require{upgreek}}
4 \end{warpMathJax}

```

File 549 **lwarp-upref.sty**

§ 661 Package **upref**

upref (*Pkg*) upref is ignored.

for HTML output: Discard all options for lwarp-upref:

```

1 \LWR@ProvidesPackageDrop{upref}[2007/03/14]

```

File 550 **lwarp-url.sty**

§ 662 Package **url**

(Emulates or patches code by DONALD ARSENEAU.)

url (*Pkg*) url is patched for use by lwarp.

for HTML output: 1 \LetLtxMacro\LWR@url@orig@url\LWR@url

```

2
3 \LWR@ProvidesPackagePass{url}[2013/09/16]

4 \newcommand*\LWR@HTML@Url@FormatString{%
5   \expandafter\LWR@url@orig@url\expandafter{Url@String}%
6 }
7 \LWR@formatted{Url@FormatString}

```

File 551 **lwarp-ushort.sty**

§ 663 Package **ushort**

(Emulates or patches code by MARTIN VÄTH.)

ushort (*Pkg*) ushort is used as-is, and emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{ushort}[2001/06/13]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\shortdline}[1]{%
4   \kern{.1em}\underline{\underline{#1}}\kern{.1em}%
5 }}
6 \CustomizeMathJax{\newcommand{\ushort}[1]{\kern{.1em}\underline{#1}\kern{.1em}}}
7 \CustomizeMathJax{\newcommand{\shortd}[1]{\shortdline{#1}}}
8 \CustomizeMathJax{\newcommand{\shorttw}[1]{\kern{.1em}\underline{#1}\kern{.1em}}}
9 \CustomizeMathJax{\newcommand{\shortdw}[1]{\shortdline{#1}}}
10 \end{warpMathJax}

```

File 552 **lwarp-ospace.sty**

§ 664 Package **ospace**

ospace (*Pkg*) ospace is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{ospace}[2016/11/06]

File 553 **lwarp-varioref.sty**

§ 665 Package **varioref**

(Emulates or patches code by FRANK MITTELBACH.)

varioref (*Pkg*) varioref is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{varioref}[2020/01/23]

Page-related output is not used for HTML output.

```

2 \def\reftextfaceafter {\unskip}%
3 \def\reftextfacebefore{\unskip}%
4 \def\reftextafter     {\unskip}%

```

```

5 \def\reftextbefore    {\unskip}%
6 \def\reftextcurrent   {\unskip}%
7 \def\reftextfaraway#1{\unskip}%
8 \def\reftextpage#1#2{\unskip}%

```

File 554 **lwarp-verse.sty**

§ 666 Package **verse**

(Emulates or patches code by PETER WILSON.)

verse (*Pkg*) **verse** is supported and patched by **lwarp**.

for HTML output: Pass all options for **lwarp-verse**:

```
1 \LWR@ProvidesPackagePass{verse}[2009/09/04]
```

When using **verse** or **memoir**, always place a `\\` after each line.


`\attrib` The documentation for the **verse** and **memoir** packages suggest defining an `\attrib` command, which may already exist in current documents, but it will only work for print output. **lwarp** provides `\attribution`, which works for both print and HTML output. To combine the two so that `\attrib` is used for print and `\attribution` is used for HTML:


```

\begin{warpHTML}
\let\attrib\attribution
\end{warpHTML}

```

`\leftskip` (*Len*) These lengths are used by **verse** and **memoir** to control the left margin, and they may already be set by the user for print output. New lengths `\HTMLleftskip` and `\HTMLleftmargini` are provided to control the margins in HTML output. These new lengths may be set by the user before any **verse** environment, and persist until they are manually changed again. One reason to change `\HTMLleftmargini` is if there is a wide `\flagverse` in use, such as the word “Chorus”, in which case the value of `\HTMLleftmargini` should be set to a wide enough length to contain “Chorus”. The default is wide enough for a stanza number.

 **spacing** Horizontal spacing relies on *pdftotext*'s ability to discern the layout (`-layout` option) of the text in the HTML-tagged PDF output. For some settings of `\HTMLleftmargini` or `\HTMLleftskip` the horizontal alignment may not work out exactly, in which

 **verse margin** case a label may be shifted by one space. During translation to HTML, the stanza numbers are kept out of the left margin, which would have caused *pdftotext* to shift everything over.

verse (*env.*) The **verse** environment will be placed inside a HTML `<pre>`.

```

2 \AfterEndPreamble{
3 \LWR@traceinfo{Patching verse.}

```

At the beginning of the **verse** environment:

```

4 \AtBeginEnvironment{verse}
5 {%

```

Use the original list environment inside a `<pre>` to attempt to preserve formatting.

```
6 \LWR@restoreoriglists%
```

`verse` (*Pkg*) The `verse` or `memoir` packages can place stanza numbers to the left with their `\flagverse` command. The following does not allow them to go into the left margin, which would cause *pdfcrop* to crop the entire page further to the left.

```
\vleftskip (Len) 7 \ifdef{\vleftskip}{%
8 \setlength{\vleftskip}{\HTMLvleftskip}
9 \setlength{\leftmargini}{\HTMLleftmargini}
10 }{}
11 \LWR@forcenewpage
12 \LWR@atbeginverbatim{verse}%
13 }
```

After the end of the `verse` environment, which places the `<pre>` tag at the regular left margin:

```
14 \AtEndEnvironment{verse}{%
15 \leavevmode%
16 \LWR@afterendverbatim%
17 }
```

Patch to place `poemtitle` inside an HTML `` of class `poemtitle`:

```
18 \ifdef{\poemtitle}{
19 \DeclareDocumentCommand{\@vstypeptitle}{m}{%
20 \vspace{\beforepoemtitleskip}%
21 {\InlineClass{poemtitle}{\poemtitlefont #1}\par}%
22 \vspace{\afterpoemtitleskip}%
23 }
24 }{}
25
26 \LWR@traceinfo{Finished patching verse.}
27 }% AfterEndPreamble
```

File 555 **lwarp-versednotes.sty**

§ 667 Package **versednotes**

(Emulates or patches code by NORMAN GRAY.)

`versednotes` (*Pkg*) `versednotes` is emulated.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{versednotes}[2019/07/06]
2 \newcommand{\versednote}[1]{\marginpar{#1}}
3 \newdimen\versedtextwidth
4 \newdimen\versedleftmargin
5 \newcommand*{\versedlayout}{}

```

In case the user changed the page number before loading `versednotes`:

```
6 \setcounter{page}{1}
```

File 556 **lwarp-vertbars.sty**

§ 668 Package **vertbars**

(Emulates or patches code by PETER WILSON.)

vertbars (*Pkg*) **vertbars** is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{vertbars}[2010/11/27]

```

2 \newlength{\barwidth}
3 \setlength{\barwidth}{0.4pt}
4 \newlength{\barspace}
5 \setlength{\barspace}{1em}
6
7 \newenvironment{vertbar}{
8   \LWR@forcenewpage
9   \LWR@forceminwidth{\barwidth}
10  \begin{BlockClass}[%
11    border-left: \LWR@printlength{\LWR@atleastonept} solid black ; %
12    padding-left: \LWR@printlength{\barspace}%
13  ]{vertbar}
14 }{
15   \end{BlockClass}
16 }
```

File 557 **lwarp-vmargin.sty**

§ 669 Package **vmargin**

vmargin (*Pkg*) **vmargin** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{vmargin}[2004/07/15]

```

2 \newcommand*\LWRVM@customsize[2]{}
3 \newcommand*\setpapersize[2][\ifstrequal{#2}{custom}{\LWRVM@customsize}{}]}
4 \newcommand*\setmargins[8]{}
5 \newcommand*\setmarginsrb[8]{}
6 \newcommand*\setmargnohf[4]{}
7 \newcommand*\setmargnohfrb[4]{}
8 \newcommand*\setmarg[4]{}
9 \newcommand*\setmargrb[4]{}
10 \newlength{\PaperWidth}
11 \setlength{\PaperWidth}{8.5in}
12 \newlength{\PaperHeight}
13 \setlength{\PaperHeight}{11in}
14 \newif\ifLandscape
```

File 558 **lwarp-vowel.sty**

§ 670 Package **vowel**

(Emulates or patches code by FUKUI REL.)

vowel (*Pkg*) vowel is patched for use by lwarp.

This package has been tested with *pdf_latex* and the Type 1 TIPA fonts using the following package load sequence:

```
\usepackage[T3,T1]{fontenc}
\usepackage[utf8]{inputenc}
\usepackage[noenc]{tipa}
\usepackage{vowel}
```

for HTML output: 1 \LWR@ProvidesPackagePass{vowel}[2002/08/08]

```
2 \renewenvironment{vowel}[1]{}
3   {%
4     \begin{lateximage}[-vowel--\PackageDiagramAltText]?%
5     \@vowel[#1]%
6   }
7   {%
8     \@@vowel%
9     \end{lateximage}%
10  }
```

File 559 **lwarp-vpe.sty**

§ 671 Package **vpe**

vpe (*Pkg*) vpe is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{vpe}[2012/04/18]

File 560 **lwarp-vwcol.sty**

§ 672 Package **vwcol**

(Emulates or patches code by WILL ROBERTSON.)

vwcol (*Pkg*) vwcol is patched for use with lwarp.

The width option is ignored. All vwcol environments adjust to 1–3 equal-width columns, depending on the width of the browser window.

The remaining options are supported, except for lines and maxrecursion.

for HTML output: 1 \LWR@ProvidesPackagePass{vwcol}[2015/02/10]

Factored from \vwcol. Each is given a style tag to append to the final style.

```
\LWR@vwcol@addrule      {<style tag>}
2 \newcommand*{\LWR@vwcol@addrule}[1]{%
3   \appto{\LWR@vwcolstyle}{%
4     #1: %
5     \LWR@printlength{\vwcol@rule} solid \LWR@origpound\LWR@vwcol@rulecolor ; %
6   }%
7 }
```

```
\LWR@vwcol@addrule      {<style tag>}
8 \newcommand*{\LWR@vwcol@addgap}[1]{%
9   \appto{\LWR@vwcolstyle}{%
10    #1: %
11    \LWR@printlength{\vwcol@sep} ; %
12  }%
13 }
```

Env vwcol {<key/values>}
Redefine the environment to add a HTML style. The style is built depending on the required options.

```
14 \renewenvironment*{vwcol}[1][1]{%
New paragraph, and process the options:
15 \LWR@stoppars%
16 \vwcolsetup{#1}%
Begin with no style:
17 \newcommand*{\LWR@vwcolstyle}{}
presep and postsep are created with HTML margins:
18 \if@vwcol@presep
19   \appto{\LWR@vwcolstyle}{margin-left: 1em ; padding-left: .5em ; }
20 \fi
21 \if@vwcol@postsep
22   \appto{\LWR@vwcolstyle}{margin-right: 1em ; padding-right: .5em ; }
23 \fi
sep becomes column-gap:
24 \ifdimgreater{\vwcol@sep}{1sp}{
25   \LWR@vwcol@addgap{column-gap}
26   \LWR@vwcol@addgap{-moz-column-gap}
27   \LWR@vwcol@addgap{-webkit-column-gap}
28 }{}
rule become column-rule, while prerule and postrule become HTML borders:
29 \convertcolorspec{named}{\vwcol@rulecol}{HTML}\LWR@vwcol@rulecolor%
30 \ifdimgreater{\vwcol@rule}{0pt}{
31   \ifdimless{\vwcol@rule}{1pt}{
32     \setlength{\vwcol@rule}{1pt}
33   }{}
34   \LWR@vwcol@addrule{column-rule}
35   \LWR@vwcol@addrule{-moz-column-rule}
36   \LWR@vwcol@addrule{-webkit-column-rule}
37   \if@vwcol@prerule\LWR@vwcol@addrule{border-left}\fi
```

```
38 \if@vwcol@postrule\LWR@vwcol@addrule{border-right}\fi
39 }{}
```

Each of the justify options becomes a text-align. Indentation is added where appropriate.

```
40 \ifdefequal{\vwcol@justify}{\RaggedRight}{
41 \appto{\LWR@vwcolstyle}{text-align: left ; }
42 \ifdimgreater{\vwcol@parindent}{0pt}{
43 \appto{\LWR@vwcolstyle}{%
44 text-indent: \LWR@printlength{\vwcol@parindent} ; %
45 }
46 }{ }
47 }{ }

48 \ifdefequal{\vwcol@justify}{\RaggedLeft}{
49 \appto{\LWR@vwcolstyle}{text-align: right ; }
50 }{ }

51 \ifdefequal{\vwcol@justify}{\Centering}{
52 \appto{\LWR@vwcolstyle}{text-align: center ; }
53 }{ }

54 \ifdefequal{\vwcol@justify}{\justifying}{
55 \appto{\LWR@vwcolstyle}{text-align: justify ; }
56 \ifdimgreater{\vwcol@parindent}{0pt}{
57 \appto{\LWR@vwcolstyle}{%
58 text-indent: \LWR@printlength{\vwcol@parindent} ; %
59 }
60 }{ }
61 }{ }
```

Create the <div> with the assembled style:

```
62 \BlockClass[\LWR@vwcolstyle]{multicols}
63 }
```

When the environment ends:

```
64 {
65 \endBlockClass
66 \LWR@startpars
67 }
```

File 561 **lwarp-wallpaper.sty**

§ 673 Package **wallpaper**

(Emulates or patches code by MICHAEL H.F. WILKINSON.)

wallpaper (*Pkg*) **wallpaper** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{wallpaper}[2005/01/18]

```
2 \newcommand*\CenterWallPaper}[2]{}
3 \newcommand*\ThisCenterWallPaper}[2]{}
4 \newcommand*\TileWallPaper}[3]{}
5 \newcommand*\ThisTileWallPaper}[3]{}
6 \newcommand*\TileSquareWallPaper}[2]{}
7 \newcommand*\ThisTileSquareWallPaper}[2]{}
8 \newcommand*\ULCornerWallPaper}[2]{}

```

```

9 \newcommand*\ThisULCornerWallPaper}[2]{}
10 \newcommand*\LLCornerWallPaper}[2]{}
11 \newcommand*\ThisLLCornerWallPaper}[2]{}
12 \newcommand*\URCornerWallPaper}[2]{}
13 \newcommand*\ThisURCornerWallPaper}[2]{}
14 \newcommand*\LRCornerWallPaper}[2]{}
15 \newcommand*\ThisLRCornerWallPaper}[2]{}
16 \newcommand*\ClearWallPaper}{}
17 \newlength{\wpXoffset}
18 \newlength{\wpYoffset}

```

File 562 **lwarp-watermark.sty**

§ 674 Package **watermark**

(Emulates or patches code by ALEXANDER I. ROZHENKO.)

watermark (*Pkg*) watermark is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{watermark}[2004/12/09]

```

2 \newcommand{\watermark}[1]{}
3 \newcommand{\leftwatermark}[1]{}
4 \newcommand{\rightwatermark}[1]{}
5 \newcommand{\thiswatermark}[1]{}
6 \newcommand{\thispageheading}[1]{}

```

File 563 **lwarp-widetable.sty**

§ 675 Package **widetable**

(Emulates or patches code by CLAUDIO BECCARI.)

widetable (*Pkg*) widetable is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{widetable}[2019-06-25]

```

2 \newenvironment{widetable}{\begin{tabular*}}{\end{tabular*}}

```

File 564 **lwarp-widows-and-orphans.sty**

§ 676 Package **widows-and-orphans**

widows-and-orphans (*Pkg*) widows-and-orphans is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{widows-and-orphans}[2018/09/01]

```

2 \NewDocumentCommand\WaOsetup{m}{}
3 \NewDocumentCommand\WaOparameters{}{}
4 \NewDocumentCommand\WaOignorenext{}{}

```

File 565 **lwarp-witharrows.sty**

§ 677 Package **witharrows**

(Emulates or patches code by F. PANTIGNY.)

witharrows (*Pkg*) **witharrows** is patched for use by **lwarp**. Emulation is provided for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{witharrows}[2024/10/19]

For MATHJAX, define a few things to be used in the hidden print version during HTML output.

```

2 \ifbool{mathjax}{
3   \newcommand{\Arrow}[2][{}]{
4     \newcommand{\unicode}[1]{
5       \NewDocumentEnvironment { LWR@HTML@DispWithArrows } { ! d < > ! 0 { } +b}
6         {
7           \IfValueTF{#1}{
8             \begin{displaymath}
9               #1 \left\lbracket
10              \begin{align}
11                #3
12              \end{align}
13              \right .
14            \end{displaymath}
15          }{
16            \begin{displaymath}
17              \begin{align}
18                #3
19              \end{align}
20            \end{displaymath}
21          }
22        }
23      {}
24    \LWR@formattedenv{DispWithArrows}
25    \NewDocumentEnvironment { LWR@HTML@DispWithArrows* } { ! d < > ! 0 { } +b}
26      {
27        \IfValueTF{#1}{
28          \begin{displaymath}
29            #1 \left\lbracket
30            \begin{align*}
31              #3
32            \end{align*}
33            \right .
34          \end{displaymath}
35        }{
36          \begin{displaymath}
37            \begin{align*}
38              #3
39            \end{align*}
40          \end{displaymath}
41        }
42      }
43    {}

```

```
44 \LWR@formattedenv{DispWithArrows*}
45 }% MathJax
```

For SVG output, use `svg` images.

```
46 {% SVG
47 \BeforeBeginEnvironment{WithArrows}{\global\booltrue{LWR@unknownmathsize}}
48 \BeforeBeginEnvironment{DispWithArrows}{%
49 \begin{BlockClass}{displaymathnumbered}%
50 \begin{lateximage}%
51 }
52 \AfterEndEnvironment{DispWithArrows}{\end{lateximage}\end{BlockClass}}
53 \BeforeBeginEnvironment{DispWithArrows*}{%
54 \begin{BlockClass}{displaymath}%
55 \begin{lateximage}%
56 }
57 \AfterEndEnvironment{DispWithArrows*}{\end{lateximage}\end{BlockClass}}
58 }% SVG
```

For MATHJAX, emulate the commands which are defined only inside the envs.

```
59 \begin{warpMathJax}
60 \CustomizeMathJax{\newenvironment{WithArrows}[1][\begin{aligned}]{\end{aligned}}}
61 % Unable to make a sized box.
62 \CustomizeMathJax{\newcommand{\Arrow}[2][\&\Large\unicode{x2938}]{\textit{#2}}}
63 \end{warpMathJax}
```

File 566 **lwarp-wrapfig.sty**

§ 678 Package **wrapfig**

(Emulates or patches code by DONALD ARSENEAU.)

`wrapfig (Pkg)` `wrapfig` is emulated.

```
for HTML output: 1 \LWR@ProvidesPackageDrop{wrapfig}[2003/01/31]

2 \newcommand*\LWR@wrapposition{}
3
4 \newcommand{\LWR@wrapfig@printHTMLwidth}{\LWR@printlength{\LWR@templengthone}}
5
6 \AtBeginDocument{
7 \IfPackageLoadedTF{keyfloat}{
8 \renewcommand{\LWR@wrapfig@printHTMLwidth}{%
9 \ifboolexpr{
10 test {\ifnumgreater{\value{KFLT@keyfloatdepth}}{0}} or
11 bool {KFLT@inkeysubfloats}
12 }%
13 {\LWR@printpercentlength{\LWR@templengthone}{\linewidth}\%; }%
14 {\LWR@printlength{\LWR@templengthone}}%
15 }%
16 }{}
17 }
18
19 \newcommand*\LWR@subwrapfigure[2]{%
20 \renewcommand*\LWR@wrapposition}{%
21 \ifthenelse%
```

```

22     \equal{#1}{r}\OR\equal{#1}{R}\OR%
23     \equal{#1}{o}\OR\equal{#1}{O}%
24   }%
25     {\renewcommand*{\LWR@wrapposition}{float:right}}%
26     {\renewcommand*{\LWR@wrapposition}{float:left}}%
27   \setlength{\LWR@templengthone}{#2}%
28   \LWR@BlockClassWP{%
29     width:\LWR@printlength{\LWR@templengthone}; \LWR@wrapposition; %
30     margin:10pt%
31   }%
32   {%
33     width:\LWR@wrapfig@printHTMLwidth; %
34     \LWR@wrapposition; %
35   }%
36   (note)%
37   {marginblock}%

38   \setlength{\linewidth}{\LWR@templengthone}%
39 }
40
41
42 \NewDocumentEnvironment{wrapfigure}{o m o m}
43 {%
44   \begin{LWR@setvirtualpage}*%
45   \LWR@subwrapfigure{#2}{#4}%
46   \renewcommand*{\@capttype}{figure}%
47 }
48 {%
49   \endLWR@BlockClassWP%
50   \end{LWR@setvirtualpage}%
51 }
52
53
54 \NewDocumentEnvironment{wratable}{o m o m}
55 {%
56   \begin{LWR@setvirtualpage}*%
57   \LWR@subwrapfigure{#2}{#4}%
58   \renewcommand*{\@capttype}{table}%
59 }
60 {%
61   \endLWR@BlockClassWP%
62   \end{LWR@setvirtualpage}%
63 }
64
65
66 \NewDocumentEnvironment{wrapfloat}{m o m o m}
67 {%
68   \begin{LWR@setvirtualpage}*%
69   \LWR@subwrapfigure{#3}{#5}%
70   \renewcommand*{\@capttype}{#1}%
71 }
72 {%
73   \endLWR@BlockClassWP%
74   \end{LWR@setvirtualpage}%
75 }
76
77 \newlength{\wrapoverhang}

```

File 567 **lwarp-wrapfig2.sty**

§ 679 Package **wrapfig2**

(Emulates or patches code by DONALD ARSENEAU, CLAUDIO BECCARI.)

wrapfig2 (*Pkg*) wrapfig2 is emulated via a modified version of the wrapfig emulation.

```

for HTML output: 1 \@ifpackageloaded{color}{\%
2   \@ifpackageloaded{xcolor}{\LWR@origRequirePackage{xcolor}}%
3 }
4
5 \RequirePackage{float}
6
7 \IfPackageLoadedWithOptionsTF{wrapfig2}{WFold}
8 {}% v4.0
9 {% v5+
10  \floatstyle{plain}
11  \ifcsname chapter\endcsname
12   \newfloat{text}{tbp}{lotx}[chapter]
13  \else
14   \newfloat{text}{tbp}{lotx}
15  \fi
16  \floatname{text}{Text}
17%  \let\WF@text@caption\float@caption
18 }
19
20
21 \LWR@ProvidesPackageDrop{wrapfig2}[2022-02-16]
22
23 \LWR@origRequirePackage{lwarp-wrapfig}

24 \RenewDocumentEnvironment{wrapfigure}{o m o G{0pt} s}% original
25  {\wrapfloat{figure}[#1]{#2}[#3]{#4}}%
26  {\endwrapfloat}
27
28 \RenewDocumentEnvironment{wraptable}{o m o G{0pt} s}% original
29  {\wrapfloat{table}[#1]{#2}[#3]{#4}}%
30  {\endwrapfloat}
31
32 \RenewDocumentEnvironment{wrapfloat}{m o m o G{0pt}}% lwarp
33 {%
34   \begin{LWR@setvirtualpage}*%
35   \LWR@subwrapfigure{#3}{#5}%
36   \renewcommand*\@capttype{#1}%
37 }
38 {%
39   \endLWR@BlockClassWP%
40   \end{LWR@setvirtualpage}%
41 }

42 \IfPackageLoadedWithOptionsTF{wrapfig2}{WFold}
43 {% v4.0:
44   \NewDocumentEnvironment{wraptext}%
45     {O{l} D||{0.5\columnwidth} D<>{0} D(){figure}}%

```



```

46   {%
47       \wrapfloat{#4}[][#1][]{#2}%
48       \tcolorbox%
49   }
50   {%
51       \endtcolorbox%
52       \endwrapfloat%
53       \ignorespaces%
54   }
55 }{}
56
57 \IfPackageLoadedWithOptionsTF{wrapfig2}{WFfive}
58 {% v5
59     \definecolor{WFbackground}{rgb}{0.95,0.95,0.95}
60     \definecolor{WFframe}{rgb}{0.1,0.1,0.1}
61     \colorlet{WFtext}{black}
62     \def\SetWFbgd#1{\colorlet{WFbackground}{#1}}
63     \def\SetWFfrm#1{\colorlet{WFframe}{#1}}
64     \def\SetWFtxt#1{\colorlet{WFtext}{#1}}
65     \def\WFSplitdimens#1,#2!{\fboxrule=#1\relax\fboxsep=#2\relax}
66
67     \NewDocumentEnvironment{wraptext}{0{0} m 0{0pt} G{0.5\columnwidth}}
68     {%
69         \wrapfloat{text}[][#2][]{#4}%
70     }
71     {%
72         \endwrapfloat%
73         \ignorespaces%
74     }
75
76     \NewDocumentCommand\includeframedtext{0{\insertwidth} m 0{1pt,1ex} o}%
77     {%
78         \WFSplitdimens #3!
79         \convertcolorspec{named}{WFtext}{HTML}\LWR@tempcolor%
80         \LWR@HTML@fcolorboxBlock%
81             [named]{WFframe}[named]{WFbackground}{#2}%
82             (%
83                 color:\LWR@origpound\LWR@tempcolor ; %
84                 border-radius:\ 1ex%
85             )%
86     }
87 }{% v6+
88     \RequirePackage{xkeyval}
89
90     \definecolor{WFbackground}{rgb}{0.95,0.95,0.95}
91     \definecolor{WFframe}{rgb}{0.1,0.1,0.1}
92     \colorlet{WFtext}{black}
93     \def\SetWFbgd#1{\colorlet{WFbackground}{#1}}
94     \def\SetWFfrm#1{\colorlet{WFframe}{#1}}
95     \def\SetWFtxt#1{\colorlet{WFtext}{#1}}
96     \def\WFSplitdimens#1,#2!{\fboxrule=#1\relax\fboxsep=#2\relax}
97
98     \newlength{\LWR@wrapfigtwo@radius}
99     \setlength{\LWR@wrapfigtwo@radius}{1ex}
100
101     \DeclareOptionX<wraptext>{scalefactor}[0.8]{%
102 %         \def\WFscalefactor{#1}%
103     }
104     \DeclareOptionX<wraptext>{fboxrule}[1pt]{\fboxrule=#1}
105     \DeclareOptionX<wraptext>{fboxsep}[1ex]{\fboxsep=#1}

```

```

106 \DeclareOptionX<wraptext>{framecolor}[WFframe]{\SetWFfrm{#1}}
107 \DeclareOptionX<wraptext>{backgroundcolor}[WFbackground]{\SetWFbgd{#1}}
108 \DeclareOptionX<wraptext>{textcolor}[WFtext]{\SetWFtxt{#1}}
109 \DeclareOptionX<wraptext>{fontstyle}[\normalfont]{#1}
110 \DeclareOptionX<wraptext>{radius}[\fboxsep]{%
111   \setlength{\LWR@wrapfigtwo@radius}{#1}%
112 }
113 \DeclareOptionX<wraptext>{insertionwidth}[0.5\columnwidth]{%
114 %   \insertwidth=#1%
115 }
116
117 \DeclareOptionX*{\PackageWarning{wrapfig2}{`CurrentOption' ignored}}
118
119 \ExecuteOptionsX<wraptext>{scalefactor, fboxrule, fboxsep, framecolor,
120 backgroundcolor, textcolor, fontstyle, radius, insertionwidth}
121
122 \ProcessOptionsX*
123
124 \NewDocumentEnvironment{wraptext}{O{0} m O{0pt} G{0.5\columnwidth}}
125 {%
126   \wrapfloat{text}[][#2][]{#4}%
127 }
128 {%
129   \endwrapfloat%
130   \ignorespaces%
131 }
132
133 \NewDocumentCommand\includeframedtext{O{\insertwidth} m O{} o}
134 {%
135   \ExecuteOptionsX<wraptext>{#3}%   executes possible key=value options
136   \convertcolorspec{named}{WFtext}{HTML}\LWR@tempcolor%
137   \LWR@HTML@fcolorboxBlock%
138     [named]{WFframe}[named]{WFbackground}%
139     {\LWR@textcurrentfont{#2}}%
140     (%
141       color:\LWR@origpound\LWR@tempcolor ; %
142       border-radius:\LWR@printlength{\LWR@wrapfigtwo@radius}%
143     )%
144 }
145 }

```

File 568 **lwarp-xbmks.sty**

§ 680 Package **xbmks**

xbmks (Pkg) **xbmks** is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{xbmks}[2018/07/04]

```

2 \newcommand{\xbmksetup}[1]{}
3 \NewDocumentCommand{\pdfbookmarkx}{o m o m}{}
4 \NewDocumentCommand{\currentpdfbookmarkx}{m o m}{}
5 \NewDocumentCommand{\subpdfbookmarkx}{m o m}{}
6 \NewDocumentCommand{\belowpdfbookmarkx}{m o m}{}

```

File 569 **lwarp-xcolor.sty**

§ 681 Package **xcolor**

(Emulates or patches code by DR. UWE KERN.)

xcolor (*Pkg*) xcolor is supported by lwarp.

§ 681.1 Limitations

`\colorboxBlock` and `\fcolorboxBlock` are provided for increased HTML compatibility, and they are identical to `\colorbox` and `\fcolorbox` in print mode. In HTML mode they place their contents into a `<div>` instead of a ``. These `<div>`s are set to display: `inline-block` so adjacent `\colorboxBlock`s appear side-by-side in HTML, although text is placed before or after each.

Print-mode definitions for `\colorboxBlock` and `\fcolorboxBlock` are created by lwarp's core if xcolor is loaded.

`background: none` `\fcolorbox` and `\fcolorboxBlock` allow a background color of none, in which case only the frame is drawn, which can be useful for HTML.

`color support` Color definitions, models, and mixing are fully supported without any changes required.

`colored text and boxes` `\textcolor`, `\colorbox`, and `\fcolorbox` are supported.

`\color` and `\pagecolor` `\color` and `\pagecolor` are ignored. Use `css` or `\textcolor` where possible.

§ 681.2 xcolor definitions: location and timing

The lwarp core and its lwarp-xcolor package are tightly integrated to allow comparable results for print, HTML, and print inside an `HTML lateximage`. This requires a number of definitions and redefinitions depending on whether each of xcolor and `lateximage` is being used, and whether print or HTML is being generated. Some of these actions are one-time when xcolor is loaded, and others are temporary as `lateximage` is used.

When xcolor is loaded in print mode: No special actions are taken at the time that xcolor is loaded in print mode, but see `\AtBeginDocument` below.

When lwarp-xcolor is loaded in HTML mode: xcolor's original definitions are saved for later restoration. `\LWR@restoreorigformatting` is appended to restore these definitions for use inside a `lateximage`. New HTML-mode definitions are created for `\textcolor`, `\pagecolor`, `\nopagecolor`, `\colorbox`, `\colorboxBlock`, `\fcolorbox`, `\fcolorboxBlock`, and `fcolorminipage`.

\AtBeginDocument in print or HTML mode: See Section 91. If xcolor has been loaded, the print-mode `\fcolorbox` is modified to accept a background color of none, and additional definitions are created for lwarp's new macros print-mode macros `\colorboxBlock`, `\fcolorboxBlock`, and `fcolorminipage`. The HTML versions of these macros will already have been created by lwarp-xcolor if it has been loaded.

For use inside an HTML lateximage, `\LWR@restoreorigformatting` is appended to temporarily set these functions to their print-mode versions.

In a lateximage in HTML mode: `\LWR@restoreorigformatting` temporarily restores the print-mode definitions of xcolor's functions. See `\LWR@restoreorigformatting` on page 544.

`\color:`

Print: Used as-is.

HTML: Ignored by *pdftotext*, and will not appear.

HTML lateximage: Colors will appear in a lateximage.

`\textcolor:`

Print: Used as-is.

HTML: Redefined by *lwarp-xcolor*, page 1263.

HTML lateximage: Remembers and reuses the print version.

`\pagecolor:`

Print: Used as-is.

HTML: Ignored.

HTML lateximage: Colors will be picked up in a lateximage.

`\nopagecolor:`

Print: Used as-is.

HTML: Ignored.

HTML lateximage: Colors will be picked up in a lateximage.

`\colorbox:`

Print: Used as-is.

HTML: Redefined by *lwarp-xcolor*, page 1263.

HTML lateximage: Remembers and reuses the print version.

`\colorboxBlock:`

Print: Becomes `\colorbox`.

HTML: Newly defined by *lwarp-xcolor* to use a `<div>`, page 1264.

HTML lateximage: Remembers and reuses the print version `\colorbox`.

`\fcolorbox:`

Print: Modified to allow a background of none.

`\LWR@print@fcolorbox` at section 91

HTML: Redefined by *lwarp-xcolor*, page 1264.

HTML lateximage: Remembers and reuses the print version.

`\fcolorboxBlock:`

Print: Becomes `\fcolorbox`. Section 91

HTML: Newly defined by *lwarp-xcolor* to use a `<div>`, page 1265.

HTML lateximage: Remembers and reuses the print version `\fcolorbox`.

fcolorminipage:

Print: Newly defined in the lwarp core.

LWR@print@fcolorminipage at section 91

HTML: Newly defined by lwarp-xcolor, page 1265.

HTML lateximage: Uses the print version.

\boxframe:

Print: Used as-is.

HTML: Redefined by lwarp-xcolor, page 1266.

HTML lateximage: Remembers and reuses the print version.

§ 681.3 **Package loading**

for HTML output: 1 \LWR@ProvidesPackagePass{xcolor}[2023-11-15]

\color@endgroup's \endgraf was conflicting with lwarp's paragraph handling.

2 \let\color@endgroup\endgroup

§ 681.4 **Remembering and restoring original definitions**

Remember the following print-mode actions to be restored when inside a lateximage environment:

3 \LetLtxMacro\LWR@print@pagecolor\pagecolor

4 \LetLtxMacro\LWR@print@nopagecolor\nopagecolor

\LWR@restoreorigformatting Inside a lateximage the following gets restored to their print-mode actions:

5 \appto\LWR@restoreorigformatting{%

6 \LetLtxMacro\pagecolor\LWR@print@pagecolor%

7 \LetLtxMacro\nopagecolor\LWR@print@nopagecolor%

8 }

§ 681.5 **\normalcolor**

\normalcolor

9 \DeclareRobustCommand{\LWR@HTML@normalcolor}{\color{black}}%

10

11 \LWR@formatted{normalcolor}

§ 681.6 **HTML color style**

\LWR@findcurrenttextcolor Sets \LWR@tempcolor to the current color.

12 \renewcommand*{\LWR@findcurrenttextcolor}{%

13 \LWR@traceinfo{\LWR@findcurrenttextcolor}%

14 \protect\colorlet{\LWR@current@color}{.}%

15 \LWR@traceinfo{\LWR@findcurrenttextcolor B}%

16 \protect\convertcolourspec{named}{\LWR@current@color}{HTML}\LWR@tempcolor\relax%

17 \LWR@traceinfo{\LWR@findcurrenttextcolor: done}%

18 }

`\LWR@textcurrentcolor` $\langle text \rangle$ Like `\textcolor` but uses the current `\color` instead.

```

19 \DeclareDocumentCommand{\LWR@textcurrentcolor}{m}{%
20   \begingroup%
21   \LWR@hook@processingtags%
22   \LWR@findcurrenttextcolor%
23   \InlineClass[color:\LWR@origpound\LWR@tempcolor]{textcolor}{%
24     \renewcommand*\LWR@currenttextcolor{\LWR@origpound\LWR@tempcolor}%
25     #1%
26   }%
27   \endgroup%
28 }

```

`\LWR@colorstyle` $\langle 1: model \rangle \langle 2: color \rangle$

For a color style, prints the color converted to HTML colors.

```

29 \NewDocumentCommand{\LWR@colorstyle}{m m}{%
30   \begingroup%
31   \LWR@hook@processingtags%

```

Use the `xcolor` package to convert to an HTML color space:

```

32   \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%

```

Print the converted color:

```

33   \LWR@origpound\LWR@tempcolor%
34   \endgroup%
35 }

```

`\LWR@backgroundcolor` [$\langle model \rangle$] $\langle color \rangle \langle text \rangle$

Similar to `\textcolor`, but prints black text against a color background.

Converted into an HTML hex color span.

```

36 \NewDocumentCommand{\LWR@backgroundcolor}{O{named} m m}{%
37   \begingroup%
38   \LWR@hook@processingtags%
39   \InlineClass[background:\LWR@colorstyle{#1}{#2}]{backgroundcolor}{%
40     #3%
41   }%
42   \endgroup%
43 }

```

§ 681.7 HTML border

`\LWR@borderpadding` $\langle colorstyle \rangle \langle color \rangle$ Prints the HTML attributes for a color border and padding.
`\LWR@forceminwidth` must be used first in order to set the border width.

```

44 \newcommand*\LWR@borderpadding}[2]{%
45   border:\LWR@printlength{\LWR@atleastonept} solid \LWR@colorstyle{#1}{#2} ; %
46   padding:\LWR@printlength{\fboxsep}%
47 }

```

§ 681.8 **High-level macros**

`\color` [*⟨model⟩*] {*⟨color⟩*}

⚠ The current `\color` is used by HTML rules and frames, but does not affect the current HTML text output, due to the lack of HTML states and scoping limitations. Use `\textcolor` if possible.

```

48 \NewDocumentCommand{\LWR@HTML@color}{o m}{%
49   \IfValueTF{#1}{%
50     \LWR@print@color[#1]{#2}%
51     \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%
52   }{%
53     \LWR@print@color{#2}%
54     \convertcolorspec{named}{#2}{HTML}\LWR@tempcolor%
55   }%
56   \edef\LWR@currenttextcolor{\LWR@origpound\LWR@tempcolor}%
57 }
58
59 \LWR@formatted{color}

```

`\textcolor` [*⟨model⟩*] {*⟨color⟩*} {*⟨text⟩*}

Converted into an HTML hex color span.

```

60 \NewDocumentCommand{\LWR@HTML@textcolor}{o m m}{%
61   \begingroup%
62   \LWR@hook@processingtags%
63   \IfValueTF{#1}{%
64     \color[#1]{#2}%
65   }{%
66     \color{#2}%
67   }%
68   \InlineClass[color:\LWR@currenttextcolor]{textcolor}{#3}%
69   \endgroup%
70 }%
71
72 \LWR@formatted{textcolor}

```

`\pagecolor` [*⟨model⟩*] {*⟨color⟩*}

Ignored. Use CSS instead.

```
73 \renewcommand*{\pagecolor}[2][named]{}
```

`\nopagecolor` Ignored.

```
74 \renewcommand*{\nopagecolor}{}

```

`\colorbox` [*⟨model⟩*] {*⟨color⟩*} {*⟨text⟩*}

Converted into an HTML hex background color ``.

```

75 \NewDocumentCommand{\LWR@HTML@colorbox}{O{named} m +m}{%
76   \begingroup%

```

```

77 \LWR@hook@processingtags%
78 \InlineClass[%
79 background:\LWR@colorstyle{#1}{#2} ; %
80 padding:\LWR@printlength{\fboxsep}%
81 ]{colorbox}{#3}%
82 \endgroup%
83 }

```

`\colorboxBlock` [*model*] {*color*} {*text*}

Converted into an HTML hex background color <div>.

```

84 \NewDocumentCommand{\LWR@HTML@colorboxBlock}{O{named} m +m}{%
85 \begingroup%
86 \LWR@hook@processingtags%
87 \LWR@stoppars%
88 \begin{BlockClass}[%
89 background:\LWR@colorstyle{#1}{#2} ; %
90 padding:\LWR@printlength{\fboxsep}%
91 ]{colorboxBlock}
92 #3
93 \end{BlockClass}%
94 \endgroup%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

95 \global\booltrue{\LWR@minipagethispar}%
96 }

```

`\fcolorbox` [*framemodel*] {*framecolor*} [*boxmodel*] {*boxcolor*} {*text*}

Converted into a framed HTML hex background color span.

A background color of none creates a colored frame without a background color.

```

97 \NewDocumentCommand{\LWR@HTML@fcolorbox}{O{named} m O{#1} m +m}{%
98 \LWR@traceinfo{HTML fcolorbox #2 #4}%
99 \begingroup%
100 \LWR@hook@processingtags%
101 \LWR@forceminwidth{\fboxrule}%
102 \ifthenelse{\equal{#4}{none}}%
103 {% no background color
104 \InlineClass[%
105 \LWR@borderpadding{#1}{#2}%
106 ]{fcolorbox}{#5}%
107 }%
108 {% yes background color
109 \InlineClass[%
110 \LWR@borderpadding{#1}{#2} ; %
111 background:\LWR@colorstyle{#3}{#4}%
112 ]{fcolorbox}{#5}%
113 }%
114 \endgroup%
115 }

```


`\fcolorboxBlock` [*<framemodel>*] {*<framecolor>*} [*<boxmodel>*] {*<boxcolor>*} {*<text>*} (*<add'l html style>*)

Converted into a framed HTML hex background color span.

A background color of none creates a colored frame without a background color.

```

116 \NewDocumentCommand{\LWR@HTML@fcolorboxBlock}{O{named} m O{#1} m +m d()}{%
117   \LWR@traceinfo{HTML fcolorboxBlock #2 #4}%
118   \begingroup%
119   \LWR@hook@processingtags%
120   \LWR@forceminwidth{\fboxrule}%

121   \LWR@stoppars%

122   \ifthenelse{\equal{#4}{none}}{%
123     {% no background color
124       \begin{BlockClass}[%
125         \LWR@borderpadding{#1}{#2}%
126         \IfValueT{#6}{ ; #6}%
127       ]{fcolorboxBlock}
128       #5
129       \end{BlockClass}%
130     }%
131     {% yes background color
132       \convertcolorspec{#3}{#4}{HTML}\LWR@tempcolortwo%
133       \begin{BlockClass}[%
134         background:\LWR@origpound\LWR@tempcolortwo\ ; %
135         \LWR@borderpadding{#1}{#2}%
136         \IfValueT{#6}{ ; #6}%
137       ]{fcolorboxBlock}
138       #5
139       \end{BlockClass}%
140     }%
141   \endgroup%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

142   \global\booltrue{\LWR@minipagethispar}%
143   \LWR@traceinfo{HTML fcolorboxBlock done}%
144 }

```

Creates a framed HTML `<div>` around its contents.

A print-output version is defined in the lwarp core: section 91

```

\LWR@subfcolorminipage   {<framemodel>} {<framecolor>} {<background tag>} {<height>}

145 \NewDocumentCommand{\LWR@subfcolorminipage}{m m m m}{%

146   \LWR@stoppars%

147   \begin{BlockClass}[%
148     #3%
149     \LWR@borderpadding{#1}{#2} ; %
150     \IfValueT{#4}{height:\LWR@printlength{\LWR@tempheight} ; }%
151     width:\LWR@printlength{\LWR@tempwidth}%

```

```

152   ]{fcolorminipage}%
153 }

```

`fcolorminipage (enu)` [`<1:frameodel>`] [`<2:framecolor>`] [`<3:boxmodel>`] [`<4:boxcolor>`] [`<5:align>`]
 [`<6:height>`] [`<7:inner-align>`] [`<8:width>`]

```

154 \NewDocumentEnvironment{LWR@HTML@fcolorminipage}{0{named} m O{#1} m O{c} o o m}
155 {%
156   \LWR@hook@processingtags%
157   \setlength{\LWR@tempwidth}{#8}%
158   \IfValueT{#6}{\setlength{\LWR@tempheight}{#6}}%
159   \LWR@forceminwidth{\fboxrule}%
160   \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%
161   \ifthenelse{\equal{#4}{none}}%
162     {\LWR@subfcolorminipage{#1}{#2}{#6}}%
163     {%
164       \convertcolorspec{#3}{#4}{HTML}\LWR@tempcolortwo%
165       \LWR@subfcolorminipage{#1}{#2}%
166       {background:\LWR@origpound\LWR@tempcolortwo ; }%
167       {#6}%
168     }%
169 }%
170 {%
171   \end{BlockClass}%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

172   \global\booltrue{LWR@minipagethispar}%
173 }

```

`\boxframe` [`<width>`] [`<height>`] [`<depth>`]

The depth is added to the height, but the box is not decended below by the depth.
`\textcolor` is honored.

```

174 \newcommand*{\LWR@HTML@boxframe}[3]{%
175   {%
176     \setlength{\LWR@tempwidth}{#1}%
177     \setlength{\LWR@tempheight}{#2}%
178     \addtolength{\LWR@tempheight}{#3}%
179     \LWR@forceminwidth{\fboxrule}%
180     \LWR@findcurrenttextcolor%
181     \InlineClass[%
182       display:inline-block ; %
183       border:%
184       \LWR@printlength{\LWR@atleastonept} % space
185       solid % space
186       \LWR@currenttextcolor{} ; % space
187       width:\LWR@printlength{\LWR@tempwidth} ; %
188       height:\LWR@printlength{\LWR@tempheight}%
189     ]{boxframe}{}%
190   }%
191 }
192
193 \LWR@formatted{boxframe}

```

File 570 **lwarp-xexchangebar.sty**

§ 682 Package **xexchangebar**

xexchangebar (*Pkg*) xexchangebar is ignored

for HTML output: 1 \LWR@ProvidesPackageDrop{xexchangebar}[2017/08/03]
2 \LWR@origRequirePackage{lwarp-changebar}

File 571 **lwarp-xellipsis.sty**

§ 683 Package **xellipsis**

(Emulates or patches code by DONALD P. GOODMAN III.)

xellipsis (*Pkg*) xellipsis is patched for use by lwarp.

When non-zero, each of the spaces is converted to an HTML thin unbreakable space.

for HTML output: 1 \LWR@ProvidesPackagePass{xellipsis}[2015/11/01]

```

2 \newcommand*\LWR@xellipsispace}[1]{%
3 \ifdim#1=0pt\else%
4   \ifdim#1<\fontdimen2\font%
5     \,%
6   \else%
7     ~%
8   \fi%
9 \fi%
10 }
11
12 \def\xelip{%
13 \mbox{%
14   \LWR@xellipsispace{\xelipprebef}%
15   \xelipprechar%
16   \LWR@xellipsispace{\xelippreaft}%
17   \LWR@xellipsispace{\xelipbef}%
18   \xelipchar%
19   \xel@loopi = 1%
20   \loop\ifnum\xelipnum>\xel@loopi%
21     \advance\xel@loopi by1%
22     \LWR@xellipsispace{\xelipgap}%
23     \xelipchar%
24   \repeat%
25   \LWR@xellipsispace{\xelipaft}%
26   \LWR@xellipsispace{\xelippostbef}%
27   \xelippostchar%
28   \LWR@xellipsispace{\xelippostaft}%
29 }%
30 }%
```

File 572 **lwarp-xetexko.sty**

§ 684 Package **xetexko**

(Emulates or patches code by DOHYUN KIM.)

xetexko (*Pkg*) xetexko is patched for use by lwarp.

for HTML output:

```

1 \LWR@loadbefore{xetexko}
2
3 \LWR@ProvidesPackagePass{xetexko}[2021/09/06]

4 \protected\def\typesetvertical{}
5 \protected\def\typesethorizontal{}
6
7 \def\verticaltypesetting{\BlockClass{verticalrl}}
8 \def\beginverticaltypesetting{\BlockClass{verticalrl}}
9 \def\endverticaltypesetting{\endBlockClass}
10
11 \protected\def\vertical#1{\BlockClass{verticalrl}}
12 \protected\def\endvertical{\endBlockClass}
13 \protected\def\horizontal#1{\BlockClass{horizontalrb}}
14 \protected\def\endhorizontal{\endBlockClass}
15 \DeclareDocumentCommand{\vertlatin}{m}{#1}

```

File 573 **lwarp-xevlna.sty**

§ 685 Package **xevlna**

(Emulates or patches code by ZDENĚK WAGNER.)

xevlna (*Pkg*) xevlna is patched for use by lwarp.

Non-breakable spaces are inserted into HTML.

for HTML output:

```

1 \LWR@ProvidesPackagePass{xevlna}[2016/09/05]

2 \def\ProcessCSpreposition{\ifx\next\xevlnaXeTeXspace\HTMLentity{nbsp}\fi}
3
4 \appto{\LWR@hook@processingtags}{\xevlnaDisable}%


```

File 574 **lwarp-xfakebold.sty**

§ 686 Package **xfakebold**

(Emulates or patches code by HERBERT VOSS.)

xfakebold (*Pkg*) xfakebold is patched for use by lwarp, and additional underlying support is found in the lwarp core.

 **text mode** `xfakebold` is only used in `svg math` and `lateximages`. Text mode is not set bold, but `\setBold` in text will be applied to any following `svg math`.

for HTML output:

```
1 \LWR@ProvidesPackagePass{xfakebold}[2020/06/24]
2 \newcommand*\LWR@HTML@setBold{\booltrue{LWR@xfakebold}}
3 \LWR@formatted{setBold}
4
5 \newcommand*\LWR@HTML@unsetBold{\boolfalse{LWR@xfakebold}}
6 \LWR@formatted{unsetBold}
7
8 \renewcommand*\LWR@applyxfakebold{%
9   \ifbool{LWR@xfakebold}{\LWR@print@setBold}{\LWR@print@unsetBold}%
10 }
```

For `MATHJAX`, `xfakebold` is ignored.

```
11 \begin{warpMathJax}
12 \CustomizeMathJax{\newcommand{\setBold}[]{}{}}
13 \CustomizeMathJax{\newcommand{\unsetBold}{}{}}
14 \end{warpMathJax}
```

File 575 **lwarp-xfrac.sty**


§ 687 Package **xfrac**

(Emulates or patches code by THE L^AT_EX3 PROJECT.)

`xfrac` (*Pkg*) Supported by adding `xfrac` instances, and emulated for `MATHJAX`.

for HTML output:

```
1 \LWR@ProvidesPackagePass{xfrac}[2018-08-23]
```

 **font size** In the user's document preamble, `lwarp` should be loaded after font-related setup. During `HTML` conversion, this font is used by `lwarp` to generate its initial `PDF` output containing `HTML` tags, later to be converted by `pdftotext` to a plain text file. While the text may be in any font which `pdftotext` can read, the math is directly converted into `SVG` images using this same user-selected font. `xfrac` below is set for the Latin Modern (`lmr`) font. If another font is used, it may be desirable to redefine `\xfracHTMLfontsize` with a different `em` size.

```
\sfrac [instance] {num} [sep] {denom}
```

A text-mode instance for the default font is provided below. The numerator and denominator formats are adjusted to encase everything in `HTML` tags. `\scalebox` is made null inside the numerator and denominator, since the `HTML` tags should not be scaled, and we do not want to introduce additional `HTML` tags for scaling.

In math mode, which will appear inside a `lateximage`, no adjustments are necessary.

`\xfracHTMLfontsize` User-redefinable macro which controls the font size of the fraction.

```
2 \newcommand*\xfracHTMLfontsize{.6em}
```

instances Instances of `xfrac` for various font choices:

Produce CSS for a small raised numerator and a small denominator.

Scaling is turned off so that *pdftotext* correctly reads the result.

```

3 \DeclareInstance{xfrac}{default}{text}{
4   numerator-format = {%
5     \begingroup%
6     \RenewDocumentCommand{\scalebox}{m o m}{##3}%
7     \InlineClass{numerator}{#1}\,%
8     \endgroup%
9   },
10  denominator-format = {%
11    \begingroup%
12    \RenewDocumentCommand{\scalebox}{m o m}{##3}%
13    \InlineClass{denominator}{#1}%
14    \endgroup%
15  },

```

For *pdftotext*, do not scale the text:

```

16   scaling = false
17 }
18
19 \DeclareInstance{xfrac}{lmr}{text}{
20   numerator-format = {%
21     \begingroup%
22     \RenewDocumentCommand{\scalebox}{m o m}{##3}%
23     \InlineClass{numerator}{#1}\,%
24     \endgroup%
25   },
26   denominator-format = {%
27     \begingroup%
28     \RenewDocumentCommand{\scalebox}{m o m}{##3}%
29     \InlineClass{denominator}{#1}%
30     \endgroup%
31   },

```

For *pdftotext*, do not scale the text:

```

32   scaling = false
33 }
34
35 \DeclareInstance{xfrac}{lmss}{text}{
36   numerator-format = {%
37     \begingroup%
38     \RenewDocumentCommand{\scalebox}{m o m}{##3}%
39     \InlineClass{numerator}{#1}\,%
40     \endgroup%
41   },
42   denominator-format = {%
43     \begingroup%
44     \RenewDocumentCommand{\scalebox}{m o m}{##3}%
45     \InlineClass{denominator}{#1}%
46     \endgroup%
47   },

```

For *pdftotext*, do not scale the text:

```

48   scaling = false

```

```

49 }
50
51 \DeclareInstance{xfrac}{lmtt}{text}{
52   numerator-format = {%
53     \begingroup%
54     \RenewDocumentCommand{\scalebox}{m o m}{##3}%
55     \InlineClass{numerator}{#1}\,%
56     \endgroup%
57   },
58   denominator-format = {%
59     \begingroup%
60     \RenewDocumentCommand{\scalebox}{m o m}{##3}%
61     \InlineClass{denominator}{#1}%
62     \endgroup%
63   },

```

For *pdftotext*, do not scale the text:

```

64   scaling = false
65 }

```

For MATHJAX:

```

66 \begin{warpMathJax}
67 \CustomizeMathJax{\newcommand{\LWRsfrac}[2][/{\}]{^{\LWRsfracnumerator\!#1}_{#2}}}
68 \CustomizeMathJax{\newcommand{\sfrac}[2][\]{\def\LWRsfracnumerator{#2}\LWRsfrac}}
69 \end{warpMathJax}

```


File 576 **lwarp-xltabular.sty**

§ 688 Package **xltabular**

(Emulates or patches code by ROLF NIEPRASCHK, HERBERT VOSS.)

xltabular (*Pkg*) xltabular is emulated by lwarp.

for HTML output: Relies on tabularx.

 **table numbering** At present, an xltabular without a caption or with only a \caption* may be misnumbered in HTML, so it may be necessary to place at the end of the table:

```
\warpHTMLonly{\addtocounter{table}{-1}}
```

```

1 \RequirePackage{tabularx}
2 \RequirePackage{ltablex}
3
4 \LWR@ProvidesPackageDrop{xltabular}[2018/05/23]
5
6 \DeclareDocumentEnvironment{xltabular}{o m m}
7 {\longtable{#3}}
8 {\endlongtable}

```

File 577 **lwarp-xltxtra.sty**

§ 689 Package **xltxtra**

(Emulates or patches code by WILL ROBERTSON, JONATHAN KEW.)

xltxtra (*Pkg*) xltxtra is emulated.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{xltxtra}[2016/01/21]
2 \RequirePackage{realscripts}
3 \RequirePackage{metalogo}
4 \newcommand*\TeX@Logo@spacing[6]{}
5
6 \newcommand*\vfrac[2]{%
7 \textsuperscript{#1}\textsubscript{#2}%
8 }
9
10 \newcommand\namedglyph[1]{%
11 \@tempcnta=\XeTeXglyphindex "#1"\relax
12 \ifnum\@tempcnta>0
13 \XeTeXglyph\@tempcnta
14 \else
15 \xxt@namedglyph@fallback{#1}%
16 \fi}
17
18 \newcommand\xxt@namedglyph@fallback[1][[#1]]
19
20 \DeclareDocumentCommand{\showhyphens}{m}{}

```

File 578 **lwarp-xmpincl.sty**

§ 690 Package **xmpincl**

(Emulates or patches code by MAARTEN SNEEP.)

xmpincl (*Pkg*) xmpincl is ignored.

for HTML output: Discard all options for lwarp-xmpincl:

```

1 \LWR@ProvidesPackageDrop{xmpincl}[2008/05/10]
2 \newcommand*\includexmp[1]{}

```

File 579 **lwarp-xpiano.sty**

§ 691 Package **xpiano**

(Emulates or patches code by ENRICO GREGORIO.)

xpiano (*Pkg*) xpiano is patched for use by lwarp.

for HTML output:

```

1 \LWR@ProvidesPackagePass{xpiano}

2 \ExplSyntaxOn
3 \NewDocumentCommand{\LWR@print@keyboard}{ O{}m }
4 {
5   \xpiano_keyboard:nn { #1 } { #2 }
6 }
7
8 \NewDocumentCommand{\LWR@HTML@keyboard}{ O{}m }
9 {
10 \begin{lateximage}*
11   [%
12     -xpiano~\PackageDiagramAltText{}: \detokenize\expandafter{#2}%
13   ]?%
14   [\detokenize\expandafter{#1}]
15 \xpiano_keyboard:nn { #1 } { #2 }
16 \end{lateximage}
17 }
18 \ExplSyntaxOff
19
20 \LWR@formatted{keyboard}

```

File 580 **lwarp-xpinyin.sty**

§ 692 Package **xpinyin**

(Emulates or patches code by SOBEN LEE.)

xpinyin (*Pkg*) xpinyin is supported.

Pinyin is disabled for file names, the sideroc, and regular footnotes, but is left enabled for minipage footnotes, as per the print mode.

for HTML output: 1 \LWR@ProvidesPackagePass{xpinyin}[2019-04-07]

The original's boxes are not used, instead the contents are used with <ruby>, <rt>, and <rp> tags per modern HTML. Color is detected. ratio is ignored for *pdftotext* to work correctly. Extra spaces are placed inside the tags to allow line breaks in the HTML text.

```

2 \ExplSyntaxOn
3 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_make_pinyin_box:nnn #1#2#3
4 {
5   \color_group_begin: \color_ensure_current:
6   \l__xpinyin_pinyin_box_hook_tl
7   \renewcommand*{\l__xpinyin_ratio_tl}{1}% for pdftotext
8   \__xpinyin_select_font:
9   \clist_if_exist:cTF { c__xpinyin_multiple_ #1 _clist }
10    { \l__xpinyin_multiple_tl \l__xpinyin_format_tl }
11    { \l__xpinyin_format_tl }
12 \ifdefempty{\l__xpinyin_format_tl}
13   {#3}
14   {\LWR@textcurrentcolor{#3}}
15 \color_group_end:

```

```

16 }
17 \LWR@formatted{__xpinyin_make_pinyin_box:nnn}

18 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_CJKsymbol:nn #1#2
19 {
20   \__xpinyin_leavevmode:
21   \LWR@htmltagc{ruby}
22   \__xpinyin_save_CJKsymbol:n {#2}\null% \null removes extra space
23   \LWR@htmltagc{rp}\LWR@htmltagc{/rp\space}
24   \LWR@htmltagc{rt}
25   \__xpinyin_make_pinyin_box:nnn {#1} {#2} { \use:c { c__xpinyin_ #1 _tl } }
26   \LWR@htmltagc{/rt\space}
27   \LWR@htmltagc{rp}\LWR@htmltagc{/rp\space}
28   \LWR@htmltagc{/ruby\space}\null
29 }
30 \LWR@formatted{__xpinyin_CJKsymbol:nn}

31 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_single_CJKsymbol:nn #1#2
32 {
33   \__xpinyin_leavevmode:
34   \LWR@htmltagc{ruby}
35   \__xpinyin_save_CJKsymbol:n {#1}\null% \null removes extra space
36   \LWR@htmltagc{rp}\LWR@htmltagc{/rp\space}
37   \LWR@htmltagc{rt}
38   \__xpinyin_make_pinyin_box:xnn
39   { \__xpinyin_to_unicode:n {#1} } {#1} { \__xpinyin_pinyin:n {#2} }
40   \LWR@htmltagc{/rt\space}
41   \LWR@htmltagc{rp}\LWR@htmltagc{/rp\space}
42   \LWR@htmltagc{/ruby\space}\null
43 }
44 \LWR@formatted{__xpinyin_single_CJKsymbol:nn}
45
46 \ExplSyntaxOff

```

The lwarp core uses the following to disable CJK xpinyin for filenames, sidetoc, and footnotes.

```

47 \renewcommand*{\LWR@disablepinyin}{\disablepinyin}
48
49 \FilenameNullify{\LWR@disablepinyin}

```

File 581 **lwarp-xr.sty**

§ 693 Package **xr**

(Emulates or patches code by JEAN-PIERRE DRUCBERT, DAVID CARLISLE.)

xr (Pkg) xr is patched for use by lwarp. The *_html.aux file is used.

See section 5.18.

for HTML output:

```

1 \LWR@ProvidesPackagePass{xr}[2024-04-10]%

2 \VerifyCommand{\XR@}{56D2754CF8EDBB8863B603F708D65CE9}
3 %\def\xr@[#1][#2]#3{\@testopt{\XR@{#1}{#2}{#3}}{#3.\XR@ext}}
4 \def\xr@[#1][#2]#3{\@testopt{\XR@{#1}{#2}{#3_html}}{#3_html.\XR@ext}}

```

File 582 **lwarp-xr-hyper.sty**

§ 694 Package **xr-hyper**

(Emulates or patches code by DAVID CARLISLE.)

xr-hyper (*Pkg*) **xr-hyper** is replaced by **xr**, which is modified to accept the optional arguments for `\externaldocument`. So far, no hyperlinks are provided for citations.

See section 5.18.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{xr-hyper}[2019/10/03]%
2
3 \LWR@origRequirePackage{lwarp-xr}
```

File 583 **lwarp-xtab.sty**

§ 695 Package **xtab**

(Emulates or patches code by PETER WILSON.)

xtab (*Pkg*) **xtab** is emulated.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{xtab}[2011/07/31]
```

⚠ **Misplaced alignment** For `\tablefirsthead`, etc., enclose them as follows:
tab character &

```
\StartDefiningTabulars
\tablefirsthead
...
\StopDefiningTabulars
```

See section 8.10.1.

⚠ **lateximage** **supertabular** and **xtab** are not supported inside a `lateximage`.

```
2 \newcommand{\LWRXT@firsthead}{}
3
4 \newcommand{\tablefirsthead}[1]{%
5   \long\gdef\LWRXT@firsthead{#1}%
6 }
7
8 \newcommand{\tablehead}[1]{}
9
10 \newcommand{\tablelasthead}[1]{}
11
12 \newcommand{\notablelasthead}{}
13
14 \newcommand{\tabletail}[1]{}
15
16 \newcommand{\LWRXT@lasttail}{}
17
18 \newcommand{\tablelasttail}[1]{%
```

```

19   \long\gdef\LWRXT@lasttail{#1}%
20 }

21 \newcommand{\tablecaption}[2][{}]{%
22   \long\gdef\LWRXT@caption{%
23     \ifblank{#1}%
24       {\caption{#2}}%
25       {\caption[#1]{#2}}%
26   }%
27 }
28
29 \let\topcaption\tablecaption
30 \let\bottomcaption\tablecaption

31 \newcommand*\LWRXT@caption{}
32
33 \newcommand*\shrinkheight[1]{}
34
35 \newcommand*\xentrystretch[1]{}
36
37 \NewDocumentEnvironment{xtabular}{s o m}
38 {%
39 \LWR@traceinfo{xtabular}%
40 \table%
41 \LWRXT@caption%
42 \begin{tabular}{#3}%
43 \TabularMacro\ifdefvoid{\LWRXT@firsthead}%
44 {\LWR@getmynexttoken}%
45 {\expandafter\LWR@getmynexttoken\LWRXT@firsthead}%
46 }%
47 {%
48 \ifdefvoid{\LWRXT@lasttail}%
49 {}%
50 {%
51 \TabularMacro\ResumeTabular%
52 \LWRXT@lasttail%
53 }%
54 \end{tabular}%
55 \endtable%

56 \gdef\LWRXT@caption{}%

57 \LWR@traceinfo{xtabular done}%
58 }
59
60 \NewDocumentEnvironment{mpxtabular}{s o m}
61 {\minipage{\linewidth}\xtabular{#3}}
62 {\endxtabular\endminipage}

```

File 584 **lwarp-xunicode.sty**

§ 696 Package **xunicode**

xunicode (*Pkg*) Error if xunicode is loaded after lwarp.

Patch `lwarp-xunicode`, but also verify that it was loaded before `lwarp`:

for HTML output:

```
1 \LWR@loadbefore{xunicode}%
2
3 \LWR@ProvidesPackagePass{xunicode}[2011/09/09]
```

`\textcircled` becomes a span with a rounded border. `\providecommand` is used to avoid conflict with `textcomp`.

```
4 \providecommand*\LWR@HTML@textcircled[1]{%
5   \InlineClass[border: 1px solid \LWR@currenttextcolor]{textcircled}{#1}%
6 }
7
8 \LWR@formatted{textcircled}
```

Nullify `xunicode` macros when generating filenames:

```
9 \FilenameNullify{%
10   \renewcommand*\textdegree{}%
11   \renewcommand*\textcelsius{}%
12   \renewcommand*\textohm{}%
13   \renewcommand*\textmu{}%
14   \renewcommand*\textlquill{}%
15   \renewcommand*\textrquill{}%
16   \renewcommand*\textcircledP{}%
17   \renewcommand*\texttwelveudash{}%
18   \renewcommand*\textthreequartersendash{}%
19   \renewcommand*\textmho{}%
20   \renewcommand*\textnaira{}%
21   \renewcommand*\textpeso{}%
22   \renewcommand*\textrecipe{}%
23   \renewcommand*\textinterrobang{}%
24   \renewcommand*\textinterrobangdown{}%
25   \renewcommand*\textperthousand{}%
26   \renewcommand*\textpertenthousand{}%
27   \renewcommand*\textbaht{}%
28   \renewcommand*\textdiscount{}%
29   \renewcommand*\textservicemark{}%
30   \renewcommand*\textcircled[1]{#1}%
31   \renewcommand*\capitalcedilla[1]{#1}%
32   \renewcommand*\capitalogonek[1]{#1}%
33   \renewcommand*\capitalgrave[1]{#1}%
34   \renewcommand*\capitalacute[1]{#1}%
35   \renewcommand*\capitalcircumflex[1]{#1}%
36   \renewcommand*\capitaltilde[1]{#1}%
37   \renewcommand*\capitaldieresis[1]{#1}%
38   \renewcommand*\capitalhungarumlaut[1]{#1}%
39   \renewcommand*\capitalring[1]{#1}%
40   \renewcommand*\capitalcaron[1]{#1}%
41   \renewcommand*\capitalbreve[1]{#1}%
42   \renewcommand*\capitalmacron[1]{#1}%
43   \renewcommand*\capitaldotaccent[1]{#1}%
44 }% FilenameNullify
```

File 585 **lwarp-xurl.sty**

§ 697 Package **xurl**

xurl (*Pkg*) xurl is ignored.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{xurl}[2020/01/14]
2
3 \def\useOriginalUrlSetting{}
```

File 586 **lwarp-xy.sty**

§ 698 Package **xy**

(Emulates or patches code by KRISTOFFER H. ROSE, ROSS MOORE.)

xy (*Pkg*) xy is patched for use by lwarp.

for HTML output:

```
1 \LWR@ProvidesPackagePass{xy}[2013/10/06]
```

After xy modules have been loaded:

```
2 \AtBeginDocument{
```

The original definitions without a lateximage:

```
3 \LetLtxMacro\LWR@orig@xy\xy
4 \LetLtxMacro\LWR@orig@endxy\endxy
```

The outer-most xy environment is placed in a lateximage, but not more than one level deep, which would conflict with xy:

```
5 \renewcommand*\xy{%
6   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
7     {\addtocounter{LWR@lateximagedepth}{1}}%
8     {\begin{lateximage}[-xy~\PackageDiagramAltText]?}%
9   \LWR@orig@xy%
10 }
11
12 \renewcommand*\endxy{%
13   \LWR@orig@endxy%
14   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{1}%
15     {\addtocounter{LWR@lateximagedepth}{-1}}%
16     {\end{lateximage}}%
17 }
```

The \xybox must use the original definitions of \xy, \endxy:

```
18 \def\xybox#1{%
19   \LWR@orig@xy#1\LWR@orig@endxy%
20   \Edge@c={\rectangleEdge}\computeLeftUpness%
21 }
```

If `\xygraph` is used, it is placed inside a `lateximage`:

```

22 \@ifundefined{xygraph}{}{
23
24 \LetLtxMacro\LWR@origxygraph\xygraph
25
26 \renewcommand{\xygraph}[1]{%
27   \begin{lateximage}[-xy- xygraph \PackageDiagramAltText]?%
28   \LWR@origxygraph{#1}
29   \end{lateximage}
30 }
31
32 }% xygraph defined
33
34 }% AtBeginDocument

```

File 587 **lwarp-zhlineskip.sty**

§ 699 Package **zhlineskip**

`zhlineskip` (*Pkg*) `zhlineskip` is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{zhlineskip}[2019/05/15]

```

2 \newcommand*\SetTextEnvironmentSinglespace[1]{}
3 \newcommand*\RestoreTextEnvironmentLeading[1]{}
4 \newcommand*\SetMathEnvironmentSinglespace[1]{}
5 \newcommand*\RestoreMathEnvironmentLeading[1]{}

```

File 588 **lwarp-zwpagelayout.sty**

§ 700 Package **zwpagelayout**

(Emulates or patches code by ZDENĚK WAGNER.)

`zwpagelayout` (*Pkg*) `zwpagelayout` is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{zwpagelayout}[2013/01/13]

```

2 \def\noBboxes{}
3 \@onlypreamble\noBboxes
4
5 \expandafter\ifx\curname\definecolor\endcsname\relax \else
6   \definecolor{cmykblack}{cmyk}{0,0,0,1}
7   \definecolor{grblack}{gray}{0}
8%   \ifzwp\@redefineblack
9%     \definecolor{black}{cmyk}{0,0,0,1}\color{black}
10%  \fi
11  \definecolor{cmykred}{cmyk}{0,1,1,0}
12  \definecolor{cmykgreen}{cmyk}{1,0,1,0}
13  \definecolor{cmykblue}{cmyk}{1,1,0,0}
14  \definecolor{rgbred}{rgb}{1,0,0}
15  \definecolor{rgbgreen}{rgb}{0,1,0}
16  \definecolor{rgbblue}{rgb}{0,0,1}

```

```

17% \ifzwpl@redefinetcmyk
18% \definecolor{red}{cmyk}{0,1,1,0}
19% \definecolor{green}{cmyk}{1,0,1,0}
20% \definecolor{blue}{cmyk}{1,1,0,0}
21% \fi
22 \fi
23
24 \let\OverprintXeTeXExtGState\relax
25
26 \DeclareRobustCommand\SetOverprint{\ignorespaces}
27 \DeclareRobustCommand\SetKnockout{\ignorespaces}
28 \DeclareRobustCommand\textoverprint[1]{\SetOverprint#1}
29 \DeclareRobustCommand\textknockout[1]{\SetKnockout#1}
30
31 \def\SetPDFminorversion#1{}
32 \@onlypreamble\SetPDFminorversion
33
34 \newcommand*\Vcorr{}
35
36 \DeclareRobustCommand\vb[1][{}]{
37 \NewDocumentCommand{\NewOddPage}{* o}{}
38 \NewDocumentCommand{\NewEvenPage}{* o}{}
39 \def\SetOddPageMessage#\gdef\ZW@oddwarning}
40 \def\SetEvenPageMessage#\gdef\Z@evenwarning}
41 \def\ZW@oddwarning{Empty page inserted}\let\ZW@evenwarning\ZW@oddwarning
42
43 \def\cLap#1{#1}
44
45 \def\CropFlap{2in}
46 \def\CropSpine{1in}
47 \def\CropXSpine{1in}
48 \def\CropXtrim{.25in}
49 \def\CropYtrim{.25in}
50 \def\UserWidth{5in}
51 \def\UserLeftMargin{1in}
52 \def\UserRightMargin{1in}
53 \def\UserTopMargin{1in}
54 \def\UserBotMargin{1in}
55 \def\thePageNumber{\LWR@origpound\, \arabic{page}}
56 \ifXeTeX
57 \def\ifcaseZWdriver{\ifcase2}
58 \else
59 \def\ifcaseZWdriver{\ifcase1}
60 \fi
61 \DeclareRobustCommand\ZWifdriver[2]{}

```

File 589 **lwarp-patch-komascript.sty**

§ 701 Package **patch-komascript**

lwarp-patch-komascript (*Pkg*) Patches for komascript classes.

lwarp loads this package when scrbook, scartcl, or screprt classes are detected.

Many features are ignored during the HTML conversion. The goal is source-level compatibility.

\captionformat, \figureformat, and \tableformat are not yet emulated.

⚠ **Not fully tested!** [Please send bug reports!](#)

Some features have not yet been tested. Please contact the author with any bug reports.

for HTML output: 1 \ProvidesPackage{lwarp-patch-komascript}

`typearea` is emulated.

2 \RequirePackage{lwarp-typearea}

`tocbasic` is emulated.

3 \RequirePackage{lwarp-tocbasic}

`scrextend` patches most of the new macros.

4 \RequirePackage{lwarp-scrextend}

Indexing macros, simplified for lwarp:

```

5 \AtBeginDocument{
6
7 \renewcommand*{\idx@heading}{%
8   \idx@@@heading{\indexname}%
9 }
10
11 \renewenvironment{theindex}{%
12   \idx@heading%
13   \index@preamble\par\nobreak
14   \LetLtxMacro\item\LWR@indexitem%
15   \LetLtxMacro\subitem\LWR@indexsubitem%
16   \LetLtxMacro\subsubitem\LWR@indexsubsubitem%
17 }
18 {}
19
20 \renewcommand*\indexspace{}
21
22 }% AtBeginDocument

```

The `\minisec` is placed inside a `<div>` of class `minisec`.

```

23 \renewcommand*{\minisec}[1]{
24   \begin{BlockClass}{minisec}
25     #1
26   \end{BlockClass}
27 }

```

The part and chapter preambles are placed as plain text just after each heading.

```

28 \ifundefined{setpartpreamble}{}{
29 \RenewDocumentCommand{\setpartpreamble}{o o +m}{%
30   \renewcommand{\part@preamble}{#3}%
31 }
32 }
33
34 \ifundefined{setchapterpreamble}{}{
35 \RenewDocumentCommand{\setchapterpreamble}{o o +m}{%

```

```

36 \renewcommand{\chapter@preamble}{#3}%
37 }
38 }

```

Do not use `\chaptername`:

```

39 \renewcommand*\LWR@printchaptername{}

```

Simple captions are used in all cases.

```

40 \AtBeginDocument{
41 \AtBeginDocument{
42 \LetLtxMacro\captionbelow\caption
43 \LetLtxMacro\captionabove\caption
44
45 \LetLtxMacro\captionofbelow\captionof
46 \LetLtxMacro\captionofabove\captionof
47 }
48 }
49
50 \RenewDocumentEnvironment{captionbeside}{o m o o o s}
51 {}
52 {%
53 \IfValueTF{#1}%
54 {\caption[#1]{#2}}%
55 {\caption{#2}}%
56 }
57
58 \RenewDocumentEnvironment{captionofbeside}{m o m o o o s}
59 {}
60 {%
61 \IfValueTF{#2}%
62 {\captionof{#1}[#2]{#3}}%
63 {\captionof{#1}{#3}}%
64 }
65
66 \RenewDocumentCommand{\setcapindent}{s m}{}
67 \renewcommand*\setcaphanging{}
68 \renewcommand*\setcapwidth}[2][{}{}
69 \renewcommand*\setcapdynwidth}[2][{}{}
70 \RenewDocumentCommand{\setcapmargin}{s o m}{}

```

File 590 **lwarp-patch-memoir.sty**


§ 702 Package **patch-memoir**

(Emulates or patches code by PETER WILSON.)

lwarp-patch-memoir (*Pkg*) Patches for memoir class.

 **Not fully tested!** [Please send bug reports!](#)

lwarp loads this package when the memoir class is detected.

 **captions** lwarp uses `caption`, which causes a warning from memoir. This is normal. Adjust captions via `caption`, instead of `memoir`.

While emulating memoir, lwarp pre-loads a number of packages (section 702.1). This can cause an options clash when the user's document later loads the same packages with options. To fix this problem, specify the options before loading lwarp:

⚠ options clash

```
\documentclass{memoir}
...
\PassOptionsToPackage{options_list}{package_name}
...
\usepackage{lwarp}
...
\usepackage{package_name}
```

⚠ version numbers

memoir emulates a number of packages, and declares a version date for each which often does not match the date of the corresponding freestanding package. This can cause warnings about incorrect version numbers. Since lwarp is intended to support the freestanding packages, which are often newer than the date declared by memoir, it is hoped that memoir will update and change its emulated version numbers to match.

`\label{bookmark}{tag}` `\label` accepts an optional (bookmark) argument, but this is ignored in HTML.

⚠ comment The `comment` environment is from the `comment` package, and thus requires that the `\begin` and `\end` each be on its own line:

```
\begin{comment}
This is a comment.
\end{comment}
```

`\newcomment` Comments defined with `\newcomment` use memoir's definitions, and behave as expected, where the `\begin` and `\end` do have to each be on its own line.

⚠ verbatim footnotes `\verbfootnote` is not supported.

⚠ `\newfootnoteseries` `\newfootnoteseries`, etc. are not supported.

⚠ page notes lwarp loads `pagenote` to perform memoir's `pagenote` functions, but there are minor differences in `\pagenotesubhead` and related macros.

page notes with `cleveref` To add support for `pagenotes` with `cleveref`, add:

```
\crefname{pagenote}{page note}{page notes}
\Crefname{pagenote}{Page note}{Page notes}
```

page note `\nameref` Note that for print mode, `\nameref` print the section name where the page notes are declared in the text, but for HTML it prints the name where the page notes are printed.

⚠ poems Poem numbering is not supported.

⚠ verbatim The `verbatim` environment does not yet support the memoir enhancements. It is currently recommended to load and use `fancyvrb` instead.

⚠ glossaries The memoir glossary system is not yet supported by *lwarpmk*. The `glossaries` package may be used instead, but does require the glossary entries be changed from the memoir syntax to the `glossaries` syntax.

for HTML output: `l\ProvidesPackage{lwarp-patch-memoir}`

§ 702.1 Packages

These are pre-loaded to provide emulation for many of memoir's functions. memoir pretends that abstract, etc. are already loaded, via its “emulated” package mechanism, but lwarp is directly loading the “lwarp-” version of each, which happens to avoid memoir's emulation system.

```

2 \RequirePackage{lwarp-abstract}% req'd
3 % \RequirePackage{lwarp-array}% no longer req'd
4 \RequirePackage{lwarp-booktabs}% req'd
5 % \RequirePackage{lwarp-ccaption}% emulated below
6 \RequirePackage{lwarp-changepage}% req'd
7 \RequirePackage{lwarp-crop}
8 % \RequirePackage{lwarp-dcolumn}% no longer req'd
9 \RequirePackage{lwarp-enumerate}% req'd
10 \RequirePackage{lwarp-epigraph}% req'd
11 \RequirePackage{lwarp-fancyvrb}% req'd
12 \RequirePackage{lwarp-footmisc}% req'd

13 \let\framed\relax \let\endframed\relax
14 \let\shaded\relax \let\endshaded\relax
15 \let\leftbar\relax \let\endleftbar\relax
16 \let\snugshade\relax \let\endsnugshade\relax
17 \RequirePackage{lwarp-framed}% req'd
18
19 \RequirePackage{lwarp-hanging}% req'd
20 \RequirePackage{lwarp-makeidx}% req'd
21 \DisemulatePackage{moreverb}
22 \RequirePackage{lwarp-moreverb}
23 \RequirePackage{lwarp-mparhack}
24 \RequirePackage{lwarp-needspace}% req'd
25 \RequirePackage{lwarp-nextpage}% req'd
26 \RequirePackage{lwarp-pagenote}% req'd
27 \RequirePackage{lwarp-parskip}
28 \RequirePackage{lwarp-setspace}% req'd
29 \RequirePackage{lwarp-showidx}

30 \makeindex

31 % \RequirePackage{lwarp-tabularx}% no longer req'd
32 \RequirePackage{lwarp-titling}% req'd
33 % \RequirePackage{lwarp-tocbibind}% not emulated by memoir
34 \RequirePackage{lwarp-tocloft}% req'd
35 \RequirePackage{lwarp-verse}% req'd

```

§ 702.2 Label handling

Insert the lwarp label mechanism into the memoir package mechanism:

- `\LWR@orig@label` is the kernel version, or `\nameref` version if loaded before lwarp.
- lwarp's `\LWR@new@label` uses `\LWR@orig@label`.
- `cleveref` then encapsulates all the above with `\cref@old@label`.
- For a subcaption, `cleveref` modifies memoir's `\sf@memsub@label`, but that change is undone by lwarp.

- memoir uses the final `\label` for subcaptions.

Patches for subfloats to support additional lwarp labels. This is the non-hyperref version from memoir.

```

36 \AtBeginDocument{
37   \renewcommand*\sf@memsub@label}[1]{%
38     \@bsphack
39     \@mem@kernel@label{#1}%
40     \cref@label{#1}%                lwarp
41     \LWR@label@createtag{sub#1}%   lwarp
42     \protected@write\@auxout{}{%
43       \string\newlabel{sub#1}%
44       {%
45         {\@nameuse{@@thesub\@capttype}}%
46         {\thepage}%
47         {\detokenize\expandafter{\@currentlabelname}}% name
48         {#1}% Href
49         {}% reserved
50       }%
51     }%
52     \LWR@write@lwarplabel{sub#1}%   lwarp
53     \@esphack
54   }
55 }
```

§ 702.3 Page layout

memoir already set the page size to a default, so it must be forced large for lwarp's use, to avoid tag overflows off the page.

```

56 \setstocksize{190in}{20in}
57 \setlrmarginsandblock{2in}{2in}{*}
58 \setulmarginsandblock{1in}{1in}{*}

59 \renewcommand*\stockavi{}
60 \renewcommand*\stockav{}
61 \renewcommand*\stockaiv{}
62 \renewcommand*\stockaiii{}
63 \renewcommand*\stockavii{}
64 \renewcommand*\stockbvi{}
65 \renewcommand*\stockbv{}
66 \renewcommand*\stockbiv{}
67 \renewcommand*\stockbiii{}
68 \renewcommand*\stockbvii{}
69 % \renewcommand*\stockmetriccrownvo{}% in docs but not in the package
70 \renewcommand*\stockmlargecrownvo{}
71 \renewcommand*\stockmdemyvo{}
72 \renewcommand*\stocksmallroyalvo{}
73 \renewcommand*\pageavi{}
74 \renewcommand*\pageavii{}
75 \renewcommand*\pageav{}
76 \renewcommand*\pageaiv{}
77 \renewcommand*\pageaiii{}
78 \renewcommand*\pagebvi{}
79 \renewcommand*\pagebvii{}
80 \renewcommand*\pagebv{}
81 \renewcommand*\pagebiv{}

```

```
82 \renewcommand*\pagebiii}{  
83 % \renewcommand*\pagemetriccrownvo}{}% in docs but not in the package  
84 \renewcommand*\pagemlargecrownvo}{  
85 \renewcommand*\pagemdemyvo}{  
86 \renewcommand*\pagesmallroyalvo}{  
87  
88 \renewcommand*\stockdbill}{  
89 \renewcommand*\stockstatement}{  
90 \renewcommand*\stockexecutive}{  
91 \renewcommand*\stockletter}{  
92 \renewcommand*\stockold}{  
93 \renewcommand*\stocklegal}{  
94 \renewcommand*\stockledger}{  
95 \renewcommand*\stockbroadsheet}{  
96 \renewcommand*\pagedbill}{  
97 \renewcommand*\pagestatement}{  
98 \renewcommand*\pageexecutive}{  
99 \renewcommand*\pageletter}{  
100 \renewcommand*\pageold}{  
101 \renewcommand*\pagelegal}{  
102 \renewcommand*\pageledger}{  
103 \renewcommand*\pagebroadsheet}{  
104  
105 \renewcommand*\stockpottvo}{  
106 \renewcommand*\stockfoolscapvo}{  
107 \renewcommand*\stockcrownvo}{  
108 \renewcommand*\stockpostvo}{  
109 \renewcommand*\stocklargecrownvo}{  
110 \renewcommand*\stocklargepostvo}{  
111 \renewcommand*\stocksmalldemyvo}{  
112 \renewcommand*\stockdemyvo}{  
113 \renewcommand*\stockmediumvo}{  
114 \renewcommand*\stocksmallroyalvo}{  
115 \renewcommand*\stockroyalvo}{  
116 \renewcommand*\stocksuperroyalvo}{  
117 \renewcommand*\stockimperialvo}{  
118 \renewcommand*\pagepottvo}{  
119 \renewcommand*\pagefoolscapvo}{  
120 \renewcommand*\pagecrownvo}{  
121 \renewcommand*\pagepostvo}{  
122 \renewcommand*\pagelargecrownvo}{  
123 \renewcommand*\pagelargepostvo}{  
124 \renewcommand*\pagesmalldemyvo}{  
125 \renewcommand*\pagedemyvo}{  
126 \renewcommand*\pagemediumvo}{  
127 \renewcommand*\pagesmallroyalvo}{  
128 \renewcommand*\pageroyalvo}{  
129 \renewcommand*\pagesuperroyalvo}{  
130 \renewcommand*\pageimperialvo}{  
131  
132 \renewcommand*\memfontfamily}{  
133 \renewcommand*\memfontenc}{  
134 \renewcommand*\memfontpack}{  
135  
136 \renewcommand*\anyptfilebase}{  
137 \renewcommand*\anyptsize}{10}  
138  
139 \renewcommand*\setstocksize}[2]{  
140 \renewcommand*\settrimmedsize}[3]{  
141 \renewcommand*\settrims}[2]{
```

```
142
143 % \newlength{\lxvchars}
144 % \setlength{\lxvchars}{305pt}
145 % \newlength{\xlvchars}
146 % \setlength{\xlvchars}{190pt}
147 \renewcommand*\setxlvchars}[1]{}
148 \renewcommand*\setlxvchars}[1]{}
149
150 \renewcommand*\settypeblocksize}[3]{}
151 \renewcommand*\setlrmargins}[3]{}
152 \renewcommand*\setlrmarginsandblock}[3]{}
153 \renewcommand*\setbinding}[1]{}
154 \renewcommand*\setulmargins}[3]{}
155 \renewcommand*\setulmarginsandblock}[3]{}
156 \renewcommand*\setcolsepandrul}[2]{}
157
158 \renewcommand*\setheadfoot}[2]{}
159 \renewcommand*\setheaderspaces}[3]{}
160 \renewcommand*\setmarginnotes}[3]{}
161 \renewcommand*\setfootins}[2]{}
162 \renewcommand*\checkandfixthelayout}[1][1]{}
163 \renewcommand*\checkthelayout}[1]{}
164 \renewcommand*\fixthelayout[1]{}
165 %
166 % \newlength{\stockheight}
167 % \newlength{\trimtop}
168 % \newlength{\trimedge}
169 % \newlength{\stockwidth}
170 % \newlength{\spinemargin}
171 % \newlength{\foremargin}
172 % \newlength{\uppermargin}
173 % \newlength{\headmargin}
174 %
175 \renewcommand*\typeoutlayout[1]{}
176 \renewcommand*\typeoutstandardlayout[1]{}
177 \renewcommand*\settypeoutlayoutunit}[1]{}
178 \renewcommand*\fixpdflayout[1]{}
179 \renewcommand*\fixdvipslayout[1]{}
180
181 \renewcommand*\medievalpage}[1][1]{}
182 \renewcommand*\isopage}[1][1]{}
183 \renewcommand*\semiisopage}[1][1]{}
184
185 \renewcommand{\setpagebl}[3]{}
186 \renewcommand{\setpageml}[3]{}
187 \renewcommand{\setpagetl}[3]{}
188 \renewcommand{\setpagetm}[3]{}
189 \renewcommand{\setpagetr}[3]{}
190 \renewcommand{\setpagemr}[3]{}
191 \renewcommand{\setpagebr}[3]{}
192 \renewcommand{\setpagebm}[3]{}
193 \renewcommand{\setpagecc}[3]{}

```

§ 702.4 **Text and fonts**

```

194 \let\miniscule\tiny
195 \let\HUGE\Huge
196
197 \renewcommand*\abnormalparskip}[1]{}
198 \renewcommand*\nonzeroparskip}{
199 \renewcommand*\traditionalparskip}{
200
201 \let\onelineskip\baselineskip
202
203 \let\OnehalfSpacing\onehalfspacing
204 \let\DoubleSpacing\doublespacing
205 \renewcommand*\setPagenoteSpacing}[1]{}
206 \renewcommand*\setFloatSpacing}[1]{}

207 \renewcommand{\SingleSpacing}{\@ifstar\singlespacing\singlespacing}

208 \let\setSingleSpace\SetSinglespace
209 \let\SingleSpace\singlespace
210 \let\endSingleSpace\endsinglespace
211 \let\Spacing\spacing
212 \let\endSpacing\endspacing
213 \let\OnehalfSpace\onehalfspace
214 \let\endOnehalfSpace\endonehalfspace
215 \csletcs{OnehalfSpace*}{onehalfspace}
216 \csletcs{endOnehalfSpace*}{endonehalfspace}
217 \let\DoubleSpace\doublespace
218 \let\endDoubleSpace\enddoublespace
219 \csletcs{DoubleSpace*}{doublespace}
220 \csletcs{endDoubleSpace*}{enddoublespace}
221 \renewcommand*\setDisplayskipStretch}[1]{}
222 \renewcommand*\memdskipstretch}{
223 \renewcommand*\noDisplayskipStretch}{
224 \renewcommand*\memdskips}{
225
226 \renewcommand*\midslippy}{
227 \renewenvironment*{midslippypar}{}{}
228
229 \renewcommand*\slippybottom}{

```

§ 702.5 **Titles**

```

230 \csletcs{titlingpage*}{titlingpage}
231 \csletcs{endtitlingpage*}{endtitlingpage}
232 \let\titlingpageend\relax
233 \newcommand{\titlingpageend}[2]{}
234 \let\andnext\and
235 \renewcommand*\thanksmarkstyle}[1]{}
236
237 \renewcommand{\thanksfootmark}{%
238   \thanksscript{\tmark}%
239 }
240
241 % \newlength{\thanksmarksep}% already provided by memoir

242 \renewcommand\titlingpageend[2]{}

```

§ 702.6 **Abstracts**


```

243 % \newlength{\absindent}
244 % \newlength{\absparsep}
245 \renewcommand*\abstractcol{}
246 \renewcommand*\abstractintoc{}
247 \renewcommand*\abstractnum{}
248 \renewcommand*\abstractrunin{}

```

§ 702.7 Document divisions

```
\book * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}
```

```

249 \DeclareDocumentCommand{\book}{s d() o o d() m}{%
250   \LWR@section{#1}{#3}{#6}{book}%
251 }

```

```

252 \def\@apppage{%
253   \part*\appendixpagename}
254 }
255 \renewcommand\mempreaddapppagetotochook{}
256 \renewcommand\mempostaddapppagetotochook{}
257
258 \def\@sapppage{%
259   \part*\appendixpagename}
260 }

```

```

261 \DeclareDocumentCommand{\mainmatter}{s}{%
262   \booltrue{LWR@mainmatter}%
263 }
264
265 \DeclareDocumentCommand{\frontmatter}{s}{%
266   \boolfalse{LWR@mainmatter}%
267 }

```

```

268 \renewcommand*\raggedbottomsection{}
269 \renewcommand*\normalbottomsection{}
270 \renewcommand*\bottomsectionskip{}
271 \renewcommand*\bottomsectionpenalty{}
272 \csletcs{appendixpage*}{appendixpage}
273 \renewcommand*\namedsubappendices{}
274 \renewcommand*\unnamedsubappendices{}
275 \renewcommand*\beforebookskip{}
276 \renewcommand*\afterbookskip{}
277 \renewcommand*\beforepartskip{}
278 \renewcommand*\afterpartskip{}
279 \renewcommand*\midbookskip{}
280 \renewcommand*\midpartskip{}
281 \renewcommand*\printbookname{}
282 \renewcommand*\booknamefont{}
283 \renewcommand*\booknamenum{}
284 \renewcommand*\printbooknum{}
285 \renewcommand*\booknumfont{}
286 \renewcommand*\printpartname{}
287 \renewcommand*\partnamefont{}
288 \renewcommand*\partnamenum{}
289 \renewcommand*\printpartnum{}
290 \renewcommand*\partnumfont{}
291 \renewcommand*\printbooktitle[1]{}
292 \renewcommand*\booktitlefont{}

```

```

293 \renewcommand{\printparttitle}[1]{}
294 \renewcommand*\parttitlefont{}
295 \renewcommand*\bookpageend{}
296 \renewcommand*\bookblankpage{}
297 \renewcommand*\nobookblankpage{}
298 \renewcommand*\partpageend{}
299 \renewcommand*\partblankpage{}
300 \renewcommand*\nopartblankpage{}
301 \RenewDocumentCommand{\newleadpage}{s o m m}{}% todo
302 \RenewDocumentCommand{\renewleadpage}{s o m m}{}% todo
303 \renewcommand*\leadpagetoclevel}{chapter}
304
305 \renewcommand*\openright{}
306 \renewcommand*\openleft{}
307 \renewcommand*\openany{}
308 \renewcommand*\clearforchapter{}
309 \renewcommand*\memendofchapterhook{}
310 \renewcommand*\chapterheadstart{}
311 % \newlength{\beforechapskip}
312 \renewcommand*\afterchapternum{}
313 % \newlength{\midchapskip}
314 \renewcommand*\afterchaptertitle{}
315 % \newlength{\afterchapskip}
316 \renewcommand*\printchaptername{}
317 \renewcommand*\chapnamefont{}
318 \renewcommand*\chapternamenum{}
319 \renewcommand*\printchapternum{}
320 \renewcommand*\chapnumfont{}
321 \renewcommand{\printchaptertitle}[1]{}
322 \renewcommand*\chaptitlefont{}
323 \renewcommand*\printchapternonum{}
324 \renewcommand*\indentafterchapter{}
325 \renewcommand*\noindentafterchapter{}
326 \renewcommand*\insertchapterspace{}
327
328 \renewcommand*\chapterstyle}[1]{}
329 \renewcommand{\makechapterstyle}[2]{}
330 \renewcommand*\chapindent{}
331 \let\chapterprecis\cftchapterprecis
332 \let\chapterprecishere\cftchapterprecishere
333 \let\chapterprecistoc\cftchapterprecistoc
334 \renewcommand*\precisfont{}
335 \renewcommand*\prechapterprecis{}
336 \renewcommand*\postchapterprecis{}
337 \renewcommand{\precistoc}[1]{}
338 \renewcommand*\precistocfont{}
339 \renewcommand*\precistocformat{}
340 % \newlength{\prechapterprecisshift}
341
342 \renewcommand*\setbeforesecskip}[1]{}
343 \renewcommand*\setaftersecskip}[1]{}
344 \renewcommand*\setsecindent}[1]{}
345 \renewcommand*\setsecheadstyle}[1]{}
346 \renewcommand*\setbeforesubsecskip}[1]{}
347 \renewcommand*\setaftersubsecskip}[1]{}
348 \renewcommand*\setsubsecindent}[1]{}
349 \renewcommand*\setsubseheadstyle}[1]{}
350 \renewcommand*\setbeforesubsubsecskip}[1]{}
351 \renewcommand*\setaftersubsubsecskip}[1]{}
352 \renewcommand*\setsubsubsecindent}[1]{}

```

```
353 \renewcommand*\setsubsubseheadstyle}[1]{}
354 \renewcommand*\setbeforeparaskip}[1]{}
355 \renewcommand*\setafterparaskip}[1]{}
356 \renewcommand*\setparaindent}[1]{}
357 \renewcommand*\setparaheadstyle}[1]{}
358 \renewcommand*\setbeforesubparaskip}[1]{}
359 \renewcommand*\setaftersubparaskip}[1]{}
360 \renewcommand*\setsubparaindent}[1]{}
361 \renewcommand*\setsubparaheadstyle}[1]{}
362 \renewcommand{\@hangfrom}[1]{#1}
363 \renewcommand{\sethangfrom}[1]{}
364 \renewcommand{\setsecnumformat}[1]{}
365
366 \renewcommand*\hangsecnum{}
367 \renewcommand*\defaultsecnum{}
368
369 \renewcommand*\sechook{}
370 \renewcommand{\setsechook}[1]{}
371 \renewcommand*\subsechook{}
372 \renewcommand{\setsubsechook}[1]{}
373 \renewcommand*\subsubsechook{}
374 \renewcommand{\setsubsubsechook}[1]{}
375 \renewcommand*\parahook{}
376 \renewcommand{\setparahook}[1]{}
377 \renewcommand*\subparahook{}
378 \renewcommand{\setsubparahook}[1]{}
379
380 \RenewDocumentCommand{\plainbreak}{s m}{\begin{center}~\end{center}}
381
382 \RenewDocumentCommand{\fancybreak}{s +m}{%
383   \begin{center}#2\end{center}%
384 }
385
386 \RenewDocumentCommand{\plainfancybreak}{s m m +m}{%
387   \begin{center}#4\end{center}%
388 }
389
390 \RenewDocumentCommand{\pfbreak}{s}{%
391   \begin{center}
392     \pfbreakdisplay
393   \end{center}
394 }
395
396 % \newlength{\pfbreakskip}
397 \renewcommand{\pfbreakdisplay}{*\quad*\quad*}
398
399 \renewcommand{\makeheadstyles}[2]{}
400 \renewcommand*\headstyles}[1]{}

```

§ 702.8 **Pagination and headers**

```

401 \renewcommand*\savepagenumber{}
402 \renewcommand*\restorepagenumber{}
403 \renewcommand*\uppercaseheads{}
404 \renewcommand*\nouppercaseheads{}
405
406 \renewcommand*\bookpagemark}[1]{}
407 \renewcommand*\partmark}[1]{}
408 \renewcommand*\bibmark{}
409 \renewcommand*\indexmark{}
410 \renewcommand*\glossarymark{}
411
412 \LWR@origpagestyle{empty}
413 \renewcommand*\ps@empty{}
414 \renewcommand*\makepagestyle}[1]{}
415 \renewcommand*\emptyshook{}%
416 % \renewcommand*\empty@oddhead{}
417 % \renewcommand*\empty@oddfoot{}
418 % \renewcommand*\empty@evenhead{}
419 % \renewcommand*\empty@evenfoot{}
420 \renewcommand*\@oddhead{}
421 \renewcommand*\@oddfoot{}
422 \renewcommand*\@evenhead{}
423 \renewcommand*\@evenfoot{}
424 \renewcommand*\aliaspagestyle}[2]{}
425 \renewcommand*\copypagestyle}[2]{}
426
427 \renewcommand*\makeevenhead}[4]{}
428 \renewcommand*\makeoddhead}[4]{}
429 \renewcommand*\makeevenfoot}[4]{}
430 \renewcommand*\makeoddfoot}[4]{}
431 \renewcommand*\makerunningwidth}[3]{}
432 % \newlength{\headwidth}
433 \renewcommand*\makeheadrule}[3]{}
434 \renewcommand*\makefootrule}[3]{}
435 \renewcommand*\makeheadfootruleprefix}[3]{}
436 % \newlength{\normalrulethickness}
437 % \setlength{\normalrulethickness}{.4pt}
438 % \newlength{\footruleheight}
439 % \newlength{\footruleskip}
440 \renewcommand*\makeheadposition}[5]{}
441 \renewcommand*\makepsmarks}[2]{}
442 \renewcommand*\makeheadfootstrut}[3]{}

443 \renewcommand{\createmark}[5]{\csdef{#1mark}[1]{}
444 \renewcommand{\createplainmark}[3]{\csdef{#1mark}{}

445 \renewcommand{\memUHead}[1]{}
446 \renewcommand*\clearplainmark}[1]{}
447 \renewcommand*\clearmark}[1]{}
448 \renewcommand{\addtopsmarks}[3]{}
449 \renewcommand{\ifonlyfloats}[2]{#2}
450 \renewcommand*\mergepagefloatstyle}[3]{}
451
452 \renewcommand*\framepichead{}
453 \renewcommand*\framepictextfoot{}
454 \renewcommand*\framepichook{}
455 \renewcommand*\showheadfootlocoff{}
456 \renewcommand*\showtextblocklocoff{}

```

§ 702.9 Paragraphs and lists

```

457 \renewcommand{\hangfrom}[1]{#1}
458 \let\centerfloat\centering
459 \renewcommand*\raggedyright}[1][{}
460 % \newlength{\ragrparindent}
461 \renewcommand{\sourceatright}[2][{\attribution{#2}}
462 \let\memorigbs\LWR@endofline

463 \renewcommand*\memorigpar}{\par}

464 \let\atcentercr\LWR@endofline
465
466 \renewcommand*\linenottooshort}[1][{}
467 \renewcommand*\russianpar}{}
468 \renewcommand*\lastlinerulefill}{}
469 \renewcommand*\lastlineparrule}{}
470 \renewcommand*\justlastraggedleft}{}
471 \renewcommand*\raggedrightthenleft}{}
472 \renewcommand*\leftcenterright}{}
473
474 \renewcommand{\leftspringright}[4]{%
475     \begin{minipage}{#1\linewidth}#3\end{minipage}\quad%
476     \begin{minipage}{#2\linewidth}\begin{flushright}#4\end{flushright}\end{minipage}%
477 }
478
479 \renewenvironment*{blockdescription}
480 {\LWR@descriptionstart\LWR@origdescription}
481 {\enddescription}
482
483 \renewcommand*\blockdescriptionlabel}[1]{\textbf{#1}}
484 \renewenvironment*{labelled}[1]{\begin{description}}{\end{description}}
485 \renewenvironment*{flexlabelled}[6]{\begin{description}}{\end{description}}
486 \renewcommand*\tightlists}{}
487 \renewcommand*\defaultlists}{}
488 \RenewDocumentCommand{\firmlists}{s}{}
489 \renewcommand*\firmelist}{}
490 \renewcommand*\tightlist}{}
491 \renewcommand*\zerotrivseps}{}
492 \renewcommand*\savetrivseps}{}
493 \renewcommand*\restoretrivseps}{}

```

§ 702.10 Contents lists

```

494 \csletcs{tableofcontents*}{tableofcontents}
495 \csletcs{listoffigures*}{listoffigures}
496 \csletcs{listoftables*}{listoftables}
497 \renewenvironment{KeepFromToc}{}{}
498 \renewcommand*\onecoltocetc}{}
499 \renewcommand*\twocoltocetc}{}
500 \renewcommand*\ensureonecol}{}
501 \renewcommand*\restorefromonecol}{}
502 \renewcommand*\doccoltocetc}{}
503
504 \renewcommand{\toheadstart}{}
505 \renewcommand{\printtoctitle}[1]{}
506 \renewcommand{\tocmark}{}
507 \renewcommand{\aftertocitle}{}
508 \renewcommand{\lofheadstart}{}
509 \renewcommand{\printloftitle}[1]{}

```

```

510 \renewcommand{\lofmark}{}
511 \renewcommand{\afterloftitle}{}
512 \renewcommand{\lotheadstart}{}
513 \renewcommand{\printlottitle}[1]{}
514 \renewcommand{\lotmark}{}
515 \renewcommand{\afterlottitle}{}
516
517 \renewcommand*\setpnumwidth[1]{}
518 \renewcommand*\setrmarg[1]{}
519 \renewcommand*\cftbookbreak{}
520 \renewcommand*\cftpartbreak{}
521 \renewcommand*\cftchapterbreak{}

522 % \newlength{\cftbeforebookskip}
523 % \newlength{\cftbookindent}
524 % \newlength{\cftbooknumwidth}
525 \renewcommand*\cftbookfont{}
526 \renewcommand*\cftbookname{}
527 \renewcommand*\cftbookpresnum{}
528 \renewcommand*\cftbookaftersnum{}
529 \renewcommand*\cftbookaftersnumb{}
530 \renewcommand*\cftbookleader{}
531 \renewcommand*\cftbookdotsep[1]{}
532 \renewcommand*\cftbookpagefont{}
533 \renewcommand*\cftbookafterpnum{}
534 \renewcommand*\cftbookformatpnum[1]{}
535 \renewcommand*\cftbookformatpnumhook[1]{}

```

Part is already defined by `tocloft`.

```

536 % \newlength{\cftbeforechapterskip}
537 % \newlength{\cftchapterindent}
538 % \newlength{\cftchapternumwidth}
539 \renewcommand*\cftchapterfont{}
540 \renewcommand*\cftchaptername{}
541 \renewcommand*\cftchapterpresnum{}
542 \renewcommand*\cftchapteraftersnum{}
543 \renewcommand*\cftchapteraftersnumb{}
544 \renewcommand*\cftchapterleader{}
545 \renewcommand*\cftchapterdotsep[1]{}
546 \renewcommand*\cftchapterpagefont{}
547 \renewcommand*\cftchapterafterpnum{}
548 \renewcommand*\cftchapterformatpnum[1]{}
549 \renewcommand*\cftchapterformatpnumhook[1]{}

550 % \newlength{\cftbeforesectionsip}
551 % \newlength{\cftsectionindent}
552 % \newlength{\cftsectionnumwidth}
553 \renewcommand*\cftsectionfont{}
554 \renewcommand*\cftsectionname{}
555 \renewcommand*\cftsectionpresnum{}
556 \renewcommand*\cftsectionaftersnum{}
557 \renewcommand*\cftsectionaftersnumb{}
558 \renewcommand*\cftsectionleader{}
559 \renewcommand*\cftsectiondotsep[1]{}
560 \renewcommand*\cftsectionpagefont{}
561 \renewcommand*\cftsectionafterpnum{}
562 \renewcommand*\cftsectionformatpnum[1]{}
563 \renewcommand*\cftsectionformatpnumhook[1]{}

```

```

564 % \newlength{\cftbeforesubsectionskip}
565 % \newlength{\cftsubsectionindent}
566 % \newlength{\cftsubsectionnumwidth}
567 \renewcommand*\cftsubsectionfont{}
568 \renewcommand*\cftsubsectionname{}
569 \renewcommand*\cftsubsectionpresnum{}
570 \renewcommand*\cftsubsectionaftersnum{}
571 \renewcommand*\cftsubsectionaftersnumb{}
572 \renewcommand*\cftsubsectionleader{}
573 \renewcommand*\cftsubsectiondotsep}{1}
574 \renewcommand*\cftsubsectionpagefont{}
575 \renewcommand*\cftsubsectionafterpnum{}
576 \renewcommand*\cftsubsectionformatpnum}[1]{}
577 \renewcommand*\cftsubsectionformatpnumhook}[1]{}

578 % \newlength{\cftbeforesubsubsectionskip}
579 % \newlength{\cftsubsubsectionindent}
580 % \newlength{\cftsubsubsectionnumwidth}
581 \renewcommand*\cftsubsubsectionfont{}
582 \renewcommand*\cftsubsubsectionname{}
583 \renewcommand*\cftsubsubsectionpresnum{}
584 \renewcommand*\cftsubsubsectionaftersnum{}
585 \renewcommand*\cftsubsubsectionaftersnumb{}
586 \renewcommand*\cftsubsubsectionleader{}
587 \renewcommand*\cftsubsubsectiondotsep}{1}
588 \renewcommand*\cftsubsubsectionpagefont{}
589 \renewcommand*\cftsubsubsectionafterpnum{}
590 \renewcommand*\cftsubsubsectionformatpnum}[1]{}
591 \renewcommand*\cftsubsubsectionformatpnumhook}[1]{}

592 % \newlength{\cftbeforeparagraphskip}
593 % \newlength{\cftparagraphindent}
594 % \newlength{\cftparagraphnumwidth}
595 \renewcommand*\cftparagraphfont{}
596 \renewcommand*\cftparagraphname{}
597 \renewcommand*\cftparagraphpresnum{}
598 \renewcommand*\cftparagraphaftersnum{}
599 \renewcommand*\cftparagraphaftersnumb{}
600 \renewcommand*\cftparagraphleader{}
601 \renewcommand*\cftparagraphdotsep}{1}
602 \renewcommand*\cftparagraphpagefont{}
603 \renewcommand*\cftparagraphafterpnum{}
604 \renewcommand*\cftparagraphformatpnum}[1]{}
605 \renewcommand*\cftparagraphformatpnumhook}[1]{}

606 % \newlength{\cftbeforesubparagraphskip}
607 % \newlength{\cftsubparagraphindent}
608 % \newlength{\cftsubparagraphnumwidth}
609 \renewcommand*\cftsubparagraphfont{}
610 \renewcommand*\cftsubparagraphname{}
611 \renewcommand*\cftsubparagraphpresnum{}
612 \renewcommand*\cftsubparagraphaftersnum{}
613 \renewcommand*\cftsubparagraphaftersnumb{}
614 \renewcommand*\cftsubparagraphleader{}
615 \renewcommand*\cftsubparagraphdotsep}{1}
616 \renewcommand*\cftsubparagraphpagefont{}
617 \renewcommand*\cftsubparagraphafterpnum{}
618 \renewcommand*\cftsubparagraphformatpnum}[1]{}
619 \renewcommand*\cftsubparagraphformatpnumhook}[1]{}

620 % \newlength{\cftbeforefigureskip}

```

```
621 % \newlength{\cftfigureindent}
622 % \newlength{\cftfigurenumwidth}
623 \renewcommand*{\cftfigurefont}{}
624 \renewcommand*{\cftfigurename}{}
625 \renewcommand*{\cftfigurepresnum}{}
626 \renewcommand*{\cftfigureaftersnum}{}
627 \renewcommand*{\cftfigureaftersnumb}{}
628 \renewcommand*{\cftfigureleader}{}
629 \renewcommand*{\cftfiguredotsep}{1}
630 \renewcommand*{\cftfigurepagefont}{}
631 \renewcommand*{\cftfigureafterpnum}{}
632 \renewcommand*{\cftfigureformatpnum}[1]{}
633 \renewcommand*{\cftfigureformatpnumhook}[1]{}

634 % \newlength{\cftbeforesubfigureskip}
635 % \newlength{\cftsubfigureindent}
636 % \newlength{\cftsubfigurenumwidth}
637 \newcommand*{\cftsubfigurefont}{}
638 \newcommand*{\cftsubfigurename}{}
639 \newcommand*{\cftsubfigurepresnum}{}
640 \newcommand*{\cftsubfigureaftersnum}{}
641 \newcommand*{\cftsubfigureaftersnumb}{}
642 \newcommand*{\cftsubfigureleader}{}
643 \newcommand*{\cftsubfiguredotsep}{1}
644 \newcommand*{\cftsubfigurepagefont}{}
645 \newcommand*{\cftsubfigureafterpnum}{}
646 \newcommand*{\cftsubfigureformatpnum}[1]{}
647 \newcommand*{\cftsubfigureformatpnumhook}[1]{}

648 % \newlength{\cftbeforetableskip}
649 % \newlength{\cfttableindent}
650 % \newlength{\cfttablenumwidth}
651 \renewcommand*{\cfttablefont}{}
652 \renewcommand*{\cfttablename}{}
653 \renewcommand*{\cfttablepresnum}{}
654 \renewcommand*{\cfttableaftersnum}{}
655 \renewcommand*{\cfttableaftersnumb}{}
656 \renewcommand*{\cfttableleader}{}
657 \renewcommand*{\cfttabledotsep}{1}
658 \renewcommand*{\cfttablepagefont}{}
659 \renewcommand*{\cfttableafterpnum}{}
660 \renewcommand*{\cfttableformatpnum}[1]{}
661 \renewcommand*{\cfttableformatpnumhook}[1]{}

662 % \newlength{\cftbeforesubtableskip}
663 % \newlength{\cftsubtableindent}
664 % \newlength{\cftsubtablenumwidth}
665 \newcommand*{\cftsubtablefont}{}
666 \newcommand*{\cftsubtablename}{}
667 \newcommand*{\cftsubtablepresnum}{}
668 \newcommand*{\cftsubtableaftersnum}{}
669 \newcommand*{\cftsubtableaftersnumb}{}
670 \newcommand*{\cftsubtableleader}{}
671 \newcommand*{\cftsubtabledotsep}{1}
672 \newcommand*{\cftsubtablepagefont}{}
673 \newcommand*{\cftsubtableafterpnum}{}
674 \newcommand*{\cftsubtableformatpnum}[1]{}
675 \newcommand*{\cftsubtableformatpnumhook}[1]{}

676 \renewcommand*{\booknumberline}[1]{}
677 \renewcommand*{\partnumberline}[1]{}

```



```

678 \renewcommand*\chapternumberline}[1]{}
679 \renewcommand*\numberlinehook}[1]{}
680 % \renewcommand*\cftwhatismyname}{}%
681 \renewcommand*\booknumberlinehook}[1]{}
682 \renewcommand*\partnumberlinehook}[1]{}
683 \renewcommand*\chapternumberlinehook}[1]{}
684 \renewcommand\{numberlinebox}[2]{}
685 \renewcommand\{booknumberlinebox}[2]{}
686 \renewcommand\{partnumberlinebox}[2]{}
687 \renewcommand\{chapternumberlinebox}[2]{}
688 %
689 % \newlength\{cftparfillskip}
690 \renewcommand*\cftpagenumbersoff}[1]{}
691 \renewcommand*\cftpagenumberson}[1]{}
692 \renewcommand*\cftlocalchange}[3]{}
693 \renewcommand*\cftaddtitleline}[4]{}
694 \renewcommand*\cftaddnumtitleline}[4]{}
695 \renewcommand\{cftinsertcode}[2]{}
696 \renewcommand\{cftinserthook}[2]{}
697 \renewcommand\{settocpreprocessor}[2]{}
698 \DeclareRobustCommand\{cftpagenumbersoff}[1]{}
699 \DeclareRobustCommand\{cftpagenumberson}[1]{}

```

§ 702.11 Floats and captions

\@xfloat

\@xdblfloat

Reestablish lwarp's takeover the float handling, which memoir tried to grab:

```

700 \AtBeginDocument{
701 \def\@xfloat #1[#2]{%
702   \LWR@floatbegin{#1}[#2]
703   \normalsize
704   \@nameuse{#1adjustment}%
705   \LWR@futurenonspacel\@LWR@mynexttoken\LWR@floatalignment%
706 }
707 \def\@xdblfloat #1[#2]{%
708   \LWR@floatbegin{#1}[#2]
709   \normalsize
710   \@nameuse{#1adjustment}%
711   \LWR@futurenonspacel\@LWR@mynexttoken\LWR@floatalignment%
712 }
713 }

```

\newfloat

{<1: *within*>} {<2: *type*>} {<3: *ext*>} {<4: *capname*>}

```

714 \RenewDocumentCommand\{newfloat}{o m m m}{%
715   \def\LWR@tempone{#4}%
716   \def\LWR@temptwo{\@nameuse{#2name}}%
717   \ifdefequal{\LWR@tempone}{\LWR@temptwo}{% recursive name, already defined
718     \IfValueTF{#1}%
719       {\DeclareFloatingEnvironment[fileext=#3,within=#1]{#2}}%
720       {\DeclareFloatingEnvironment[fileext=#3]{#2}}%
721   }{% not recursive name
722     \IfValueTF{#1}%
723       {\DeclareFloatingEnvironment[fileext=#3,within=#1,name={#4}]{#2}}%
724       {\DeclareFloatingEnvironment[fileext=#3,name={#4}]{#2}}%
725   }%

```

`newfloat` package automatically creates the `\listof` command for new floats, but `float` does not, so remove `\listof` here in case it is manually created later.

```

726 \cslet{listof#2s}\relax%
727 \cslet{listof#2es}\relax%
728 }

```

\newlistof

[<*within*>] {<*type*>} {<*ext*>} {<*listofname*>}

Emulated through the \newfloat mechanism. Note that memoir uses a different syntax than tocloft for the name.

```

729 \RenewDocumentCommand{\newlistof}{o m m m}
730 {%
731   \IfValueTF{#1}%
732     {\newlistentry[#1]{#2}{#3}{0}}%
733     {\newlistentry{#2}{#3}{0}}%
734   \@namedef{ext@#2}{#3}%
735   \ifundefined{c@#3depth}{\newcounter{#3depth}}{}%
736   \setcounter{#3depth}{1}%
737   \@namedef{#3mark}{}%
738   \@namedef{#2}{\LWR@listof{#2}{#4}}%
739   \@namedef{@cftmake#3title}{}%
740   \ifundefined{cftbefore#3titleskip}{}%
741     \expandafter\newlength\csname cftbefore#3titleskip\endcsname%
742     \expandafter\newlength\csname cftafter#3titleskip\endcsname%
743   }{}%
744   \@namedef{cft#3titlefont}{}%
745   \@namedef{cftafter#3title}{}%
746   \@namedef{cft#3prehook}{}%
747   \@namedef{cft#3posthook}{}%
748 }

749 \renewcommand{\setfloatadjustment}[2]{}

```

Borrowed from the lwarp version of keyfloat:

```

750 \NewDocumentEnvironment{KFLTmemoir@marginfloat}{0{-1.2ex} m}
751 {% start
752   \LWR@BlockClassWP{float:right; width:2in; margin:10pt}}{(note){marginblock}%
753   \renewcommand*{\@capttype}{#2}%
754 }
755 {%
756   \endLWR@BlockClassWP%
757 }
758
759 \DeclareDocumentEnvironment{marginfigure}{o}
760   {\begin{KFLTmemoir@marginfloat}{figure}}
761   {\end{KFLTmemoir@marginfloat}}
762
763 \DeclareDocumentEnvironment{margintable}{o}
764   {\begin{KFLTmemoir@marginfloat}{table}}
765   {\end{KFLTmemoir@marginfloat}}

766 \renewcommand{\setmarginfloatcaptionadjustment}[2]{}
767 \renewcommand{\setmpjustification}[2]{}
768 \renewcommand*{\mpjustification}{}
769 \renewcommand*{\setfloatlocations}[2]{}
770 \DeclareDocumentCommand{\suppressfloats}{o}{}
771 \renewcommand*{\FloatBlock}{}
772 \renewcommand*{\FloatBlockAllowAbove}{}
773 \renewcommand*{\FloatBlockAllowBelow}{}
774 \renewcommand*{\setFloatBlockFor}{}

```

```
775
776 \renewcommand{\captiontitlefinal}[1]{}
```

`\flegtable`, `\flegfigure`, `\flegtocfigure` are defined by memoir using `\newfloat`. These are defined with an @ in `caption`.

```
777 \renewcommand{\flegtable}{\tablename}
778 \renewcommand{\flegfigure}{\figurename}
779 \renewcommand{\flegtocfigure}{\tableofcontents}
780 \renewcommand{\flegtocfigure}{\tableofcontents}

781 \renewcommand{\@makesubfloatcaption}[2]{%
782   \minipagefullwidth
783   \begin{minipage}{\linewidth}%
784     #1 \ignorespaces #2 \unskip%
785   \end{minipage}
786 }
787
788 \renewcommand*\tightsubcaptions{}
789 \renewcommand*\loosesubcaptions{}
790
791 \renewcommand*\subcaptionsize[1]{}
792 \renewcommand*\subcaptionlabelfont[1]{}
793 \renewcommand*\subcaptionfont[1]{}
794 \renewcommand*\subcaptionstyle[1]{}
795
796 \renewcommand*\hangsubcaption{}
797 \renewcommand*\shortsubcaption{}
798 \renewcommand*\normalsubcaption{}

```

`\AfterEndPreamble` now required for `sidecaption`.

```
799 \AfterEndPreamble{%
800 \RenewDocumentEnvironment{sidecaption}{o m o}
801 {}
802 {%
803   \IfValueTF{#1}{\caption[#1]{#2}}{\caption{#2}}%
804   \IfValueT{#3}{\label{#3}}%
805 }
806 }
807
808 % \newlength{\sidecapwidth}
809 % \newlength{\sidecapsep}
810 \renewcommand*\setsidecaps[2]{}
811 \renewcommand*\sidecapmargin[1]{}
812 % \newif\ifscapmargleft
813 \scapmargleftfalse
814 \renewcommand*\setsidecappos[1]{}

```

Env `sidecontcaption`

```
815 \RenewDocumentEnvironment{sidecontcaption}{m o}
816 {}
817 {%
818   \ifdef{\ContinuedFloat}%
819     {\ContinuedFloat}%
820     {\addtocounter{@captype}{-1}}%
821   \caption{#1}%

```

Without `\@capttype`, the section is referred to instead.

```
822 \IfValueT{#2}{\label[\@capttype]{#2}}%
823 }
```

`\sidenamedlegend` does not appear to use the `toc` argument.

```
824 \renewenvironment{sidenamedlegend}[2][]{
825   \begin{center}
826   \@nameuse{\@capttype name}\CaptionSeparator#2
827   \end{center}
828 }
829 {}
830
831 \renewenvironment{sidelegend}[1]
832 {\begin{center}
833   #1
834
835 }
836 {\end{center}}
837
838 \renewcommand*\sidecapstyle{}
839 \renewcommand*\overridescapmargin[1]{}
840 % \newlength\sidecapraise
841 \renewcommand*\sidecapfloatwidth{\linewidth}
842
843 \LetLtxMacro\ctabular\tabular
844 \LetLtxMacro\endctabular\endtabular
845
846 \renewcommand{\autorows}[5][]{%
847   #5%
848 }
849
850 \renewcommand{\autocols}[5][]{%
851   #5%
852 }
```

§ 702.12 Footnotes and page notes

```
853 \renewcommand*\feetabovefloat{}
854 \renewcommand*\feetbelowfloat{}
855 \renewcommand*\feetatbottom{}
856
857 \renewcommand*\verbfootnote[2][]{%
858   \PackageError{lwarp, memoir}%
859   {Verbatim footnotes are not yet supported by lwarp}%
860   {This may be improved some day.}%
861 }
862
863 \renewcommand*\plainfootnotes{}
864 \renewcommand*\twocolumnfootnotes{}
865 \renewcommand*\threecolumnfootnotes{}
866 \renewcommand*\paragraphfootnotes{}
867 \renewcommand*\footfudgefiddle{}
868
869 \renewcommand*\newfootnoteseries[1][{%
870   \PackageError{lwarp, memoir}%
871   {Memoir footnote series are not yet supported by lwarp}%
872   {This may be improved some day.}%
873 }
874
```

```
875 \renewcommand*\plainfootstyle}[1]{}
876 \renewcommand*\twocolumnfootstyle}[1]{}
877 \renewcommand*\threecolumnfootstyle}[1]{}
878 \renewcommand*\paragraphfootstyle}[1]{}
879
880 \renewcommand*\footfootmark{}
881 \renewcommand*\footmarkstyle}[1]{}
882
883 % \newlength{\footmarkwidth}
884 % \newlength{\footmarksep}
885 % \newlength{\footparindent}
886
887 \renewcommand*\foottextfont{}
888
889 \renewcommand*\marginparmargin}[1]{}
890 \renewcommand*\sideparmargin}[1]{}
891
892 \LetLtxMacro\sidepar\marginpar
893 \renewcommand*\sideparfont{}
894 \renewcommand*\sideparform{}
895 \LWR@providelength{\sideparvshift}
896
897 \renewcommand*\parnopar{}
898
899 \renewcommand{\sidebar}[1]{\begin{quote}#1\end{quote}}
900 \renewcommand*\sidebarmargin}[1]{}
901 \renewcommand*\sidebarfont{}
902 \renewcommand*\sidebarform{}
903 % \newlength{\sidebarhsep}
904 % \newlength{\sidebarvsep}
905 % \newlength{\sidebarwidth}
906 % \newlength{\sidebartopsep}
907 \renewcommand{\setsidebarheight}[1]{}
908 \renewcommand*\setsidebars}[6]{}
909 \renewcommand*\footnotesatfoot{}
910 \renewcommand*\footnotesinmargin{}
911
912 \LetLtxMacro\sidefootnote\footnote
913 \LetLtxMacro\sidefootnotemark\footnotemark
914 \LetLtxMacro\sidefootnotetext\footnotetext
915
916 \renewcommand*\sidefootmargin}[1]{}
917 % \newlength{\sidefoothsep}
918 % \newlength{\sidefootvsep}
919 % \newlength{\sidefootwidth}
920 % \newlength{\sidefootadjust}
921 % \newlength{\sidefootheight}
922 \renewcommand*\setsidefootheight}[1]{}
923 % \renewcommand*\sidefootfont{}% in docs but not in the package
924 \renewcommand*\setsidefeet}[6]{}
925 \renewcommand*\sidefootmarkstyle}[1]{}
926 \renewcommand*\sidefoottextfont{}
927 \renewcommand*\sidefootform{}

928 \renewcommand*\continuousnotenums{\pncontopttrue}% from pagenote
929 \renewcommand*\notepageref{}
930 \renewcommand*\prenotetext{}
931 \renewcommand*\postnotetext{}
932 \LetLtxMacro\printpageinnoteshyperref\printpageinnotes
933 \renewcommand*\foottopagenote{}

```

```
934 \renewcommand*{\pagetofootnote}{}
```


```
\m@m@wrpnote
```

```
\startnoteentrystart
```

To have `cleveref` work with page note labels, the following patch writes `\thepagenote` and also adds `\arabic{pagenote}` to the first argument written to the `.ent` file:

```
\startnoteentry{\thepagenote}{\arabic{pagenote}} . . .
```

The arabic value is required for `cleveref`. `\thepagenote` becomes `\@firstoftwo#1` and the arabic value becomes `\@secondoftwo#1`.

 `\nameref` Note that for print mode, `\nameref` print the section name where the page notes are declared in the text, but for HTML it prints the name where the page notes are printed.

```
935 \VerifyCommand[lwarp][lwarp-patch-memoir]{\m@m@wrpnote}{D2AE41FE9A265B639F7074AB2AF29976}
936
937 \xpatchcmd{\m@m@wrpnote}
938   {\string\startnoteentry{\thepagenote}}
939   {\string\startnoteentry{\thepagenote}{\arabic{pagenote}}}}
940   {}
941   {\LWR@patcherror{memoir}{m@m@wrpnote}}
942
943 \VerifyCommand[lwarp][lwarp-patch-memoir]{\startnoteentrystart}{2A595EA1DC483451337C33072604EDD6}
944
945 \renewcommand\startnoteentrystart[4]{%
946   \prenoteinnotes%
947   \noteidinnotes{\@firstoftwo#1}{#2}%
948   \@ifmtarg{#2}{%
949     \phantomsection\def\@currentlabel{#1}%           original
950     \def\@currentlabel{\@firstoftwo#1}%             lwarp
951     \def\@cref{\@currentlabel}%                     lwarp
952     [pagenote][\@secondoftwo#1][\@firstoftwo#1%   lwarp
953     ]}%                                             lwarp
954   }{}%
955   \pagenoteanchor{#4}%
956   \pageinnotes{#3}%
957   \prenotetext%
958 }
```

§ 702.13 Decorative text

```
959 \renewcommand*{\epigraphposition}[1]{}
960 \renewcommand*{\epigraphtextposition}[1]{}
961 \renewcommand*{\epigraphsourceposition}[1]{}
962 \renewcommand*{\epigraphfontsize}[1]{}
963 \renewcommand*{\epigraphforheader}[2]{}
964 \renewcommand*{\epigraphpicture}{}
```

§ 702.14 Poetry

```
965 \renewcommand*{\vinphantom}{}
966 \renewcommand*{\vleftofline}[1]{#1}
967 % \let\linenumberfrequency\poemlines
968 % \renewcommand*{\linenumberfont}[1]{}
969
970 \DeclareDocumentCommand{\PoemTitle}{s o m}{%
971   \IfValueTF{#2}%
972     {\poemtitle[#2]{#4}}%
973     {\poemtitle{#4}}%
974 }
```

```

975
976 \renewcommand*\NumberPoemTitle{}
977 \renewcommand*\PlainPoemTitle{}
978 \renewcommand*\poemtitlestyle{}
979 \renewcommand*\poemtitlestarmark}[1]{}
980 \renewcommand*\poemtitlestarpstyle{}
981 \renewcommand*\PoemTitleheadstart{}
982 \renewcommand*\printPoemTitlenonum{}
983 \renewcommand*\printPoemTitlenum{}
984 \renewcommand*\afterPoemTitlenum{}
985 \renewcommand*\printPoemTitletitle}[1]{}
986 \renewcommand*\afterPoemTitle{}
987 \newlength{\midpoemtitleskip}
988 \renewcommand*\PoemTitlenumfont{}
989 \renewcommand*\PoemTitlefont{}

```

§ 702.15 Boxes, verbatims and files

```

990 \renewenvironment{qframe}{\framed}\endframed}
991 \renewenvironment{qshade}{\shaded}\endshaded}

992 \renewcommand*\setverbatimfont}[1]{}
993 \renewcommand*\tabson}[1]{}% disabled as of 3.8.2
994 \renewcommand*\tabsoff{}% disabled as of 3.8.2
995 \renewcommand*\wrappingon{}% disabled as of 3.8.2
996 \renewcommand*\wrappingoff{}% disabled as of 3.8.2
997 \renewcommand*\verbatimindent{}% no longer used as of 3.8.2
998 \renewcommand*\verbatimbreakchar}[1]{}% no longer used as of 3.8.2

999 \DefineVerbatimEnvironment{fboxverbatim}{Verbatim}{frame=single}

```

boxedverbatim is already defined by moreverb. boxedverbatim* does not appear to work at all, even in a minimal print memoir document.

```

1000 \renewcommand*\bvbox{}
1001 \renewcommand*\bvtopandtail{}
1002 \renewcommand*\bvside{}
1003 \renewcommand*\nobvbox{}
1004 % \newlength\bvboxsep
1005 \renewcommand*\bvtoprulehook{}
1006 \renewcommand*\bvtopmidhook{}
1007 \renewcommand*\bvendrulehook{}
1008 \renewcommand*\bvleftsidehook{}
1009 \renewcommand*\bvrightsidehook{}
1010 \renewcommand*\bvperpagetrue{}
1011 \renewcommand*\bvperpagefalse{}
1012 \renewcommand{\bvtopofpage}[1]{}
1013 \renewcommand{\bvendofpage}[1]{}
1014 \renewcommand*\linenumberfrequency}[1]{}
1015 \renewcommand*\resetbvlینumber{}
1016 \renewcommand*\setbvlینums}[2]{}
1017 \renewcommand*\linenumberfont}[1]{}
1018 \renewcommand*\bvnumbersinside{}
1019 \renewcommand*\bvnumbersoutside{}

```

§ 702.16 Cross referencing

```

1020 \renewcommand*\fref}[1]{\cref{#1}}
1021 \renewcommand*\tref}[1]{\cref{#1}}

```

```

1022 \renewcommand*\pref}[1]{\cpageref{#1}}
1023 \renewcommand*\Aref}[1]{\cref{#1}}
1024 \renewcommand*\Bref}[1]{\cref{#1}}
1025 \renewcommand*\Pref}[1]{\cref{#1}}
1026 \renewcommand*\Sref}[1]{\cref{#1}}
1027 \renewcommand*\figurerefname}{Figure}
1028 \renewcommand*\tablerefname}{Table}
1029 \renewcommand*\pagerefname}{page}
1030 \renewcommand*\bookrefname}{Book~}
1031 \renewcommand*\partrefname}{Part~}
1032 \renewcommand*\chapterrefname}{Chapter~}
1033 \renewcommand*\sectionrefname}{\S}
1034 \renewcommand*\appendixrefname}{Appendix~}
1035 \LetLtxMacro\titleref\nameref
1036 \renewcommand*\headnameref}{}
1037 \renewcommand*\tocnameref}{}

```

\currenttitle has been removed from memoir.

```

1038 \renewcommand*\theTitleReference}[2]{}
1039 \renewcommand*\namerefon}{}
1040 \renewcommand*\namerefoff}{}

```

§ 702.17 Back matter

\@wrindexhyp

Redefined to write the LWR@autoindex counter instead of page. Note that memoir has two versions, depending on the use of hyperref.

```

1041 \AtBeginDocument{
1042
1043 \VerifyCommand[lwarp][lwarp-patch-memoir]{\@wrindexhyp}{8DA7E3C8BE7A830442D98EA033147F63}
1044
1045 \def\@wrindexhyp#1||\{\%
1046   \addtocounter{LWR@autoindex}{1}%           lwarp
1047   \ifshowindexmark\@showidx{#1}\fi
1048   \protected@write\@auxout{}%
1049     {\string\@wrindexm@m{\@idxfile}{#1}{\thepage}}%
1050     {\string\@wrindexm@m{\@idxfile}{#1}{\arabic{LWR@autoindex}}}% lwarp

```

The label is assigned after the file write to avoid conflict with cleveref.

```

1051   \label{LWRindex-\arabic{LWR@autoindex}}%   lwarp
1052   \endgroup
1053   \@esphack}%

```

\@wrspindexhyp

\specialindex behaves like a regular \index, pointing to where \specialindex is used. If \specialindex is used inside a figure or table after the \caption, then the hyperlink will be given the name of that particular figure or table.

```

1054 \def\@wrspindexhyp#1||\{\%
1055   \addtocounter{LWR@autoindex}{1}%
1056   \ifshowindexmark\@showidx{#1}\fi
1057   \protected@write\@auxout{}%
1058   {\string\@wrindexm@m{\@idxfile}{#1}{\@nameuse{the\@sptheidx}}}%
1059   {\string\@wrindexm@m{\@idxfile}{#1}{\arabic{LWR@autoindex}}}%

```

The label is assigned after the file write to avoid conflict with cleveref.

```

1060   \label{LWRindex-\arabic{LWR@autoindex}}%
1061   \endgroup
1062   \@esphack}%
1063

```



```
1064 }% \AtBeginDocument
```

\@spindex

Patched to append _html to the file:

```
1065 \renewcommand{\@spindex}[2]{%
1066   \ifundefined{#1@idxfile}%
1067   {\ifreportnoidxfile
1068     \@memwarn{Undefined index file #1}%
1069     \fi
1070     \begingroup
1071     \@sanitize
1072     \@nowrindex}%
1073   {\def\@idxfile{#1_html}%
1074     \def\@sptheid{#2}%
1075     \begingroup
1076     \@sanitize
1077     \@wrspindex}}
```

\@makeindex

Patched to use _html filename and \BaseJobname:

```
1078 \catcode`\_ =12%
1079 \renewcommand*\@makeindex[1][\BaseJobname]{%
1080   \if@files
1081     \def\gindex{\@bsphack%
1082       \ifnextchar [ {\@index} {\@index[\BaseJobname]} }
1083     \def\specialindex{\@bsphack\@spindex}%
1084     \makememindexhook
1085     \expandafter\newwrite\csname #1@idxfile\endcsname
1086     \expandafter\immediate\openout \csname #1@idxfile\endcsname #1_html.idx\relax
1087     \typeout{Writing index file #1_html.idx }%
1088     \fi}
1089 \catcode`\_ =8%
```

\@printindex

Patched to use _html filename and \BaseJobname. This will later be patched by the lwarp core.

```
1090 \catcode`\_ =12%
1091 \renewcommand{\@printindex}[1][\BaseJobname]{\@input@{#1_html.ind}}
1092 \catcode`\_ =8%

1093 \DeclareDocumentCommand{\newblock}{}{}
1094 %
1095 \renewcommand*\showindexmarks{}
1096 \renewcommand*\hideindexmarks{}
1097
1098 \renewcommand*\xindyindex{}
```

§ 702.18 Miscellaneous

```
1099 \renewcommand*\changemarks{}
1100 \renewcommand*\nochangemarks{}
1101 \renewcommand*\added[1]{}
1102 \renewcommand*\deleted[1]{}
1103 \renewcommand*\changed[1]{}
1104
1105 \renewcommand*\showtrimsoff{}
1106 \renewcommand*\showtrimson{}
1107 \renewcommand*\trimXmarks{}
1108 \renewcommand*\trimLmarks{}
```

```

1109 \renewcommand*\trimFrame{}
1110 \renewcommand*\trimNone{}
1111 \renewcommand*\trimmarkscolor{}
1112 \renewcommand*\trimmarks{}
1113 \renewcommand*\tmarktl{}
1114 \renewcommand*\tmarktr{}
1115 \renewcommand*\tmarkbr{}
1116 \renewcommand*\tmarkbl{}
1117 \renewcommand*\tmarktm{}
1118 \renewcommand*\tmarkmr{}
1119 \renewcommand*\tmarkbm{}
1120 \renewcommand*\tmarkml{}
1121 \renewcommand*\trimmark{}
1122 \renewcommand*\quarkmarks{}
1123 \renewcommand*\registrationColour[1]{}
1124
1125 \renewcommand*\leavespergathering[1]{}
1126
1127 \renewcommand*\noprelistbreak{}
1128
1129 \renewcommand*\cleartorecto{}
1130 \renewcommand*\cleartoverso{}
1131
1132 \renewenvironment{vplace}[1][{}]{}
```

§ 702.19 **ccaption emulation**

```

1133 \renewcommand*\captiondelim[1]{\renewcommand*\CaptionSeparator{#1}}
1134 \renewcommand*\captionnamefont[1]{}
1135 \renewcommand*\captiontitlefont[1]{}
1136 \renewcommand*\flushleft{}
1137 \renewcommand*\centerlastline{}
1138 \renewcommand*\captionstyle[2][{}]{
1139 \DeclareDocumentCommand\captionwidth}{m}{
1140 \renewcommand*\changecaptionwidth{}
1141 \renewcommand*\normalcaptionwidth{}
1142 \renewcommand*\hangcaption{}
1143 \renewcommand*\indentcaption[1]{}
1144 \renewcommand*\normalcaption{}
1145 \renewcommand\precaption[1]{}
1146 \renewcommand\postcaption[1]{}
1147 \renewcommand\midbicaption[1]{}
1148 \renewcommand\contcaption[1]{%
1149 % \ContinuedFloat%
1150 % \caption{#1}%
1151 \begin{LWR@figcaption}% later becomes \caption*
1152 \LWR@isolate{\@nameuse{\@captype name}}~%
1153 \thechapter.\the\value{\@captype}\CaptionSeparator\LWR@isolate{#1}%
1154 \end{LWR@figcaption}%
1155 }

1156 \newlength{\abovelegendskip}
1157 \setlength{\abovelegendskip}{0.5\baselineskip}
1158 \newlength{\belowlegendskip}
1159 \setlength{\belowlegendskip}{\abovelegendskip}
```

The extra `\\` here forces a `
` in HTML when `\legend` is used in a `\marginpar`.

```

1160 \renewcommand{\legend}[1]{\begin{center}#1\\end{center}}
1161
```

```

1162 \renewcommand{\namedlegend}[2][]{%
1163   \begin{center}
1164     \@nameuse{fleg\@capttype}\CaptionSeparator#2\\
1165   \end{center}
1166   \@nameuse{flegtoc\@capttype}{#1}
1167 }

```

`\flegtable`, `\flegfigure`, `\flegtocable`, `\flegtocfigure` are defined by memoir using `\newfloat`. These are defined with an @ in `ccaption`.

```

1168 \renewcommand{\newfixedcaption}[3][\caption]{%
1169   \renewcommand{#2}{\def\@capttype{#3}#1}}
1170 \renewcommand{\renewfixedcaption}[3][\caption]{%
1171   \renewcommand{#2}{\def\@capttype{#3}#1}}
1172 \renewcommand{\providefixedcaption}[3][\caption]{%
1173   \providecommand{#2}{\def\@capttype{#3}#1}}
1174
1175 \renewcommand{\bitwonumcaption}[6][]{%
1176   \ifblank{#2}{\caption{#3}}{\caption[#2]{#3}}%
1177   \addtocounter{\@capttype}{-1}%
1178   \begin{group}
1179     \csdef{\@capttype name}{#4}%
1180     \ifblank{#5}{\caption{#6}}{\caption[#5]{#6}}%
1181   \end{group}
1182   \ifblank{#1}{\label{#1}}%
1183 }
1184
1185 \LetLtxMacro\bionenumcaption\bitwonumcaption% todo
1186
1187 \renewcommand{\bicaption}[5][]{%
1188   \ifblank{#2}{\caption{#3}}{\caption[#2]{#3}}%
1189   \begin{LWR@figcaption}% later becomes \caption*
1190     \LWR@isolate{#4} % space
1191     \thechapter.\the\value{\@capttype}\CaptionSeparator\LWR@isolate{#5}%
1192   \end{LWR@figcaption}%
1193   \ifblank{#1}{\label{#1}}%
1194 }
1195
1196 \renewcommand{\bicontcaption}[3]{%
1197   \contcaption{#1}%
1198   \begin{group}
1199     \csdef{\@capttype name}{#2}%
1200     \contcaption{#3}%
1201   \end{group}
1202 }

```

Only in `ccaption`, not in memoir:

```

1203 % \LetLtxMacro\longbitwonumcaption\bitwonumcaption%
1204 % \LetLtxMacro\longbionenumcaption\bitwonumcaption%
1205 % \LetLtxMacro\longbicaption\bicaption%

```

Patches for subfloats to support additional lwarp labels:

```

1206 \renewcommand{\@memsubbody}{%
1207   \bgroup
1208   \let\label=\memsub@label
1209   \ifdonemaincaption\else
1210     \advance\csname c@\@capttype\endcsname\@e
1211   \fi

```

```

1212 % \refstepcounter{sub\@capttype}\@contkeep%
1213 % \leavevmode          lwarp
1214 \@ifnextchar [%
1215   {\@memsubfig}%
1216   {\@memsubfig[\@empty]}}
1217
1218 \renewcommand{\@memcontsubbody}{%
1219   \bgroup
1220   \let\label=\memsub@label
1221   \@contset
1222   % \refstepcounter{sub\@capttype}\@contkeep%
1223   % \leavevmode          lwarp
1224   \@ifnextchar [%
1225     {\@memsubfig}%
1226     {\@memsubfig[\@empty]}}
1227
1228
1229 \Long\def\@memsubfloat#1[#2][#3]#4{%
1230 %   \@tempcnta=\@ne
1231 %   \if@tightsubcap
1232 %     \if@minipage
1233 %       \@tempcnta=\z@
1234 %     \else
1235 %       \ifdim\lastskip=\z@
1236 %         \@tempcnta=\@ne
1237 %       \else
1238 %         \@tempcnta=\tw@
1239 %       \fi
1240 %     \fi
1241 %   \fi
1242 %   \if@contbotsub
1243 %     \def\subfig@top{\subfloattopskip}%
1244 %     \def\subfig@bottom{\subfloatbottomskip}%
1245 %   \else
1246 %     \def\subfig@top{\subfloatbottomskip}%
1247 %     \def\subfig@bottom{\subfloattopskip}%
1248 %   \fi
1249 %   \setbox\@tempboxa \hbox{#4}%
1250 %   \@tempdima=\wd\@tempboxa
1251 %   \vbox
1252 %   \bgroup%
1253 %   \mem@step@subcounter%
1254 %   \vbox
1255 %   \LWR@stoppars%
1256 %   \minipagefullwidth%          lwarp
1257 %   \begin{minipage}{\linewidth}% lwarp
1258 %   \bgroup
1259 %     \ifcase\@tempcnta
1260 %       \@minipagefalse
1261 %     \or
1262 %       \vspace{\subfig@top}
1263 %     \or
1264 %       \ifdim \lastskip=\z@ \else
1265 %         \@tempkipb\subfig@top\@xaddvskip
1266 %       \fi
1267 %     \fi
1268 %   \if@contbotsub
1269 %     #4 \box\@tempboxa
1270 %   \egroup
1271 %   \ifx \@empty#3\relax \else

```

```

1272 %      \vskip\subfloatcapskip
1273      \@memsubcaption{#1}{#2}{#3}%
1274      \fi
1275      \else
1276      \ifx \@empty#3\relax \else
1277      \@memsubcaption{#1}{#2}{#3}%
1278 %      \vskip\subfloatcapskip
1279 %      \vskip\subfloatcaptopadj
1280      \fi\egroup
1281      #4% \box\@tempboxa
1282      \fi
1283 %      \vspace{\subfig@bottom}
1284      \end{minipage}%          lwarp
1285      \LWR@startpars%        lwarp
1286      \egroup
1287 \egroup
1288 }

```

§ 702.20 Final patchwork

```

1289 \newlistof{tableofcontents}{toc}{\contentsname}
1290 \newlistof{listoffigures}{lof}{\listfigurename}
1291 \newlistof{listoftables}{lot}{\listtablename}

```

File 591 **lwarp-common-multimedia.sty**

§ 703 Package **common-multimedia**

lwarp-common-multimedia (*Pkg*) Common code for multimedia, movie15, and media9.

The packages multimedia, movie15, and media9 are supported.

HTML5 <audio> and <video> objects are created for .mp3 and .mp4 files.

HTML5 <embed> objects are created for http and ftp links.

\href links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For media9, a multimedia object is inserted for each addressource=, as well as each flashvars source= and src=. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside \warpprintonly or the warpprint environment.

Each HTML multimedia object includes the poster text, except for <embed> objects. For movie15, the text option is supported to specify the poster text.

The width, height, and totalheight options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

media9 \addmediapath is supported. It is assumed that the same path structure will exist for the HTML document.

HTML5 media controls are always specified for each `<audio>` and `<video>` object.

media9 slideshows are not supported.

`\hyperlinkmovie`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a YouTube™ video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

for HTML output:

```

1 \ProvidesPackage{lwarp-common-multimedia}[2019/04/22]
2 \RequirePackage{xkeyval}
3
4 \define@key{LWR@multimedia}{width}{\setlength{\LWR@multimedia@width}{#1}}
5 \define@key{LWR@multimedia}{height}{\setlength{\LWR@multimedia@height}{#1}}
6 \define@key{LWR@multimedia}{totalheight}{\setlength{\LWR@multimedia@height}{#1}}
7
8 \newlength{\LWR@multimedia@width}
9 \newlength{\LWR@multimedia@height}
10 \newlength{\LWR@multimedia@maxdimension}

```

`\LWR@multimedia@printsiz`

Proportional to `\linewidth` and the viewport’s smaller dimension. This scales each object such that it will always fit on the screen, even if a tall or wide object inside a tall or wide viewport.

```

10 \newcommand*{\LWR@multimedia@printsiz}{%
11   \setlength{\LWR@multimedia@maxdimension}{%
12     \maxof%
13       {\linewidth}%
14       {\maxof{\LWR@multimedia@width}{\LWR@multimedia@height}}%
15   }%
16   \setlength{\LWR@multimedia@maxdimension}{1.1\LWR@multimedia@maxdimension}%
17   \ifdimgreater{\LWR@multimedia@width}{0pt}{%
18     width:%
19     \LWR@printpercentlength%
20       {\LWR@multimedia@width}%
21       {\LWR@multimedia@maxdimension}vmin ; % space
22   }{%
23     \ifdimgreater{\LWR@multimedia@height}{0pt}{%
24       height:%
25       \LWR@printpercentlength%
26         {\LWR@multimedia@height}%
27         {\LWR@multimedia@maxdimension}vmin ; % space
28     }{%
29   }

```

`\LWR@multimedia@fileAV`

`{\langle poster text \rangle} {\langle filename \rangle} {\langle audio/video \rangle} {\langle mimetype \rangle}`

Creates a video or audio from a file. The 2019/10 update of the L^AT_EX kernel may cause extra quotes to be added in the filenames. They are removed here.

```

30 \newcommand*{\LWR@multimedia@fileAV}[4]{%
31 \IfFileExists{#2}{% also sets \@filef@und
32 \StrSubstitute[100]{\@filef@und}{"}{[\LWR@parsedfilename]}%

```

The container `<div>` is sized as desired.

```

33 \ifstrequal{#3}{audio}{%

```

```

34     \begin{BlockClass}{AVviewport}
35   }{%
36     \begin{BlockClass}[\LWR@multimedia@printsizemargin:auto]{AVviewport}
37   }

```

Paragraph tags are unnecessary for the A/v tags.

```
38   \LWR@stoppars
```

The A/v element is 100% of the container.

```

39   \LWR@htmltag{%
40     #3\ % space
41     \ifstrequal{#3}{audio}{%
42       width=\textquotedbl{}100%\textquotedbl\ % space
43       height=\textquotedbl{}100%\textquotedbl\ % space
44     }%
45     controls%
46   }\LWR@orignewline

```

The file source and type:

```

47   \LWR@htmltag{%
48     source % space
49     src=\textquotedbl%
50     \LWR@parsedfilename\unskip\textquotedbl\ % space
51     type=\textquotedbl{}#4\textquotedbl}

```

The poster text inside paragraph tags, along with a reference to the file.

```

52   \LWR@startpars
53   \LWR@href{\LWR@parsedfilename}{#1}
54   \LWR@stoppars

```

Finish.

```

55   \LWR@htmltag{/#3}\LWR@orignewline
56   \end{BlockClass}
57 }{%
58   \PackageError{lwarp-common-multimedia}
59     {File '#2' not found}
60     {Perhaps an incorrect path?}
61 }%
62 }

```

`\LWR@multimedia@httpAV` `{\langle poster text \rangle}{\langle filename \rangle}{\langle audio/video \rangle}{\langle mimetype \rangle}`

Creates a video or audio from a URL link.

```
63 \newcommand*{\LWR@multimedia@httpAV}[4]{%
```

The container <div> is sized as desired.

```

64   \ifstrequal{#3}{audio}{%
65     \begin{BlockClass}{AVviewport}
66   }{%
67     \begin{BlockClass}[\LWR@multimedia@printsizemargin:auto]{AVviewport}
68   }

```

Paragraph tags are unnecessary for the A/v tags.

```
69   \LWR@stoppars
```

The A/v element is 100% of the container.

```

70   \LWR@htmltag{%
71     #3\ % space

```

```

72     \ifstrequal{#3}{audio}{}{%
73         width=\textquotedbl{}100%\textquotedbl\ % space
74         height=\textquotedbl{}100%\textquotedbl\ controls%
75     }%
76 } \LWR@orignewline

```

The file source and type:

```

77     \LWR@htmltag{%
78         source % space
79         src=\textquotedbl#2\textquotedbl\ % space
80         type=\textquotedbl#4\textquotedbl}

```

The poster text inside paragraph tags, along with a reference to the URL.

```

81     \LWR@startpars
82     \LWR@href{#2}{#1}
83     \LWR@stoppars

```

Finish.

```

84     \LWR@htmltag{/#3}\LWR@orignewline
85     \end{BlockClass}
86 }

```

\LWR@multimedia@AV

{<poster text>} {<filename>} {<audio/video>} {<mimetype>}

Creates an audio or video from a file or a URL.

```

87 \newcommand*\LWR@multimedia@AV}[4]{%
88     \IfBeginWith{#2}{http}%
89         {\LWR@multimedia@httpAV{#1}{#2}{#3}{#4}}%
90         {%
91             \IfBeginWith{#2}{HTTP}%
92                 {\LWR@multimedia@httpAV{#1}{#2}{#3}{#4}}%
93                 {\LWR@multimedia@fileAV{#1}{#2}{#3}{#4}}%
94         }%
95 }

```

\LWR@multimedia@embed

{<poster text>} {<URL or filename>} {<mime type>}

Embeds multimedia of an arbitrary type. The poster text is not used, as it would appear along with the video if the <embed> element is supported.

```

96 \newcommand*\LWR@multimedia@embed}[3]{%
97     \begin{BlockClass}[width:100%\{AVviewport}]%
98     \LWR@stoppars
99     \LWR@htmltag{%
100         embed % space
101         \ifblank{#3}{}{type=\textquotedbl#3\textquotedbl\ }%
102         style=\textquotedbl\LWR@multimedia@printsize\ margin:auto\textquotedbl\ % space
103         src=\textquotedbl#2\textquotedbl\ % space
104     }%
105     \LWR@startpars
106     \end{BlockClass}
107 }

```

Error message if the comment character is used among the arguments of

\LWR@multimedia@percenterror \LWR@multimedia@b.

```

108 \newcommand*\LWR@multimedia@percenterror}{%
109     \PackageError{lwarp-media9}
110     {%

```



```

111         Do not use a percent comment between\MessageBreak
112         \protect\includemedia\space arguments%
113     }
114     {%
115         Percent is changed to a regular character\MessageBreak
116         to allow its use inside a URL.%
117     }
118 }

```

\LWR@multimediab

[*<options>*] [*<poster text>*] [*<filename>*]

Creates multimedia. Examines the file extension to determine the type. If not a supported type, creates an embedded object if it has a URL. If neither, create a link to the unsupported object.

```
119 \newcommand*\LWR@multimediab}[3][[]]{%
```

Error if the percent character appears among the arguments. This could happen since the comment character has been temporarily disabled, for use in a URL.

```

120     \if#1\@percentchar\LWR@multimedia@percenterror\fi%
121     \if#2\@percentchar\LWR@multimedia@percenterror\fi%
122     \if#3\@percentchar\LWR@multimedia@percenterror\fi%

```

Paragraph handling:

```
123     \LWR@stoppars%
```

Record the desired size.

```

124     \setlength{\LWR@multimedia@width}{0pt}%
125     \setlength{\LWR@multimedia@height}{0pt}%
126     \setkeys*LWR@multimedia}{#1}%

```

If a known A/V type, create an HTML5 <video> or <audio>.

```

127     \IfEndWith{#3}{.mp4}{\LWR@multimedia@AV{#2}{#3}{video}{video/mp4}}{%
128     \IfEndWith{#3}{.MP4}{\LWR@multimedia@AV{#2}{#3}{video}{video/mp4}}{%
129     \IfEndWith{#3}{.mp3}{\LWR@multimedia@AV{#2}{#3}{audio}{audio/mpeg}}{%
130     \IfEndWith{#3}{.MP3}{\LWR@multimedia@AV{#2}{#3}{audio}{audio/mpeg}}{%

```

If an arbitrary URL, embed it.

```

131     \IfBeginWith{#3}{http}{\LWR@multimedia@embed{#2}{#3}}{%
132     \IfBeginWith{#3}{HTTP}{\LWR@multimedia@embed{#2}{#3}}{%
133     \IfBeginWith{#3}{ftp}{\LWR@multimedia@embed{#2}{#3}}{%
134     \IfBeginWith{#3}{FTP}{\LWR@multimedia@embed{#2}{#3}}{%

```

If unknown, create a link to it.

```

135         \LWR@href{#3}{#2}% unknown format
136     }}}}]}%

```

Paragraph handling:

```

137     \LWR@startpars%
138     \endgroup%
139 }

```

Catcodes which may appear in a URL.

```

140 \newrobustcmd*\LWR@multimedia){%
141     \begingroup%
142     \LWR@linkmediacatcodes%
143     \LWR@multimediab%
144 }

```

File 592 **lwarp-common-mathjax-letters.sty**

§ 704 Package **common-mathjax-letters**

lwarp-common-mathjax-letters (Pkg) Common code used by a number of packages to generate Greek math characters for MATHJAX.

for HTML output: 1 \ProvidesPackage{lwarp-common-mathjax-letters}[2020/08/10]

\LWR@mathjax@addletter * {\<2: capitalize name?\>} {\<3: prefix?\>} {\<4: postfix?\>} {\<5: name?\>} {\<6: unicode?\>}
Star to italicize the result, used when the unicode character does not exist.

```

2 \begin{warpMathJax}
3
4 \NewDocumentCommand{\LWR@mathjax@addletter}{s m m m m m}{
5   \IfBooleanTF{#2}%
6     {\edef\LWR@tempone{\LWRtexttitlecase{#5}}}%
7     {\edef\LWR@tempone{#5}}}%
8   \xdef\LWR@customizedMathJax{%
9     \LWR@customizedMathJax%
10    \LWRbackslash(%
11    \LWRbackslash def\LWRbackslash%
12    #3% prefix
13    \LWR@tempone%name
14    #4% postfix
15    \LWRleftbrace%
16    }%
17    \IfBooleanTF{#1}{%
18      \xdef\LWR@customizedMathJax{%
19        \LWR@customizedMathJax%
20        \LWRbackslash mathit\LWRleftbrace%
21        \LWRbackslash unicode\LWRleftbrace x#6\LWRrightbrace%
22        \LWRrightbrace%
23      }%
24    }{%
25      \xdef\LWR@customizedMathJax{%
26        \LWR@customizedMathJax%
27        \LWRbackslash unicode\LWRleftbrace x#6\LWRrightbrace%
28      }%
29    }%
30    \xdef\LWR@customizedMathJax{%
31      \LWR@customizedMathJax%
32      \LWRrightbrace\LWRbackslash)\par%
33    }%
34 }

```

* {\<2: prefix?\>} {\<3: postfix?\>}

\LWR@mathjax@addgreek@l@up

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, lowercase upright.

```

35 \NewDocumentCommand{\LWR@mathjax@addgreek@l@up}{s m m}{
36   \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{03B1}

```

```

37 \LWR@mathjax@addletter{#1}{#2}{#3}{beta}{03B2}
38 \LWR@mathjax@addletter{#1}{#2}{#3}{varbeta}{03D0}
39 \LWR@mathjax@addletter{#1}{#2}{#3}{gamma}{03B3}
40 \LWR@mathjax@addletter{#1}{#2}{#3}{digamma}{03DD}
41 \LWR@mathjax@addletter{#1}{#2}{#3}{delta}{03B4}
42 \LWR@mathjax@addletter{#1}{#2}{#3}{epsilon}{03F5}
43 \LWR@mathjax@addletter{#1}{#2}{#3}{varepsilon}{03B5}
44 \LWR@mathjax@addletter{#1}{#2}{#3}{zeta}{03B6}
45 \LWR@mathjax@addletter{#1}{#2}{#3}{eta}{03B7}
46 \LWR@mathjax@addletter{#1}{#2}{#3}{theta}{03B8}
47 \LWR@mathjax@addletter{#1}{#2}{#3}{vartheta}{03D1}
48 \LWR@mathjax@addletter{#1}{#2}{#3}{iota}{03B9}
49 \LWR@mathjax@addletter{#1}{#2}{#3}{kappa}{03BA}
50 \LWR@mathjax@addletter{#1}{#2}{#3}{varkappa}{03F0}
51 \LWR@mathjax@addletter{#1}{#2}{#3}{lambda}{03BB}
52 \LWR@mathjax@addletter{#1}{#2}{#3}{mu}{03BC}
53 \LWR@mathjax@addletter{#1}{#2}{#3}{nu}{03BD}
54 \LWR@mathjax@addletter{#1}{#2}{#3}{xi}{03BE}
55 \LWR@mathjax@addletter{#1}{#2}{#3}{omicron}{03BF}
56 \LWR@mathjax@addletter{#1}{#2}{#3}{pi}{03C0}
57 \LWR@mathjax@addletter{#1}{#2}{#3}{varpi}{03D6}
58 \LWR@mathjax@addletter{#1}{#2}{#3}{rho}{03C1}
59 \LWR@mathjax@addletter{#1}{#2}{#3}{varrho}{03F1}
60 \LWR@mathjax@addletter{#1}{#2}{#3}{sigma}{03C3}
61 \LWR@mathjax@addletter{#1}{#2}{#3}{varsigma}{03C2}
62 \LWR@mathjax@addletter{#1}{#2}{#3}{tau}{03C4}
63 \LWR@mathjax@addletter{#1}{#2}{#3}{upsilon}{03C5}
64 \LWR@mathjax@addletter{#1}{#2}{#3}{phi}{03D5}
65 \LWR@mathjax@addletter{#1}{#2}{#3}{varphi}{03C6}
66 \LWR@mathjax@addletter{#1}{#2}{#3}{chi}{03C7}
67 \LWR@mathjax@addletter{#1}{#2}{#3}{psi}{03C8}
68 \LWR@mathjax@addletter{#1}{#2}{#3}{omega}{03C9}
69 }

```

* $\langle 2: prefix \rangle \langle 3: postfix \rangle$

\LWR@mathjax@addgreek@u@up

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, uppercase upright.

```

70 \NewDocumentCommand{\LWR@mathjax@addgreek@u@up}{s m m}{
71 \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{0391}
72 \LWR@mathjax@addletter{#1}{#2}{#3}{beta}{0392}
73 \LWR@mathjax@addletter{#1}{#2}{#3}{gamma}{0393}
74 \LWR@mathjax@addletter{#1}{#2}{#3}{digamma}{03DC}
75 \LWR@mathjax@addletter{#1}{#2}{#3}{delta}{0394}
76 \LWR@mathjax@addletter{#1}{#2}{#3}{epsilon}{0395}
77 \LWR@mathjax@addletter{#1}{#2}{#3}{zeta}{0396}
78 \LWR@mathjax@addletter{#1}{#2}{#3}{eta}{0397}
79 \LWR@mathjax@addletter{#1}{#2}{#3}{theta}{0398}
80 \LWR@mathjax@addletter{#1}{#2}{#3}{vartheta}{03F4}
81 \LWR@mathjax@addletter{#1}{#2}{#3}{iota}{0399}
82 \LWR@mathjax@addletter{#1}{#2}{#3}{kappa}{039A}
83 \LWR@mathjax@addletter{#1}{#2}{#3}{lambda}{039B}
84 \LWR@mathjax@addletter{#1}{#2}{#3}{mu}{039C}
85 \LWR@mathjax@addletter{#1}{#2}{#3}{nu}{039D}
86 \LWR@mathjax@addletter{#1}{#2}{#3}{xi}{039E}
87 \LWR@mathjax@addletter{#1}{#2}{#3}{omicron}{039F}
88 \LWR@mathjax@addletter{#1}{#2}{#3}{pi}{03A0}
89 \LWR@mathjax@addletter{#1}{#2}{#3}{varpi}{03D6}

```

```

90 \LWR@mathjax@addletter{#1}{#2}{#3}{rho}{03A1}
91 \LWR@mathjax@addletter{#1}{#2}{#3}{sigma}{03A3}
92 \LWR@mathjax@addletter{#1}{#2}{#3}{tau}{03A4}
93 \LWR@mathjax@addletter{#1}{#2}{#3}{upsilon}{03A5}
94 \LWR@mathjax@addletter{#1}{#2}{#3}{phi}{03A6}
95 \LWR@mathjax@addletter{#1}{#2}{#3}{chi}{03A7}
96 \LWR@mathjax@addletter{#1}{#2}{#3}{psi}{03A8}
97 \LWR@mathjax@addletter{#1}{#2}{#3}{omega}{03A9}
98 }

```

* {<2: prefix>} {<3: postfix>}

\LWR@mathjax@addgreek@l@it

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, lowercase italic.

```

99 \NewDocumentCommand{\LWR@mathjax@addgreek@l@it}{s m m}{
100 \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{1D6FC}
101 \LWR@mathjax@addletter{#1}{#2}{#3}{beta}{1D6FD}
102 \LWR@mathjax@addletter{#1}{#2}{#3}{varbeta}{03D0}
103 \LWR@mathjax@addletter{#1}{#2}{#3}{gamma}{1D6FE}
104 \LWR@mathjax@addletter*{#1}{#2}{#3}{digamma}{03DD}
105 \LWR@mathjax@addletter{#1}{#2}{#3}{delta}{1D6FF}
106 \LWR@mathjax@addletter{#1}{#2}{#3}{epsilon}{1D716}
107 \LWR@mathjax@addletter{#1}{#2}{#3}{varepsilon}{1D700}
108 \LWR@mathjax@addletter{#1}{#2}{#3}{zeta}{1D701}
109 \LWR@mathjax@addletter{#1}{#2}{#3}{eta}{1D702}
110 \LWR@mathjax@addletter{#1}{#2}{#3}{theta}{1D703}
111 \LWR@mathjax@addletter{#1}{#2}{#3}{vartheta}{1D717}
112 \LWR@mathjax@addletter{#1}{#2}{#3}{iota}{1D704}
113 \LWR@mathjax@addletter{#1}{#2}{#3}{kappa}{1D705}
114 \LWR@mathjax@addletter{#1}{#2}{#3}{varkappa}{1D718}
115 \LWR@mathjax@addletter{#1}{#2}{#3}{lambda}{1D706}
116 \LWR@mathjax@addletter{#1}{#2}{#3}{mu}{1D707}
117 \LWR@mathjax@addletter{#1}{#2}{#3}{nu}{1D708}
118 \LWR@mathjax@addletter{#1}{#2}{#3}{xi}{1D709}
119 \LWR@mathjax@addletter{#1}{#2}{#3}{omicron}{1D70A}
120 \LWR@mathjax@addletter{#1}{#2}{#3}{pi}{1D70B}
121 \LWR@mathjax@addletter{#1}{#2}{#3}{varpi}{1D71B}
122 \LWR@mathjax@addletter{#1}{#2}{#3}{rho}{1D70C}
123 \LWR@mathjax@addletter{#1}{#2}{#3}{varrho}{1D71A}
124 \LWR@mathjax@addletter{#1}{#2}{#3}{sigma}{1D70E}
125 \LWR@mathjax@addletter{#1}{#2}{#3}{varsigma}{1D70D}
126 \LWR@mathjax@addletter{#1}{#2}{#3}{tau}{1D70F}
127 \LWR@mathjax@addletter{#1}{#2}{#3}{upsilon}{1D710}
128 \LWR@mathjax@addletter{#1}{#2}{#3}{phi}{1D719}
129 \LWR@mathjax@addletter{#1}{#2}{#3}{varphi}{1D711}
130 \LWR@mathjax@addletter{#1}{#2}{#3}{chi}{1D712}
131 \LWR@mathjax@addletter{#1}{#2}{#3}{psi}{1D713}
132 \LWR@mathjax@addletter{#1}{#2}{#3}{omega}{1D714}
133 }

```

* {<2: prefix>} {<3: postfix>}

\LWR@mathjax@addgreek@u@it

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, uppercase italic.

```

134 \NewDocumentCommand{\LWR@mathjax@addgreek@u@it}{s m m}{
135 \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{1D6E2}

```

```

136 \LWR@mathjax@addletter{#1}{#2}{#3}{beta}{1D6E3}
137 \LWR@mathjax@addletter{#1}{#2}{#3}{gamma}{1D6E4}
138 \LWR@mathjax@addletter*{#1}{#2}{#3}{digamma}{03DC}
139 \LWR@mathjax@addletter{#1}{#2}{#3}{delta}{1D6E5}
140 \LWR@mathjax@addletter{#1}{#2}{#3}{epsilon}{1D6E6}
141 \LWR@mathjax@addletter{#1}{#2}{#3}{zeta}{1D6E7}
142 \LWR@mathjax@addletter{#1}{#2}{#3}{eta}{1D6E8}
143 \LWR@mathjax@addletter{#1}{#2}{#3}{theta}{1D6E9}
144 \LWR@mathjax@addletter{#1}{#2}{#3}{vartheta}{1D6F3}
145 \LWR@mathjax@addletter{#1}{#2}{#3}{iota}{1D6EA}
146 \LWR@mathjax@addletter{#1}{#2}{#3}{kappa}{1D6EB}
147 \LWR@mathjax@addletter{#1}{#2}{#3}{lambda}{1D6EC}
148 \LWR@mathjax@addletter{#1}{#2}{#3}{mu}{1D6ED}
149 \LWR@mathjax@addletter{#1}{#2}{#3}{nu}{1D6EE}
150 \LWR@mathjax@addletter{#1}{#2}{#3}{xi}{1D6EF}
151 \LWR@mathjax@addletter{#1}{#2}{#3}{omicron}{1D6F0}
152 \LWR@mathjax@addletter{#1}{#2}{#3}{pi}{1D6F1}
153 \LWR@mathjax@addletter{#1}{#2}{#3}{rho}{1D6F2}
154 \LWR@mathjax@addletter{#1}{#2}{#3}{sigma}{1D6F4}
155 \LWR@mathjax@addletter{#1}{#2}{#3}{tau}{1D6F5}
156 \LWR@mathjax@addletter{#1}{#2}{#3}{upsilon}{1D6F6}
157 \LWR@mathjax@addletter{#1}{#2}{#3}{phi}{1D6F7}
158 \LWR@mathjax@addletter{#1}{#2}{#3}{chi}{1D6F8}
159 \LWR@mathjax@addletter{#1}{#2}{#3}{psi}{1D6F9}
160 \LWR@mathjax@addletter{#1}{#2}{#3}{omega}{1D6FA}
161 }

```

* {<2: prefix>} {<3: postfix>}

\LWR@mathjax@addgreek@l@bfit Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, lowercase boldface italic.

```

162 \NewDocumentCommand{\LWR@mathjax@addgreek@l@bfit}{s m m}{
163 \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{1D736}
164 \LWR@mathjax@addletter{#1}{#2}{#3}{beta}{1D737}
165 \LWR@mathjax@addletter{#1}{#2}{#3}{varbeta}{03D0}
166 \LWR@mathjax@addletter{#1}{#2}{#3}{gamma}{1D738}
167 \LWR@mathjax@addletter*{#1}{#2}{#3}{digamma}{03DD}
168 \LWR@mathjax@addletter{#1}{#2}{#3}{delta}{1D739}
169 \LWR@mathjax@addletter{#1}{#2}{#3}{epsilon}{1D750}
170 \LWR@mathjax@addletter{#1}{#2}{#3}{varepsilon}{1D73A}
171 \LWR@mathjax@addletter{#1}{#2}{#3}{zeta}{1D73B}
172 \LWR@mathjax@addletter{#1}{#2}{#3}{eta}{1D73C}
173 \LWR@mathjax@addletter{#1}{#2}{#3}{theta}{1D73D}
174 \LWR@mathjax@addletter{#1}{#2}{#3}{vartheta}{1D751}
175 \LWR@mathjax@addletter{#1}{#2}{#3}{iota}{1D73E}
176 \LWR@mathjax@addletter{#1}{#2}{#3}{kappa}{1D73F}
177 \LWR@mathjax@addletter{#1}{#2}{#3}{varkappa}{1D752}
178 \LWR@mathjax@addletter{#1}{#2}{#3}{lambda}{1D740}
179 \LWR@mathjax@addletter{#1}{#2}{#3}{mu}{1D741}
180 \LWR@mathjax@addletter{#1}{#2}{#3}{nu}{1D742}
181 \LWR@mathjax@addletter{#1}{#2}{#3}{xi}{1D743}
182 \LWR@mathjax@addletter{#1}{#2}{#3}{omicron}{1D744}
183 \LWR@mathjax@addletter{#1}{#2}{#3}{pi}{1D745}
184 \LWR@mathjax@addletter{#1}{#2}{#3}{varpi}{1D755}
185 \LWR@mathjax@addletter{#1}{#2}{#3}{rho}{1D746}
186 \LWR@mathjax@addletter{#1}{#2}{#3}{varrho}{1D754}
187 \LWR@mathjax@addletter{#1}{#2}{#3}{sigma}{1D748}
188 \LWR@mathjax@addletter{#1}{#2}{#3}{varsigma}{1D747}

```

```

189 \LWR@mathjax@addletter{#1}{#2}{#3}{tau}{1D749}
190 \LWR@mathjax@addletter{#1}{#2}{#3}{upsilon}{1D74A}
191 \LWR@mathjax@addletter{#1}{#2}{#3}{phi}{1D753}
192 \LWR@mathjax@addletter{#1}{#2}{#3}{varphi}{1D74B}
193 \LWR@mathjax@addletter{#1}{#2}{#3}{chi}{1D74C}
194 \LWR@mathjax@addletter{#1}{#2}{#3}{psi}{1D74D}
195 \LWR@mathjax@addletter{#1}{#2}{#3}{omega}{1D74E}
196 }

```

* $\langle 2: prefix \rangle \langle 3: postfix \rangle$

\backslash LWR@mathjax@addgreek@u@bfit Star to capitalize the macro names.

Adds \backslash CustomizeMathjax expressions to define a set of macros for Greek letters, uppercase boldface italic.

```

197 \NewDocumentCommand{\LWR@mathjax@addgreek@u@bfit}{s m m}{
198 \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{1D71C}
199 \LWR@mathjax@addletter{#1}{#2}{#3}{beta}{1D71D}
200 \LWR@mathjax@addletter{#1}{#2}{#3}{gamma}{1D71E}
201 \LWR@mathjax@addletter*{#1}{#2}{#3}{digamma}{03DC}
202 \LWR@mathjax@addletter{#1}{#2}{#3}{delta}{1D71F}
203 \LWR@mathjax@addletter{#1}{#2}{#3}{epsilon}{1D720}
204 \LWR@mathjax@addletter{#1}{#2}{#3}{zeta}{1D721}
205 \LWR@mathjax@addletter{#1}{#2}{#3}{eta}{1D722}
206 \LWR@mathjax@addletter{#1}{#2}{#3}{theta}{1D723}
207 \LWR@mathjax@addletter{#1}{#2}{#3}{vartheta}{1D72D}
208 \LWR@mathjax@addletter{#1}{#2}{#3}{iota}{1D724}
209 \LWR@mathjax@addletter{#1}{#2}{#3}{kappa}{1D725}
210 \LWR@mathjax@addletter{#1}{#2}{#3}{lambda}{1D726}
211 \LWR@mathjax@addletter{#1}{#2}{#3}{mu}{1D727}
212 \LWR@mathjax@addletter{#1}{#2}{#3}{nu}{1D728}
213 \LWR@mathjax@addletter{#1}{#2}{#3}{xi}{1D729}
214 \LWR@mathjax@addletter{#1}{#2}{#3}{omicron}{1D72A}
215 \LWR@mathjax@addletter{#1}{#2}{#3}{pi}{1D72B}
216 \LWR@mathjax@addletter{#1}{#2}{#3}{rho}{1D72C}
217 \LWR@mathjax@addletter{#1}{#2}{#3}{sigma}{1D72E}
218 \LWR@mathjax@addletter{#1}{#2}{#3}{tau}{1D72F}
219 \LWR@mathjax@addletter{#1}{#2}{#3}{upsilon}{1D730}
220 \LWR@mathjax@addletter{#1}{#2}{#3}{phi}{1D731}
221 \LWR@mathjax@addletter{#1}{#2}{#3}{chi}{1D732}
222 \LWR@mathjax@addletter{#1}{#2}{#3}{psi}{1D733}
223 \LWR@mathjax@addletter{#1}{#2}{#3}{omega}{1D734}
224 }

```

\backslash LWR@mathjax@addgreek@u@bfup is not needed.

* $\langle 2: prefix \rangle \langle 3: postfix \rangle$

\backslash LWR@mathjax@addgreek@u@bfup Star to capitalize the macro names.

Adds \backslash CustomizeMathjax expressions to define a set of macros for Greek letters, uppercase boldface upright.

```

225 \NewDocumentCommand{\LWR@mathjax@addgreek@u@bfup}{s m m}{
226 \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{1D6A8}
227 \LWR@mathjax@addletter{#1}{#2}{#3}{beta}{1D6A9}
228 \LWR@mathjax@addletter{#1}{#2}{#3}{gamma}{1D6AA}
229 \LWR@mathjax@addletter*{#1}{#2}{#3}{digamma}{03DC}
230 \LWR@mathjax@addletter{#1}{#2}{#3}{delta}{1D6AB}
231 \LWR@mathjax@addletter{#1}{#2}{#3}{epsilon}{1D6AC}
232 \LWR@mathjax@addletter{#1}{#2}{#3}{zeta}{1D6AD}

```

```

233 \LWR@mathjax@addletter{#1}{#2}{#3}{eta}{1D6AE}
234 \LWR@mathjax@addletter{#1}{#2}{#3}{theta}{1D6AF}
235 \LWR@mathjax@addletter{#1}{#2}{#3}{vartheta}{1D6B9}
236 \LWR@mathjax@addletter{#1}{#2}{#3}{iota}{1D6B0}
237 \LWR@mathjax@addletter{#1}{#2}{#3}{kappa}{1D6B1}
238 \LWR@mathjax@addletter{#1}{#2}{#3}{lambda}{1D6B2}
239 \LWR@mathjax@addletter{#1}{#2}{#3}{mu}{1D6B3}
240 \LWR@mathjax@addletter{#1}{#2}{#3}{nu}{1D6B4}
241 \LWR@mathjax@addletter{#1}{#2}{#3}{xi}{1D6B5}
242 \LWR@mathjax@addletter{#1}{#2}{#3}{omicron}{1D6B6}
243 \LWR@mathjax@addletter{#1}{#2}{#3}{pi}{1D6B7}
244 \LWR@mathjax@addletter{#1}{#2}{#3}{rho}{1D6B8}
245 \LWR@mathjax@addletter{#1}{#2}{#3}{sigma}{1D6BA}
246 \LWR@mathjax@addletter{#1}{#2}{#3}{tau}{1D6BB}
247 \LWR@mathjax@addletter{#1}{#2}{#3}{upsilon}{1D6BC}
248 \LWR@mathjax@addletter{#1}{#2}{#3}{phi}{1D6BD}
249 \LWR@mathjax@addletter{#1}{#2}{#3}{chi}{1D6BE}
250 \LWR@mathjax@addletter{#1}{#2}{#3}{psi}{1D6BF}
251 \LWR@mathjax@addletter{#1}{#2}{#3}{omega}{1D6C0}
252 }

```

{*prefix*}

`\LWR@mathjax@addlatin@u@bfit` Adds `\CustomizeMathjax` expressions to define a set of macros for bold-face italic Latin letters, uppercase and lowercase.

```

253 \NewDocumentCommand{\LWR@mathjax@addlatin@u@bfit}{m}{
254   \LWR@mathjax@addletter{\BooleanFalse}{#1}{A}{1D468}
255   \LWR@mathjax@addletter{\BooleanFalse}{#1}{B}{1D469}
256   \LWR@mathjax@addletter{\BooleanFalse}{#1}{C}{1D46A}
257   \LWR@mathjax@addletter{\BooleanFalse}{#1}{D}{1D46B}
258   \LWR@mathjax@addletter{\BooleanFalse}{#1}{E}{1D46C}
259   \LWR@mathjax@addletter{\BooleanFalse}{#1}{F}{1D46D}
260   \LWR@mathjax@addletter{\BooleanFalse}{#1}{G}{1D46E}
261   \LWR@mathjax@addletter{\BooleanFalse}{#1}{H}{1D46F}
262   \LWR@mathjax@addletter{\BooleanFalse}{#1}{I}{1D470}
263   \LWR@mathjax@addletter{\BooleanFalse}{#1}{J}{1D471}
264   \LWR@mathjax@addletter{\BooleanFalse}{#1}{K}{1D472}
265   \LWR@mathjax@addletter{\BooleanFalse}{#1}{L}{1D473}
266   \LWR@mathjax@addletter{\BooleanFalse}{#1}{M}{1D474}
267   \LWR@mathjax@addletter{\BooleanFalse}{#1}{N}{1D475}
268   \LWR@mathjax@addletter{\BooleanFalse}{#1}{O}{1D476}
269   \LWR@mathjax@addletter{\BooleanFalse}{#1}{P}{1D477}
270   \LWR@mathjax@addletter{\BooleanFalse}{#1}{Q}{1D478}
271   \LWR@mathjax@addletter{\BooleanFalse}{#1}{R}{1D479}
272   \LWR@mathjax@addletter{\BooleanFalse}{#1}{S}{1D47A}
273   \LWR@mathjax@addletter{\BooleanFalse}{#1}{T}{1D47B}
274   \LWR@mathjax@addletter{\BooleanFalse}{#1}{U}{1D47C}
275   \LWR@mathjax@addletter{\BooleanFalse}{#1}{V}{1D47D}
276   \LWR@mathjax@addletter{\BooleanFalse}{#1}{W}{1D47E}
277   \LWR@mathjax@addletter{\BooleanFalse}{#1}{X}{1D47F}
278   \LWR@mathjax@addletter{\BooleanFalse}{#1}{Y}{1D480}
279   \LWR@mathjax@addletter{\BooleanFalse}{#1}{Z}{1D481}
280 }

```

{*prefix*}

`\LWR@mathjax@addlatin@l@bfit` Adds `\CustomizeMathjax` expressions to define a set of macros for bold-face italic Latin letters, uppercase and lowercase.

```

281 \NewDocumentCommand{\LWR@mathjax@addlatin@l@bfit}{m}{

```

```

282 \LWR@mathjax@addletter{\BooleanFalse}{#1}{a}{1D482}
283 \LWR@mathjax@addletter{\BooleanFalse}{#1}{b}{1D483}
284 \LWR@mathjax@addletter{\BooleanFalse}{#1}{c}{1D484}
285 \LWR@mathjax@addletter{\BooleanFalse}{#1}{d}{1D485}
286 \LWR@mathjax@addletter{\BooleanFalse}{#1}{e}{1D486}
287 \LWR@mathjax@addletter{\BooleanFalse}{#1}{f}{1D487}
288 \LWR@mathjax@addletter{\BooleanFalse}{#1}{g}{1D488}
289 \LWR@mathjax@addletter{\BooleanFalse}{#1}{h}{1D489}
290 \LWR@mathjax@addletter{\BooleanFalse}{#1}{i}{1D48A}
291 \LWR@mathjax@addletter{\BooleanFalse}{#1}{j}{1D48B}
292 \LWR@mathjax@addletter{\BooleanFalse}{#1}{k}{1D48C}
293 \LWR@mathjax@addletter{\BooleanFalse}{#1}{l}{1D48D}
294 \LWR@mathjax@addletter{\BooleanFalse}{#1}{m}{1D48E}
295 \LWR@mathjax@addletter{\BooleanFalse}{#1}{n}{1D48F}
296 \LWR@mathjax@addletter{\BooleanFalse}{#1}{o}{1D490}
297 \LWR@mathjax@addletter{\BooleanFalse}{#1}{p}{1D491}
298 \LWR@mathjax@addletter{\BooleanFalse}{#1}{q}{1D492}
299 \LWR@mathjax@addletter{\BooleanFalse}{#1}{r}{1D493}
300 \LWR@mathjax@addletter{\BooleanFalse}{#1}{s}{1D494}
301 \LWR@mathjax@addletter{\BooleanFalse}{#1}{t}{1D495}
302 \LWR@mathjax@addletter{\BooleanFalse}{#1}{u}{1D496}
303 \LWR@mathjax@addletter{\BooleanFalse}{#1}{v}{1D497}
304 \LWR@mathjax@addletter{\BooleanFalse}{#1}{w}{1D498}
305 \LWR@mathjax@addletter{\BooleanFalse}{#1}{x}{1D499}
306 \LWR@mathjax@addletter{\BooleanFalse}{#1}{y}{1D49A}
307 \LWR@mathjax@addletter{\BooleanFalse}{#1}{z}{1D49B}
308 }

309 \end{warpMathJax}

```

File 593 **lwarp-common-mathjax-newpctxmath.sty**

§ 705 Package **common-mathjax-newpctxmath**

(Emulates or patches code by MICHAEL SHARPE.)

lwarp-common-mathjax-newpctxmath Common code used by newpctxmath, newtxmath, and newtxsf for MATHJAX.

(Pkg)

for HTML output: 1 \ProvidesPackage{lwarp-common-mathjax-newpctxmath}[2020/09/20]

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-nonunicode}
3 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}
4
5 \begin{warpMathJax}
6 \CustomizeMathJax{\newcommand{\fAlt}{f}}
7 \CustomizeMathJax{\newcommand{\rhoAlt}{\rho}}
8
9 \CustomizeMathJax{\newcommand{\imathscr}{\mathord{\mathscr{i}}}}
10 \CustomizeMathJax{\newcommand{\jmathscr}{\mathord{\mathscr{j}}}}

```

lwarp_mathjax.txt adds \left/\right support for delimiters.

```

11 \CustomizeMathJax{\let\llbracket\lBrack}
12 \CustomizeMathJax{\let\rbracket\rBrack}

```



```

13
14 \CustomizeMathJax{\let\smlbrace\{}}
15 \CustomizeMathJax{\let\smrbrace\}}
16 \CustomizeMathJax{\newcommand{\Perp}{\mathrel{\unicode{x02AEB}}}}
17 \CustomizeMathJax{\newcommand{\nPerp}{\mathrel{\not{\!\unicode{x02AEB}}}}}
18 \CustomizeMathJax{\newcommand{\Zbar}{\mathord{\unicode{x01B5}}}}
19 \CustomizeMathJax{\newcommand{\Angstrom}{\mathord{\unicode{x212B}}}}
20 \CustomizeMathJax{\newcommand{\Euler}{\mathord{\unicode{x2107}}}}
21 \CustomizeMathJax{\newcommand{\transp}{\mathord{\unicode{xFF34}}}}
22 \CustomizeMathJax{\newcommand{\hermtransp}{\mathord{\unicode{xFF28}}}}
23 \CustomizeMathJax{\let\htransp=\hermtransp}
24 \CustomizeMathJax{\newcommand{\circledplus}{\mathbin{\unicode{x2295}}}}
25 \CustomizeMathJax{\newcommand{\circledminus}{\mathbin{\unicode{x2296}}}}
26 \CustomizeMathJax{\newcommand{\circledtimes}{\mathbin{\unicode{x2297}}}}

27 \CustomizeMathJax{\newcommand{\circledslash}{\mathbin{\unicode{x2298}}}}
28 %
29 \CustomizeMathJax{\newcommand{\circleddot}{\mathbin{\unicode{x2299}}}}
30 \CustomizeMathJax{\let\overgroup\overparen}
31 \CustomizeMathJax{\let\overgroupra\overrightarrow}
32 \CustomizeMathJax{\let\undergroup\underparen}
33 \CustomizeMathJax{\let\undergroupla\underleftarrow}
34 \CustomizeMathJax{\newcommand{\widering}[1]{%
35   \stackrel{\unicode{x2218}}{\overgroup{#1}}}%
36 }}
37 \CustomizeMathJax{\let\widearc\overparen}
38 \CustomizeMathJax{\let\wide0arc\overrightarrow}
39 \CustomizeMathJax{\newcommand{\LWRvstar}[2]{\overrightarrow{#1}_{#2}}}
40 \CustomizeMathJax{\newcommand{\vv}{\ifstar\LWRvstar\overrightarrow}}
41 %
42 \CustomizeMathJax{\let\smallintsl\smallint}
43 \CustomizeMathJax{\newcommand{\smalliintsl}{\mathop{\unicode{x222C}}\limits}}
44 \CustomizeMathJax{\newcommand{\smalliiintsl}{\mathop{\unicode{x222D}}\limits}}
45 \CustomizeMathJax{\newcommand{\smalliiiintsl}{\mathop{\unicode{x2A0C}}\limits}}
46 \CustomizeMathJax{\newcommand{\smallointsl}{\mathop{\unicode{x222E}}\limits}}
47 \CustomizeMathJax{\newcommand{\smallloointsl}{\mathop{\unicode{x222F}}\limits}}
48 \CustomizeMathJax{\newcommand{\smalllooiintsl}{\mathop{\unicode{x2230}}\limits}}
49 \CustomizeMathJax{\newcommand{\smallvarointclockwisesl}{%
50   \mathop{\unicode{x2232}}\limits%
51 }}
52 \CustomizeMathJax{\newcommand{\smallointctrlockwisesl}{%
53   \mathop{\unicode{x2233}}\limits%
54 }}
55 \CustomizeMathJax{\newcommand{\smallsumintsl}{\mathop{\unicode{x2A0B}}\limits}}
56 \CustomizeMathJax{\newcommand{\smallfintsl}{\mathop{\unicode{x2A0F}}\limits}}
57 \CustomizeMathJax{\newcommand{\smallsqintsl}{\mathop{\unicode{x2A16}}\limits}}
58 %
59 \CustomizeMathJax{\let\smallintup\smallint}
60 \CustomizeMathJax{\newcommand{\smalliintup}{\mathop{\unicode{x222C}}\limits}}
61 \CustomizeMathJax{\newcommand{\smalliiintup}{\mathop{\unicode{x222D}}\limits}}
62 \CustomizeMathJax{\newcommand{\smalliiiintup}{\mathop{\unicode{x2A0C}}\limits}}
63 \CustomizeMathJax{\newcommand{\smallointup}{\mathop{\unicode{x222E}}\limits}}
64 \CustomizeMathJax{\newcommand{\smallloointup}{\mathop{\unicode{x222F}}\limits}}
65 \CustomizeMathJax{\newcommand{\smalllooiintup}{\mathop{\unicode{x2230}}\limits}}
66 \CustomizeMathJax{\newcommand{\smallvarointclockwiseup}{%
67   \mathop{\unicode{x2232}}\limits%
68 }}
69 \CustomizeMathJax{\newcommand{\smallointctrlockwiseup}{%
70   \mathop{\unicode{x2233}}\limits%
71 }}

```

```

72 \CustomizeMathJax{\newcommand{\smallsumintup}{\mathop{\unicode{x2A0B}}\limits}}
73 \CustomizeMathJax{\newcommand{\smallfintup}{\mathop{\unicode{x2A0F}}\limits}}
74 \CustomizeMathJax{\newcommand{\smallsqintup}{\mathop{\unicode{x2A16}}\limits}}
75 %
76 \CustomizeMathJax{\newcommand{\iint}{\mathop{\unicode{x222C}}\limits}}
77 \CustomizeMathJax{\newcommand{\iiint}{\mathop{\unicode{x222D}}\limits}}
78 \CustomizeMathJax{\newcommand{\iiiint}{\mathop{\unicode{x2A0C}}\limits}}
79 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x222F}}\limits}}
80 \CustomizeMathJax{\newcommand{\oiiint}{\mathop{\unicode{x2230}}\limits}}
81 \CustomizeMathJax{\newcommand{\varointclockwise}{\mathop{\unicode{x2232}}\limits}}
82 \CustomizeMathJax{\newcommand{\ointctrlockwise}{\mathop{\unicode{x2233}}\limits}}
83 \CustomizeMathJax{\newcommand{\sumint}{\mathop{\unicode{x2A0B}}\limits}}
84 \CustomizeMathJax{\newcommand{\fint}{\mathop{\unicode{x2A0F}}\limits}}
85 \CustomizeMathJax{\newcommand{\sqint}{\mathop{\unicode{x2A16}}\limits}}
86 %
87 \CustomizeMathJax{\let\intsl\int}
88 \CustomizeMathJax{\newcommand{\iintsl}{\mathop{\unicode{x222C}}\limits}}
89 \CustomizeMathJax{\newcommand{\iiintsl}{\mathop{\unicode{x222D}}\limits}}
90 \CustomizeMathJax{\newcommand{\iiiintsl}{\mathop{\unicode{x2A0C}}\limits}}
91 \CustomizeMathJax{\let\ointsl\oint}
92 \CustomizeMathJax{\newcommand{\oiintsl}{\mathop{\unicode{x222F}}\limits}}
93 \CustomizeMathJax{\newcommand{\oiiintsl}{\mathop{\unicode{x2230}}\limits}}
94 \CustomizeMathJax{\newcommand{\varointclockwisel}{\mathop{\unicode{x2232}}\limits}}
95 \CustomizeMathJax{\newcommand{\ointctrlockwisel}{\mathop{\unicode{x2233}}\limits}}
96 \CustomizeMathJax{\newcommand{\sumintsl}{\mathop{\unicode{x2A0B}}\limits}}
97 \CustomizeMathJax{\newcommand{\fintsl}{\mathop{\unicode{x2A0F}}\limits}}
98 \CustomizeMathJax{\newcommand{\sqintsl}{\mathop{\unicode{x2A16}}\limits}}
99 %
100 \CustomizeMathJax{\let\intup\int}
101 \CustomizeMathJax{\newcommand{\iintup}{\mathop{\unicode{x222C}}\limits}}
102 \CustomizeMathJax{\newcommand{\iiintup}{\mathop{\unicode{x222D}}\limits}}
103 \CustomizeMathJax{\newcommand{\iiiintup}{\mathop{\unicode{x2A0C}}\limits}}
104 \CustomizeMathJax{\let\ointup\oint}
105 \CustomizeMathJax{\newcommand{\oiintup}{\mathop{\unicode{x222F}}\limits}}
106 \CustomizeMathJax{\newcommand{\oiiintup}{\mathop{\unicode{x2230}}\limits}}
107 \CustomizeMathJax{\newcommand{\varointclockwiseup}{%
108   \mathop{\unicode{x2232}}\limits%
109 }}
110 \CustomizeMathJax{\newcommand{\ointctrlockwiseup}{%
111   \mathop{\unicode{x2233}}\limits%
112 }}
113 \CustomizeMathJax{\newcommand{\sumintup}{\mathop{\unicode{x2A0B}}\limits}}
114 \CustomizeMathJax{\newcommand{\fintup}{\mathop{\unicode{x2A0F}}\limits}}
115 \CustomizeMathJax{\newcommand{\sqintup}{\mathop{\unicode{x2A16}}\limits}}
116 %
117 \CustomizeMathJax{\newcommand{\bigcupdot}{\mathop{\unicode{x2A03}}}}
118 \CustomizeMathJax{\newcommand{\bigcupplus}{\mathop{\unicode{x2A04}}}}
119 \CustomizeMathJax{\newcommand{\bigsqcap}{\mathop{\unicode{x2A05}}}}
120 %
121 %
122 \CustomizeMathJax{\newcommand{\bigtimes}{\mathop{\unicode{x2A09}}}}
123 \CustomizeMathJax{\let\varprod\bigtimes}
124 %
125 \CustomizeMathJax{\newcommand{\mappedfrom}{\mathrel{\unicode{x021A4}}}}
126 \CustomizeMathJax{\let\mappedfromchar\mappedfrom}
127 \CustomizeMathJax{\newcommand{\mapsfrom}{\mathrel{\unicode{x021A4}}}}
128 \CustomizeMathJax{\newcommand{\longmappedfrom}{\mathrel{\unicode{x027FB}}}}

```

```

129 %
130 \CustomizeMathJax{\newcommand{\Mapsto}{\mathrel{\unicode{x02907}}}}
131 \CustomizeMathJax{\let\Mapstochar\Mapsto}
132 \CustomizeMathJax{\newcommand{\Longmapsto}{\mathrel{\unicode{x027FE}}}}
133 \CustomizeMathJax{\newcommand{\Mappedfrom}{\mathrel{\unicode{x02906}}}}
134 \CustomizeMathJax{\let\Mappedfromchar\Mappedfrom}
135 \CustomizeMathJax{\newcommand{\Mapsfrom}{\mathrel{\unicode{x02906}}}}
136 \CustomizeMathJax{\newcommand{\Longmappedfrom}{\mathrel{\unicode{x27FD}}}}
137 %

138 \CustomizeMathJax{\newcommand{\medcirc}{\mathbin{\unicode{x025CB}}}}
139 \CustomizeMathJax{\newcommand{\medbullet}{\mathbin{\unicode{x025CF}}}}
140 \CustomizeMathJax{\newcommand{\varparallel}{\mathrel{\unicode{x02AFD}}}}
141 \CustomizeMathJax{\newcommand{\varparallelinv}{\mathrel{\unicode{x244A}}}}
142 \CustomizeMathJax{\newcommand{\nvarparallel}{%
143   \mathrel{\LWROverlaysymbols{-}{\unicode{x02AFD}}}}%
144 }}
145 \CustomizeMathJax{\newcommand{\nvarparallelinv}{%
146   \mathrel{\LWROverlaysymbols{-}{\unicode{x244A}}}}%
147 }}
148 %

149 \CustomizeMathJax{\newcommand{\coloneq}{\mathrel{\unicode{x02254}}}}
150 \CustomizeMathJax{\newcommand{\eqcolon}{\mathrel{\unicode{x02255}}}}
151 %
152 \CustomizeMathJax{\newcommand{\VDash}{\mathrel{\unicode{x22AB}}}}

153 %
154 \CustomizeMathJax{\newcommand{\preceqq}{\mathrel{\unicode{x02AB3}}}}
155 \CustomizeMathJax{\newcommand{\succeqq}{\mathrel{\unicode{x02AB4}}}}
156 %
157
158 \CustomizeMathJax{\newcommand{\nprecsim}{%
159   \mathrel{\LWROverlaysymbols{/}{\unicode{x0227E}}}}%
160 }}
161 \CustomizeMathJax{\newcommand{\nsucsim}{%
162   \mathrel{\LWROverlaysymbols{/}{\unicode{x0227F}}}}%
163 }}
164 \CustomizeMathJax{\newcommand{\nlessim}{\mathrel{\unicode{x02274}}}}
165 \CustomizeMathJax{\newcommand{\ngtrsim}{\mathrel{\unicode{x02275}}}}
166 %

167 \CustomizeMathJax{\newcommand{\nsubset}{\mathrel{\unicode{x02284}}}}
168 \CustomizeMathJax{\newcommand{\nsupset}{\mathrel{\unicode{x02285}}}}
169 \CustomizeMathJax{\newcommand{\notni}{\mathrel{\unicode{x220C}}}}
170 \CustomizeMathJax{\let\notowns\notni}
171 %
172 \CustomizeMathJax{\newcommand{\nlessapprox}{%
173   \mathrel{\LWROverlaysymbols{/}{\unicode{x02A85}}}}%
174 }}
175 \CustomizeMathJax{\newcommand{\ngtrapprox}{%
176   \mathrel{\LWROverlaysymbols{/}{\unicode{x02A86}}}}%
177 }}
178 %
179 \CustomizeMathJax{\newcommand{\npreccurlyeq}{%
180   \mathrel{\LWROverlaysymbols{/}{\unicode{x0227C}}}}%
181 }}

```

```

182 \CustomizeMathJax{\newcommand{\nsuccurlyeq}{%
183   \mathrel{\LWOverlaysymbols{/}{\unicode{x0227D}}}%
184 }}
185 \CustomizeMathJax{\newcommand{\ngtrless}{\mathrel{\unicode{x02279}}}}
186 \CustomizeMathJax{\newcommand{\nlessgtr}{\mathrel{\unicode{x2278}}}}
187 \CustomizeMathJax{\newcommand{\nbumpeq}{%
188   \mathrel{\LWOverlaysymbols{/}{\unicode{x0224F}}}%
189 }}
190 \CustomizeMathJax{\newcommand{\nBumpeq}{%
191   \mathrel{\LWOverlaysymbols{/}{\unicode{x0224E}}}%
192 }}
193 %
194 \CustomizeMathJax{\newcommand{\nbacksim}{%
195   \mathrel{\LWOverlaysymbols{/}{\unicode{x0223D}}}%
196 }}
197 \CustomizeMathJax{\newcommand{\nbacksimeq}{%
198   \mathrel{\LWOverlaysymbols{/}{\unicode{x022CD}}}%
199 }}
200 \CustomizeMathJax{\newcommand{\nasymp}{\mathrel{\unicode{x226D}}}}
201 \CustomizeMathJax{\newcommand{\nequiv}{\mathrel{\unicode{x2262}}}}
202 \CustomizeMathJax{\newcommand{\napprox}{\mathrel{\unicode{x2249}}}}
203 %
204 \CustomizeMathJax{\newcommand{\nll}{%
205   \mathrel{\LWOverlaysymbols{/}{\unicode{x0226A}}}%
206 }}
207 \CustomizeMathJax{\newcommand{\ngg}{%
208   \mathrel{\LWOverlaysymbols{/}{\unicode{x0226B}}}%
209 }}
210 \CustomizeMathJax{\newcommand{\nthickapprox}{%
211   \mathrel{\LWOverlaysymbols{/}{\mathbf{\unicode{x02248}}}}}%
212 }}
213 \CustomizeMathJax{\newcommand{\napproxeq}{%
214   \mathrel{\LWOverlaysymbols{/}{\unicode{x0224A}}}%
215 }}
216 \CustomizeMathJax{\newcommand{\nprecapprox}{%
217   \mathrel{\LWOverlaysymbols{/}{\unicode{x02AB7}}}%
218 }}
219 \CustomizeMathJax{\newcommand{\nsuccapprox}{%
220   \mathrel{\LWOverlaysymbols{/}{\unicode{x02AB8}}}%
221 }}
222 \CustomizeMathJax{\newcommand{\npreceqq}{%
223   \mathrel{\LWOverlaysymbols{/}{\unicode{x02AB3}}}%
224 }}
225 \CustomizeMathJax{\newcommand{\nsucceqq}{%
226   \mathrel{\LWOverlaysymbols{/}{\unicode{x02AB4}}}%
227 }}
228 \CustomizeMathJax{\newcommand{\nsimeq}{\mathrel{\unicode{x02244}}}}
229 %
230 \CustomizeMathJax{\newcommand{\nSubset}{%
231   \mathrel{\LWOverlaysymbols{/}{\unicode{x022D0}}}%
232 }}
233 \CustomizeMathJax{\newcommand{\nSupset}{%
234   \mathrel{\LWOverlaysymbols{/}{\unicode{x022D1}}}%
235 }}
236 \CustomizeMathJax{\newcommand{\nsubseteqq}{\mathrel{\unicode{x022E2}}}}
237 \CustomizeMathJax{\newcommand{\nsupseteqq}{\mathrel{\unicode{x022E3}}}}
238 %
239 \CustomizeMathJax{\newcommand{\coloneqq}{\mathrel{\unicode{x02254}}}}
240 \CustomizeMathJax{\newcommand{\eqqcolon}{\mathrel{\unicode{x02255}}}}
241 \CustomizeMathJax{\newcommand{\Coloneqq}{\mathrel{\unicode{x02A74}}}}

```

```

242 \CustomizeMathJax{\newcommand{\Coloneq}{\mathrel{\unicode{x2237}-}}}
243 \CustomizeMathJax{\newcommand{\Eqcolon}{\mathrel{-\unicode{x2237}}}}
244 %
245 \CustomizeMathJax{\newcommand{\lvec}[1]{%
246   \mathord{\overset{\unicode{x02190}}{#1}}}%
247 }}
248 \CustomizeMathJax{\newcommand{\lrvec}[1]{%
249   \mathord{\overset{\unicode{x2194}}{#1}}}%
250 }}
251 \CustomizeMathJax{\newcommand{\harpoonacc}[1]{%
252   \mathord{\overset{\unicode{x021C0}}{#1}}}%
253 }}
254 \CustomizeMathJax{\newcommand{\lharpoonacc}[1]{%
255   \mathord{\overset{\unicode{x021BC}}{#1}}}%
256 }}
257 \CustomizeMathJax{\newcommand{\rharpoonacc}[1]{%
258   \mathord{\overset{\unicode{x0294E}}{#1}}}%
259 }}
260 \CustomizeMathJax{\newcommand{\barbar}[1]{\mathord{\overset{=}{#1}}}}
261 \CustomizeMathJax{\newcommand{\bartilde}[1]{\mathord{\overset{\simeq}{#1}}}}
262 \CustomizeMathJax{\newcommand{\barhat}[1]{\mathord{\hat{\bar{#1}}}}}
263 \CustomizeMathJax{\newcommand{\tildebar}[1]{\mathord{\overset{\eqsim}{#1}}}}
264 \CustomizeMathJax{\newcommand{\tildedtilde}[1]{\mathord{\overset{\approx}{#1}}}}
265 \CustomizeMathJax{\newcommand{\tildehat}[1]{\mathord{\hat{\tilde{#1}}}}}
266 \CustomizeMathJax{\newcommand{\hatbar}[1]{\mathord{\bar{\hat{#1}}}}}
267 \CustomizeMathJax{\newcommand{\hattilde}[1]{\mathord{\tilde{\hat{#1}}}}}
268 \CustomizeMathJax{\newcommand{\hathat}[1]{\mathord{\hat{\hat{#1}}}}}
269
270 \CustomizeMathJax{\newcommand{\cdotB}{\mathord{\boldsymbol{\cdot}}}}
271 \CustomizeMathJax{\newcommand{\cdotBB}{\mathord{\unicode{x2022}}}}
272 \CustomizeMathJax{\newcommand{\circS}{\boldsymbol{\circ}}}
273 \CustomizeMathJax{\newcommand{\bulletSSS}{\bullet}}
274 \CustomizeMathJax{\newcommand{\bulletSS}{\mathord{\unicode{x025CF}}}}
275 \CustomizeMathJax{\newcommand{\bulletS}{\mathord{\unicode{x02B24}}}}
276 \CustomizeMathJax{\newcommand{\primeS}{\prime}}
277
278 \CustomizeMathJax{\newcommand{\invamp}{\mathbin{\unicode{x0214B}}}}

```

lwarp_mathjax.txt adds \left/\right support for delimiters.

```

279 \CustomizeMathJax{\newcommand{\Lbag}{\mathopen{\large\unicode{x027C5}}}}
280 \CustomizeMathJax{\newcommand{\Rbag}{\mathclose{\large\unicode{x027C6}}}}
281 \CustomizeMathJax{\newcommand{\circledless}{\mathrel{\unicode{x029C0}}}}
282 \CustomizeMathJax{\newcommand{\circledgtr}{\mathrel{\unicode{x029C1}}}}
283 \CustomizeMathJax{\newcommand{\circledbslash}{\mathbin{\unicode{x029B8}}}}

284 \CustomizeMathJax{\newcommand{\lJoin}{\mathrel{\unicode{x22C9}}}}
285 \CustomizeMathJax{\newcommand{\rJoin}{\mathrel{\unicode{x22CA}}}}
286 \CustomizeMathJax{\newcommand{\lrJoin}{\mathrel{\unicode{x2A1D}}}}
287
288 \CustomizeMathJax{\newcommand{\lRtimes}{\mathrel{\unicode{x2A1D}}}}
289 \CustomizeMathJax{\newcommand{\Diamondblack}{\mathord{\unicode{x025C6}}}}
290 \CustomizeMathJax{\newcommand{\nplus}{%
291   \mathrel{\LWRoverlaysymbols+}{\unicode{x02229}}}%
292 }}
293 \CustomizeMathJax{\newcommand{\nsqsubset}{%
294   \mathrel{\LWRoverlaysymbols/}{\unicode{x0228F}}}%
295 }}
296 \CustomizeMathJax{\newcommand{\nsqsupset}{%

```

```

297 \mathrel{\LWOverlaysymbols{/}{\unicode{x02290}}}%
298 }}
299 \CustomizeMathJax{\newcommand{\dasharrow}{\mathrel{\unicode{x021E2}}}}
300 \CustomizeMathJax{\newcommand{\leftsquigarrow}{\mathrel{\unicode{x021DC}}}}
301 \CustomizeMathJax{\newcommand{\ntwoheadrightarrow}{\mathrel{\unicode{x02900}}}}
302 \CustomizeMathJax{\newcommand{\ntwoheadleftarrow}{\mathrel{\unicode{x02B34}}}}
303 \CustomizeMathJax{\newcommand{\boxast}{\mathbin{\unicode{x029C6}}}}
304 \CustomizeMathJax{\newcommand{\boxslash}{\mathbin{\unicode{x29C5}}}}
305 \CustomizeMathJax{\newcommand{\boxbar}{\mathbin{\unicode{x025EB}}}}
306 \CustomizeMathJax{\newcommand{\boxslash}{\mathbin{\unicode{x029C4}}}}
307
308 \CustomizeMathJax{\newcommand{\varclubsuit}{\mathord{\unicode{x02667}}}}
309 \CustomizeMathJax{\newcommand{\vardiamondsuit}{\mathord{\unicode{x02666}}}}
310 \CustomizeMathJax{\newcommand{\varheartsuit}{\mathord{\unicode{x02665}}}}
311 \CustomizeMathJax{\newcommand{\varspadesuit}{\mathord{\unicode{x02664}}}}
312
313 \CustomizeMathJax{\newcommand{\Nearrow}{\mathrel{\unicode{x021D7}}}}
314 \CustomizeMathJax{\newcommand{\Searrow}{\mathrel{\unicode{x021D8}}}}
315 \CustomizeMathJax{\newcommand{\Nwarrow}{\mathrel{\unicode{x021D6}}}}
316 \CustomizeMathJax{\newcommand{\Swarrow}{\mathrel{\unicode{x021D9}}}}
317 \CustomizeMathJax{\newcommand{\Top}{\mathord{\unicode{x02AEA}}}}
318 \CustomizeMathJax{\newcommand{\Bot}{\mathord{\unicode{x02AEB}}}}
319
320 \CustomizeMathJax{\newcommand{\leadstoext}{\mathrel{\unicode{xFF5E}}}}
321
322 \CustomizeMathJax{\newcommand{\sqcupplus}{%
323 \mathbin{\LWOverlaysymbols{+}{\unicode{x02294}}}%
324 }}
325 \CustomizeMathJax{\newcommand{\sqcapplus}{%
326 \mathbin{\LWOverlaysymbols{+}{\unicode{x02293}}}%
327 }}
328
329 \CustomizeMathJax{\newcommand{\dlb}{\mathopen{\unicode{x027E6}}}}
330 \CustomizeMathJax{\newcommand{\drb}{\mathopen{\unicode{x027E7}}}}
331
332 \CustomizeMathJax{\newcommand{\varg}{g}}
333 \CustomizeMathJax{\newcommand{\vary}{y}}
334 \CustomizeMathJax{\newcommand{\varv}{v}}
335 \CustomizeMathJax{\newcommand{\varw}{w}}
336
337 \CustomizeMathJax{\newcommand{\nexistsAlt}{\mathord{\unicode{x02204}}}}
338 \CustomizeMathJax{\newcommand{\existsAlt}{\mathord{\unicode{x02203}}}}
339 \CustomizeMathJax{\newcommand{\forallAlt}{\mathord{\unicode{x02200}}}}
340 \CustomizeMathJax{\newcommand{\emptysetAlt}{\mathord{\unicode{x02205}}}}
341
342 \CustomizeMathJax{\newcommand{\uppartial}{%
343 \mathord{\unicode{x02202}}}%
344 }}% not upright
345
346 \CustomizeMathJax{\let\varmathbb\mathbb}
347 \CustomizeMathJax{\let\vmathbb\mathbb}
348 \CustomizeMathJax{\let\vvmathbb\mathbb}
349
350 \CustomizeMathJax{\let\smallprod\prod}
351 \CustomizeMathJax{\let\smallsum\sum}
352 \CustomizeMathJax{\let\smallcoprod\coprod}
353
354 \CustomizeMathJax{\newcommand{\openbox}{\mathord{\unicode{x25FD}}}}
355 \CustomizeMathJax{\let\textsquare\openbox}

```

```

356 \CustomizeMathJax{\let\varempyset\emptyset}
357 %
358 % for newpxmath:
359 \CustomizeMathJax{\newcommand{\mathsterling}{\mathord{\unicode{x000A3}}}}
360 \CustomizeMathJax{\newcommand{\mathcent}{\mathord{\unicode{x000A2}}}}
361
362 \end{warpMathJax}

```

File 594 **lwarp-common-mathjax-nonunicode.sty**

§ 706 Package **common-mathjax-nonunicode**

(Emulates or patches code by DANIEL FLIPO, MICHAEL SHARPE.)

lwarp-common-mathjax-nonunicode Common code used by newpxmath, newtxmath, newtxsf, kpfonts-otf for MATH-
(Pkg) JAX. These are symbols not found in UNICODE.

Factored from lwarp-common-mathjax-newpctxmath.

for HTML output: 1 \ProvidesPackage{lwarp-common-mathjax-nonunicode}[2020/09/20]

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}
3
4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\mmapsto}{\mathrel{\unicode{x021A6}}}}
6 \CustomizeMathJax{\let\mmapstochar\mmapsto}
7 \CustomizeMathJax{\newcommand{\longmmapsto}{\mathrel{\unicode{x021A6}}}}
8 \CustomizeMathJax{\newcommand{\mmappedfrom}{\mathrel{\unicode{x021A4}}}}
9 \CustomizeMathJax{\let\mmappedfromchar\mmappedfrom}
10 \CustomizeMathJax{\newcommand{\longmmappedfrom}{\mathrel{\unicode{x021A4}}}}
11 \CustomizeMathJax{\let\mmapsfrom\mmappedfrom}% from kpfonts-otf
12 \CustomizeMathJax{\let\longmmapsfrom\longmmappedfrom}% from kpfonts-otf
13
14 \CustomizeMathJax{\newcommand{\Mmapsto}{\mathrel{\unicode{x02907}}}}
15 \CustomizeMathJax{\let\Mmapstochar\Mmapsto}
16 \CustomizeMathJax{\newcommand{\Longmmapsto}{\mathrel{\unicode{x027FE}}}}
17 \CustomizeMathJax{\newcommand{\Mmappedfrom}{\mathrel{\unicode{x02906}}}}
18 \CustomizeMathJax{\let\Mmappedfromchar\Mmappedfrom}
19 \CustomizeMathJax{\newcommand{\Longmmappedfrom}{\mathrel{\unicode{x027FD}}}}
20 \CustomizeMathJax{\let\Mmapsfrom\Mmappedfrom}% from kpfonts-otf
21 \CustomizeMathJax{\let\Longmmapsfrom\Longmmappedfrom}% from kpfonts-otf
22 %
23 \CustomizeMathJax{\newcommand{\boxright}{%
24   \mathrel{\unicode{x025A1}}\!\!\unicode{x02192}}%
25 }}
26 \CustomizeMathJax{\newcommand{\boxleft}{%
27   \mathrel{\unicode{x02190}}\!\!\unicode{x025A1}}%
28 }}
29 \CustomizeMathJax{\newcommand{\boxdotright}{%
30   \mathrel{\unicode{x022A1}}\!\!\unicode{x02192}}%
31 }}
32 \CustomizeMathJax{\newcommand{\boxdotleft}{%
33   \mathrel{\unicode{x02190}}\!\!\unicode{x022A1}}%
34 }}
35

```

```

36 \CustomizeMathJax{\newcommand{\Diamondright}{%
37   \mathrel{\unicode{x025C7}\!\unicode{x02192}}%
38 }}
39 \CustomizeMathJax{\newcommand{\Diamondleft}{%
40   \mathrel{\unicode{x02190}\!\unicode{x025C7}}%
41 }}
42 \CustomizeMathJax{\newcommand{\Diamonddotright}{%
43   \mathrel{\unicode{x027D0}\!\unicode{x02192}}%
44 }}
45 \CustomizeMathJax{\newcommand{\Diamonddotleft}{%
46   \mathrel{\unicode{x02190}\!\unicode{x027D0}}%
47 }}
48
49 \CustomizeMathJax{\newcommand{\boxRight}{%
50   \mathrel{\unicode{x025A1}\!\unicode{x021D2}}%
51 }}
52 \CustomizeMathJax{\newcommand{\boxLeft}{%
53   \mathrel{\unicode{x021D0}\!\unicode{x025A1}}%
54 }}
55 \CustomizeMathJax{\newcommand{\boxdotRight}{%
56   \mathrel{\unicode{x022A1}\!\unicode{x021D2}}%
57 }}
58 \CustomizeMathJax{\newcommand{\boxdotLeft}{%
59   \mathrel{\unicode{x021D0}\!\unicode{x022A1}}%
60 }}
61
62 \CustomizeMathJax{\newcommand{\DiamondRight}{%
63   \mathrel{\unicode{x025C7}\!\unicode{x021D2}}%
64 }}
65 \CustomizeMathJax{\newcommand{\DiamondLeft}{%
66   \mathrel{\unicode{x021D0}\!\unicode{x025C7}}%
67 }}
68 \CustomizeMathJax{\newcommand{\DiamonddotRight}{%
69   \mathrel{\unicode{x027D0}\!\unicode{x021D2}}%
70 }}
71 \CustomizeMathJax{\newcommand{\DiamonddotLeft}{%
72   \mathrel{\unicode{x021D0}\!\unicode{x027D0}}%
73 }}
74 \CustomizeMathJax{\newcommand{\Diamonddot}{\mathrel{\unicode{x027D0}}}}
75
76 \CustomizeMathJax{\newcommand{\circleright}{%
77   \mathrel{\unicode{x025CB}\!\unicode{x02192}}%
78 }}
79 \CustomizeMathJax{\newcommand{\circleleft}{%
80   \mathrel{\unicode{x02190}\!\unicode{x025CB}}%
81 }}
82 \CustomizeMathJax{\newcommand{\circledotright}{%
83   \mathrel{\unicode{x02299}\!\unicode{x02192}}%
84 }}
85 \CustomizeMathJax{\newcommand{\circledotleft}{%
86   \mathrel{\unicode{x02190}\!\unicode{x02299}}%
87 }}
88 \CustomizeMathJax{\let\circleddotright\circledotright}
89 \CustomizeMathJax{\let\circleddotleft\circledotleft}
90
91 \CustomizeMathJax{\newcommand{\multimapinv}{\mathrel{\unicode{x027DC}}}}
92 \CustomizeMathJax{\newcommand{\multimapboth}{\mathrel{\unicode{x029DF}}}}
93 \CustomizeMathJax{\newcommand{\multimapdot}{\mathrel{-\!\bullet}}}
94 \CustomizeMathJax{\newcommand{\multimapdotinv}{\mathrel{\bullet\!-}}}
95 \CustomizeMathJax{\newcommand{\multimapdotboth}{%

```



```

96   \mathrel{\!\bullet\!-\!\bullet\!}%
97 }}
98 \CustomizeMathJax{\newcommand{\multimapdotbothA}{\mathrel{\unicode{x022B6}}}}
99 \CustomizeMathJax{\newcommand{\multimapdotbothB}{\mathrel{\unicode{x22B7}}}}
100
101 \CustomizeMathJax{\newcommand{\multimapbothvert}{%
102   \mathrel{\overset{\unicode{x025CB}}{\underset{\unicode{x025CB}}{|}}}}%
103 }}
104 \CustomizeMathJax{\newcommand{\multimapdotbothvert}{%
105   \mathrel{\overset{\unicode{x025CF}}{\underset{\unicode{x025CF}}{|}}}}%
106 }}
107 \CustomizeMathJax{\newcommand{\multimapdotbothBvert}{% bug in kpfonts-otf
108   \mathrel{\overset{\unicode{x025CF}}{\underset{\unicode{x025CB}}{|}}}}%
109 }}
110 \CustomizeMathJax{\newcommand{\multimapdotbothAvert}{% bug in kpfonts-otf
111   \mathrel{\overset{\unicode{x025CB}}{\underset{\unicode{x025CF}}{|}}}}%
112 }}
113
114 \CustomizeMathJax{\newcommand{\bignplus}{%
115   \mathop{\LWRoverlaysymbols{\unicode{xFF0B}}{\unicode{x22C2}}}}%
116 }}
117 \CustomizeMathJax{\let\bigcapplus\bignplus}
118 \CustomizeMathJax{\let\capplus\bignplus}% from kpfonts-otf
119
120 \CustomizeMathJax{\newcommand{\bigsqcapplus}{%
121   \mathop{\LWRoverlaysymbols{\unicode{xFF0B}}{\unicode{x2A05}}}}%
122 }}
123 \CustomizeMathJax{\let\sqcapplus\bigsqcapplus}% from kpfonts-otf
124
125 \CustomizeMathJax{\newcommand{\bigsqcupplus}{%
126   \mathop{\LWRoverlaysymbols{\unicode{xFF0B}}{\unicode{x2A06}}}}%
127 }}
128 \CustomizeMathJax{\let\sqcupplus\bigsqcupplus}% from kpfonts-otf
129
130 \CustomizeMathJax{\newcommand{\parallelslant}{\mathrel{\unicode{x02AFD}}}}
131 \CustomizeMathJax{\newcommand{\parallelbackslant}{%
132   \mathrel{\unicode{x0005C}\!\!\unicode{x0005C}}}%
133 }}
134
135 \CustomizeMathJax{\newcommand{\Eqqcolon}{\mathrel{=\!\unicode{x2237}}}}
136 \CustomizeMathJax{\let\eqqColon\Eqqcolon}% for kpfonts-otf
137 \CustomizeMathJax{\newcommand{\dashColon}{\mathrel{-\!\unicode{x2237}}}}
138 \CustomizeMathJax{\newcommand{\Colondash}{\mathrel{\unicode{x2237}-}}}
139
140 \CustomizeMathJax{\newcommand{\colonapprox}{\mathrel{: \approx}}}
141 \CustomizeMathJax{\newcommand{\colonsim}{\mathrel{: \sim}}}
142 \CustomizeMathJax{\newcommand{\Colonapprox}{%
143   \mathrel{\unicode{x2237}\!\approx}}%
144 }}
145 \CustomizeMathJax{\newcommand{\Colonsim}{\mathrel{\unicode{x2237}\!\sim}}}
146
147 \CustomizeMathJax{\newcommand{\strictif}{%
148   \mathrel{\unicode{x0297D}}}%
149 }}% right fish tail
150 \CustomizeMathJax{\newcommand{\strictfi}{%
151   \mathrel{\unicode{x0297C}}}%
152 }}% left fish tail
153 \CustomizeMathJax{\newcommand{\strictiff}{%
154   \mathrel{\unicode{x0297C}\!\!\unicode{x0297D}}}%
155 }}% left/right fish tails

```

```

156
157 \CustomizeMathJax{\newcommand{\circledwedge}{%
158   \mathbin{\LWROverlaysymbols{\unicode{x025EF}}{\unicode{x02227}}}%
159 }}
160 \CustomizeMathJax{\newcommand{\circledvee}{%
161   \mathbin{\LWROverlaysymbols{\unicode{x025EF}}{\unicode{0x02228}}}%
162 }}
163 \CustomizeMathJax{\newcommand{\circledbar}{\mathbin{\unicode{x029B6}}}}
164
165 \CustomizeMathJax{\newcommand{\openJoin}{%
166   \mathrel{\unicode{x2AA4}}}%
167 }}% overlapping ><
168 \CustomizeMathJax{\newcommand{\openTimes}{%
169   \mathrel{\unicode{x2AA4}}}%
170 }}% overlapping ><
171
172 \CustomizeMathJax{\newcommand{\VvDash}{\mathrel{\unicode{x22AA}}}}
173
174 \CustomizeMathJax{\newcommand{\lambdabar}{%
175   \mathord{\LWROverlaysymbols{\raise{.5ex}{-}}{\lambda}}}%
176 }}
177
178 \CustomizeMathJax{\newcommand{\lambdaslash}{\mathord{\unicode{x019B}}}}
179
180 \CustomizeMathJax{\newcommand{\Wr}{%
181   \mathbin{\unicode{x02240}\!\!\unicode{x02240}}}%
182 }}
183
184 \CustomizeMathJax{\newcommand{\dashleftarrow}{%
185   \mathrel{\unicode{x021E0}\!\!\unicode{x021E2}}}%
186 }}
187 \CustomizeMathJax{\let\lefttrighthdasharrow\dashleftarrow}% for kpfonts-otf
188
189 \end{warpMathJax}

```

File 595 **lwarp-common-mathjax-overlaysymbols.sty**

§ 707 Package **common-mathjax-overlaysymbols**

lwarp-common-mathjax-overlaysymbols Common code used by a number of packages to overlay two symbols for MATHJAX.

(Pkg)

for HTML output: 1 \ProvidesPackage{lwarp-common-mathjax-overlaysymbols}[2020/08/17]

\LWROverlaysymbols

{\symbol} {\symbol}

Overlays one symbol over another.

```

2 \begin{warpMathJax}
3
4 \CustomizeMathJax{\newcommand{\LWROverlaysymbols}[2]{%
5   \mathord{%
6     \smash{%
7       \mathop{#2\strut}%
8       \limits^{\smash{\lower3ex{#1}}}%
9     }%
10   \strut%
11 }%

```

```
12 }}  
13  
14 \end{warpMathJax}
```

Change History

§ 708 Chg Hist

For the most recent changes, see page 1375.

v0.013	\LWR@restoreorigformatting: Added \nobreakspace.	545	\LWR@htmlsectionfilename: Fix: Links to home page.	346
v0.10	General: 2016/03/08 Initial version	1	v0.15	General: 2016/04/06
v0.11	General: 2016/03/11	1	Added.	834
	Added section: Operating-System portability.	232	Ampersand (&): Fixed handling when passed as an argument.	451
	Added section: Selecting the operating system.	119	Docs: Added warning icons for items needing special attention.	207
	Test Suite: MS-WINDOWS in README.txt	1	Docs: Clarify print/HTML output.	119
	Test Suite: limages and index in README.txt	1	Docs: Moved the supported features table to the introduction.	69
v0.12	General: 2016/03/14	1	Files: lwarp_formal.css added.	1
	Global: Uses \p@(type) in float captions.	1	Fix: steps counter	834
	Test Suite: Sub-figures	1	Fixed & handling.	832
	\LWR@newhtmlfile: Bugfix: toc with numbered files.	394	Test Suite: test_suite_formal.css file added.	1
v0.13	General: 2016/03/24	1	v0.16	General: 2016/04/11
	Fix dollar-redefined bug for newer package.	1207	\titlingpage: Improved print-output spacing.	422
	Removed package: subfig	1	xfrac: Adjusted for the use of any font:	1270
	Test Suite: Ordinals, Subcaption	1	Added XeLaTeX, LuaLaTeX support.	208
	\CaptionSeparator: Fix for newer babel package.	523	Docs: Font and UTF-8 support.	103
	\LWR@LwarpStart: \up and \fup	413	Docs: Moved location of \usepackage{lwarp}.	106
v0.14	General: 2016/03/31	1	Docs: Text not converting.	199
	floatrow: Added.	830	Lwarp no longer selects fonts.	103, 243
	Docs: Commands for a successful HTML conversion.	124	Removed package: suffix	1
	Docs: Commands into a warpprint environment.	121	Test Suite: Improved titlingpage.	422
	Docs: Newclude limitations.	177	Test Suite: Lwarp no longer selects fonts.	1
	Docs: Table: Cross-referencing data structures.	504	Test Suite: Supports XeLaTeX, LuaLaTeX.	1
	Docs: Table: Float data structures.	519	v0.17	General: 2016/04/14
	Docs: Trademarks section.	204	mdframed: Added.	970
	Docs: Troubleshooting cross-references.	199	Test Suite: Fix: Print-version front-matter page numbers.	1
	Test Suite: Assigned cleveref name for Test Float.	1	Test Suite: Mdframed	1
	Test Suite: Floatrow	1	\LWR@htmlsectionfilename: Fix: Links when entire doc is one HTML page.	346
			v0.18	General: 2016/05/19
				1

graphics: Add: svg file extension.	872	titles: null \pagestyle and \thispagestyle for HTML. . .	1208
graphics: Fix: \linewidth, \textwidth, \textheight inside a minipage.	872	\HomeHTMLfilename: Docs: Escape filename underscores.	345
graphics: Improved HTML output linebreaks.	872	\hspace: Fix: \hspace length computations.	623
graphics: em, ex, %, px dimensions preserved.	872	\HTMLfilename: Docs: Escape filename underscores.	345
File: lwrap.css: Improved toc outline display.	1	\LateximageFontSizeName: Add: User-adjustable math/lateximage font size. . .	576
Files: lwrap.css and lwrap_formal.css: Improved responsive design.	1	\LWR@doequation: MATHJAX support.	567
Microtype disabled during HTML generation	244	\LWR@doubledollar: MATHJAX support.	559
PDF Unicode input characters. . .	226	\LWR@filestart: lwrap_mathjax.txt loaded.	409
Test Suite: Verse package	1	\LWR@LwrapStart: Enabled \\ equal to \newline.	412
\hspace: \hspace supported.	623	\LWR@minipagestartpars: Suppresses paragraph tags between minipages.	622
lateximage: pdfcrop: --hires added.	579	\LWR@subsingledollar: MATHJAX support.	558
Reorganize \HomeHTMLfilename logic.	579	\minipagefullwidth: Added: No width tag for the next minipage in HTML.	600
Suppress extra space.	579	\warpHTMLonly: Added.	241
\LWR@mystshorttoc: Reorganize \HomeHTMLfilename logic. . . .	527	\warpprintonly: Replaces \rowprintedonly.	241
\LWR@newhtmlfile: sideroc after title, improving responsive design.	393	\xfracHTMLfontsize: Added. . . .	1269
\LWR@requesttoc: Reorganize \HomeHTMLfilename logic. . . .	415	v0.20	
\LWR@subhyperref: Improved HTML output linebreaks.	515	General: 2017/02/09	1
\LWR@subhyperrefclass: Improved HTML output linebreaks.	516	afterpage: Added.	652
\LWR@subinlineimage: Suppress extra space.	518	alltt: Added.	657
minipage: Fix: \linewidth, \textwidth, \textheight inside a minipage.	601	bookmark: Added.	698
verse: Supports verse, memoir packages.	1246	caption and subcaption supported.	1
v0.19		cleveref and referencing patches: Applied \AfterEndPreamble. . .	752
General: 2016/06/08	1	draftwatermark: Added.	772
css for table note item.	1204	eso-pic: Added.	793
MATHJAX support added.	564, 571	everypage: Added.	797
multirow: Added optional args. . .	1003	extramarks: Added.	798
xcolor: Supports colored \rule. . .	1262	fancyhdr: Added.	805
Adapts to tikz version.	1207	float: Improved float caption type handling.	827
Avoids MATHJAX.	551	graphics: Fix: Expands filename. .	872
cleveref: Loaded \AtEndPreamble.	597	graphics: Fix: \linewidth in a floatrow.	872
Docs: Math options.	106	hyperref: Additional user macros.	884
Docs: Table: Cross-referencing data structures, updated.	504	keyfloat: Added.	909
File: lwrap.css: tnoteitemheader added.	1	letterspace: User-interface emulated.	922
File: lwrap_mathjax.txt added. . .	1	listings: Added.	932
Introduction: MATHJAX support mentioned.	66	ltcaption: Added.	944
Options: mathsvg and mathjax . . .	235	lwrap-newproject: Added.	268
		microtype: User-interface emulated.	986

needspace: Added.	1014	\InLineClass: Renamed from	
nowidow: Added.	1030	"inlineclass".	360
placeins: Added.	1066	\LWR@closeparagraph: \unskip	
ragged2e: Added.	1075	extra spaces.	365
setspace: Improved support. . .	1097	No break tags in the start/end of	
symptex: Added.	1176	a tabular.	365
textpos: Added.	1197	\LWR@endofline: Fix: \\	622
titles: Added.	1208	\LWR@filestart: Adds meta	
titlesec: Added.	1211	description.	409
titletoc: Added.	1213	\LWR@htmldivclass: Added	
titling: Improved compatibility.	1215	optional style.	359
tocloft: Added.	1222	\LWR@htmlElementclass: Added	
wallpaper: Added.	1251	optional style.	358
wrapfig: Added.	1254	\LWR@htmlsectionfilename:	
xetexko: Added.	1268	HTMLFilename: removed	
Added @, <, > columns.	444	additional trailing '-', and may	
Added single-expansion data		be empty.	346
arrays.	340	Sections called "Index" or "index"	
Code factored into independent		have an underscore prepended	
lwarp_html files.	639	to their filenames if no prefix.	346
Docs: Examples for generating		\LWR@hyperindexrefsbtwo: Print	
HTML file names.	117	mode provided in case hyperref	
Docs: Improved index.	1	not used.	542
Enhanced titling support. . . .	421	\LWR@longtabledatacaptiontag:	
File: lwarp.css: Minor fixes for		Fix: Pars in captions.	488
validation.	1	LWR@nestspan: Fix: Minipages	
File: lwarpmk used to compile		inside a span.	355
print, HTML, indexes, and		\LWR@section: Combined	
lateximages.	1	higher-level sections together	
Fix: \linewidth in a floatrow. .	833	into files.	400
Moved sidebar and example code		\LWR@setOSWindows: Auto-detects	
to test suite.	1	operating system.	234
Page geometry set to 6in wide		\LWR@subhtmlElementclass:	
with large margins.	244	Factored code.	358
Parallel versions of aux files for		\pageref: Added.	513
print/HTML.	1	\SetHTMLFileNumber: Add: Control	
Removed reliance on make, grep,		file numbers.	345
gawk.	1	\tracinglwarp: Added.	257
Tabular: \unskip extra spaces. .	444	verbatim: Added.	432
Test Suite: HTML meta		v0.21	
descriptions.	1	General: 2017/02/23	1
BlockClass: Added optional style.	360	fontenc: Added.	841
Renamed from "blockclass". . .	360	lwarpmk: Fix: lwarpmk again for	
\BlockClassSingle: Renamed from		WINDOWS.	319
"LWR@htmldivclassline". . . .	360	lwarpmk: Fix: lwarpmk limages	
\cpagerefFor: User-redefinable		for WINDOWS.	319
word for page references. . . .	753	lwarpmk: Fix: lwarpmk uses	
\dotfill: Inserts an ellipsis. . .	621	lateximages text file instead of	
\hfill: Inserts a \quad.	621	shell script.	319
\HomeHTMLFilename: No longer		Add: Errors for misplaced	
escape underscores.	345	packages.	209
\hrulefill: Inserts a short rule. .	621	Docs: Added internet class. . . .	75
\hspace: Add: Supports HTML thin		Docs: Added TeX2page, GladTeX. .	75
breakable space.	623	Docs: Installing on WINDOWS. . .	81
\HTMLDescription: Added		File: lwarp_tutorial.txt	
\NewHTMLdescription.		added.	85
(Renamed in v0.30.)	372	\LWR@filestart: Skip title if not	
\HTMLFilename: No longer escape		given.	409
underscores.	345	\LWR@LwarpStart: Changed	
		lateximages to a .txt file. . .	412

<code>\LWR@newhtmlfile</code> : Skip title if not given.	393	<code>framed</code> : Added.	848
<code>\marginpar</code> : Fixed source listing.	378	<code>lips</code> : Added.	931
<code>\marginparBlock</code> : Fixed source listing.	379	<code>mdframed</code> : Help avoid hyphenation.	972
v0.22		<code>ntheorem</code> : Added.	1030
General: 2017/03/02	1	<code>showidx</code> : Added.	1099
<code>abstract</code> : Added.	641	<code>theorem</code> : Added.	1197
<code>changePage</code> : Added.	713	Basic L ^A T _E X theorems: improved css.	434
<code>dcolumn</code> : Added.	766	Docs: Adds credits for patched code.	1
<code>ftnright</code> : Added.	851	Docs: Testing <code>lwarp</code>	195
<code>geometry</code> : Nullified commands.	860	Fix: Allows XE ^L A ^T E _X and Lua ^L A ^T E _X to preload graphics and <code>graphicx</code>	215
<code>layout</code> : Added.	919	<code>\addcontentsline</code> : Handles theorems.	526
<code>lscap</code> : Added.	943	<code>\LWR@loadnever</code> : Added the ability to prevent conflicting packages.	211
<code>mcaption</code> : Added.	970	v0.26	
<code>nameref</code> : Added.	1010	General: 2017/03/31	1
<code>nextPage</code> : Added.	1017	<code>lwarp.css</code> : Improved responsive <code>marginpar</code> and <code>marginblock</code>	275
<code>parskip</code> : Added.	1051	<code>cutwin</code> : Added.	764
<code>showkeys</code> : Added.	1099	<code>endnotes</code> : Added.	779
<code>sidecap</code> : Added.	1101	<code>floatflt</code> : Added.	829
<code>tabularx</code> : Added.	1178	<code>footmisc</code> : Added.	842
<code>varioref</code> : Supported.	133	<code>footnotehyper</code> : Added.	845
<code>verse</code> : Added.	1246	<code>footnote</code> : Added.	843
<code>\LWR@parsebangcolumn</code> : Added <code>tabular ! column</code>	456	<code>marginfix</code> : Added.	955
<code>\LWR@parsetablecols</code> : Unknown table column types become <code>l</code> . Added <code>tabular D, !, X</code> columns.	465	<code>marginnote</code> : Added.	956
<code>\LWR@printmcoldata</code> : Added <code>tabular D, !, and X</code> columns.	483	<code>mparhack</code> : Added.	998
v0.23		<code>pagenote</code> : Supported as-is.	1045
General: 2017/03/02	1	<code>sidenotes</code> : Added.	1102
<code>\LWR@parsetablecols</code> : Fix for <code>vert bar</code> column type.	465	Docs: Improved MiK _T E _X install instructions.	80, 81
<code>\LWR@printmcoldata</code> : Fix for <code>vert bar</code> column type.	483	Dollar span avoided in a <code>lateximage</code>	551
v0.24		Footnotes now are L ^A T _E X boxes instead of <code>pagenotes</code>	373
General: 2017/03/15	1	<code>lateximage</code> : Labels track page numbers of <code>lateximages</code>	579
<code>floatrow</code> : Support for <code>subfig</code>	830	Print mode now uses a <code>minipage</code> of <code>\linewidth</code>	579
<code>subfig</code> : Added.	1168	<code>picture</code> : Fix for <code>\makebox</code> in <code>picture</code>	598
<code>tikz</code> : For <code>tikz v3.0.0</code> or later, auto-loads <code>tikz babel</code> library if necessary.	1206	v0.27	
Docs: Filename underscore.	106	General: 2017/04/04	1
Fix for inline images.	1207	<code>lettrine</code> : Added.	923
No longer preloads <code>subcaption</code> ; conflicted with <code>subfig</code>	248	<code>microtype</code> : Fix with Xe ^L A ^T E _X , Lua ^L A ^T E _X	986
<code>\hspace</code> : Add: <code>\hspace \fill</code> converts to <code>2em</code>	623	<code>soul</code> : Added.	1147
<code>\hypertocfloat</code> : List of floats responds to <code>lofdepth</code> , <code>lotdepth</code>	534	<code>ulem</code> : Added.	1236
<code>\LWR@htmlfileref</code> : Fix: Index links while <code>\tracinglwarp</code>	507	Docs: Installing utilities for MACOS.	83
<code>picture</code> : Fix for inline images.	598	Docs: Limitations of <code>saveboxes</code>	127
v0.25		Page geometry modified to reduce line overflow.	244
General: 2016/03/22	1	<code>\LWR@footnotetext</code> : Fix for table footnote <code>par</code> tags.	375
<code>amsthm</code> : Added.	662		
<code>ellipsis</code> : Added.	777		
<code>emptypage</code> : Added.	778		

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General: 2017/04/14	1
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graphics: Adapts to graphics syntax.	872
graphics: Added.	865
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<i>lwarpmk</i> : Add: printglossary and htmlglossary commands.	319
Added boolean FormatEPUB.	262
Added boolean FormatWP.	262
Added boolean HTMLDebugComments.	257
Added boolean HTMLMarkFloats, changed to WPMarkFloats as of v0.42.	262
Docs: Modifying <i>lwarpmk</i> and index processing.	196
File: <i>lwarp_mathjax.txt</i> : Updated CDN repository.	315
Forced oneside to maintain large right margin.	244
\@w@rindex: Improved indexing.	537
\chapter: If EPUB, prints footnotes before each section.	407
\HTMLAuthor: Added \HTMLauthor. (Renamed in v0.30.)	371
\LWR@filestart: Adds HTML meta author.	409
\LWR@forcenewpage: Forces new PDF page before major environments.	351
\LWR@htmlcomment: Breaks ligatures in HTML comments.	357
\LWR@hyperindexrefsbtwo: Improved indexing.	542
\LWR@LwarpEnd: If FormatEPUB or FormatWP, no bottom nav.	416
\LWR@LwarpStart: FormatWordProcessor forces single-file output.	412
\LWR@newhtmlfile: If FormatEPUB or FormatWP: skips headers, footers, nav.	393
\LWR@parsetablecols: Added L, C, R, J column types.	465
\LWR@startref: Removed space.	510
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*.lwarpmkconf: Add: language option for config files.	275
lwarpmk.conf: Add: language option for config files.	274
graphics: Fix: Error when no optional arguments.	872
<i>lwarpmk</i> : Add: language option for config files.	319
Add: <i>lwarpmklang</i> option for <i>lwarp</i> .	236
Docs: Using a glossary	96
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General: 2017/04/29	1
<i>lwarp-newproject</i> removed, and combined with <i>lwarp</i> .	268
<i>lwarpmk</i> : Add: xdyfile configuration option.	319
<i>lwarpmk</i> : Fix: <i>xindy</i> and <i>texindy</i> adjusted for <i>pdflatex</i> , <i>xelatex</i> and <i>lualatex</i> .	319
<i>lwarpmk</i> : Fix: <i>xindy</i> now used for print index generation with <i>latexmk</i> .	319
<i>lwarpmk</i> : language now used for both index and glossary generation.	319
File: <i>lwarp_html.xdy</i> renamed to <i>lwarp.xdy</i> .	314
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Fix: <i>lwarp.xdy</i> only written in print mode.	314
Fix: <i>lwarp_mathjax.txt</i> : Only written in print mode.	315
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keyfloat: Improved compatibility.	909
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glossaries: Prevent error with <i>\glo@name</i> not defined.	543

<i>lwarpmk</i> : Fix: <code>io.lines()</code> changed to <code>file:lines()</code> due to <i>luatex</i> changes.	319	<i>mdframed</i> : Improved <code>mdtheorem</code> patch.	976
\RequirePackage: Fix: Ignores blanks in package list.	251	<i>moreverb</i> : Added.	995
v0.33		<i>paralist</i> : Added.	1045
General: 2017/07/10	1	<i>pdfscape</i> : Added.	1055
<i>amsmath</i> : Removed <code>fleqn</code> option.	658	<i>pdfsync</i> : Added.	1059
<i>fancyhdr</i> : Fix: Optional args for \thead, etc.	805	<i>prelim2e</i> : Added.	1068
Add: Tabular at and bang columns now have their own HTML columns.	444	<i>rotfloat</i> : Added.	1083
<i>cleveref</i> : Fix: Loaded \AtEndPreamble.	597	<i>savetrees</i> : Added.	1084
Fix: Incorrectly-inline math environments.	571	<i>shadow</i> : Added.	1098
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\HTMLAuthor: Fix: Provides empty default author if none given. . .	371	<i>titles</i> : No longer required. . .	1208
\LWR@Loadbefore: Fix: No \PackageError if already loaded.	210	<i>titleref</i> : Prevented.	1211
\LWR@parseatcolumn: Fix: Column alignment with leftmost @. . .	455	<i>xcolor</i> : Added \LWR@subfcolorminipage. . .	1265
\LWR@tabledatasinglecolumn: Fix: Macros in tabular could cause extra data cell.	471	<i>xmpincl</i> : Added.	1272
\LWR@vspace: Add: \vspace nullified.	624	Docs: Horizontal space limitations.	1
\StartDefiningTabulars: Add: Avoids error: Misplaced alignment tab character &. . . .	341	Docs: Misplaced alignment character.	199
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General: 2017/08/08	1	File: <i>README.txt</i> : updated. . . .	1
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<i>balance</i> : Added.	683	Improved font control.	609
<i>booktabs</i> : Works inside <i>lateximage</i>	497, 698	Lists refactored to remove enumitem requirement.	435
<i>boxedminipage2e</i> : Added.	701	Verbatim refactored to remove <i>fancyvrb</i> requirement.	430
<i>crop</i> : Added.	761	\@fnsymbol: Text symbols instead of math.	423
<i>enumerate</i> : Added.	787	BlockClass: Moved optional argument in front of mandatory.	360
enumitem: Added, no longer required.	787	\fboxBlock: Added.	607
<i>everyshi</i> : Added.	797	<i>fminipage</i> : Added.	607
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<i>fancyvrb</i> : Added, no longer required.	808	<i>lateximage</i> : Fix: <i>lateximage</i> with minipage, \parbox, \makebox, \fbox, \framebox, \raisebox, \scalebox, \reflectbox. . . .	579
<i>figcaps</i> : Added.	823	\LWR@htmldivclass: Moved optional argument in front of mandatory.	359
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<i>floatpag</i> : Added.	830	\LWR@htmlElementclassline: Moved optional argument in front of mandatory.	359
<i>flushend</i> : Added.	835	\LWR@htmlspanclass: Moved optional argument in front of mandatory.	356
<i>fullpage</i> : Added.	852	LWR@nestspan: Fix: Minipages, BlocksClass, and lists inside a span.	355
<i>hyperxmp</i> : Added.	893		
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\LWR@restoreorigformatting: booktabs: Works inside lateximage.	544	\LWR@restoreorigformatting: siunitx: Improved super/subscripts in a lateximage.	544
Improved font control.	544	\LWR@section: Improved spacing.	400
\LWR@subhtmlElementclass: Moved optional argument in front of mandatory.	358	\LWR@stoppars: Extra HTML source space after paragraphs.	367
\LWR@tabledatacolumnstag: booktabs: Works inside lateximage.	494	\LWR@subHTMLsanitize: Fix for babel-french.	388
\makebox: Fix: Handles paren arg.	605	\makebox: Fix: Handles width and horiz position.	605
tabular: booktabs: Works inside lateximage.	499	tabular: Fix for babel-french.	499
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General: 2017/08/17	1	color: Prevented.	757
babel-french: Adjustments for French variants, load order, footnotes, ellipses.	353	siunitx: Improved symbol support.	1123
footnote: Extra HTML source space after paragraphs.	843	textcomp: Improved support.	1193
siunitx: Fix for babel-french.	590	<i>lwarpmk</i> : Removes additional HTML aux files.	319
siunitx: Improved symbol support.	1123	File handles reorganized.	255
transparent: Added.	1231	\@include: Maintains independent aux files for HTML.	255
upref: Added.	1244	v0.38	
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xcolor: Refactored \LWR@colorstyle.	1262	arabicfront: Added.	669
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xcolor: \fcolorbox etc. now work inside lateximage.	1259	color: Forces xcolor as well.	757
Docs: Reorganized: Special cases and limitations.	124	fix2col: Added.	824
Source: Improved formatting.	1	fncychap: Added.	836
\fbox: Fix: Uses \fboxrule and \fboxsep.	606	grffile: Added.	877
\framebox: Fix: Handles width and horiz position.	605	metalogo: Added.	982
lateximage: Footnotes appear in regular text instead of the lateximage minipage.	579	nonumonpart: Added.	1028
\LWR@footnotetext: Extra HTML source space after paragraphs.	375	nopageno: Added.	1029
Force HTML superscripts.	375	pagenote: Option page disabled.	1045
\LWR@closeparagraph: Extra HTML source space after paragraphs.	365	realscripts: Added.	1075
\LWR@currenttextcolor: Fix for \rule when xcolor not loaded.	618	resize: Added.	1078
\LWR@HTMLsanitizeexpanded: Fix for babel-french.	389	romanbarpagenumber: Added.	1082
		romanbar: Added.	1081
		scalefnt: Added.	1084
		siunitx: Removed from <i>lwrap</i> core.	1123
		textcomp: Removed from <i>lwrap</i> core.	1193
		tocbibind: Added.	1220
		xltxtra: Added.	1272
		<i>lwarpmk</i> : Added print1 and html1 actions.	319
		Added \markboth, \sloppy, etc.	351
		Docs: Enhanced <i>Supported Features</i> table.	69
		Docs: Index, tocbibind.	140
		Docs: Starred sections.	136

<code>\@secnctformat</code> : Added for appendix.	400	Added.	492
<code>\ForceHTMLPage</code> : Added.	398	<code>\printauthor</code> : Removed	
<code>\ForceHTMLTOC</code> : Added.	398	minipages.	421
<code>\LWR@section</code> : <code>\part*</code> starts a new HTML page, for appendix.	400	Supports <code>authblk</code> with <code><div></code> s of class <code>oneauthor</code> instead of	
Modified spacing, uses		tabular.	421
<code>\numberline</code>	400	<code>\ResumeTabular</code> : Added.	493
<code>\numberline</code> : Added trailing <code>\quad</code>	532	<code>\TabularMacro</code> : Added.	493
<code>\part</code> : Fix with article class.	407	<code>\thanksmarkseries</code> : Removed	
v0.39		minipage footnotes.	1218
General: 2017/09/05	1	titlepage: Clear pending	
<code>a4wide</code> : Added.	640	footnotes.	420
<code>a4</code> : Added.	640	Removed minipages.	420
<code>a5comb</code> : Added.	641	titlingpage: Clear pending	
<code>addlines</code> : Added.	652	footnotes.	1215
<code>ansize</code> : Added.	667	v0.40	
<code>authblk</code> : Added.	677	General: 2017/09/25	1
<code>bigdelim</code> : Added.	694	<code>adjmulticol</code> : Added.	651
<code>bigstrut</code> : Added.	696	<code>anonchap</code> : Added.	666
<code>ebook</code> : Added.	773	<code>bigdelim</code> : Improved	
<code>fullwidth</code> : Added.	852	documentation.	694
<code>midpage</code> : Added.	987	<code>cuted</code> : Added.	764
<code>multirow</code> : Add: New optional		<code>dblfnote</code> : Added.	765
<code>vpos</code> argument.	1003	<code>fnpos</code> : Added.	837
<code>multirow</code> : Add: Supports		graphics: Add: Full	
left/right border for <code>bigdelim</code>	1003	<code>\graphicspath</code> support.	872
<code>multirow</code> : Fix: Long text		graphics: Moved out of the <code>lwrap</code> core.	865
argument.	1003	graphics: Restores	
<code>supertabular</code> : Added.	1173	<code>\includegraphics</code> and	
<code>textarea</code> : Added.	1192	<code>\DeclareGraphicsExtensions</code>	
<code>titling</code> : Improved compatibility.	1215	in a <code>lateximage</code>	865
<code>titling</code> : Removed extraneous		<code>graphicx</code> : Moved out of the <code>lwrap</code> core.	877
center environments.	1215	<code>grffile</code> : Directly supported.	877
<code>typearea</code> : Added.	1235	<code>midfloat</code> : Added.	986
<code>xtabular</code> : Added.	1275	<code>multirow</code> : Improved <code>bigdelim</code>	
<code>zwpagelayout</code> : Added.	1279	borders.	1003
Docs: Reorganized tabular		<code>pfnote</code> : Added.	1061
discussion.	167	<code>quotchap</code> : Added.	1073
Titlepage <code>\published</code> and		<code>sectsty</code> : Added.	1094
<code>\subtitle</code> removed.		<code>stabular</code> : Added.	1152
<code>\AddSubTitlePublished</code>		<code>tabs</code> : Added.	1177
restores.	425	<code>textcomp</code> : Additional symbols,	
<code>\@maketitle</code> : titling version.	1217	improved XeLaTeX and	
Native L ^A T _E X version.	425	LuaLaTeX support.	1193
Removed minipages.	425, 1217	<code>tocbibind</code> : Improved for	
Supports <code>authblk</code> with <code><div></code> s of class <code>oneauthor</code> instead of		<code>\simplechapter</code>	1220
tabular.	425, 1217	<code>xfrac</code> : No longer preloaded.	248
<code>\AddSubTitlePublished</code> : Added.	426	<code>xltxtra</code> : Fix for <code>\showhyphens</code>	
<code>\LWR@domulticolumn</code> : Add:		with XeLaTeX.	1272
Optional <code>vpos</code> and <code># rows</code>	485	<code>\@chapcntformat</code> : Added for	
<code>\LWR@restoreorigformatting</code> :		<code>tocbibind</code> , <code>anonchap</code>	400
Appended with <code>\appto</code> instead		<code>\chapter</code> : Added support for	
of calling various macros.	544	<code>quotchap</code>	407
<code>\LWR@tabledatacolumnstag</code> : Don't		<code>\LWR@HTMLhline</code> : Added.	498
start a data cell if see		<code>\LWR@nullfonts</code> : Fix: Long	
<code>\TabularMacro</code>	494	arguments for expandable	
<code>\multicolumnrow</code> : <code>multirow</code> :		command.	546
Added.	1004		

<ul style="list-style-type: none"> \LWR@restoreorigformatting: <ul style="list-style-type: none"> Improved L^AT_EX logos inside a lateximage. 544 Improved symbols inside a lateximage. 544 Nullified \InlineClass, etc. inside a lateximage. 544 \LWR@tabledatacolumntag: Fix for bigdelim: \ldelim, \rdelim. . . 494 \multicolumnrow: Fix: Adapts to older multirow and xparse. . . 492 \simplechapterdelim: Added for tocibind, anonchap. 400 \underline: Added. 618 	<ul style="list-style-type: none"> \textbf and related: If FormatWP, use explicit styles for \textsc, etc. 609 algorithmicx: If FormatWP add \quads. 656 booktabs: If FormatWP force explicit border. 699 epigraph: If FormatWP add HTML styles. 788 fancybox: If FormatWP add HTML styles. 800 floatflt: Added width. 829 graphics: Fix: Class key. 869 graphics: Fix: Filename expansion. 872 graphics: If FormatWP, use explicit size. 869 keyfloat: If FormatWP add explicit HTML style. 913 moreverb: Simplified formatting of listings. 995 multirow: If FormatWP add cell alignment. 1003 overpic: Added. 1044 realscripts: Fix for subscripts in a lateximage. 1075 sidenotes: If FormatWP add explicit HTML style. 1102 siunitx-v2: Improved \ensuremath. 1123 soul: If FormatWP, add explicit styles. 1147 textcomp: Improved \interrobangdown. 1193 wrapfig: If FormatWP add explicit HTML style. 1254
v0.41	
<ul style="list-style-type: none"> General: 2017/10/07 1 booktabs: Improved rules. . . . 699 multirow: Add: \cmidrule trims. 1003 multirow: Added vertical rules. 1003 multirow: Fix: < spec. 1004 \LWR@addcmidruletrim: Add: \cmidrule trims. 476 \LWR@clearmidrules: Add: \cmidrule trims. 474 \LWR@closetabledatcell: Add: Mute > for \bottomrule. . . . 450 Fix: At/bang column with \multirow. 450 Fix: Cancel < for \multicolumn. 450 \LWR@domulticolumn: Add: \cmidrule trims. 485 Added vertical rules. 487 \LWR@nullifyNoAutoSpacing: babel-french: Fix: \NoAutoSpacing in a tabular. . 498 \LWR@parsebarcolumn: Added vertical rules. 458 \LWR@printatbang: Add: \cmidrule trims. 470 Add: Mute at and bang columns for \bottomrule. 470 \LWR@printbartag: Added vertical rules. 470 \LWR@subaddcmidruletrim: Added. 476 \LWR@subcmidrule: Add: \cmidrule trims. 474 \LWR@tabledatasinglecolumntag: Add: \cmidrule trims. 471 Add: Mute < for \bottomrule. . 471 \LWR@tabularfinishrow: Unfinished tabular rows automatically filled. 452 \mcolrowcell: Added for \multicolumnrow cells. 497 tabular: Fix: \NoAutoSpacing in a tabular with babel-french. . . 499 	<ul style="list-style-type: none"> Added boolean WPMarkLOFT. . . 263 Added boolean WPMarkMath. . . 263 Added boolean WPMarkMinipages. 263 Added boolean WPMarkTOC. . . . 263 Added boolean WPTitleHeading. 263 Docs: Added support page. 2 Docs: Improper \prevdepth. . . 199 Docs: Reorganized math limitations. 153 File: lwarp_mathjax.txt: Updated siunitx script. 315 Fix: Numbering and naming AMS math environments. 576 If FormatWP, shift section headings. 264 \@ensuredmath: Improved \ensuremath. 562 \@textsubscript: Added. 618 \@textsuperscript: Added. . . . 617 center: If FormatWP use explicit text-align. 585
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<ul style="list-style-type: none"> General: 2017/10/30 1 	

eqnarray: Fix: Numbering and naming AMS math environments.	573	\marginparBlock: If FormatWP emulate a wrapfig.	379
If FormatWP print LaTeX expression.	572	minipage: Added boolean WPMarkMinipages.	603
\hspace: If FormatWP add \quads.	624	If FormatWP add a text frame.	601
\LaTeX: If FormatWP use explicit style.	628	\rule: If FormatWP add \quads.	626
lateximage: Fix: Numbering and naming AMS math environments.	579	tabbing: Added.	433
\listoffigures: Added boolean WPMarkLOFT.	529	\tableofcontents: Added boolean WPMarkTOC.	529
\listoftables: Added boolean WPMarkLOFT.	530	\TeX: If FormatWP use explicit style.	628
\LWR@addformatwpaignment: If FormatWP add explicit style for cell alignment.	478	\underline: If FormatWP, use explicit styles for \underline, etc.	618
\LWR@addrulewidth: If FormatWP force explicit border.	476	v0.43	
\LWR@amsmathbody: Fix: Numbering and naming AMS math environments.	577	General: 2017/11/08	1
\LWR@amsmathbodynumbered: Fix: Numbering and naming AMS math environments.	577	LWR@currentautosecpage: Added.	380
LWR@BlockClassWP: Added to factor code.	361	breakurl: Added.	702
\LWR@doequation: If FormatWP print LaTeX expression.	567	hyperref: Made robust. 888, 890, 892	
\LWR@domulticolumn: If FormatWP add cell alignment.	487	hyperref: \Gauge added.	893
\LWR@doubledollar: If FormatWP print LaTeX expression.	559	luatodonotes: Added.	948
Improved \ensuremath.	559	todonotes: Added.	1229
Improved line spacing with mathjax.	559	Added FootnoteDepth.	373
LWR@figcaption: If FormatWP forces italic captions.	524	Docs: HTML settings table.	111
\LWR@floatbegin: If FormatWP add a text frame.	520	Docs: Reorganized HTML customization.	111
\LWR@floatend: If FormatWP add a text frame.	521	\LWR@domulticolumn: Fix for vertical rules.	487
\LWR@HTMLhline: If FormatWP force explicit border.	498	Fix: Multicolumn trim.	486
\LWR@remembertag: Fix: Numbering and naming AMS math environments.	577	\LWR@href: Made robust.	516
\LWR@restoreorigformatting: Improved \ensuremath.	545	\LWR@href@partsanitized: Made robust.	517
\LWR@subaddcmidruletrim: Opt if no rule given.	476	\LWR@maybeprintpendingfootnotes: Added FootnoteDepth.	378
\LWR@subsingledollar: If FormatWP print LaTeX expression.	558	\LWR@noLinkurl: Made robust.	517
\LWR@tabledatasinglecolumntag: If FormatWP add cell alignment.	472	\LWR@nullfonts: Fix: Nullify dollar inside filenames.	546
\marginpar: If FormatWP emulate a wrapfig.	378	\LWR@parsetablecols: Ignore spaces in col spec.	465
		\LWR@section: Fix: Expansion in comparison.	401
		Fix: Math in section name. 403, 405	
		Fix: Nullify fonts inside HTML comment.	402
		\LWR@url: Made robust.	517
		\nameref: Made robust.	514
		\TabularMacro: \newcommand instead of \relax to fix supertabular and xtab.	493
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		algorithmicx: Improved comment symbol.	656
		atbegshi: Added.	673
		cancel: Added.	705
		changepage: Additional options.	714
		easy-todo: Added.	773
		fancyref: Added.	807
		fixmetodonotes: Added.	826
		fixme: Added.	825

fontenc: Allowed after lwrap. . .	841	\LWR@patchlists: Added list and	
hang: Added.	878	trivlist.	441
ifodddpage: Added.	896	\LWR@strresult: Fix:	
ltxtable: Added.	944	\providecommand.	448
luatodonotes: Improved.	948	\LWR@textcurrentcolor: xcolor:	
lwrap-patch-komascript:		Added	
Added.	1281	\LWR@textcurrentcolor. . .	1262
overpic: Fix: Groups for		\marginparBlock: Added.	379
lateximages.	1044	\nopagecolor: xcolor: Fix for	
pdfsync: Fixes.	1059	\nopagecolor.	1263
preview: Added.	1069	\part: Add preamble for	
scrextend: Added.	1085	koma-script.	407
scrhack: Added.	1089	picture: overpic: Fix: Groups for	
scrlayer-notecolumn: Added. .	1091	lateximages.	598
scrlayer-scrpage: Added. . . .	1091	\title: Added \thetitle.	371
scrlayer: Added.	1089	v0.45	
section: Added.	1093	General: 2018/01/14	1
soulpos: Added.	1148	array: Added.	670
soulutf8: Added.	1149	babel-french: Robust	
supertabular: Fix for caption. .	1174	commands.	353
tikz: Fix: Groups for		backref: Added.	682
lateximages.	1207	breakurl: Fix: Underscore in URL.	702
tocbasic: Added.	1219	changebar: Added.	712
tocloft: Added \newlistentry. .	1226	cite: Added.	750
tocloft: Improved \newlistof. .	1227	continue: Added.	760
tocstyle: Added.	1228	endfloat: Added.	778
todonotes: Improved.	1229	fancyvrb: Improvements. . .	808, 815
todo: Added.	1228	flafter: Added.	827
typearea: Added expert		fltrace: Added.	835
commands.	1235	footnpag: Added.	845
watermark: Added.	1252	fwlw: Added.	859
xcolor: Added		graphics: Improved URLs with	
\LWR@findcurrenttextcolor. .	1261	underscores.	872
xtab: Fix for caption.	1276	hanging: Added.	880
Adjustment for koma-script. . .	224	hyperref: Fix: Underscore in	
AMS environments: Fix: Groups		URL.	888, 889
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If pdfLaTeX, require T1 and UTF-8		memhfixc: Added.	981
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\@currentlabelname: Adjustment		natbib: Added.	1011
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\addcontentsline: Automatic		prettyref: Added.	1069
\LWR@newfloatanchor.	526	subfigure: Added.	1172
\chapter: Add preamble for		subfig: Fix for subcaption end	
koma-script.	407	tag.	1170
\HTMLTitle: Added.	371	subfig: Fix: Math in	
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\LWR@addformatwpaalignment: Fix		textfit: Added.	1196
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\LWR@backgroundcolor: xcolor:		Allows memoir's preloaded	
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\LWR@filestart: Add \HTMLTitle. .	411	Docs: Improved install	
Fix \HTMLAuthor.	410	instructions.	83
\LWR@listitem: Added list and		Docs: Improved MiKTeX install	
trivlist.	438	instructions.	80
LWR@nestspan: Added list and		Docs: Moved table so doesn't	
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File: <code>lwarp_mathjax.txt</code> : Allow MATHJAX inside tabbing.	315		
File: <code>lwarp_mathjax.txt</code> : Allow MATHJAX inside verse.	315		
Fix: Empty <code>sidetoc</code>	529		
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<code>\@currentHref</code> : Added.	514		
<code>\@donoparitem</code> : Modified for HTML.	436		
<code>\@item</code> : Modified for HTML.	436		
<code>\@mkLab</code> : Modified for HTML.	436		
<code>\chapter</code> : Add optional heading title for memoir.	407		
<code>\CSSFilename</code> : Improved filenames with underscores.	370		
<code>\LWR@label@createtag</code> : Fix: Labels with underscores.	508		
<code>\LWR@LwarpStart</code> : Fix: Lateximages on incorrect pages with MATHJAX.	414	v0.47	
<code>\LWR@newautoidanchor</code> : Fix: No anchor if frozen autoid.	522		
<code>\LWR@nolinkurl</code> : Fix: Underscore in URL.	517		
<code>\LWR@notmemoirloadafter</code> : Added.	210		
<code>\LWR@printpendingmpfootnotes</code> : Added.	378		
<code>\LWR@startref</code> : Fix: Labels with underscores.	511		
<code>\LWR@subhyperref</code> : Improved URLs with underscores.	515		
<code>\LWR@subhyperrefclass</code> : Improved URLs with underscores.	516		
<code>\LWR@tabledatacolumnntag</code> : Fix: Empty line between rows.	496		
<code>\LWR@url</code> : Improved URLs with underscores.	517		
<code>minipage</code> : Fix: Improper <code>\prevdepth</code>	603		
<code>\newpage</code> : Added.	621		
<code>\normalmarginpar</code> : Added.	379		
<code>\reversemarginpar</code> : Added.	379		
<code>\section</code> : Add optional heading title for memoir.	407		
<code>\tableofcontents</code> : Fix: Empty <code>sidetoc</code>	529		
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<code>thebibliography</code> : Patched to emphasize titles.	544		
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<code>amsthm</code> : Adapted to <code>trivlist</code> changes.	664		
<code>mdframed</code> : Fixes for SVG math or lateximage in title.	973		
<code>mdframed</code> : Fixes for footnotes.	974		
<code>ntheorem</code> : Adapted to <code>trivlist</code> changes.	1030		
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<code>list</code> : Fix: Stack unnesting.	439		
<code>\LWR@closeparagraph</code> : Fix: Tabular empty lines.	366		
<code>\LWR@closeprevious</code> : Fix: Stack unnesting.	351		
<code>\LWR@forcenewpage</code> : Fix: Improper <code>\prevdepth</code>	351		
<code>\LWR@lookforpackagename</code> : Fix: Spaces in <code>\usepackage</code>	251		
<code>\LWR@popclose</code> : Fix: Stack unnesting.	339		
<code>\LWR@providelength</code> : Added.	228		
<code>\LWR@pushclose</code> : Fix: Stack unnesting.	338		
<code>\LWRPrintStack</code> : Name changed from <code>\PrintStack</code>	350		
<code>tabular</code> : Fix: Tabular empty lines.	502		
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<code>adjmulticol</code> : Fix: Line wrap at HTML hyphen.	651		
<code>blowup</code> : Added.	697		
<code>caption</code> : Added.	706		
<code>change page</code> : Fix for pagecheck macros.	714		
<code>endheads</code> : Added.	778		
<code>epigraph</code> : Fix: Line wrap at HTML hyphen.	788		
<code>hanging</code> : Fix: Line wrap at HTML hyphen.	880		
<code>hang</code> : Fix: Line wrap at HTML hyphen.	878		
<code>keyfloat</code> : Fix for SVG math in captions.	910		
<code>midpage</code> : Fix: Line wrap at HTML hyphen.	987		
<code>multirow</code> : Fix: Line wrap at HTML hyphen.	1003		
<code>multitoc</code> : Added.	1005		
<code>ntheorem</code> : Fix: Line wrap at HTML hyphen.	1035		
<code>realscripts</code> : Fix: Line wrap at HTML hyphen.	1075		
<code>scrextend</code> : Fix: Line wrap at HTML hyphen.	1085		
<code>sectionbreak</code> : Added.	1094		
<code>sidenotes</code> : Fix for SVG math in captions.	1102		
<code>subfig</code> : Fix for SVG math in captions.	1168		
<code>subfig</code> : Fix: Support <code>\nameref</code>	1168		
<code>xurl</code> : Added.	1278		
<code>lwarpmk: pdfcrop</code> : Removed hires option for improved crop accuracy.	319		

<code>\captionlistentry</code> : Fix: Line wrap at HTML hyphen.	526	<code>graphics</code> : Fix: Virtual page size limited to a group.	872, 873
<code>center</code> : Fix: Line wrap at HTML hyphen.	585	<code>hyccap</code> : Added.	883
<code>enumerate</code> : Fix: Line wrap at HTML hyphen.	440	<code>hypernat</code> : Added.	883
<code>flushleft</code> : Fix: Line wrap at HTML hyphen.	586	<code>hyperref</code> : <code>\texorpdfstring</code> now uses the T _E X string.	892
<code>flushright</code> : Fix: Line wrap at HTML hyphen.	585	<code>luatodonotes</code> : Improved <code>\todotoc</code>	948
<code>\hypertoc</code> : Fix: Line wrap at HTML hyphen.	533	<code>siunitx-v2</code> : Changes fraction to symbol.	1126, 1127
<code>\hypertocfloat</code> : Fix: Line wrap at HTML hyphen.	534	<code>siunitx-v2</code> : Improved SVG math.	1123, 1125
<code>itemize</code> : Fix: Line wrap at HTML hyphen.	439	<code>siunitx-v2</code> : Improved color output.	1124
<code>lateximage</code> : Added CSS style option.	579	<code>stfloats</code> : Added.	1166
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<code>LWR@BlockClassWP</code> : Fix: Line wrap at HTML hyphen.	361	<code>vmargin</code> : Added.	1248
<code>\LWR@createautosec</code> : Fix: Line wrap at HTML hyphen.	399	<code>xfrac</code> : Fix: Added groups around super/subscripts to localize <code>LWR@nestspan</code> changes.	1270
<code>\LWR@domulticolumn</code> : Fix: Line wrap at HTML hyphen.	487	Docs: Converting an existing document.	100
<code>\LWR@floatbegin</code> : Fix: Line wrap at HTML hyphen.	520	Improved font control.	613, 614
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<code>\LWR@htmlclosecomment</code> : Add <code>\mbox</code> to prevent line breaks.	357	<code>\@@@setcref</code> : Fix for new v0.21 of <code>cleveref</code>	752
<code>\LWR@label@createtag</code> : Fix: Line wrap at HTML hyphen.	509	<code>\@@@setcrefrange</code> : Fix for new v0.21 of <code>cleveref</code>	753
<code>\LWR@LwarpStart</code> : Fix for SVG math in <code>\nameref</code>	415	<code>\@biblabel</code> : Improved bibliography label.	543
<code>\LWR@newautoidanchor</code> : Fix: Line wrap at HTML hyphen.	522	<code>\@item</code> : Honors <code>\makeLabel</code>	436
<code>\LWR@printopenlist</code> : Fix: Line wrap at HTML hyphen.	435	<code>\@maketitle</code> : Fix: Errors with IEEEtran class.	425
<code>\LWR@startref</code> : Fix: Line wrap at HTML hyphen.	510	<code>abstract</code> : Allow optional name.	427
<code>\LWR@subsingledollar</code> : Added SVG math image baseline adjust and em sizing.	558	<code>\centerline</code> : Added.	587
<code>\LWR@subsingledollarsvg</code> : Fix: Line wrap at HTML hyphen.	555	<code>\@part</code> : Adapts to classes without <code>\part</code>	534
<code>\LWR@WPcell</code> : Fix: Line wrap at HTML hyphen.	478	<code>\leftline</code> : Added.	586
<code>minipage</code> : Fix: Line wrap at HTML hyphen.	601, 602	<code>\LWR@addtabularhrulecolor</code> : <code>colortbl</code> : Added.	478
v0.48		<code>\LWR@addtabularrulecolors</code> : <code>colortbl</code> : Added.	479
General: 2018/02/14	1	<code>\LWR@closetabledatcell</code> : <code>colortbl</code> : Added.	451
<code>acronym</code> : Added.	648	<code>\LWR@lookforpackagename</code> : Fix: Parsing similar package names.	250
<code>acro</code> : Added.	646	<code>\LWR@LwarpStart</code> : Adjusted space around captions.	413
<code>chapterbib</code> : Added.	719	<code>\LWR@newautopagelabel</code> : Fix: TOC, LOF, LOT links.	380
<code>colortbl</code> : Added.	467, 478, 757	<code>\LWR@newhtmlfile</code> : Fix: TOC, LOF, LOT links.	396
<code>fancyref</code> : Now directly supported.	807	<code>\LWR@nullfonts</code> : Fix: <code>\newline</code> in title.	546
		<code>\LWR@parsedrequirepackagenames</code> : Fix: Parsing similar package names.	249

<code>\LWR@parsetablecols</code> : Fix: Ignore optional tabular column arguments.	466	<code>bytefield</code> : Added.	705
<code>\LWR@ProvidesPackageDropB</code> : Fix: Options with braces.	254	<code>dblfloatfix</code> : Added.	765
<code>\LWR@restoreorigformatting</code> : Fix: Spacing in svg math, lateximage, TikZ.	545	<code>diagbox</code> : Added.	767
<code>\LWR@section</code> : Fix: TOC, LOF, LOT links.	405	<code>epstopdf</code> : Added.	790
<code>\LWR@tabledatasinglecolumn</code> : Fix: colortbl: Added.	473	listings: Force flexible columns.	932
<code>\LWR@textcurrentfont</code> : Added. Improves font control.	614	morefloats: Added.	995
<code>\mbox</code> : Nullified for HTML.	604	nonfloat: Added.	1028
<code>\rightline</code> : Added.	587	ntheorem: Fix: Not standard nor amsthm selected.	1037
<code>tabular</code> : colortbl: Added.	501	pbox: Added.	1052
<code>\thempfootnote</code> : Removed		phfqit: Added.	1061
<code>\itshape</code>	377	schemata: Added.	1085
v0.49		siunitx-v2: Improved svg math alt tags.	1125
General: 2018/02/19	1	siunitx-v2: Improved units.	1123, 1127
amsmath: Fix: Patches for <code>\eqref</code>	658	siunitx: Fix: Loads xcolor.	1123
eso-pic: Fix for <code>\AddToShipoutPicture</code>	794	siunitx: Improved units.	590
figsize: Added.	823	xy: Added.	1278
fnlineno: Added.	836	<i>lwarpmk</i> : Error if lateximages.txt does not exist.	319
hypdestopt: Added.	883	<i>lwarpmk</i> : Error if lwarpmk.conf points to lwarp.	319
hyphenat: Added.	894	<i>lwarpmk</i> : Improved error messages.	319
lineno: Added.	929	<i>lwarpmk</i> : MD5 hash avoids duplicate svg math.	319
luacolor: Added.	945	<i>lwarpmk</i> : Multiprocess support making lateximages.	319
pagegrid: Added.	1044	AMS environments: Improved svg math display.	658
pdfrender: Added.	1058	Fix: Load fontspec if necessary.	243
resizgather: Added.	1080	Robustify macros.	614
vertbars: Added.	1248	<code>\@ensuredmath</code> : Fix: Use lateximage even if MATHJAX.	562
vwcol: Added.	1249	Improved svg math alt tags.	562
xcolor: Added tabular row colors.	467	eqnarray: Improved svg math display.	573
Fix: Adapt to classes.	621	lateximage: Fix: svg math in a section name.	582
<code>\affiliation</code> : Fix: Adapts to classes which already provide.	420	MD5 hash avoids duplicate svg math.	580, 583
<code>\LWR@addtabularcellcolor</code> : xcolor: Added tabular row colors.	481	<code>\LWR@footnotetext</code> : Robustify macros.	375
<code>\LWR@domulticolumn</code> : xcolor: Added tabular row colors.	487	<code>\LWR@atbeginverbatim</code> : Improved column alignment.	431
<code>\LWR@href</code> : Fix: Adapt to classes.	516	<code>\LWR@doequation</code> : Improved svg math display.	567
<code>\LWR@href@partsanitized</code> : Fix: Adapt to classes.	517	<code>\LWR@doubledollar</code> : Improved svg math alt tags.	560
<code>\LWR@printlength</code> : Fix: Group printlen changes.	248	Improved svg math display.	560
<code>\LWR@url</code> : Fix: Adapt to classes.	517	<code>\LWR@htmlrefsectionfilename</code> : Fix: svg math in a section name.	347
<code>\noalign</code> : Fix: <code>\noalign</code> inside tabular.	497	<code>\LWR@newhtmlfile</code> : Fix: svg math in a section name.	395
v0.50		<code>\LWR@nullfont</code> : Fix: <code>\underline</code> in sectioning file name.	548
General: 2018/03/03	1	<code>\LWR@overline</code> : Added.	618
lwarp.css: Improved svg display math centering.	275		
lwarp_one_limage.txt: Added.	315		
amsmath: Fix: Upright tags for <code>svgmath</code>	658		
axodraw2: Added.	681		

<code>\LWR@subsingledollar</code> : Fix: Use <code>lateximage</code> even if <code>MATHJAX</code> .	558	<code>alignat</code> : <code>amsmath</code> : Fix: Added.	661
Improved <code>svg math alt</code> tags.	558	<code>\displaymathnormal</code> : Processing for complicated display math.	570
<code>\LWR@subsingledollarsvg</code> : MD5 hash avoids duplicate <code>svg math</code> .	556	<code>\displaymathother</code> : Processing for complicated display math.	570
<code>\LWR@vspace</code> : Robustify macros.	624	<code>eqnarray</code> : Fix: <code>\addcontentsline</code> inside <code>svg math</code> . Provides an autoid anchor.	573
<code>\newline</code> : Robustify macros.	621	<code>lateximage</code> : Added additional hashing option.	579
<code>\textsubscript</code> : Robustify macros.	618	Fix: <code>lateximage</code> inside \mathcal{AMS} <code>\text</code> .	579
<code>\textsuperscript</code> : Robustify macros.	617	Processing for complicated display math.	582
v0.51		<code>\LWR@addbaselinemarker</code> : Improved <code>svg math baseline</code> .	551
General: 2018/03/24	1	<code>\LWR@atbeginverbatim</code> : Adds vertical offset.	431
<code>MATHJAX</code> : Nullifies <code>\ensuremath</code> .	391	<code>LWR@displaymathother</code> : Processing for complicated display math.	563
<code>lwrap_one_limage.txt</code> : <code>pdfcairo -noshrink</code> added.	315	<code>\LWR@doequation</code> : Fix: <code>\addcontentsline</code> inside <code>svg math</code> . Provides an autoid anchor.	567
<code>afterpackage</code> : No longer required.	246	<code>\LWR@doubledollar</code> : Fix: <code>\addcontentsline</code> inside <code>svg math</code> . Provides an autoid anchor.	560
<code>chemfig</code> : Added.	719	<code>LWR@equationother</code> : Processing for complicated display math.	563
<code>chemformula</code> : Added.	721	<code>\LWR@findcurrenttextcolor</code> : Added <code>\LWR@findcurrenttextcolor</code> when no <code>xcolor</code> .	618
<code>chemgreek</code> : Added.	727	<code>\LWR@HTMLsanitizeexpanded</code> : Fix: Escapes double quotes.	389
<code>chemmacros</code> : Added.	727	<code>\LWR@LwrapStart</code> : <code>MathJax</code> : Nullifies <code>\ensuremath</code> .	415
<code>chemnum</code> : Added.	748	<code>\LWR@newautoidanchor</code> : Fix: No autoid is inside a <code>lateximage</code> .	522
<code>epstopdf-base</code> : Added.	790	<code>\LWR@singledollarmeasure</code> : Fix: <code>lateximage</code> inside \mathcal{AMS} <code>\text</code> .	553
<code>fancybox</code> : Fix: Optional tag for <code>\item</code> in a span.	803	Fix: Honors text font around <code>svg math</code> .	553
<code>grid</code> : Added.	877	Improved <code>svg math baseline</code> .	554
<code>listings</code> : Forces cleared options.	933	<code>Typeset</code> <code>svg math</code> only once during measurement.	553
<code>ltxgrid</code> : Added.	944	<code>\LWR@subHTMLsanitize</code> : Fix: Escapes double quotes.	388
<code>mhchem</code> : Added.	984	<code>\LWR@subsingledollar</code> : Fix: <code>\ensuredmath</code> inside <code>svg image</code> .	558
<code>tikz</code> : Fix for <code>\tikz</code> macro.	1207	<code>\LWR@subsingledollarsvg</code> : Fix: <code>svg math</code> with enclosed <code>lateximage</code> .	555
<code>tikz</code> : Fix for <code>tikz</code> with optional argument.	1207	<code>SVG math baseline</code> improved with invisible rule at corner.	557
<code>titling</code> : Fix for <code>\thanks</code> mark.	1216		
<code>lwrapmk</code> : <code>pdfcrop</code> : Restored hires option.	319		
<code>lwrapmk</code> : <code>pdfcairo -noshrink</code> added.	319		
AMS environments: Fix: <code>\addcontentsline</code> inside <code>svg math</code> . Provides an autoid anchor.	658		
Docs: <code>tikz</code> limitations.	164		
Docs: Multiple authors and affiliations.	136		
Docs: Things to avoid.	124		
Docs: Updated Converting an existing document.	100		
Fix: Remember original <code>\#</code> in case is redefined.	265		
Named <code>HTML</code> entity used for text dollar.	551		
<code>\ensuredmath</code> : Hashes <code>\ensuremath</code> .	562		
<code>\item</code> : Restored list label space.	437		
<code>\addcontentsline</code> : Add missing support for float mechanism if necessary.	526		
No anchor ID if inside <code>svg image</code> .	526		

\LWR@textcurrentcolor: xcolor: \LWR@textcurrentcolor if xcolor not loaded.	619	\LWR@nullfonts: Fix: \texorpdfstring in section names.	548
v0.52		\LWR@section: Fix: Footnote numbering: Limited HTML comment if starred.	402
General: 2018/04/01	1	Fix: Footnote numbering: Use short toc entry for HTMLDebug comments.	402
breakurl: Fix: #, %, &, ~, _ in URL.	702	\LWR@singledollarmeasure: Added user-adjustable svg math font scaling.	554
endfloat: Updated for v2.6.	778	\LWR@url: Fix: #, %, &, ~, _ in URL.	517
fancybox: Initial support for \VerbatimFootnotes.	800	tabbing: Fix to allow inside lateximage.	433
fancyvrb: Initial support for \VerbatimFootnotes.	808	\theHTMLTitleSeparator: Fix: \FileDepth with non-utf8 encoding.	408
graphics: Added defaults.	867	v0.53	
graphics: Updated for v1.1a.	868	General: 2018/04/01	1
graphics: Updated for v1.1b.	868	lwarpmk: Added lwarpmk cleanimages.	319
hyperref: Fix: #, %, &, ~, _ in URL.	888–890	lwarpmk: Added warning for corrupted images.	319
nicefrac: Added.	1023	Docs: lwarpmk cleanimages.	97
url: Added.	1244	Docs: lwarpmk pdftohtml.	97
lwarpmk: Fix: Memory overflow when spawning tasks.	319	v0.54	
lwarpmk: Fix: Skip image generation if from page 0.	319	General: 2018/04/22	1
Changed FootnoteDepth default to \subsubsection.	373	*.lwarpmkconf: Option IndexLanguage changed to xindyLanguage.	275
Docs: Improved install instructions.	81	*.lwarpmkconf: Option pdftotextEnc added.	275
Fix: MATHJAX script line wraps. Reduced right margin.	244	*.lwarpmkconf: Option xdyFilename changed to xindyStyle.	275
If pdfLaTeX, allow other input encoding.	225	*.lwarpmkconf: Option xindyCodepage added.	275
Restore \kill in a lateximage.	942	lwarp.css: Fix: Text-decoration-skip: auto.	275
\@ensuredmath: Improved hashing expansion.	562	lwarpmk.conf: Option IndexLanguage changed to xindyLanguage.	274
\@mpfootnotetext: Fix: Paragraph handling.	377	lwarpmk.conf: Option pdftotextEnc added.	274
\CustomizeMathJax: Added.	390	lwarpmk.conf: Option xdyFilename changed to xindyStyle.	274
lateximage: Fix for hash expansion.	580	lwarpmk.conf: Option xindyCodepage added.	274
\LateximageFontScale: Added user-adjustable svg math font scaling.	576	bibunits: Added.	694
\LWR@addbaselinemarker: Warnings if lwarp_baseline_marker.png is not present or if graphicx/s not loaded.	551	chngepage: Added.	750
\LWR@customizedMathJax: Added.	390	forest: Added.	846
\LWR@doequation: Fix: equation* now based on equation instead of displaymath.	567	glossaries: Fix when not using babel or polyglossia.	864
Fix: equation* with split.	567	gridset: Added.	878
\LWR@filenamenoblanks: Fix: \FileDepth with non-utf8 encoding.	385	hyperref: Fix: \hyperref and \hyperlink with special chars in text.	890
\LWR@href: Fix: #, %, &, ~, _ in URL.	516		
\LWR@href@partsanitized: Fix: #, %, &, ~, _ in URL.	517		
\LWR@nolinkurl: Fix: #, %, &, ~, _ in URL.	517		

hyperref: Fix: \ref in \hyperref and \hyperlink caused nested link.	890	verse: Fix: Line spacing.	429
lwrap-patch-memoir: Update for v3.7g.	1288	v0.55	
magaz: Added.	952	General: 2018/04/26	1
ragged2e: Fix: \centering, etc.	1075	clrdblpg: Added.	755
textcomp: Fix for		Fix: \centering, etc. for	
\textperthousand.	1193	koma-script.	520
tikz: Fixes for \pgfpicture, minipages, fit, align, font. . .	1207	Fix: QED symbols in lateximage.	665, 1041
lwarpmk: Added pdftotextenc.	319	\@xdblfloat: Fix: Float optional args.	521
lwarpmk: Added xindycodepage.	319	\LWR@LwrapStart: Fix: Overfull boxes in lateximages.	413
lwarpmk: Changed language to xindylanguage.	319	\LWR@nullfonts: Removed extraneous space which appeared in file links.	548
lwarpmk: Changed xdyfile to xindystyle.	319	\LWR@phantomsection: Fix: \ForceHTMLTOC with \phantomsection.	627
lwarpmk: Improved error if configuration file does not exist.	319	v0.56	
lwarpmk: Increased prominence for error for an unknown command.	319	General: 2018/05/12	1
lwarpmk: Verifies HTML version exists before lwarpmk limages.	319	*.lwarpmkconf: Records	
lwarpmk: Verifies image references before lwarpmk limages.	319	--shell-escape.	275
Add: pdftotextEnc.	237	lwarp.css: Added div.textbf, etc.	275
Add: xindyCodepage.	236	lwarp.css: Added span.textbf, etc.	275
Added early check for disallowed packages.	212	lwarpmk.conf: Records	
Docs: BibTeX.	138	--shell-escape.	274
Docs: Macros in sectioning names.	124	arydshln: Added.	445, 671
Never load aecompl.	212	lua-check-hyphen: Added.	945
Option IndexLanguage changed to xindyLanguage.	236	paralist: Fixes for compactenum, compactitem, compactdesc.	1045
Option xdyFilename changed to xindyStyle.	236	parnotes: Added.	1049
\@xdblfloat: Honor \centering, etc. in floats.	521	quoting: Added.	1074
\centering: Added debug comment.	586	tocenter: Added.	1222
\LateximageFontSizeName: Defaults to normalsize.	576	underscore: Added.	1238
\LWR@afterendverbatim: Added vspace argument.	432	lwarpmk: Added	
\LWR@atbeginverbatim: Improved column alignment.	431	lwarpmk pdftosvg.	319
\LWR@endfloatalignment: Honor \centering, etc. in floats.	523	lwarpmk: Supports	
\LWR@floatalignment: Honor \centering, etc. in floats.	522	--shell-escape.	319
\LWR@floatend: Honor \centering, etc. in floats.	521	Added \thinspace.	619
\raggedleft: Added debug comment.	586	Docs: lwarpmk pdftosvg	97
\raggedright: Added debug comment.	586	\LWR@addcdashline: arydshln: Added.	477
		\LWR@addmulticolvertrulecolor: Adds support for dashed vertical rules.	484
		Adds support for double vertical rules.	484
		\LWR@addtabularhrulecolor: Adds support for arydshln dashed rules.	478
		Adds support for double \hlines and \midrules.	478
		\LWR@addtabularrulecolors: Adds support for dashed vertical rules.	479
		Adds support for double vertical rules.	479

LWR@blocktextcurrentfont: Added div.textbf, etc.	614	<i>lwarpmk</i> : Improved error handling.	319
\LWR@closeparagraph: Added support for parnotes.	365	Docs: Recompiling <i>lwarpmk</i> or css files.	195
\LWR@domulticolumn: Adds support for dashed vertical rules.	487	Docs: Recreating the index for <i>lwarp</i> source.	193
Adds support for double vertical rules.	487	New system for switching print and HTML outputs.	259
\LWR@floatbegin: Adds a <class> per float package style.	520	BlockClass: Improved print/HTML output selection.	360
\LWR@openparagraph: Added support for parnotes.	364	\BlockClassSingle: Improved print/HTML output selection.	360
\LWR@parsebarcolumn: Adds support for double vertical rules.	458	\boxframe: xcolor: Fix: Colored \boxframe.	1266
\LWR@parsecoloncolumn: arydshln: Added.	459	\colorbox: xcolor: New system for switching print and HTML outputs.	1263
\LWR@parsesemicoloncolumn: arydshln: Added.	460	\colorboxBlock: xcolor: New system for switching print and HTML outputs.	1264
\LWR@tabledatacolumn: Fix: \morecmidrules	495	\fboxBlock: Improved print/HTML output selection.	607
\LWR@textcurrentfont: Added span.textbf, etc.	614	\fcolorbox: xcolor: New system for switching print and HTML outputs.	1264
v0.57		fminipage: Improved print/HTML output selection.	607
General: 2018/06/06	1	\framebox: Improved print/HTML output selection.	605
MATHJAX: Supports \footnote, \footnotemark.	391	\InlineClass: Improved print/HTML output selection.	360
lwarp.css: Added ruled, boxed, boxruled floats.	275	\inlinemathother: Added.	342
lwarp.css: Increased float vertical margins.	275	LWR@BlockClassWP: Improved print/HTML output selection.	361
algorithm2e: Added.	652	\LWR@href: Fix: Text catcodes.	516
bigdelim: Improved print/HTML output selection.	694	\LWR@href@partsanitized: Fix: Text catcodes.	517
breakurl: Fix: Text catcodes.	702	\LWR@listof: Fix: Provide \l@name if not defined.	530
colortbl: New system for switching print and HTML outputs.	757, 758	\LWR@singledollarmeasure: Fix: Dynamic inline math expressions.	553
ellipsis: Added \midwordellipsis.	777	\LWR@subhyperref: Fix: Text catcodes.	515
errata: Added.	792	\LWR@subhyperref@sanitized: Fix: Text catcodes.	515
float: Added float styles.	828	\LWR@subhyperref@unsanitized: Fix: Text catcodes.	516
float: Fix: Do not pre-define \l@name.	828	\LWR@subsingledollar: Fix: Dynamic inline math expressions.	558
ltablex: Added.	943	\LWR@subsingledollarsvg: Fix: Dynamic inline math expressions.	556
marginnote: Fix: Long optional argument.	956	\LWR@vspace: Improved print/HTML output selection.	624
multirow: Improved print/HTML output selection.	1003	\makebox: Improved print/HTML output selection.	605
register: Added.	1077	\MathImageAltText: Added.	549
subcaption: Fix: \subref.	889		
trimclip: Added.	1232		
vowel: Added.	1249		
xellipsis: Added.	1267		
xfrac: Improved print/HTML \scalebox control.	1270		
xltabular: Added.	1271		
xpiano: Added.	1273		

<code>\mbox</code> : Improved print/HTML output selection.	604	<code>lwarp-patch-memoir</code> : Fix for <code>\specialindex</code>	1304
<code>minipage</code> : Improved print/HTML output selection.	601	<code>lwarp-patch-memoir</code> : Fix for multiple indexes.	1305
<code>\multicolumnrow</code> : <code>multirow</code> : Improved print/HTML output selection.	1004	<code>makeidx</code> : Added. Moved from <code>lwarp</code> core.	953
Improved print/HTML output selection.	492	<code>memoir</code> : Fix for <code>\firsthline</code> , <code>\lasthline</code>	493
<code>\newfloat</code> : <code>rotfloat</code> : Added float styles.	1083	<code>memoir</code> : Fix for <code>booktabs</code>	497
<code>rotfloat</code> : Fix for listof sideways floats.	1083	<code>pdfpages</code> : Added.	1056
<code>\PackageDiagramAltText</code> : Added.	550	<code>pdfx</code> : Added.	1059
<code>\parbox</code> : Improved print/HTML output selection.	604	<code>repeatindex</code> : Added.	1079
<code>\raisebox</code> : Improved print/HTML output selection.	609	<code>splitidx</code> : Added.	1150
<code>\reflectbox</code> : Improved print/HTML output selection.	876	<code>textcomp</code> : Improved print/HTML output selection.	1193
<code>\resizebox</code> : Improved print/HTML output selection.	876	<code>lwarpmk</code> : Added <code>makeindex</code> and <code>xindy</code> options.	319
<code>\rotatebox</code> : Improved print/HTML output selection.	875	<code>lwarpmk</code> : Added <code>-p</code> option for project name.	319
<code>\rule</code> : Fix: Colored rules.	625	<code>lwarpmk</code> : Added optional list of names for <code>lwarpmk printindex</code> and <code>/cmdslwarpmk htmlindex</code>	319
<code>\scalebox</code> : Improved print/HTML output selection.	875	<code>lwarpmk</code> : Glossary generation now uses <code>makeglossaries</code>	319
<code>\StartDefiningMath</code> : Added.	341	<code>lwarpmk</code> : <code>lwarpmk clean</code> removes all <code>*.ind</code> and <code>*.idx</code> files.	319
<code>\textcolor</code> : <code>xcolor</code> : New system for switching print and HTML outputs.	1263	Added <code>makeindex</code> option.	238
v0.58		Added <code>xindy</code> option.	238
General: 2018/07/07	1	Added option <code>makeindexStyle</code>	236
<code>*.lwarpmkconf</code> : Added option <code>makeindexstyle</code>	275	Docs: Index, <code>makeindex</code> , <code>imakeidx</code>	140
<code>*.lwarpmkconf</code> : Added options <code>makeindex</code> and <code>xindy</code>	275	Docs: Misplaced <code>\omit</code>	199
<code>*.lwarpmkconf</code> : Generated <code>\AtBeginDocument</code>	275	Fix: <code>memoir</code> and <code>ccaption</code>	215
<code>lwarp.xdy</code> : Requires <code>makeindex.xdy</code>	314	Improved print/HTML output selection.	620
<code>lwarp.xdy</code> : Supports bold, italic.	314	Replaced each <code>\csuse</code> with <code>\@nameuse</code> to force error if undefined.	1
<code>lwarp_html.ist</code> : Added.	313	<code>\dotfill</code> : Improved print/HTML output selection.	621
<code>lwarpmk.conf</code> : Added option <code>makeindexstyle</code>	274	<code>\hfill</code> : Improved print/HTML output selection.	621
<code>lwarpmk.conf</code> : Added options <code>makeindex</code> and <code>xindy</code>	274	<code>\hrulefill</code> : Improved print/HTML output selection.	621
<code>lwarpmk.conf</code> : Generated <code>\AtBeginDocument</code>	274	<code>\LWR@doindexentrysubsub</code> : Adds support for <code>\see</code> , <code>\seealso</code> , <code>\emph</code> , <code>\textbf</code> , etc.	540
<code>array</code> : Improved print/HTML output selection.	670	<code>\LWR@HTML@caption@begin</code> : Improved print/HTML output selection.	525
<code>attachfile2</code> : Added.	675	<code>\LWR@HTML@caption@end</code> : Improved print/HTML output selection.	525
<code>attachfile</code> : Added.	674	<code>\LWR@HTML@ref</code> : Improved print/HTML output selection.	512
<code>cases</code> : Added.	711	<code>\LWR@hyperindexrefnullified</code> : Adds support for <code>\see</code> , <code>\seealso</code> , <code>\emph</code> , <code>\textbf</code> , etc.	541
<code>imakeidx</code> : Added.	896		
<code>index</code> : Added.	900		
<code>intopdf</code> : Added.	902		
<code>lwarp-patch-komascript</code> : Modified indexing.	1281		

\LWR@hyperindexrefsubtwo: Adds support for \see, \seealso, \emph, \textbf, etc.	542	\LWR@latexmkcmd: Fix: --shell-escape with <i>latexmk</i>	270
\LWR@indexitem: Accepts optional arg for <i>repeatindex</i>	536	\LWR@writeconf: Compilation commands now preassigned by <i>lwarp</i> instead of being computed by <i>lwarpmk</i>	274
\printindex: Fix: Extra \newpage to flush pending \index writes.	953	picture: Added an alt tag.	598
tabbing: Improved print/HTML output selection.	433	v0.60	
v0.59		General: 2018/09/19	1
General: 2018/09/07	1	tabular: Improved memory management: Global boolean.	446
Slunits: Added.	1104	tabular: Improved memory management: Not using <i>xstring</i>	448
accsupp: Added.	645	2up: Added.	640
amsmath: Moved from the <i>lwarp</i> core.	658	booklet: Added.	697
asymptote: Added.	673	bophook: Added.	700
axessibility: Added.	680	diagbox: Fix for par tags.	768
breqn: Added.	702	draftfigure: Added.	771
bxpapersize: Added.	704	fancytabs: Added.	807
canoniclayout: Added.	706	fullminipage: Added.	852
chemformula: Fix for \NMR.	745	grid-system: Added.	878
draftcopy: Added.	771	layaureo: Added.	919
epstopdf-base: Improved.	790	leading: Added.	922
epstopdf: Improved.	790	listings: Fix for HTML entities.	933
fnbreak: Added.	835	listings: Fix if inside a list.	935, 937
graphics: Fix: Expand filename.	873	multirow: tabular: Improved memory management: Not using <i>xstring</i>	1003
graphics: Now works with .pdf and .eps filename extensions.	872	thumbs: Added.	1206
nccfancyhdr: Added.	1012	thumb: Added.	1206
pdftricks: Added.	1059	widows-and-orphans: Added.	1252
pst-eps: Added.	1070	\LWR@clearmidrules: tabular: Fix for midrules.	474
pstricks: Added.	1071	\LWR@parsenormalcolumn: tabular: Improved memory management: Not using <i>xstring</i>	460
units: Added support for MathJax.	1243	\LWR@tabledatasinglecolumn: tabular: Improved memory management: Not using <i>xstring</i>	472
xunicode: Added.	1276	\LWR@tabularendofline: Fix: Slowdown for long tables.	454
<i>lwarpmk</i> : Added		v0.61	
<i>lwarpmk epstopdf</i>	319	General: 2018/10/13	1
<i>lwarpmk</i> : Consolidated compiling options into <code>printlatexcmd</code> and <code>HTMLlatexcmd</code>	319	<i>lwarp.css</i> : Footnotes text align left.	275
<i>lwarpmk</i> : Double instead of single-dashed <code>--shell-escape</code> option.	319	<i>lwarp.css</i> : Minipage table and footnotes: tighter margin.	275
<i>lwarpmk</i> : Error if <code>lwarpmk.conf</code> format changed.	319	<i>chkfloat</i> : Added.	749
<i>lwarpmk</i> : Warning if operating system changed.	319	<i>cmdtrack</i> : Added.	756
Added option <code>dvipdfmx</code>	238	<i>copyrightbox</i> : Added.	761
Added option <code>dvipdfm</code>	238	<i>dprogress</i> : Added.	771
Added option <code>dvips</code>	238	<i>epsfig</i> : Added.	789
Docs: <i>lwarpmk epstopdf</i>	97	graphics: Fix: EPS for DVI L ^A T _E X.	869
File: <code>lwarp_mathjax.txt</code> : Fix: Removed chapter number from tagged non-numeric MATHJAX equations.	315	graphics: Set keys before using filename, for <i>epsfig</i>	873
File: <code>lwarp_mathjax.txt</code> : Updated to MATHJAX v2.7.4.	315	lua-visual-debug: Added.	945
\[: Fix with <code>\displaymathnormal</code>	561	pdfprivacy: Added.	1058
\LWR@addbaselinemarker: Uses .eps if DVI <i>latex</i>	551		

psfrag: Added.	1070	lwarp.css: Reduced margins in titlepage.	275
psfrag: Added.	1069	lwarp_formal.css: Fix: Font for verse.	309
pstool: Added.	1071	2in1: Added.	640
refcheck: Added.	1076	CJKutf8: Prevented unless xeCJK.	751
srcltx: Added.	1152	CJK: Prevented unless xeCJK.	751
srctex: Added.	1152	asymptote: Improved alt tags.	673
supertabular: Fix for caption w/o opt arg.	1174	bitpattern: Added.	696
thinsp: Added.	1201	calc: Fix: Required for print version.	246
threadcol: Added.	1204	chngepage: Fix: Loads lwarp-chngepage.	750
uspace: Added.	1245	ctexpatch: Added patch.	634
vpe: Added.	1249	flippdf: Added.	827
xbmks: Added.	1258	graphics: Fix: Filename expansion.	871
xtab: Fix for caption w/o opt arg.	1276	graphics: Fix: FormatWP.	869
Added HTMLLatexCmd option.	237	musicography: Added.	1006
Added PrintLatexCmd option.	237	nicefrac: Improved font control and css, honors nice, ugly.	1023
Docs: \tracinglwarp	257	notespages: Added.	1029
Docs: HTML entities.	125	octave: Added.	1042
Docs: Compiling using custom shell commands.	180	pdfcomment: Added.	1054
Docs: Fonts.	103	pdfmarginpar: Added.	1055
Docs: HTMLDebugComments	111, 257	register: Updated to v1.8.	1077
Docs: Multiple indexes.	204	rviewport: Added.	1084
Don't write configuration files if processing pstool image.	268	semantic-markup: Added.	1095
Spaces redefined \AtBeginDocument.	619	textcomp: Fix conflict with xunicode.	1195
\DeclareGraphicsExtensions: Fix: EPS for DVI L ^A T _E X.	865	tram: Added.	1231
\inlinemathnormal: Changed name from \StopDynamicMath to \inlinemathnormal.	343	twoup: Added.	1234
\inlinemathother: Changed name from \StartDynamicMath to \inlinemathother.	342	ulem: Improved compatibility with CJKulem.	1236
\lwarpsetup: Added.	235	ulem: Now works in a lateximage.	1236
\LWR@addcompilecmd: Removed spaces.	269	unitsdef: Added.	1243
\LWR@closetabledatcell: Fix: Par tags in tabular.	450	units: Improved font control and css, honors loose, tight.	1243
\LWR@HTMLLatexCmd: Added HTMLLatexCmd option.	274	xcolor: Fix: Horiz white space.	1265
Added PrintLatexCmd option.	274	xexchangebar: Added.	1267
\LWR@hyperindexrefnullified: Made robust,	541	xfrac: Improved css.	1270
\LWR@listof: Fix: newfloat lists.	530	xunicode: Fix conflict with textcomp.	1277
\LWR@opseq: Added spaces.	234	Added early checks for CJK, CJKutf8.	212
\RequirePackage: Support up to 20 packages.	251	Docs: asymptote.	166
v0.62		Docs: miktex-poppler-bin-*	84
General: 2018/11/19	1	Docs: <i>MiKTeX Console</i>	80
\textbf and related: Improved font detection.	609	Docs: Improved MiKTeX install instructions.	80
lwarp.css: Added css for xfrac, nicefrac.	275	Docs: UTF-8 locale.	183
lwarp.css: Fixed css for \textup.	275	File: lwarp_mathjax.txt: Removed inoperable siunitx extension.	315
		Logos: CSS instead of <sup>, <sub>.	627
		Logos: Fix for X ₃ TeX logo if graphics is not loaded.	627
		Logos: Improved CSS.	627

Logos: Made robust.	627	pTeX: Load upquote.	227
\partcntformat: Added for ctex.	400	pTeX: No newunicodechar.	226
\partnameformat: Added for ctex.	400	\LinkHome: Fix: Print version.	348
\colorboxBlock: xcolor: Fix: Horiz white space.	1264	\Linkhomename: Added.	347
\fcolorbox: Fix: No longer requires xifthen.	594	\LWR@atbeginverbatim: Fix for xeCJK.	431
\fcolorboxBlock: xcolor: Fix: Horiz white space.	1265	LWR@BlockClassWP: Fix for xeCJK.	361
fcolorminipage: xcolor: Fix: Horiz white space.	1266	\LWR@checkloadbefore: Added.	211
Fix: No longer requires xifthen.	595	\LWR@checkloadfilename: Added to reduce number of lwrap-* files.	250
fminipage: Fix: Horiz white space.	608	\LWR@compileuplatex: Added.	270
\InlineClass: Added optional word-processing style. Replaces \LWR@HTMLtextstyle.	360	\LWR@createautosec: Fix for xeCJK.	399
\l@chapter: Don't define if no \chapter. Fix for algorithm2e.	535	\LWR@earlyclassloadnever: Added.	212
LWR@blocktextcurrentfont: Added print version.	619	\LWR@firstoffive: Added.	230
\LWR@endofline: Extra space if optional arg.	622	\LWR@htmlclosecomment: Fix: Break ligature for luatexko.	357
\LWR@filestart: Refactored.	411	\LWR@HTMLLatexCmd: uarticle and related: Compile options.	273
\LWR@isolate: Added.	229	\LWR@isolate: Fix for xeCJK.	229
\LWR@PreloadedPackage: Added.	587	\LWR@LwrapStart: Fixes for xeCJK.	412
\LWR@ProvidesPackagePass: Fix: Unknown option error.	254	\LWR@notltjloadafter: Added more classes.	210
\LWR@textcurrentfont: Added print version.	619	Added.	210
Tracks depth to avoid nesting repeated font changes.	614	\LWR@subhtml-elementclass: Fix for xeCJK.	358
\slshape: Added.	616	v0.64	
\textup: Fixed WP span class.	611	General: 2018/12/08	1
\theHTMLSection: Added.	409	addlines: Updated to v0.3.	652
\theHTMLTitleSection: Added.	409	biblatex: Added patch for CTeX.	690
\theHTMLTitleSeparator: Refactored.	408	bsheaders: Added.	704
v0.63		gmeometric: Added.	864
General: 2018/12/03	1	marginal: Added.	955
lwrap.css: Added css for vertical writing.	275	rmpage: Added.	1081
lwrap.css: Improved css for mdframed.	275	scrpage: Fixes.	1092
amsthm, mdframed: Fix for enforced load order.	662	scrpage2: Fixes.	1090
emumitem: v3.6: Nullify \DrawEnumitemLabel.	787	scrpage2: Added.	1092
geometry: Fix for bxjs* classes.	245	uarticle and related: Improved \today.	632
mdframed: Avoid thin rules.	972	Added utarticle and related.	632
mdframed: Improved font control.	975, 976	\enskip: Made robust.	623
stfloats: Adapted to ltj* classes.	1166	\LWR@checkloadfilename: Prevented bitfield, doublespace, newthm, rplain, si.	250
xpinyin: Added.	1273	\LWR@HTMLLatexCmd: utarticle and related: Added.	273
zhlineskip: Added.	1279	\LWR@section: Support for uarticle and related.	403
Added pTeXsupport.	208	\quad: Made robust.	622
Docs: \linkhomename.	111	\quad: Made robust.	622
Docs: \sidetocname.	113	\theHTMLTitleSeparator: Added utarticle and related.	408
Fix: Default \LWR@mdfive.	225	v0.65	
Improved titles.	974, 975	General: 2018/12/22	1
pTeX: Encoding.	225	lwrap.css: Added \sishape, \textsi.	275
		lwrap.css: Improved css for page layout.	275

lwarp.css: Improved css for quotations.	275	tabular: Added support for plect.	499
lwarp.css: Siderocto left for improved \marginpars.	275	Fix: tabular*.	499
lwarp_formal.css: Siderocto left for improved \marginpars.	309	Fix: Rule color.	501
lwarp_sagebrush.css: Siderocto left for improved \marginpars.	305	\textsi: Added.	612
bounddvi: Added.	700	v0.66	
embrac: Added.	777	General: 2019/02/08	1
footnoterange: Added.	845	LWR@currentautosecpage: Fix for LOF, LOTfloat in home page.	380
gentombow: Added.	859	lwarp.css: Added niceframe.	275
geometry: Fix for bxjs* classes.	245	lwarp.css: Improved css for definition lists.	275
graphics: Added		lwarp_formal.css: Improved css for table notes.	309
\includegraphics alt key.	593, 866, 867, 869, 872	lwarp_one_limage.txt: Image directory and prefix.	315
lltjx: Added.	938	acronym: Fix for acronym in caption.	650
multicolrule: Added.	1000	acronym: No longer uses zref.	650
multicol: Added \docolaction.	1000	ar: Added.	668
plarydshln: Added.	1066	ed: Added.	776
plextarydshln: Added.	1067	extramarks: Updated to v3.10.	798
plextcolortbl: Added.	1068	fancybox: Improved HTML formatting.	801
plext: Added.	1066	fancyhdr: Updated to v3.10.	805
pxatbegshi: Added.	1072	fancyvrb: Improved HTML formatting.	814
pxeveryshi: Added.	1072	graphics: Improved HTML formatting.	872
pxftnright: Added.	1073	kotexutf: Patch for references.	634
pxjahyper: Added.	1073	memoir: Docs re: version numbers.	174
tascmac: Added.	1184	multicolrule: Updated for v1.2.	1000
versonotes: Added.	1247	nameauth: Added.	1010
Added early checks for jarticle, tarticle, and related.	212	register: Verified for v1.9.	1077
Fix for \rensuji.	632	subcaption: Added.	1167
Fix space between class and id.	361	tocbasic: Updated to v3.26a.	1219
\enskip: Changed to Unicode EN SPACE.	623	truncate: Added.	1233
LWR@figcaption: Uses <figurecaption> instead of <figcaption>.	524	zref: No longer used.	248
\LWR@hyperindexrefnullified: Added \textsi.	541	<i>lwarpmk</i> : Added	
\LWR@LwarpEnd: Improved css for page layout.	416	ImagesDirectory and ImagesName.	319
\LWR@LwarpStart: Improved css for page layout.	414	<i>lwarpmk</i> : Fix for <code>cleanImages</code>	319
\LWR@newhtmlfile: Error if duplicate file name.	394	Added early checks for colortab, epsf, hyper, picinpar, picins, sistyle, ucs.	212
Improved css for page layout.	394, 396	Added option ImagesDirectory.	236
\LWR@nullfonts: Added \textsi.	546	Added option ImagesName.	236
\LWR@PreloadedPackage: \AtBeginDocument to avoid option clashes.	587	Added support for indentfirst.	368
\LWR@restoreorigformatting: Fix: tabular*.	545	Docs: Updated Converting an existing document.	100
minipage: Refactored to later allow Japanese <t/y> argument.	601	Fix: Minipages inside multicol.	999
\quad: Changed to Unicode EM SPACE.	622	Package dates added where possible.	640
\sishape: Added \sishape.	616	Sanitize filenames.	239
		\@mpfootnotetext: Improved HTML formatting.	376
		\fbox: Fix: Removed extra space.	606
		\IgnoreMinipageWidths: Added.	600
		lateximage: Added \BaseJobname for multiple projects.	579

Improved HTML formatting.	580	\LWR@writeconf: Added	
\LinkHome: Fix: Document		ImagesDirectory and	
cross-references.	348	ImagesName.	274
\LWR@footnotetext: Improved		minipage: Honor	
HTML formatting.	375	\LWR@forceminipagefullwidth.	
\LWR@checkloadfilename:		602
Prevented colortab, epsf, hyper,		\minipagefullwidth: Made	
picinpar, picins, sistyle, ucs.	250	\global.	600
\LWR@closeparagraph: Fix:		\rotatebox: Improved HTML	
Combined span, tabular, and		formatting.	875
lateximage.	366	\rule: Improved HTML formatting.	625
Improved HTML formatting.	365	\scalebox: Improved HTML	
\LWR@closeparagraph@br:		formatting.	876
Factored.	364	tabular: Fix: Minipages inside	
\LWR@fboxstyle: Use current text		tabular.	502
color.	606	\textgreater: Made robust.	344
\LWR@filenamenoblanks: Fix:		\textless: Made robust.	344
Section names detokenized.	383	\UseMinipageWidths: Added,	600
Fix: Section names with macros.	384		
Fix: Section names with percent.	384	v0.67	
Improved file name generation.	383	General: 2019/02/23	1
Limits filename length.	386	academicons: Added.	643
\LWR@findcurrenttextcolor: Fix:		bbding: Added.	683
Color if xcolor not loaded.	618	changes: Added.	714
\LWR@htmlfileref: No longer use		color: Fix for version number.	757
zref.	507	dingbat: Added.	768
\LWR@htmlsectionfilename:		eurosym: Added.	797
Sanitize underscores.	346	fitbox: Added.	824
\LWR@hyperindexrefsubtwo: Fix:		fontawesome5: Added.	838
Long index entries.	542	fontawesome: Added.	837
\LWR@indentHTML: Added.	354	foreign: Added.	846
\LWR@lateximagedepthref: No		gloss: Added.	862
longer use zref.	507	karnaugh-map: Added.	906
\LWR@lateximagenumberref: No		marvosym: Added.	956
longer use zref.	507	multicap: Added.	998
\LWR@LwarpStart: Fix: TOC, LOF,		nomencl: Added.	1028
LOT links.	415	notes: Added.	1029
\LWR@nameref: No longer use zref.	506	pifont: Added.	1065
\LWR@nullfonts: Logos.	548	struktex: Added.	1167
\LWR@openparagraph: Improved		textcomp: Nullify in filenames.	1195
HTML formatting.	364	typicons: Added.	1235
\LWR@section: Fix: TOC, LOF, LOT		umoline: Added.	1238
links.	405	xfakebold: Added support.	550
Improved HTML formatting.	405	xfakebold: Added.	1269
\LWR@setexparray: Fix with \par.	340	xunicode: Nullify in filenames.	1277
\LWR@setref: No longer use zref.	506	AMS environments: Added	
\LWR@simplifname: Added.	382	xfakebold support.	658
\LWR@startref: No longer use zref.	510	eqnarray: xfakebold: Added	
\LWR@stoppars: Improved HTML		support.	573
formatting.	368	\FilenameNullify: Added.	549, 619
\LWR@subhtmlElementclass:		\FilenameSimplify: Added.	382, 393
Improved HTML formatting.	358	\LWR@doequation: xfakebold:	
\LWR@subhyperrefclass: Improved		Added support.	568
HTML formatting.	516	\LWR@doubledollar: xfakebold:	
\LWR@subinlineimage: Improved		Added support.	560
HTML formatting.	518	\LWR@filenamenoblanks: Improved	
\LWR@write@lwarplabel: No longer		file name generation.	383
use zref.	507	\LWR@lookforpackagename:	
		easyReview: Supported.	251
		\LWR@nullfonts: Add'l symbols.	546
		\LWR@simplifycustom: Added.	382

<code>\LWR@subsingledollar: xfakebold:</code>		<code>topcapt:</code> Added.	1231
Added support.	558	<code>xtab:</code> Fix: Clear caption after	
<code>\LWR@subsingledollarsvg:</code>		use.	1276
<code>xfakebold:</code> Added support.	556, 557	<code>fminipage:</code> Honors	
v0.68		<code>\minipagefullwidth.</code>	608
General: 2019/03/05	1	<code>\framebox:</code> Fix: Handle paren arg.	605
<code>bigfoot:</code> Added.	695	<code>\hypertoc:</code> Added support for	
<code>fnpara:</code> Added.	836	<code>tocdata.</code>	533
<code>footnotebackref:</code> Added.	845	<code>\hypertocfloat:</code> Added support for	
<code>layouts:</code> Added.	919	<code>tocdata.</code>	534
<code>listings:</code> Fix for listings v1.7.	937	<code>lateximage:</code> Fix for <i>pdftotext</i> errors	
<code>longtable:</code> Improved error		from font size change.	583
handling.	942	<code>\LWR@maybetocdata:</code> Added support	
<code>manyfoot:</code> Added.	953	for <code>tocdata.</code>	532
<code>niceframe:</code> Added.	1024	<code>\makebox:</code> Fix: Handle paren arg.	605
<code>perpage:</code> Added.	1060	<code>\multicolumnrow:</code> <code>multirow:</code> Error if	
<code>showtags:</code> Added.	1100	<code>\multirow without</code>	
<code>tablefootnote:</code> Added.	1177	<code>\mrowcell.</code>	1004
<code>threeparttablex:</code> Added.	1205	<code>tabular:</code> Error if <code>\multirow</code>	
<code>threeparttable:</code> Fix for caption		without <code>\mrowcell.</code>	499, 502, 503
type.	1204	v0.70	
<code>lwrapmk:</code> Improved error		General: 2019/04/03	1
handling if incomplete		<code>autonum:</code> Added.	678
compile.	319	<code>changelayout:</code> Added.	713
Prevented alg, algorithmic,		<code>changes:</code> Updated to v3.1.2.	714
<code>fncylab, pdfcpot.</code>	212	<code>inputtrc:</code> Added.	902
<code>\LWR@footnotetext:</code> Factored for		<code>mathtools:</code> Added.	964
multiple foot boxes.	375	<code>metalogox:</code> Added.	982
<code>\LWR@checkloadfilename:</code>		<code>metalogo:</code> Used in print mode.	982
Prevented alg, algorithmic,		<code>textcomp:</code> Fix for	
<code>fncylab, pdfcpot.</code>	250	<code>\textinterrobang.</code>	1193
<code>\LWR@printpendingfootnotes:</code>		<code>textpos:</code> Added optional arg to	
Factored for multiple footnote		<code>textblock.</code>	1197
boxes.	377	<code>xunicode:</code> Fix for	
<code>\LWR@tabular@warpprintonly:</code>		<code>\textinterrobang.</code>	1277
Added.	498	AMS environments: Refactored.	658
<code>tabular:</code> Fix: <code>\warpprintonly</code>		Ensure vector font.	226
inside <code>tabular.</code>	500	File: <code>lwrap_mathjax.txt:</code> Loads	
v0.69		<code>autoload-all.js</code> extension.	315
General: 2019/03/21	1	File: <code>lwrap_mathjax.txt:</code>	
<code>array:</code> Fix for <code>\tabularnewline.</code>	670	Updated to MATHJAX v2.7.5.	315
<code>ctable:</code> Added.	762	Logos: Improved for <code>metalogox,</code>	
<code>eqlist:</code> Added.	791	<code>lateximages.</code>	627
<code>eqparbox:</code> Added.	791	<code>\enddocument:</code> If labels changed,	
<code>ftcap:</code> Added.	851	require recompile before	
<code>graphics:</code> Warning if using scale		making images.	417
option.	867	<code>\framebox:</code> Fix: Accept long arg.	605
<code>keyfloat:</code> Updated for v2.00.	909	<code>\LWR@closeparagraph:</code> Reduced	
<code>listliketab:</code> Added.	938	underfull <code>\hbox</code> warnings.	365
<code>longtable:</code> Fix for		<code>\LWR@lookforpackagename:</code>	
<code>\tabularnewline.</code>	942	<code>changes:</code> Updated to v3.1.2.	251
<code>minitoc:</code> Added.	988	<code>\LWR@mathjaxfilename:</code> Added.	370
<code>multirow:</code> Error if <code>\multirow</code>		<code>LWR@nestspan:</code> Improved minipage,	
without <code>\mrowcell.</code>	1003	<code>\parbox</code> inside a span.	355
<code>rotating:</code> Requires <code>graphicx.</code>	1082	<code>\LWR@restoreorigformatting:</code> Fix:	
<code>supertabular:</code> Fix: Clear caption		<code>&</code> in a <code>lateximage.</code>	545
after use.	1174	<code>\makebox:</code> Fix: Accept long arg.	605
<code>tabularx:</code> Require array.	1178	Fix: Ignore width of <code>Opt.</code>	605
<code>tabulary:</code> Require array.	1178	Fix: No width given.	605
<code>tocdata:</code> Added.	1221	<code>\MathJaxFilename:</code> Added.	370

v0.71			
General: 2019/04/29	1		
caption: Reduced underfull			
\hbox warnings.	707		
chemfig: Updated to v1.4.	719		
endfloat: Updated for v2.7.	778		
lwrap-common-multimedia:			
Added.	1310		
media9: Added.	980		
movie15: Added.	997		
multimedia: Added.	1001		
textpos: Updated for v1.9.1.	1197		
<i>lwrapmk</i> : If wrong <i>lwrapmk.conf</i>			
version, or wrong OS, displays			
the print command to			
recompile.	319		
Docs: Error testing.	197		
\@mpfootnotetext: Improved HTML			
formatting.	377		
Reduced underfull \hbox			
warnings.	377		
\LWR@closeparagraph: Flush left			
captions.	365		
\LWR@closetabledatcell: Fix:			
Tabular par tags.	450		
\LWR@stoppars: Reduced underfull			
\hbox warnings.	368		
quotation: Fix: blockquotation			
tag.	428		
v0.72			
General: 2019/06/08	1		
lwrap.css: Added backnaur.	275		
lwrap.css: Removed unneeded			
support for \sishape, \textsi.	275		
backnaur: Added.	681		
boxedminipage2e: Added			
support for lateximages.	701		
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<code>\linkpreviousname: Added prev/next links.</code>	348	<code>\verbatiminput: Added print mode.</code>	432
<code>longtable: caption now optional.</code>	941	verse: Added print mode.	429
<code>\LWR@createfooter: Added \FirstPageBottom.</code>	393		
<code>\LWR@domulticolumn: Fix: Multicolumn style.</code>	486	v0.85	
<code>\LWR@excludecomment: Independent cut files.</code>	241	General: 2020/05/01	1
<code>\LWR@filenamoblanks: Fix: Dashes in filename.</code>	385	<code>idxlayout: Fixed: \AtBeginDocument for load order.</code>	895
<code>\LWR@filestart: Improved HTML title.</code>	409	<code>titlesec: pagestyles option.</code>	1211
<code>\LWR@floatbegin: Warn inside a .</code>	519	<code>url: Fixed print mode. Fix: Added print macros for fontspec.</code>	1244
<code>\LWR@forcenewautoidanchor: <par> handling.</code>	522	<code>\LWR@atbeginverbatim: Fix: Added print macros for fontspec.</code>	431
<code>\LWR@htmlsectionfilename: Fix: Sections called "Index" or "index" have -0 appended to their filenames if no prefix.</code>	346	<code>\LWR@htmlclosecomment: Fix: Added print macros for fontspec.</code>	357
<code>\LWR@LwarpEnd: Added prev/next links. Fix: No footer for EPUB.</code>	416	<code>\LWR@htmlcomment: Fix: Added print macros for fontspec.</code>	357
<code>\LWR@LwarpStart: Added prev/next links.</code>	414	<code>\LWR@htmltagc: Fix: Added print macros for fontspec.</code>	354
<code>LWR@nestspan: Issue warnings inside a span. Nullified minipage, \parbox inside a span.</code>	355		
<code>\LWR@new@Label: Removed optional args.</code>	509	v0.86	
<code>\LWR@newhtmlfile: Added prev/next links.</code>	394, 396	General: 2020/05/12	1
<code>\LWR@nullfont: Add'l symbols. Factored out redefinitions. Fix: Accents. Revised \texorpdfstring.</code>	546	<code>LWR@insidemathcomment: Added. amsmath: Added support for MATHJAX. hyperref: Adjusted emulation. nccmath: Added \displaybreak. nccmath: Fixed \nr, added starred. File: lwarp_mathjax.txt: Added support for starred macros. File: lwarp_mathjax.txt: Improved equation numbering. File: lwarp_mathjax.txt: Updated to MATHJAX v3 current.</code>	550
<code>\LWR@section: Added prev/next links. Warn inside a .</code>	405	<code>\LWR@filenamoblanks: Fix: *, (,), . in filename.</code>	384
<code>\LWR@startpars: Ignore if in lateximage.</code>	367	<code>\LWR@filestart: Error if missing file.</code>	412

<code>\LWR@href: hyperref: Adjusted emulation.</code>	516	<code>\sishape: Added FixSmallCaps to remove \LWR@print@scshape for erewhon, et. al.</code>	616
<code>\LWR@href@partsanitized: hyperref: Adjusted emulation.</code>	517	v0.88	
<code>\LWR@label@createtag: Fix: Labels in eqnarray.</code>	509	General: 2020/07/19	1
<code>\LWR@label@inmathcomment: Fix: Labels in eqnarray.</code>	508	<code>lwarp.css: Added indexheading for gindex.</code>	275
<code>\LWR@nolinkurl: hyperref: Adjusted emulation.</code>	517	<code>lwarp.css: Added tcolorbox, thmbox.</code>	275
<code>\LWR@phantomsection: hyperref: Adjusted emulation.</code>	627	<code>amsmath: Added \dotso text mode.</code>	658
<code>\LWR@startref: Fixed: \label inside lateximage.</code>	511	<code>amsthm: Requires amsmath.</code>	662
<code>\LWR@syncmathjax: Improved MATHJAX equation numbers.</code>	565	<code>caption, scrextend: Fixed \caption*.</code>	708
<code>\LWR@url: hyperref: Adjusted emulation.</code>	517	<code>cleveref, varioref: Fix for starred macros.</code>	754
<code>\textcolor: xcolor: \textcolor: Fixed for babel-french.</code>	1263	<code>fancyref: Now uses varioref which ignores page-related output.</code>	807
v0.87		<code>fbox: Added.</code>	820
General: 2020/06/03	1	<code>gindex: Added.</code>	861
<code>cancel: Now uses MATHJAX v3 extension.</code>	705	<code>hhtensor: Added.</code>	882
<code>citeref: Added.</code>	750	<code>mleftright: Added.</code>	995
<code>drftcite: Added.</code>	772	<code>pdfrender: Restored for xfakebold.</code>	1058
<code>embrac: Neutralized kerning.</code>	777	<code>shadethm: Added.</code>	1098
<code>ifpdf, ifptex: Restored to work on TL2019 and earlier.</code>	208	<code>tcolorbox: Added.</code>	1185
<code>jurabib: Added.</code>	904	<code>termcal: Added.</code>	1192
<code>mathtools: Improved \underbracket, \overbracket.</code>	965	<code>thm-listof: Added.</code>	1201
<code>mathtools: Updated starred macros.</code>	965	<code>thm-restore: Added.</code>	1202
<code>mhchem: Now uses MATHJAX v3 extension.</code>	984	<code>thmbox: Added.</code>	1202
<code>multibib: Added.</code>	998	<code>ushort: Added.</code>	1245
<code>nccmath: Updated starred, improved \underref.</code>	1013	<code>varioref: Removed page-related text.</code>	1245
<code>physics: Now uses MATHJAX v3 extension.</code>	1062	<code>xfakebold: Now works with pdfrender.</code>	1269
<code>splitbib: Added.</code>	1149	Added <code>\vdots</code> .	619
<code>statex2: \pBin exponent.</code>	1155	Added <code>LWR@texboxdepth</code> .	230
Added <code>FixSmallCaps</code> to remove <code>\LWR@print@scshape</code> for erewhon, et. al.	609	Added <code>IndexRef</code> option.	238
Docs: Updated docs to compile <code>lwarp</code> documentation.	193	Added <code>xindex</code> option.	238
File: <code>lwarp_mathjax.txt</code> : Now provides <code>\ifstar</code> , <code>\ifnextchar</code> .	315	Option <code>xindexConfig</code> added.	236
Prevented <code>csvtools</code> .	212	Prevented <code>shadethm</code> .	212
<code>\bibliography: Reverted \bibliography to original.</code>	543	<code>\@wrindex: Added support for xindex.</code>	537
<code>\LWR@checkloadfilename: Prevented csvtools.</code>	250	<code>\hrulefill: Full line <div> if not started paragraph.</code>	621
<code>\scshape: Added FixSmallCaps to remove \LWR@print@scshape for erewhon, et. al.</code>	616	<code>\hyperindexformat: Added.</code>	543
		<code>\hyperindexref: Rewritten to parse commas and ranges.</code>	541
		<code>\hyperpage: Added.</code>	543
		<code>\IndexRangeSeparator: Added.</code>	536
		<code>\LWR@absorbstar: Added.</code>	232
		<code>\LWR@checkloadfilename: Prevented shadethm.</code>	250
		<code>\LWR@doindexentry: Adapts to gindex.</code>	541
		<code>\LWR@doindexentrysub: Adapts to gindex.</code>	540
		<code>\LWR@doindexentrysubsub: Handles a range, for xindex.</code>	540

<code>\LWR@forcenewautoidanchor:</code>		<code>statmath: Fixed abcbm, uses</code>	
Inline handling.	522	<code>lwarp-common-mathjax-letters.</code>	
<code>\LWR@HTML@ref: Added MATHJAX.</code>	513	1164
<code>\LWR@hyperindexrefsbstwo: Adds</code>		<code>thm-listof: Updated to v0.72.</code>	1201
support for a range, for <i>xindex</i> .	542	<code>thm-restate: Updated to v0.72,</code>	
<code>\LWR@indexnameref: Added</code>		no changes needed.	1202
IndexRef option, refactored. . .	540	<code>thmtools: Added.</code>	1203
<code>\LWR@LetLtxMacros: Added.</code>	232	<code>txfonts: Added.</code>	1234
<code>\LWR@maybe@originewpage: Added.</code>	231	<code>upgreek: Added.</code>	1244
<code>\LWR@printchaptername:</code>		<code>lwarpmk: clean also removes</code>	
Conditionally print		<code>*. bbl</code>	319
<code>\chaptername.</code>	400	Allow preload of <code>amsmath</code> ,	
<code>\LWR@restoreMathJaxformatting:</code>		<code>amsthm, centernot.</code>	215, 632
Added.	544	AMS environments: Fix: <code><ALT></code>	
<code>\LWR@restoreorigformatting:</code>		text env name.	659
Support for MATHJAX.	545	Foreground/background hooks:	
<code>\LWR@section: Conditionally print</code>		Adapt to L ^A T _E X core changes. . .	418
<code>\chaptername.</code>	404	MATHJAX: Added <code>\protect</code> , and	
<code>\LWR@index@modifyentry: Added</code>		<code>\mathcode</code> and related.	392
support for <i>xindex</i>	537	Removed <code>\let</code> of <code>\[, \]</code>	563
<code>\nohyperpage: Added.</code>	543	<code>\@opargbegintheorem: Allow</code>	
v0.883		preload of <code>amsmath, amsthm,</code>	
General: <code>nfssect-cfr: Fixed</code>		<code>centernot.</code>	434
<code>\textsw.</code>	1020	<code>\enddocument: Adapt to L^AT_EX core</code>	
v0.89		changes.	417
General: 2020/09/03	1	<code>eqnarray: \textendash for number</code>	
accents: Added.	644	range.	573
<code>atbegshi: Adapt to L^AT_EXkernel</code>		<code>\LWR@addmathjax: TT font for</code>	
changes.	673	MATHJAX.	566
<code>caption3: Split from</code>		<code>\LWR@amsmathbodynumbered:</code>	
<code>lwarp-caption.</code>	708	<code>\textendash for number range.</code>	577
<code>caption: Adapt to v3.5.</code>	706	<code>\LWR@customizeMathJax: Print</code>	
<code>centernot: Improved.</code>	712	MATHJAX customizations with	
econometrics: Uses		typewriter font.	393
<code>lwarp-common-mathjax-letters.</code>		<code>\LWR@doubledollar: TT font for</code>	
.	774	MATHJAX.	559
<code>everyshi: Adapt to L^AT_EXkernel</code>		<code>\LWR@HTMLsanitizeexpanded: Fix:</code>	
changes.	797	Nested MATHJAX environments. . .	389
<code>everyshi: Included in L^AT_EX core.</code>	631	<code>\LWR@LwarpStart: MathJax:</code>	
<code>hepunits: Added.</code>	880	Improved info message.	415
<code>lwarp-common-mathjax-letters:</code>		<code>\LWR@patcherror: Improved</code>	
Added.	1314	message.	229
<code>lwarp-common-mathjax-newpctxmath:</code>		<code>\LWR@singledollar: TT font for</code>	
Added.	1320	MATHJAX.	561
<code>lwarp-common-mathjax-overlaysymbols:</code>		<code>\LWR@subsingledollar: TT font for</code>	
Added.	1330	MATHJAX.	558
<code>mathalpha: Added.</code>	957	v0.891	
<code>mathdesign: Added.</code>	959	General: 2020/09/22	1
<code>mathpazo: Added.</code>	961	<code>biblatex: Fixed: Back page</code>	
<code>mathptmx: Added.</code>	962	references.	691
<code>mismath: Improved math</code>		<code>bussproofs: Added.</code>	704
operators.	992	<code>caption: Improved integration. .</code>	707
<code>newpctxmath: Added.</code>	1014	<code>cmbright: Added.</code>	755
<code>newtxmath: Added.</code>	1015	<code>colonequals: Uses Unicode and</code>	
<code>newtxsf: Added.</code>	1016	<code>\mathrel.</code>	756
<code>pxfonts: Added.</code>	1072	<code>fancyvrb: Fix: BVerbatim with</code>	
<code>shuffle: Added.</code>	1100	labels.	819
<code>siunitx: Fix: MATHJAX for \tothe,</code>		<code>fourier: Added.</code>	847
<code>\raiseto.</code>	1132	<code>hyperref: Added backref,</code>	
<code>siunitx: Unicode for endash. . .</code>	1137	<code>pagebackref.</code>	884

hyperref: Fixed <code>\texorpdfstring</code> with <code>babel-french</code>	892	<code>\LWR@atbeginverbatim</code> : Fix for <code>verbatim</code> , <code>alltt</code> with lists	431
<code>kpfonts-otf</code> : Added.	917	<code>\LWR@checkloadfilename</code> : Prevented <code>libgreek</code>	250
<code>kpfonts</code> : Added.	916	<code>\LWR@excludacomment</code> : Error if nested comment.	241
<code>libertinustlmath</code> : Added.	923	<code>\LWR@HTMLsanitize@tmpb</code> : Neutralized quotes.	388
listings: Fix for MATHJAX: Moved <code>\LWR@forcenewpage</code> to start.	933, 935	<code>\verb</code> : <code>\verb</code> as class <code>texttt</code>	430
listings: Improved HTML sanitizing.	933	v0.892	
listings: Improved spacing around ampersand.	933	General: 2020/10/07	1
<code>lwrap-common-mathjax-newpctxmath</code> : Expanded for <code>kpfonts</code>	1321–1323, 1327	<code>fancyvrb</code> : Provided <code>\FV@FrameFillLine</code>	818
<code>lwrap-common-mathjax-newpctxmath</code> : Factored non-UNICODE.	1322, 1323, 1325	<code>fourier</code> : Added <code>\left/\right</code> support in <code>lwrap_mathjax.txt</code>	848
<code>lwrap-common-mathjax-newpctxmath</code> : Reverse factored out Greek, non-UNICODE.	1320	<code>fvextra</code> : Added.	853
<code>lwrap-common-mathjax-nonunicode</code> : Added.	1327	<code>graphics</code> : Fix path from kernel change.	873
<code>mathdesign</code> : Added <code>\mathinner</code> , <code>\mathbin</code>	960	<code>libertinustlmath</code> : Added <code>\left/</code> / <code>\right</code> support in <code>lwrap_mathjax.txt</code>	924
<code>mathdesign</code> : Added <code>\mathop</code>	960	<code>lineno</code> : Fix for <code>internallinenumbers*</code>	929
<code>mathdesign</code> : Added <code>\mathrel</code> , <code>\mathord</code>	959	<code>lwrap-common-mathjax-newpctxmath</code> : Added <code>\left/\right</code> support in <code>lwrap_mathjax.txt</code>	1320, 1325
<code>mathdesign</code> : Honors <code>greekuppercase</code> , <code>greeklowercase</code>	959	<code>minted</code> : Added.	988
<code>mathdots</code> : Added more macros, <code>\mathinner</code>	960	<code>unicode-math</code> : Added MATHJAX support for <code>\left/\right</code>	1241
<code>mathfixs</code> : Added <code>\mathinner</code>	961	File: <code>lwrap_mathjax.txt</code> : Added <code>\left/\right</code> delimiters.	315
<code>mathpazo</code> : Honors <code>slantedGreek</code>	961	<code>\fcolorbox</code> : <code>xcolor</code> : Fixed second optional arg.	1264
<code>mathptmx</code> : Honors <code>slantedGreek</code>	962	<code>\fcolorboxBlock</code> : <code>xcolor</code> : Fixed second optional arg.	1265
<code>mathtools</code> : Improved <code>\underbracket</code> , <code>\overbracket</code>	965	<code>fcolorminipage</code> : <code>xcolor</code> : Fixed second optional arg.	1266
<code>multiobjective</code> : Improved.	1001	<code>\LWR@subhtmlclass</code> : Ignore empty class.	358
<code>newpctxmath</code> : Honors <code>uprightGreek</code> , <code>slantedGreek</code>	1014, 1016	v0.893	
<code>newtxmath</code> : Honors <code>uprightGreek</code> , <code>slantedGreek</code>	1015	General: 2020/11/26	1
<code>nicefrac</code> : Added <code>\mathinner</code> , improved fraction.	1024	MATHJAX: Added <code>\mathnormal</code>	391
<code>scalerel</code> : Added.	1084	<code>lwrap.css</code> : Added <code>keystroke</code>	275
<code>shuffle</code> : Added <code>\mathbin</code> , improved bar.	1101	<code>braket</code> : Now uses MATHJAX extension.	701
<code>txgreek</code> s: Added.	1234	<code>caption3</code> : Updated date to v2.2e.	708
<code>unicode-math</code> : Added <code>sans-style</code>	1240	<code>caption</code> : Updated date to v3.5g.	706
<code>units</code> : Added <code>\mathinner</code> , improved fraction.	1243	<code>epstopdf-base</code> : Updated date to v2.11.	790
File: <code>lwrap_mathjax.txt</code> : Renamed <code>tagformat</code> extension.	315	<code>epstopdf</code> : Updated date to v2.11.	790
Prevented <code>libgreek</code>	212	<code>esvect</code> : Added.	794
		<code>fixmath</code> : Added.	824
		<code>graphics</code> : Updated date to v1.4c.	865
		<code>graphicx</code> : Updated date to v1.2b.	877
		<code>keystroke</code> : Added.	914
		<code>lwrap-common-mathjax-letters</code> : Added <code>\varbeta</code>	1314
		<code>mathastext</code> : Added.	957
		<code>mathspec</code> : Added.	962

menukeys: Added.	981	amsmath: Added \Hat, etc.. . . .	661
menukeys: Updated to v1.6.1. . .	981	changes: Updated to v4.0.1. . . .	714
picinpar: Added.	1064	epsfig: Supports lateximage. . . .	789
plimsoll: Added.	1068	epsf: Added.	789
pstricks: Fixed pspicture*. . . .	1071	fancyhdr: Updated to v4.0.	805
repltext: Added.	1080	fancyvrb: Improved HTML	
schemata: Added <alt> text. . . .	1085	quotes.	815
selectp: Added.	1095	imprnattypo: Added.	900
seqsplit: Added.	1096	isomath: Added.	903
simplebnf: Added.	1103	isotope: Added.	903
statistics: Added.	1159	libertinus1math: MATHJAX: Fixed	
struktex: Removed package		for Greek, ignoring sans.	924
date.	1167	lpic: Added.	943
svg: Updated date to v2.02j. . . .	1175	luavlna: Added.	950
swfigure: Added.	1175	mattens: Added.	968
tikz: Fixed font macros.	1207	maybemath: Added.	969
tocloft: Fix:		mdwmath: Added.	978
\cftpagenumbersoff,		multirow: Allow \par.	1004
\cftpagenumberon.	1226	multirow: Improved HTML	
Allowed picinpar.	212	quotes.	1003
\LWR@checkloadfilename: Allowed		pinlabel: Added.	1066
picinpar.	250	rlepsz: Added.	1081
\LWR@expandableformatted:		rotating: Supports lateximage. . . .	1082
Improved error handling.	261	siunitx, MATHJAX: Scientific	
\LWR@expandableformattedenv:		notation.	1135
Improved error handling.	261	siunitx, MATHJAX: \num sci	
\LWR@formatted: Improved error		notation, multiples, +-,	
handling.	260	decimals, comma.	1133
\LWR@formatted@checkendname:		siunitx: Fix: MATHJAX for \ang.	1133
Added.	260	siunitx: MATHJAX: \SI prefix	
\LWR@formatted@checkname:		parsing.	1136
Added.	260	skmath: Added.	1141
\LWR@formattedenv: Improved		tensor: Added MATHJAX.	1190
error handling.	261	tikz-image\labels: Added.	1208
\LWR@htmlcomment: Disabled in		xevlna: Added.	1268
math mode.	357	Allowed epsf.	212
\LWR@HTMLsanitize@tmpb:		File: lwarp_mathjax.txt: Added	
Optionally neutralized quotes. . . .	388	\ifblank, \ifstrequal	
v0.894		macros.	315
General: 2020/12/24	1	Fixed libertinus-otf	
MATHJAX: Accept starred		\textquotedbl kern.	265
\hspace.	391	Improved HTML quotes. 264, 352,	
MATHJAX: Added \arabic,		656, 871,	
\number, \noalign.	391	872, 878, 888, 889, 935, 972, 1035	
lwarp.css: TEX logos no longer		Use kpfonts-otf if LuaLATEX,	
below baseline.	275	XeLATEX.	227
booktabs: MATHJAX: Absorb		enumerate: Improved HTML quotes. . . .	440
\cmidrule trim arg.	700	\hspace: Improved HTML quotes. . . .	623
colortbl: Added MATHJAX		itemize: Improved HTML quotes. . . .	439
emulation.	760	lateximage: Improved HTML	
nicematrix: Added.	1024	quotes.	580
rmathbr: Updated to v1.1.	1081	\LWR@addlinktitle: Improved	
\LWR@forceSVGmessage: Improved		HTML quotes.	510
MATHJAX warnings.	637	\LWR@checkloadfilename: kpfonts	
\LWR@mathjaxwarn: Improved		load before lwarp.	250
MATHJAX warnings.	637	Allowed epsf.	250
v0.895		\LWR@domulticolumn: Improved	
General: 2021/02/18	1	HTML quotes.	486, 487
acro: Updated to v3.5.	646	\LWR@floatbegin: Improved HTML	
amscdx: Added.	657	quotes.	520

<code>\LWR@forcenewautoidanchor:</code>		<code>chemfig</code> : Updated to v1.6a. 719, 720
Improved HTML quotes.	522	<code>citeref</code> : Improved refs: <code>\ref</code> to <code>\LWR@refwithsection</code>
<code>\LWR@forceSVGmessage</code> : Improved		<code>\LWR@refwithsection</code>
MATHJAX warning.	637	<code>classicthesis</code> : Added.
<code>\LWR@hook@processingtags</code> :		<code>cleveref</code> : Undo memoir changes. 755
Added.	353	<code>cleveref</code> : Undo subfig changes. . 755
<code>\LWR@label@subcreatetag</code> :		<code>enotez</code> : Added.
Improved HTML quotes.	508	<code>fancybox</code> : Fix: autopage references in footnotes.
<code>\LWR@mathjaxwarn</code> : Added MATHJAX		<code>floatflt</code> : Added ARIA role.
warnings for aligned-overset,		<code>hyperref</code> : Fix: Added <code>*autorefname</code> macros.
<code>autoalign</code> , <code>boldtensors</code> ,		<code>hyperref</code> : Fix: No <code>\hyperlink</code> in HTML comment.
<code>liberitinus1math</code> , <code>tensind</code>	637	<code>hyperxmp</code> : Added keys.
Improved MATHJAX warning for		<code>keyfloat</code> : Added ARIA role. 913, 914
<code>unicode-math</code>	637	<code>listings</code> : Escapes accepted but disabled.
<code>\LWR@maybenewtablerow</code> : Improved		<code>listings</code> : Fix: Labels.
HTML quotes.	469, 470	<code>lwrap-patch-memoir</code> : Added ARIA role.
<code>\LWR@printatbang</code> : Improved HTML		<code>natbib</code> : Fix: Citation references.. 1011
quotes.	470	<code>ntheorem</code> : Intersperse footnotes.
<code>\LWR@printopenlist</code> : Improved		<code>orcidlink</code> : Added.
HTML quotes.	435	<code>parnotes</code> : Added ARIA role. . . .
<code>\LWR@startref</code> : Improved HTML		<code>pdfscape</code> : Fix: Added landscape.
quotes.	510, 511	<code>picinpar</code> : Added ARIA role. . . .
<code>\LWR@subaddtabularcellcolor</code> :		<code>scrlayer-scrpage</code> : Added <code>\automark</code> , <code>\manualmark</code> . . .
Improved HTML quotes.	481	<code>scrlayer-scrpage</code> : Added <code>\headmark</code> , <code>\pagemark</code>
<code>\LWR@subhyperref</code> : Improved HTML		<code>theorem</code> : Intersperse footnotes.
quotes.	515	<code>threeparttable</code> : Fix: <code>\TPTL@tnotex</code> if not referrable.
<code>\LWR@subhyperrefclass</code> : Improved		<code>tocloft</code> : Fix: <code>\cftpagenumbersoff</code> , <code>\cftpagenumberson</code> with memoir.
HTML quotes.	516	<code>wrapfig</code> : Added ARIA role. . . .
<code>\LWR@subinlineimage</code> : Improved		Docs: Theorem references. . . .
HTML quotes.	518	Fix: autopage references in footnotes.
<code>\LWR@tabledatasinglecolumnntag</code> :		Stack 19 deep.
Improved HTML quotes.	472	<code>\@begintheorem</code> : Intersperse footnotes.
<code>\LWR@tdaddstyle</code> : Improved HTML		<code>\@currentHref</code> : backref: Improved back refs.
quotes.	475	<code>\@endtheorem</code> : Intersperse footnotes.
<code>\LWR@tdendstyles</code> : Improved HTML		<code>BlockClass</code> : Added ARIA role. . . .
quotes.	476	<code>center</code> : Spurrious space in a <code></code>
<code>minipage</code> : Improved HTML		<code>description</code> : Fix: Footnotes inside description label.
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<code>\rotatebox</code> : Improved HTML		
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<code>\rule</code> : Improved HTML quotes. 625, 626		
<code>\scalebox</code> : Improved HTML quotes. 876		
<code>\verb</code> : Improved HTML quotes. . . 430		
v0.896		
General: 2021/04/08	1	
<code>lwrap.css</code> : Added <code><main></code> ,		
adjusted <code><sidetoccontainer></code>		
margin.	275	
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<code>amsthm</code> : Improved back		
refs.	664, 666	
<code>amsthm</code> : Intersperse		
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<code>backref</code> : Improved backrefs. . . .	682	
<code>biblatex</code> : Fix: Back references. . 691		
<code>biblatex</code> : Fix: Citation references. 691		
<code>biblatex</code> : Improved refs: <code>\ref</code> to <code>\LWR@refwithsection</code>	691	
<code>bigdelim</code> : Updated to v2.8.	694	
<code>ccicons</code> : Added.	711	

flushright: Spurious space in a	585	\LWR@subsingledollarsvg: Added ARIA role.	556
lateximage: Added ARIA role.	579, 583	\LWR@synconenotename: Fix: MATHJAX: Footnote names.	569
\LWR@footnotetext: Fix: autopage references in footnotes.	375	\LWR@write@LwarpLabel: Added \LWR@currentautosecpage.	507
\LWR@printpendingfootnotes: Added ARIA role.	377	\LWRPrintStack: Stack 19 deep.	350
Fix: Backref to footnote.	377	\marginpar: Added ARIA role.	378
LWR@BlockClassWP: Added ARIA role.	361	\marginparBlock: Added ARIA role.	379
\LWR@currentautosecpageref: Added.	507	\mbox: Added a group.	604
LWR@displaymathother: Added ARIA role.	563	minipage: Improved back refs.	602
\LWR@doequation: Added ARIA role.	567	\RequirePackage: Warn if package option has braces.	252
\LWR@doubledollar: Added ARIA role.	560	v0.897	
Fix: Displaymath notes with MATHJAX.	559	General: 2021/05/24	1
LWR@equationother: Added ARIA role.	563	centerlastline: Added.	712
\LWR@firstoffive: Changed to firstoffive instead of four.	230	decorule: Added.	766
\LWR@htmldivclass: Added ARIA role.	359	fancypar: Added.	806
\LWR@htmlclass: Added ARIA role.	358	fixme: Modified \AtBeginDocument.	825
\LWR@htmlspanclass: Added ARIA role.	356	float: Improved compatibility with newfloat, keyfloat.	829
\LWR@lateximage@oneimage: Added ARIA role.	578	froufrou: Added.	850
\LWR@lateximage@oneimageb: Added ARIA role.	578	pbalance: Added.	1052
\LWR@LwarpEnd: Added <main>.	416	siunitx-v2: Do not use math mode.	1124
Fix: Footnotes at end of document.	416	siunitx-v2: Rollback for v2.	1123
\LWR@LwarpStart: Added <main>.	414	siunitx: Rollback for v2.	590, 1112
LWR@nestspan: Issue BlockClassWP warning inside a span.	355	\LWR@afterloadnever: Refactored.	211
\LWR@new@Label: Revert to a simple \newcommand*.	509	\LWR@checkloadfilename: Refactored.	250
\LWR@newautopagelabel: Fix: Refs if page changed.	380	\LWR@checkloadnever: Refactored.	214
\LWR@newhtmlfile: Added <main>.	394, 396	\LWR@checkloadnevers: Refactored.	212
\LWR@null@newautopagelabel: Fix: Refs in footnotes.	381	\LWR@earlyclassloadnever: Replacements now optional.	212
\LWR@nullfonts: Added ARIA role.	548	\LWR@earlyloadnever: Refactored.	211
Added groups.	548	\LWR@listof: Improved compatibility with newfloat, keyfloat.	530
\LWR@popclose: Stack 19 deep.	339	\LWR@loadnever: Replacements now optional.	211
\LWR@printpendingmpfootnotes: Added ARIA role.	378	\RequirePackage: Fixed warning.	252
\LWR@pushclose: Error if stack overflow.	339	v0.898	
Stack 19 deep.	338	General: 2021/05/29	1
\LWR@refwithsection: Added.	512	listings: Reduced underfull \hbox warnings.	934
\LWR@subhtmlclass: Added ARIA role.	358	wrapfig: Improved integration with keyfloat.	1254
\LWR@subinlineimage: Added ARIA role.	518	Reduced underfull \hbox warnings.	872
		lateximage: Reduced underfull \hbox warnings.	580
		\LWR@atbeginverbatim: Reduced underfull \hbox warnings.	431
		\LWR@beginhideamsmath: Reduced underfull \hbox warnings.	571
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\LRW@hidelatexequation: Reduced underfull \hbox warnings.	565	\LRW@formatted@checkendname: Improved error handling.	260
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General: 2021/06/29	1	\LRW@modifycolumnntype: Improved \newcolumnntype emulation.	463
lwarp.css: Improved multicol.	275	\LRW@parseaftercolumn: Error if math in column specifier.	458
graphics: Supports keepaspectratio.	867, 873	\LRW@parsebeforecolumn: Error if math in column specifier.	457
keyfloat: Fix: lw w/ h.	910	Tabular cell text alignment.	457
lwarpmk: Warn if lwarp package not detected.	319	\LRW@parsenormalcolumn: Improved \newcolumnntype emulation.	460
\LRW@LwarpStart: Warn if lwarp package not detected.	414	\LRW@parsetablecols: Improved \newcolumnntype emulation.	467
v0.900		\LRW@printmccoldata: Improved \newcolumnntype emulation.	483
General: 2021/07/17	1	\LRW@printmccoltype: Improved \newcolumnntype emulation.	482
changes: Updated to v4.2.1.	714	\LRW@tabledatasinglecolumnntag: Tabular cell text alignment.	472
froufrou: Updated to v1.4.0.	850	warpsvg: Added.	243
lipsum: Added.	932	v0.902	
Fix: alignat with MATHJAX.	658	General: 2021/10/01	1
Fix: flalign name.	679	lwarp.css: Added textnormal.	275
\LRW@addmathjax: Fix: alignat with MATHJAX.	566	lwarp.css: Added beamerarticle.	275
\LRW@filestart: Spurious space.	412	lwarp.css: Centered <div> author.	275
v0.901		amsthm: Fixed empty theoremendmark	666
General: 2021/08/27	1	beamerarticle: Added.	687
lwarp.css: Improved captions.	275	fancybox: Improved footnote par tags.	801
lwarp.css: Tabular cell text alignment.	275	fancyvrb: Improved footnote par tags.	814, 815
array: Fixed if array already loaded.	670	footnote: Fixed missing number.	844
array: Improved \newcolumnntype emulation.	670	footnote: Improved par tags.	843, 844
array: Now required.	631	luatexko: Removed deprecated <rb>.	946
centernot: Now uses MATHJAX 3.2 package.	712	luatexko: Updated to v3.3.	946
dcolumn: Works inside lateximage.	766	memoir: Fixed \memorigpar.	1293
gensymb: Use MATHJAX 3.2 package.	859	multimedia: Added \hyperlinksound, \hyperlinkmute.	1001
keyfloat: More room.	913	sympytex: Improved sympyblock.	1176
lltjp-tascmac: Added.	940	xetexko: Updated to v4.0.	1268
mathtools: Uses MATHJAX 3.2 package.	965	xpinyin: Removed deprecated <rb>.	1274
mwe: Added.	1009	Fixed: Footnotes inside square brackets.	374
nicematrix: Added \Hline.	1026	Forbid beamer.	215
siunitx-v2: Improved \newcolumnntype emulation.	1123	Improved footnote par tags.	374
tabularx: Improved \newcolumnntype emulation.	1178	Improved footnotes.	601
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textcomp: Uses MathJax 3.2 package.	1196	MATHJAX: Added std. intl. symbols.	392
upgreek: Use MATHJAX package.	1244		
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\HTMLnewcolumnntype: Improved \newcolumnntype emulation.	464		
\LRW@checkmathcolpar: Error if math in column specifier.	457		

<code>\@makefn</code> text: Fixed: Footnotes inside square brackets.	374	<code>siunitx</code> : MATHJAX: Improved <code>\SIlist</code>	1137
<code>\@mpfootnotetext</code> : Improved par tags.	376, 377	<code>siunitx</code> : MATHJAX: Improved <code>\numlist</code>	1136
description: Improved footnotes.	440	<code>todo</code> : Fix if no <code>cleveref</code>	1229
<code>lateximage</code> : Improved footnotes.	582	<code>wrapfig2</code> : Added.	1256
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<code>\LWR@footnotetext</code> : Improved footnote par tags.	375	<code>xcolor</code> : Par handling.	1261
<code>\LWR@closeparagraph</code> : Improved parnotes.	365	<code>lwarpmk</code> : Error if <code>pdftotext</code> not available.	319
<code>\LWR@nameref</code> : Nullify footnotes in <code>\nameref</code>	506	Docs: Math images.	90
<code>\LWR@openparagraph</code> : Improved parnotes.	364	Docs: Now using <code>\NewCommandCopy</code> , <code>xparse</code> OK.	257
Improved par tags.	364	Now uses <code>\IfPackageLoadedTF</code> , etc.	1
<code>\LWR@restoreorigformatting</code> : Improved minipage footnotes.	545	Par handling.	363, 366
<code>\maketitle</code> : Now named <code>\LWR@maketitle</code> to avoid being overwritten later.	424	<code>\@ensuredmath</code> : Improved math sanitization.	562
minipage: Improved footnotes.	603	<code>BlockClass</code> : Now using <code>\NewCommandCopy</code>	360
<code>\textnormal</code> : Reduce nested spans.	613	<code>\csNewCommandCopycs</code> : Added.	229
v0.903		<code>fcolorminipage</code> : Now using <code>\NewCommandCopy</code>	595
General: 2022/02/01	1	<code>fminipage</code> : Now using <code>\NewCommandCopy</code>	607
<code>lwarp.css</code> : Improved pars in lists.	275	<code>\InlineClass</code> : Now using <code>\NewCommandCopy</code>	360
<code>Slunits</code> : Improved alt tag sanitization.	1105	<code>LWR@BlockClassWP</code> : Now using <code>\NewCommandCopy</code>	361
<code>chemformula</code> : Improved alt tag sanitization.	722, 724	<code>\LWR@checkloadnevers</code> : Alternative for <code>cellspace</code>	213
<code>chemmacros</code> : Improved alt tag sanitization.	729, 737, 741, 746, 985	<code>\LWR@closeparagraph</code> : Par handling.	365
<code>color</code> : Par handling.	757	<code>\LWR@closeparagraph@br</code> : Par handling.	364
<code>cuted</code> : Updated to v2.0.	764	<code>\LWR@doubledollar</code> : Improved alt tag sanitization.	560
<code>endnotes</code> : Nullify endnotes.	780	Improved math sanitization.	560
<code>etoolbox</code> : Patch for <code>\NewCommandCopy</code>	209	<code>\LWR@expandableformatted</code> : Now using <code>\NewCommandCopy</code>	261
<code>fancybox</code> : Par handling.	803	<code>\LWR@expandableformattedenv</code> : Now using <code>\NewCommandCopy</code>	261
<code>fancybox</code> : Sanitize verbatim.	804	<code>\LWR@formatted</code> : Now using <code>\NewCommandCopy</code>	260
<code>fancybox</code> : Warn if span.	803	<code>\LWR@formattedenv</code> : Now using <code>\NewCommandCopy</code>	261
<code>flushend</code> : Updated to v4.0.	835	<code>\LWR@futurenonspacel</code> : Now ignores <code>\par</code>	445
<code>graphics</code> : alt now in <code>graphicx</code> core.	593, 869	<code>\LWR@HTMLLatexCmd</code> : Allow transparency.	273
<code>mathalpha</code> : Updated for v1.14+.	957	<code>\LWR@HTMLsanitizedetokenized</code> : Added.	389
<code>mhchem</code> : Improved alt tag sanitization.	984	<code>\LWR@itemizeitem</code> : Par handling.	439
<code>minted</code> : Updated to v2.6.	988	<code>\LWR@listitem</code> : Par handling.	438
<code>multirow</code> : Par handling.	1004	<code>\LWR@LwarpStart</code> : Par handling.	414
<code>nccf</code> oots: Nullify footnotes.	1012	<code>LWR@nestspan</code> : Par handling.	355
<code>parnotes</code> : Fixed if no <code>cleveref</code>	1051	<code>\LWR@nullifyfootnotes</code> : Added.	378
<code>parnotes</code> : Nullify footnotes.	1051	<code>\LWR@openparagraph</code> : Par handling.	364
<code>parnotes</code> : Par handling.	1050, 1051		
<code>showlabels</code> : Added.	1099		
<code>siunitx-v2</code> : Improved alt tag sanitization.	1125, 1126		
<code>siunitx</code> , MATHJAX: Improved decimal commas.	1133, 1134, 1136		
<code>siunitx</code> , MATHJAX: Leading zero.	1133		
<code>siunitx</code> : Improved <code>\per</code>	1138		

\LWR@refwithsection: Fixed: Ref undefined or w/o label.	512	\LWR@fontfortags: Improved font control.	343
\LWR@restoreorigformatting: Par handling.	545	\LWR@htmltagc: Improved font control.	354
\LWR@section: Add: Sectioning HTML comment divider.	402	\LWR@textcurrentfont: Uses textnormal if possible.	614
Fix: Nullify footnotes in HTML comment.	402	\textnormal: Improved.	613
\LWR@setexparray: Par handling.	340	v0.904a	
\LWR@singledollar: Improved alt tag sanitization.	561	General: 2022/03/16	1
\LWR@startpars: Par handling.	367	Fixed missing common-mathjax-siunitx.	1
\LWR@stoppars: Par handling.	367	v0.905	
\LWR@subsingledollar: Improved math sanitization.	559	General: 2022/03/22	1
\NewEnvironmentCopy: Added.	229	acronym: Add hyperlinks.	650
tabbing: Converted to env.	433	acronym: Improved pars.	650
tabular: Par handling.	500	acronym: Updated to v1.47.	648
verbatim: Added verbatim*.	432	cases: Removed microtype bug fix.	711
v0.904		hyperref: Fix: No HTML tags if math mode.	891
General: 2022/03/09	1	imakeidx: Label after file write.	898
array: Improved W and w processing.	670	lwrap-patch-memoir: Label after file write.	1304
cancel: Now \LWR@formatted.	705	Added last of three, four.	230
caption: Added \captiontext.	707	Label after file write.	1151
chemmacros: Accept lwrap version of pkgs.	728	\@wrindex: Label after file write.	538
chemmacros: Nullify hyperref detection.	728	\listoffigures: Disable \ref and CJK pinyin in toc, etc.	530
common-mathjax-siunitx: Factored from siunitx-v2.	1132	\listoftables: Disable \ref and CJK pinyin in toc, etc.	530
fbox: Added border colors.	821	\LWR@LwrapEnd: Fixed \LWR@LwrapEnd hook order.	631
hyperref: Added \HyperDest*.	888	\LWR@myshorttoc: Disable \ref and CJK pinyin in toc, etc.	528
hyperref: Added \hyperget.	888	\tableofcontents: Disable \ref and CJK pinyin in toc, etc.	529
lltjp-siunitx: Added.	939	v0.906	
multicol: Added \newcolumn.	999	General: 2022/06/23	1
siunitx-v2, MATHJAX: Use range-phrase.	1132	lwrap_one_limage.txt: Added pdfcrop margin.	315
siunitx-v2: Improved range phrase.	1131	chemmacros: \chemprime \LWR@formatted.	731
siunitx-v2: Updated to v2.8e.	1123	unitsdef: \LWR@formatted.	1243
siunitx, MATHJAX: Fixed \pm.	1134	lwrapmk: Added pdfcrop margin.	319
siunitx, MATHJAX: Split by x before e.	1135	Added aria-hidden.	447
siunitx, MATHJAX: Use range-phrase.	1121, 1137	Added \theMathJaxsection, etc.	570
siunitx: Added v3.	590, 1112	Docs: Math in custom environments.	153
wrapfig2: Update to v5.0.	1256	Used \LWR@formatted for more items.	619
File: lwrap_mathjax.txt: Added \gsub macro.	315	\enskip: \LWR@formatted.	623
File: lwrap_mathjax.txt: Defaults to svg instead of CHTML.	315	\hspace: \LWR@formatted.	623
Warn if & outside tabular.	342	\LWR@HTML@ref: Added \Ref.	512
\fcolorboxBlock: xcolor: Added optional HTML style.	1265	\LWR@HTML@cline: Fix: \cline at end of tabular.	498
\HTMLentity: Improved font control.	344	\LWR@maybenewtablerow: Added aria-hidden.	469
\HTMLnewcolumnstype: Added optional arg.	464	Removed final empty row if no border.	468

\LWR@section: Improved HTML comment divider.	402	lwrap-patch-memoir: Updated to v3.8.1	1304
\LWR@tabledatacolumnstag: Added aria-hidden.	494	memoir: Fixed for new L ^A T _E X labels.	1285
\qqquad: \LWR@formatted.	622	nameref: Allow load before lwrap.	587, 597, 1010
\quad: \LWR@formatted.	622	tcolorbox: Updated to v6.0.4	1188
tabbing: Used \LWR@formatted for more items.	433	\label: Detokenize	
tabular: Add empty header.	500	\@currentnameLabel while writing.	597
Added aria-hidden.	499, 503	\LWR@edeffirstoffive: Added.	230
v0.907		\LWR@fboxstyle: Fixed with tracing on.	606
General: 2022/07/11	1	\LWR@filestart: Removed IE 9 shim patch.	411
lwrap_one_limage.txt: Fixed		\LWR@htmlspanclass: Fixed with tracing on.	356
WINDOWS images.	315	\LWR@indexnameref@cref: Fixed for new L ^A T _E X labels.	539
v0.908		\LWR@indexnameref@crefnameref: Fixed for new L ^A T _E X labels.	539
General: 2022/07/13	1	\LWR@indexnameref@refnameref: Fixed for new L ^A T _E X labels.	538
\LWR@startref: Fixed reference expansion.	511	\LWR@refwithsection: Fixed back references.	512
v0.909		\LWR@subhtmlElementclass: Fixed with tracing on.	358
General: 2022/11/22	1	\LWR@tabledatasinglecolumnstag: Fixed \multirow par handling.	472
beamerarticle: Fixed w/ Komascript.	689	\nameref: nameref: Allow load before lwrap.	514
lyluatex: Updated to v1.1.1.	951	v0.913	
mismath: Updated to v2.0.	992	General: 2024/01/05	1
nicematrix: Added \CodeBefore, \CodeAfter, \Body, \Line, \RowStyle, \SubMatrix, \OverBrace, \UnderBrace, \ShowCellNames.	1026	LWR@HTMLsanitize@tmpb@enable added.	386
nicematrix: Added \cellcolor, etc.	1027	LWR@HTMLsanitize@tmpb@removebackslash added.	387
nicematrix: Fixed array test.	1024	lwrap.css: Added complex number i,j format.	275
nicematrix: \Hline opt arg.	1026	lwrap.css: Improved fancyvrb.	275
pbalance: Updated to v1.4.0.	1052	apxproof: Added for fancyvrb changes.	668
pdfpages: Updated to v0.5w.	1057	caption3: Updated to v2.4d.	708
realscripts: Removed print defs due to improved xparse support.	1075	caption: Updated to v3.6o.	706
tagpdf-base: Added.	1179	colortbl: Moved row colors code from xcolor.	759
tagpdf-mc-code-generic: Added.	1181	doipubmed: Added.	769
tagpdf-mc-code-lua: Added.	1182	fancyvrb: Color style.	816
tagpdf: Refactored.	1179	fancyvrb: Fixed visible space from kernel change.	809
Added option		fancyvrb: Improved HTML sanitization.	814
warpdisable.	235, 242, 259	fancyvrb: No style if empty.	815
Allow preloaded realscripts.	588	fancyvrb: Sanitize HTML.	810–812
\LWR@HTML@ref: Removed print version \ref*.	511	fancyvrb: Set visible tab character.	809
v0.910		fancyvrb: Updated to v4.5b.	808
General: 2023/01/03	1	fvextra: Fixed visible space from kernel change.	854
fvextra: Improved tabs.	853		
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minted: Updated to v2.7.	988		
v0.911			
General: 2023/02/28	1		
mismath: Updated to v2.5.	992		
tcolorbox: Updated to v6.0.1.	1189		
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fvextra: Improved HTML sanitization.	857	theorem: Updated to v2.2c. . .	1197
fvextra: Improved indentation. .	854	\LWR@section: Fix: Extra <par> tag.	402
fvextra: Updated to v1.6.1.	853, 858	v0.915	
graphics:		General: 2024/02/05	1
LWR@HTMLsanitize@tmpb@removebackslash		hang: Add HTML class to lists. . .	879
added.	873	mathtools: Added newline to	
\warp-patch-memoir: Fixed		\newgathered MATHJAX	
change in sidecaption.	1299	customization.	965
minted: Added HTML		pdfpages: Updated to v0.5y. . .	1057
sanitization.	988	Added \HTMLMeta,	
minted: Updated to v2.8.	988	\HTMLAddMeta.	369
musicography: Fix for		\@item: Add HTML class to list	
\musMeter.	1006	markers.	437
simplebnf: Updated to v1.0.0.	1103	description: Add HTML class to	
siunitx: Updated to v3.3.9.	1112	lists.	440
siunitx: css for complex number		enumerate: Add HTML class to lists.	440
i,j.	1114	\HTMLAddMeta: Added.	370
Added \nobreakspace.	265, 619	\HTMLKeywords: Added.	372
Disable <nbsp> inside verbatims.	619	\HTMLMeta: Added.	369
Docs: Update a bibliography.	96, 138	itemize: Add HTML class to lists. .	439
Fix: Default \LWR@mdfive.	225	\LWR@customizeMathJax: Added	
Improved HTML sanitization.	888	data-nosnippet to MATHJAX	
\@setupverbvisiblespace: Fixed		customization <div>.	393
X _Y TeX, LuaTeX visible space. . .	430	\LWR@descitem: Add HTML class to	
\LWR@atbeginverbatim: Fix: No		list markers.	440
<pre> tags if inside a . . .	431	Fix for \item without opt arg. . .	440
Fix: Verbatim font size in a		\LWR@filestart: Added	
lateximage.	431	\HTMLKeywords.	411
\LWR@href: Improved HTML		Added \HTMLMeta,	
sanitization.	516	\HTMLAddMeta.	411
\LWR@HTMLsanitize@tmpb: Added.	387	\LWR@htmllementclassend: Fix for	
Neutralize \%, \#, \& in URL. . . .	387	empty class.	359
\LWR@nolinkurl: Improved HTML		\LWR@makelabeltag: Add HTML	
sanitization.	517	class to list markers.	436
\LWR@subhyperref: Improved HTML		LWR@nestspan: Fix: BlockClass	
sanitization.	515	optional arg.	356
\LWR@subhyperref@sanitized:		\LWR@printopenlist: Add HTML	
Improved HTML sanitization.	515	class to lists.	435
\LWR@subinlineimage:		v0.916	
LWR@HTMLsanitize@tmpb@removebackslash		General: 2024/02/22	1
added.	518	doipubmed: Added missing sty	
\NR@getttitle: Fix for recent		file.	769
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\nameref.	514	\LWR@eolSPACE: Fixed trailing	
tabbing: Added \nobreakspace. . . .	433	\<space>.	387
\verb: \verb as class verb.	430	\LWR@HTMLsanitize@tmpb: Fixed	
\verb in a lateximage.	430	trailing \<space>.	387
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General: 2024/01/11	1	file number if duplicate	
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fontawesome5-generic-helper:		\RequirePackage: Fix for L ^A T _E X ₃	
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This index is a sorted reference of problems and solutions. In order to make it easier to locate a solution, the same issue may be addressed by more than one entry.

Entries starting with page 207 are often duplicates of entries with lower page numbers, as the same warning may occur within the user manual and again within the source code.

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