1 Documentation overview for \texttt{hyperref}

The documentation for package \texttt{hyperref} consists of several files:

\textbf{Manual} The \texttt{USER MANUAL} (also available as HTML).

\textbf{README} The \texttt{README} file (also available as text file). Here information is collected that is not yet in the manual: new features, package compatibility, limitations, known problems, ...

\textbf{ChangeLog} This file records the version history (also available as text file).

\textbf{Options} This file provides a short option summary.

\textbf{Bookmark talk, slides} Slides for the talk “PDF information and navigation elements with hyperref, pdf\TeX\ and thumbpdf” at Euro\TeX\ 1999.

\textbf{Bookmark talk, paper} The paper version of the talk.

Source code documentation:

\texttt{hyperref.dtx} This is the source code documentation for hyperref (this file).

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\texttt{nameref.dtx} “Section name references in \LaTeX”
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3 File hycheck.tex

Many commands of \LaTeX{} or other packages cannot be overloaded, but have to be redefined by hyperref directly. If these commands change in newer versions, these changes are not noticed by hyperref. With this test file this situation can be checked. It defines the command \texttt{\checkcommand} that is more powerful than \LaTeX{}’s \texttt{\CheckCommand}, because it takes \texttt{\DeclareRobustCommand} and optional parameters better into account.

\begin{verbatim}
\documentclass{article}
\makeatletter
\checklatex
Optional argument: release date of \LaTeX{}.
\newcommand*{\checklatex}[1]{%
  \typeout{}%
  \typeout{* Format: `LaTeX2e' #1}%
  \typeout{\space\space Loaded: `\fmtname' \fmtversion}%
}
\checkpackage
The argument of \texttt{\checkpackage} is the package name without extension optionally followed by a release date.
\newcommand*{\checkpackage}[1]{%
  \def\HyC@package{#1}%
  \let\HyC@date\@empty
  \@ifnextchar[\HyC@getDate\HyC@checkPackage
}
\HyC@getDate
The release date is scanned.
\def\HyC@getDate[#1]{%
  \def\HyC@date{#1}%
  \HyC@checkPackage
}
\HyC@checkPackage
\def\HyC@checkPackage{%
  \typeout{}%
  \begingroup
    \edef\x{\endgroup
    \noexpand\RequirePackage{\HyC@package}\}
  \fi%
}
\end{verbatim}
The macro \checkcommand parses the next tokens as a \LaTeX{} definition and compares this definition with the current meaning of that command.

\newcommand*{\checkcommand}{\begingroup\ifx\long#1\relax\expandafter\HyC@checklong\else\def\HyC@defcmd{#1}\expandafter\let\expandafter\HyC@next\csname HyC@\expandafter\@gobble\string#1\endcsname\expandafter\HyC@checkcommand\fi\endgroup}

The definition command \def or \edef is read.

\def\HyC@checklong#1{\def\HyC@defcmd{\long#1}\expandafter\let\expandafter\HyC@next\csname HyC@\expandafter\@gobble\string#1\endcsname\HyC@checkcommand}

The optional star of \LaTeX{}'s definitions is parsed.

\def\HyC@check#1{\def\HyC@cmd{#1}\let\HyC@param\@empty\HyC@Toks{}\let\HyC@org@optcmd\HyC@noValue\let\HyC@org@robustcmd\HyC@noValue\let\HyC@org@robustoptcmd\HyC@noValue\HyC@next}

The macro \HyC@check reads the definition command.

\def\HyC@check#1{\def\HyC@cmd{#1}\let#1\relax\let\HyC@org@cmd#1\relax\let\HyC@@optcmd{\HyC@optcmd}\HyC@@optcmd\HyC@noValue\let\HyC@@optcmd{\HyC@optcmd}\HyC@noValue\let\HyC@@optcmd{\HyC@optcmd}\HyC@noValue\HyC@next}

\HyC@noValue
\def\HyC@noValue{NoValue}
The code for \newcommand.

\let\HyC@cmd\HyC@cmd
\@ifnextchar[\HyC@nc@opt\HyC@nc@noopt
}

A register for storing the default value of an optional argument.
\newtoks\HyC@Toks

This macro \HyC@nc@noopt is called, if the parser has reached the definition text.
\long\def\HyC@nc@noopt#1{\edef\x{%\expandafter\noexpand\HyC@defcmd\HyC@star\expandafter\noexpand\HyC@cmd\HyC@param\the\HyC@Toks\x{#1}\HyC@doCheck\x{#1} \HyC@nc@noopt }}

This macro scans the first optional argument of a \TeX definition (number of arguments).
\def\HyC@nc@opt[#1]{\def\HyC@param{\[\{#1\}\]}\@ifnextchar[\HyC@nc@default\HyC@nc@noopt}

Macro \HyC@nc@default scans the default for an optional argument.
\def\HyC@nc@default[#1]{\HyC@Toks={\[\{#1\}\]}\edef\HyC@optcmd{\expandafter\noexpand\csname\expandafter\string\HyC@@cmd\space\endcsname}\expandafter\let\expandafter\HyC@org@optcmd\HyC@optcmd\HyC@nc@noopt\HyC@nc@noopt}

\DeclareRobustCommand{\cmd} makes the command \cmd robust, that then calls \cmd with an space at the end of the command name, defined by \newcommand. Therefore the further parsing is done by \HyC@nc@opt or \HyC@nc@noopt of the \HyC@newcommand chain.
\def\HyC@DeclareRobustCommand{\edef\HyC@robustcmd{\expandafter\noexpand\csname\expandafter\expandafter\expandafter\@gobble\expandafter\string\HyC@cmd\space\endcsname}\expandafter\let\expandafter\HyC@org@robustcmd\HyC@robustcmd\expandafter\let\HyC@robustcmd\relax\let\HyC@@cmd\HyC@robustcmd\@ifnextchar[\HyC@nc@opt\HyC@nc@noopt\x{#1} \HyC@nc@noopt
\HyC@nc@noopt}
The parameter text of `\def` or `\edef` is stored in the token register `\@Toks`.

```
\def\HyC@def#1#2{\HyC@Toks={#1}}
\let\HyC@edef\HyC@def
```

This command performs the checks and prints the result.

```
\def\HyC@doCheck{%
  \typeout{* Checking `\HyC@string\HyC@cmd':}%
  \HyC@checkItem{cmd}%
  \HyC@checkItem{robustcmd}%
  \HyC@checkItem{optcmd}%
  \HyC@checkItem{robustoptcmd}%
}\endgroup
```

A single check.

```
\def\HyC@checkItem#1{%
  \expandafter\ifx\csname HyC@org@#1\endcsname\HyC@noValue
  \else
    \expandafter\expandafter\expandafter\ifx
      \csname HyC@#1\expandafter\endcsname
      \csname HyC@org@#1\endcsname
    \expandafter\HyC@checkOk\csname HyC@#1\endcsname
    \else
      \HyC@checkFailed\csname HyC@#1\expandafter\endcsname
      \csname HyC@org@#1\endcsname
    \fi
  \fi
}\fi
```

Some shorthands.

```
\def\HyC@string#1{\expandafter\string#1}
\def\HyC@meaning#1{\expandafter\meaning#1}
```

The result, if the check succeeds.

```
\def\HyC@checkOk#1{%
  \typeout{\space `\HyC@string#1' ok.}%
}\fi
```

The result, if the check fails.

```
\def\HyC@checkFailed#1#2{%
  \typeout{\space `\HyC@string#1' failed.}%
  \typeout{\space* original: \meaning#2}%
  \typeout{\space* expected: \HyC@meaning#1}%
}\fi
```

% **************************************************
4 Package options and setup

4.1 Save catcodes

There are many packages that change the standard catcodes.

First we save the original meaning of \ and = in the token register \toks@, because we need the two characters in the macros \Hy@SetCatcodes and \Hy@RestoreCatcodes.

\begingroup
@makeother\ `%
@makeother\ %=
\edef\x{\edef\noexpand\x{\endgroup
\noexpand\toks@{\catcode 96=\noexpand\the\catcode`\relax
\catcode 61=\noexpand\the\catcode`\relax
}\)
\noexpand\x
@makeother\`
@makeother\=
\Hy@SetCatcodes
\def\Hy@SetCatcodes{%
@makeother\ `%
@makeother\ %=
catcode`$=3 %
catcode`&=4 %
catcode`^=7 %
catcode`_%=8 %
@makeother\%
@makeother\%
@makeother\%
@makeother\%
@makeother\%
@makeother\%
@makeother\%
@makeother\%
@makeother\%
@makeother\%
@makeother\%
@makeother\%
@makeother\%
@makeother\%
\Hy@RestoreCatcodes
\begingroup
\def\x#1{\catcode`#1=\the\catcode`#1\relax}%
xdef\Hy@RestoreCatcodes{% \the\toks@
x$%
It needs the December 95 release of \LaTeX, because it uses \texttt{protected@write}, and it defines commands in options; and the page setup internal code changed at that point. It'll probably break with the later releases!

Use package \texttt{hobsub-hyperref} for faster package loading.

\begin{verbatim}
231 \Hy@SetCatcodes

232 \IfFileExists{hobsub-hyperref.sty}{% 
233 \RequirePackage{hobsub-hyperref}[2011/01/30]% 
234 }{}

235 \RequirePackage{ltcmsgds}[2010/11/12]

236 \RequirePackage{ifpdf}[2006/02/20]

237 \RequirePackage{pdftexcmds}[2009/04/10]

238 \IfFilePackageLater{pdftexcmds}{2010/11/04}{% 
239 \ifx\undefined\pdf@draftmode{% 
240 \expandafter\ltx@firstoftwo

241 }{% 
242 \ifpdf

243 \def\pdf@draftmode{% 
244 \ifnum\pdf@draftmode=1\ltx@one

245 \expandafter\ltx@firstoftwo

246 \else

247 \expandafter\ltx@secondoftwo

248 \fi

249 }% 

250 \else

251 \let\pdf@draftmode\ltx@secondoftwo

252 \fi

253 }%

254 }

255 \RequirePackage{infwarerr}[2010/04/08]

256 \RequirePackage{keyval}[1997/11/10]

257 \RequirePackage{kvsetkeys}[2007/09/29]

258 \RequirePackage{kvdefinekeys}[2011/04/07]

259 \RequirePackage{pdfescape}[2007/11/11]

260 \RequirePackage{ifvtex}
\end{verbatim}
\RequirePackage{ifxetex}[2006/08/21]
\RequirePackage{hycolor}
\RequirePackage{letltxmacro}[2008/06/13]
\RequirePackage{auxhook}[2009/12/14]
\def\Hy@Error{\@PackageError{hyperref}}
\def\Hy@Warning{\@PackageWarning{hyperref}}
\def\Hy@WarningNoLine{\@PackageWarningNoLine{hyperref}}
\def\Hy@Info{\@PackageInfo{hyperref}}
\def\Hy@InfoNoLine{\@PackageInfoNoLine{hyperref}}
\def\Hy@Message#1{\GenericWarning{\@spaces\@spaces\@spaces\@spaces}{Package hyperref Message: #1\ltx@gobble}}
\Hy@VersionChecked=0
\Hy@VersionCheck
\def\Hy@VersionCheck#1{\begingroup\ltx@IfUndefined{ver@hyperref.sty}{\Hy@Error{This should not happen!\MessageBreak Missing hyperref version}\@ehd}{\ltx@IfUndefined{ver@#1}{\Hy@Error{This should not happen!\MessageBreak Missing version of `#1'\MessageBreak Version mismatch (custom driver)!\MessageBreak * \y: hyperref.sty\MessageBreak * \z: \a}\Hy@WarningNoLine}{\edef\a{#1}\edef\b{\HyOpt@CustomDriver.def}\ifx\a\b\Hy@WarningNoLine{Version mismatch (custom driver)!\MessageBreak * \y: hyperref.sty\MessageBreak * \z: \a}\else\Hy@Error{Version mismatch!}\MessageBreak\endgroup}}

4.2 Version check

\Hy@VersionCheck
\chardef\Hy@VersionChecked=0
\Hy@VersionCheck
4.3 Checks with regular expressions

\ltx@ifUndef\{pdfmatch\}\% 
\ltx@if\Hy@Match\#1\#2\#3\#4\nil\% 
\ltx@if\#1\#2\#3\% 
\begingroup 
\edef\^\{\ltx@backslashchar\string\}\% 
\edef\.\{\ltx@backslashchar.\}\% 
\edef\[\{\ltx@backslashchar[\]% 
\edef\]\{\ltx@backslashchar]\}% 
\edef\{\{\ltx@backslashchar\ltx@leftbracechar\}\% 
\edef\}\{\ltx@backslashchar\ltx@rightbracechar\}% 
\edef\\{\{\ltx@backslashchar\ltx@backslashchar\}% 
\let\ \ltx@space 
\ifcase\pdfmatch\#2\#3\#4\nil\% 
\ltx@ifpackagelater{ltxcmds}{2010/09/11}{}{ 
\begingroup 
\lccode`0=`\{elax 
\lowercase\endgroup

\ltx@ifUndef\{pdfmatch\}\% 
\ltx@if\Hy@Match\#1\#2\#3\#4\nil\% 
\ltx@if\#1\#2\#3\% 
\begingroup 
\edef\^\{\ltx@backslashchar\string\}\% 
\edef\.\{\ltx@backslashchar.\}\% 
\edef\[\{\ltx@backslashchar[\]% 
\edef\]\{\ltx@backslashchar]\}% 
\edef\{\{\ltx@backslashchar\ltx@leftbracechar\}\% 
\edef\}\{\ltx@backslashchar\ltx@rightbracechar\}% 
\edef\\{\{\ltx@backslashchar\ltx@backslashchar\}% 
\let\ \ltx@space 
\ifcase\pdfmatch\#2\#3\#4\nil\% 
\ltx@ifpackagelater{ltxcmds}{2010/09/11}{}{ 
\begingroup 
\lccode`0=`\{elax 

\ltx@ifUndef\{pdfmatch\}\% 
\ltx@if\Hy@Match\#1\#2\#3\#4\nil\% 
\ltx@if\#1\#2\#3\% 
\begingroup 
\edef\^\{\ltx@backslashchar\string\}\% 
\edef\.\{\ltx@backslashchar.\}\% 
\edef\[\{\ltx@backslashchar[\]% 
\edef\]\{\ltx@backslashchar]\}% 
\edef\{\{\ltx@backslashchar\ltx@leftbracechar\}\% 
\edef\}\{\ltx@backslashchar\ltx@rightbracechar\}% 
\edef\\{\{\ltx@backslashchar\ltx@backslashchar\}% 
\let\ \ltx@space 
\ifcase\pdfmatch\#2\#3\#4\nil\% 
\ltx@ifpackagelater{ltxcmds}{2010/09/11}{}{ 
\begingroup 
\lccode`0=`\{elax 


4.4 Compatibility with format dumps

\AfterBeginDocument For use with pre-compiled formats, created using the idump package, there needs to be 2 hooks for adding material delayed until \begin{document}. These are called \AfterBeginDocument and \AtBeginDocument. If idump is not loaded, then a single hook suffices for normal \LaTeX processing. The default definition of \AfterBeginDocument cannot be done by \let because of problems with xypic.

\Hy@AtBeginDocument For the case that package ‘hyperref’ is loaded using \AtBeginDocument, we have to wrap the calls of \AtBeginDocument/\AfterBeginDocument in \AtEndOfPackage. However, packages must be loaded in \AtEndOfPackage before package ‘kvoptions’ has to perform its option cleanup. Therefore we use a hook.

\Hy@AtEndOfPackage

\Hy@AtBeginDocumentHook

\Hy@AtEndOfPackageHook

Install the hook, before package ‘kvoptions’ is loaded.

Package kvoptions is used for processing options that are given as key value pairs. The package provides \ProcessKeyvalOptions, formerly known as \ProcessOptionsWithKV.
4.5 Switches

Defaults for the switches are now set.

\Hy@backreffalse
\Hy@bookmarksnumberedfalse
\Hy@bookmarksopenseven
5 Common help macros

\def\Hy@GlobalStepCount#1{\global\advance#1 by 1}\%

5.1 Macros for recursions

\let\Hy@ReturnEnd\@empty
\long\def\Hy@ReturnAfterFiFiiEnd#1\fi#2\Hy@ReturnEnd{#1}\fi#2\%

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5.2 Babel’s protection of shorthand characters

Babel’s switch setting commands cannot be used directly, because they can be undefined if babel is not loaded.

\def\Hy@safe@activestrue{\csname @safe@activestrue\endcsname}
\def\Hy@safe@activesfalse{\csname @safe@activesfalse\endcsname}

5.3 Coordinate transformations

At some places numbers in pdf units are expected (eg: FitBH, ...). The following macros perform the transformation from TeX units (pt) to PDF units (bp).

\hypercalcbp

The user macro \hypercalcbp can be used, for example, inside option values:

\begin{verbatim}
\hypercalcbp
\end{verbatim}

• It cannot be used inside \usepackage, because LaTeX expands the options before package hyperref is loaded and \hypercalcbp is defined.

• With e-TeX extensions an expandable implementation is very easy; \hypercalcbp can be used everywhere and is expanded at use.

• Without e-TeX’s features \hypercalcbp cannot be implemented expandable (practically) and have to be supported by \hypercalcbpdef. Limitations:
  – Works only in options that use \hypercalcbpdef (currently only pdfstartview).
  – For calculations package calc has to be loaded.
  – The expansion of the argument is done at definition time.

Example (TeX):

\begin{verbatim}
\usepackage{calc}
\usepackage[...]{hyperref}
\hypersetup{
  pdfstartview={FitBH \hypercalcbp{paperheight-topmargin-1in-
   headheight-headsep}}
}\end{verbatim}

\hypercalcbp

497 \begingroup\expandafter\expandafter\expandafter\endgroup
498 \expandafter\ifx\csname \endcsname\relax
499 \def\hypercalcbpdef#1#2{\%
500 \begingroup
501 \toks@{}\%
502 \HyCal@scan#2\hypercalcbp\@nil
503 \expandafter\endgroup
504 \expandafter\expandafter\expandafter\endgroup
505 \expandafter\def\expandafter#1\expandafter{\the	oks@}\
506 }\%
507 \def\HyCal@scan#1\hypercalcbp#2\@nil{\%
508 \toks@#1\expandafter\expandafter\expandafter\@nil
509 \else
510 \ltx@ReturnAfterFi{\%
511 \HyCal@do#2\@nil
512 }\%
513 \endgroup\expandafter\expandafter\expandafter\endgroup
6 Dealing with PDF strings

The PDF string stuff done by Heiko Oberdiek.

Naming convention: All internal commands that are only needed by \pdfstringdef are prefixed with \HyPsd@.

6.1 Description of PDF strings

The PDF specification defines several places to hold text strings (bookmark names, document information, text annotations, etc.). The PDF strings have following properties:

- They are surrounded by parentheses. The hexadecimal form is not supported.

- Like PostScript language strings they use the same escaping mechanism:
  \ the backslash itself
  \, \( unbalanced parentheses
  \n, \r, \t, \b, \f special white space escape sequences
  \ddd octal character code ddd

- Strings are stored either in PDFDocEncoding, which is a superset of ISO-Latin1 and is compatible with Unicode with character codes below 256, or in Unicode.

6.2 Definition of \pdfstringdef

The central macro for dealing with PDF strings is \pdfstringdef. It defines a command \#1 to be the result of the conversion from the string in \#2 to a le-
gal PDFDocEncoded string. Currently the definition is global, but this can be changed in the future.

Important: In \TeX's view PDF strings are written to a file and are expanded only in its mouth. Stomach commands that cannot be expanded further aren't executed, they are written verbatim. But the PDF reader that reads such a string isn’t a \TeX interpreter!

The macro \texttt{\pdfstringdef} consists of three main parts:

1. Preprocessing. Here the expansion is prepared. The encoding is set and many commands are redefined, so that they work appropriate.

2. Expansion. The \TeX string is expanded the first time to get a PDF string.

3. Postprocessing. The result of the expansion is checked and converted to the final form.

\texttt{\pdfstringdef} works on the tokens in \texttt{#2} and converts them to a PDF string as far as possible:

- The result should obey the rules of the PDF specification for strings.
- The string can safely processed by \TeX, because the tokens have only cat-codes 10 until 12.

The result is stored in the command token given in \texttt{#1}.

Many redefinitions are needed, so all the work is done in a group.

\begin{verbatim}
\edef\0\{\string\0\}\%
\edef\1\{\string\1\}\%
\edef\2\{\string\2\}\%
\edef\3\{\string\3\}\%
\end{verbatim}

\subsection{Preprocessing}

Octal escape sequences. To avoid problems with eight bit or non printable characters, the octal escape notation is supported. So most glyphs in the encoding definitions for PD1 and PU produce these octal escape sequences. All three octal digits have to be used:

- Wrong results are avoided, if digits follow that are not part of the octal sequence.
- Macros rely on the fact that the octal sequences always consist of three digits (\texttt{vtex} driver, Unicode support).

The escape sequences start with a backslash. By \texttt{\string} it will be printed. Therefore it is ensured that the \TeX escape character indeed prints as a normal backslash. Eventually this line can be removed, because this is standard \texttt{\LaTeX} behaviour.

From the view of \TeX a octal sequence consists of the command tokens \texttt{\0} until \texttt{\3} and two digits. For saving tokens \texttt{\0}, \texttt{\1}, \texttt{\2}, and \texttt{\3} are directly used without a preceding \texttt{\string} in the glyph definitions. This is done here locally by defining the \texttt{\0} until \texttt{\3} commands. So the user can use octal escape sequences directly, the disadvantage is that a previous definition of this short commands does not apply.

\begin{verbatim}
\edef\0\{\string\0\}\%
\edef\1\{\string\1\}\%
\edef\2\{\string\2\}\%
\edef\3\{\string\3\}\%
\end{verbatim}
Setting font encoding. The unicode encoding uses \& and \9 as marker for the higher byte. \& is an abbreviation for the higher bytes 0 until 7 that can be expressed by one digit. \& will be converted to \00. However \9 only marks the next three digits as higher byte and will be removed later.

The encoding is set by \settingsfontencoding for optimizing reasons.

Internal encoding commands. \pdfstringdef interpreted text strings which are not allowed to contain mathematical stuff. The text glyph commands will produce a warning, if called in math mode. But this warning disturbs while expanding. Therefore we check for math mode here, before \settingsfontencoding will be disabled (see below).

Commands that don’t use NFSS directly. There are several commands that prints characters in the printable ASCII area that don’t obey the NFSS, so they have to be redefined here. UF 29.09.2017: added a mapping for \noboundary, see issue #37 https://github.com/ho-tex/hyperref/issues/37 No test for PU, if some definition for PD1 is added it will work too.
Newline \newline or \ \ do not work in bookmarks, in text annotations they should expand to \textbackslash r. In pdf strings \ \ stands for a backslash. Therefore the commands are disabled now. The user can redefine them for a result what he want:

- **backslash**: \texttt{pdfstringdefDisableCommands{\let\textbackslash}}
- **new line**: \texttt{pdfstringdefDisableCommands{\let\textCR}}
- **disabled**: \texttt{pdfstringdefDisableCommands{\let\empty}}

At any case, however, the optional argument or the star cannot be scanned in a 100\% sure manner.

Logos. Because the box shifting used in the \TeX logo does not work while writing to a file, the standard \TeX logos are redefined.

\texttt{
\def\TeX{TeX}\
\def\LaTeX{La\TeX}\
\def\LaTeXe{\LaTeX2\ifHy@unicode\textepsilon\else e\fi}\
\def\eTeX{\ifHy@unicode\textepsilon\else e\fi-\TeX}\
\def\SliTeX{Sli\TeX}\
\def\MF{Metafont}\
\def\MP{Metapost}
}

Standard font commands. Because font changes do not work, the standard font switching commands are disabled.

\texttt{
\let\fontencoding@gobble\let\fontfamily@gobble\let\fontseries@gobble\let\fontshape@gobble\let\fontsize@gobbletwo\let\selectfont@empty\let\usefont@gobbletwo\let\selectfont@empty\let\textnormal@firstofone\let\textbf@firstofone\let\textmd@firstofone\let\textit@firstofone\let\textsc@firstofone\let\textsl@firstofone\let\textup@firstofone\let\normalfont@empty
}
Package pifont.

```latex
\let\ding\HyPsd@ding
\let\Cube\HyPsd@DieFace
%* \HyPsd@DieFace -> \epsdice (epsdice)
%* \HyPsd@DieFace -> \fcdice (hhcount)
```

Environments.

```latex
\def\begin#1{\csname#1\endcsname}\
\def\end#1{\csname end#1\endcsname}\
```

Package color.

```latex
\def\textcolor##1##2{\@secondoftwo}\
```

Upper- and lowercase.

```latex
\ifHy@psdextra\
\ifHy@unicode\
\csname psdmapshortnames\endcsname\csname psdaliasnames\endcsname\
\fi\
\fi\
```

Support of math commands without prefix text. This is controlled by option “psdextra” and only activated with Unicode PDF strings.

```latex
\ifHy@psdextra\
\ifHy@unicode\
\csname psdmapshortnames\endcsname\csname psdaliasnames\endcsname\
\fi\
\fi\
```
Package babel. Wherever \textlatin (from Babel 3.6k). Thanks to Felix Neubauer (Email: Felix.Neubauer@gmx.net).

\let\foreignlanguage@secondoftwo
\let\textlatin@firstofone
\IfUndefined{language@group}{\csname HyPsd@babel\language@group\endcsname}{%
\HyPsd@GreekPatch\HyPsd@SpanishPatch\HyPsd@RussianPatch\HyPsd@BabelPatch
\let\@safe@activestrue\relax
\let\@safe@activesfalse\relax
\HyPsd@AMSclassfix

Redefinition of \hspace  \hspace don’t work in bookmarks, the following fix tries to set a space if the argument is a positive length.

\let\label\@gobble
\let\index\@gobble
\let\glossary\@gobble
\let\href\HyPsd@href
\let\@mkboth\@gobbletwo

AMS classes.
\HyPsd@AMSclassfix

Package french. The support is deferred, because it needs \GenericError to be disabled (see below).

Package FrenchPro. This package uses:
\if@mid@expandable{not fully expandable code}\{fully expandable code\}

\let\if@mid@expandable\@firstoftwo

Commands of referencing and indexing systems. Some \TeX commands that are legal in \section commands have to be disabled here.

\let\label\@gobble
\let\index\@gobble
\let\glossary\@gobble
\let\href\HyPsd@href
\let\@mkboth\@gobbletwo
The \ref and \pageref is much more complicate because of their star form.

\begin{verbatim}
677 \let\ref\HyPsd@ref
678 \let\pageref\HyPsd@pageref
679 \let\nameref\HyPsd@nameref
680 \let\autoref\HyPsd@autoref

Misellaneous commands.
681 \let\leavevmode\@empty
682 \let\mbox\@empty
\halign causes error messages because of the template character #.
683 \def\halign\{\pdfstringdefWarn\halign\@gobble\%
684 \let\ignorespaces\HyPsd@ignorespaces
685 \let\Hy@SectionAnchorHref\@gobble
686 \let\ensuremath\@firstofone

Patch for cjk bookmarks.
687 \HyPsd@CJKhook

User hook. The switch \Hy@pdfstring is turned on. So user commands can detect that they are processed not to be typesetted within \TeX{}'s stomach, but to be expanded by the mouth to give a PDF string. At this place before interpreting the string in #2 additional redefinitions can by added by the hook \pdfstringdefPreHook.

The position in the middle of the redefinitions is a compromise: The user should be able to provide his own (perhaps better) redefinitions, but some commands should have their original meaning, because they can be used in the hook (\bgroup, or \@protected@testopt, and \@ifnextchar for \renewcommand).

\begin{verbatim}
688 \Hy@pdfstringtrue
689 \pdfstringdefPreHook

Spaces. For checking the token of the string, spaces must be masked, because they cannot by caught by undelimited arguments.
690 \HyPsd@LetUnexpandableSpace\space
691 \HyPsd@LetUnexpandableSpace\%
692 \HyPsd@LetUnexpandableSpace~
693 \HyPsd@LetUnexpandableSpace\nobreakspace

Package xspace.
694 \ltx@ifundefined{@xspace}{(%
695 \let\xspace\HyPsd@ITALCORR
696 )}{%
697 \let\xspace\HyPsd@XSPACE
698 )%
699 \let\HyPsd@ITALCORR
700 \let\bgroup\/%
701 \let\egroup\/%
\end{verbatim}

25
6.2.2 Expansion

There are several possibilities to expand tokens within \TeX:

\texttt{\protected@edef}: The weakest form isn’t usable, because it does not expand the font encoding commands. They are made robust and protect themselves.

\texttt{\csname}: First the string is expanded whithin a \texttt{\csname} and \texttt{\endcsname}. Then the command name is converted to characters with catcode 12 by \texttt{\string} and the first escape character removed by \texttt{\gobble}. This method has the great \textit{advantage} that stomach tokens that aren’t allowed in PDF strings are detected by \TeX and reported as errors in order to force the user to write correct things. So he get no wrong results by forgetting the proofreading of his text. But the \textit{disadvantage} is that old wrong code cannot processed without errors. Mainly the error message is very cryptic and for the normal user hard to understand. \TeX provides no way to catch the error caused by \texttt{\csname} or allows to support the user with a descriptive error message. Therefore the experienced user had to enable this behaviour by an option \texttt{\exactdef} in previous versions less or equal 6.50.

\texttt{\edef} This version uses this standard form for expansion. It is stronger than \TeX’s \texttt{\protected@edef}. So the font encoding mechanism works and the glyph commands are converted to the correct tokens for PDF strings with the definitions of the PD1 encoding. Because the protecting mechanism of \TeX doesn’t work within an \texttt{\edef}, there are situations thinkable where code can break. For example, assignments and definitions aren’t performed and so undefined command errors or argument parsing errors can occur. But this is only a compatibility problem with old texts. Now there are possibilities to write code that gives correct PDF strings (see \texttt{\norgpdfstring}). In the most cases unexpandable commands and tokens (math shift, grouping characters) remains. They don’t cause an error like with \texttt{\csname}. However a PDF reader isn’t \TeX, so these tokens are viewed verbatim. So this version detects them now, and removes them with an descriptive warning for the user. As additional features \texttt{xspace} support is possible and grouping characters can be used without problems, because they are removed silently.

\texttt{\let\discretionary\@gobbletwo

\@ifstar is defined in \LaTeX as follows:

\texttt{\def\@ifstar#1{\@ifnextchar *{\@firstoftwo{#1}}}}

\@ifnextchar doesn’t work, because it uses stomach commands like \texttt{\let} and \texttt{\futurelet}. But it doesn’t break. Whereas \texttt{\@firstoftwo{#1}} gives an error message because \texttt{\@firstoftwo} misses its second argument.

A mimicry of \texttt{\@ifnextchar} only with expandible commands would be very extensive and the result would be only an approximation. So here a cheaper solution follows in order to get rid of the error message at least:

\texttt{\def\@ifnextchar{\HyPsd@ifnextchar\@ifnextchar}}

\texttt{\def\kernel@ifnextchar{\HyPsd@ifnextchar\kernel@ifnextchar}}

\texttt{\def\new@ifnextchar{\HyPsd@ifnextchar\new@ifnextchar}}

\texttt{\let\@protected@testopt\HyPsd@protected@testopt}

Support for package \texttt{xargs}:

\texttt{\let\@protected@testopt@xargs\HyPsd@protected@testopt}

\texttt{\edef}

This version uses this standard form for expansion. It is stronger than \LaTeX’s \texttt{\protected@edef}. So the font encoding mechanism works and the glyph commands are converted to the correct tokens for PDF strings with the definitions of the PD1 encoding. Because the protecting mechanism of \LaTeX doesn’t work within an \texttt{\edef}, there are situations thinkable where code can break. For example, assignments and definitions aren’t performed and so undefined command errors or argument parsing errors can occur. But this is only a compatibility problem with old texts. Now there are possibilities to write code that gives correct PDF strings (see \texttt{\norgpdfstring}). In the most cases unexpandable commands and tokens (math shift, grouping characters) remains. They don’t cause an error like with \texttt{\csname}. However a PDF reader isn’t \TeX, so these tokens are viewed verbatim. So this version detects them now, and removes them with an descriptive warning for the user. As additional features \texttt{xspace} support is possible and grouping characters can be used without problems, because they are removed silently.

\texttt{\let\discretionary\@gobbletwo

\@ifstar is defined in \LaTeX as follows:

\texttt{\def\@ifstar#1{\@ifnextchar *{\@firstoftwo{#1}}}}

\@ifnextchar doesn’t work, because it uses stomach commands like \texttt{\let} and \texttt{\futurelet}. But it doesn’t break. Whereas \texttt{\@firstoftwo{#1}} gives an error message because \texttt{\@firstoftwo} misses its second argument.

A mimicry of \texttt{\@ifnextchar} only with expandible commands would be very extensive and the result would be only an approximation. So here a cheaper solution follows in order to get rid of the error message at least:

\texttt{\def\@ifnextchar{\HyPsd@ifnextchar\@ifnextchar}}

\texttt{\def\kernel@ifnextchar{\HyPsd@ifnextchar\kernel@ifnextchar}}

\texttt{\def\new@ifnextchar{\HyPsd@ifnextchar\new@ifnextchar}}

\texttt{\let\@protected@testopt\HyPsd@protected@testopt}

Support for package \texttt{xargs}:

\texttt{\let\@protected@testopt@xargs\HyPsd@protected@testopt}

\texttt{\edef}

This version uses this standard form for expansion. It is stronger than \LaTeX’s \texttt{\protected@edef}. So the font encoding mechanism works and the glyph commands are converted to the correct tokens for PDF strings with the definitions of the PD1 encoding. Because the protecting mechanism of \LaTeX doesn’t work within an \texttt{\edef}, there are situations thinkable where code can break. For example, assignments and definitions aren’t performed and so undefined command errors or argument parsing errors can occur. But this is only a compatibility problem with old texts. Now there are possibilities to write code that gives correct PDF strings (see \texttt{\norgpdfstring}). In the most cases unexpandable commands and tokens (math shift, grouping characters) remains. They don’t cause an error like with \texttt{\csname}. However a PDF reader isn’t \TeX, so these tokens are viewed verbatim. So this version detects them now, and removes them with an descriptive warning for the user. As additional features \texttt{xspace} support is possible and grouping characters can be used without problems, because they are removed silently.
**Generic messages.** While expanding via \texttt{\xdef} the \texttt{\Generic...} messages don’t work and causes problems (error messages, invalid \texttt{.out} file). So they are disabled while expanding and removed silently, because a user warning would be too expensive (memory and runtime, \texttt{\pdfstringdef} is slow enough).

\begin{verbatim}
\begingroup
\let\GenericError@gobblefour
\let\GenericWarning@gobbletwo
\let\GenericInfo@gobbletwo
\let\GenericError@gobblefour
\let\GenericWarning@gobbletwo
\let\GenericInfo@gobbletwo
\endgroup
\end{verbatim}

**Package french.** This fix only works, if \texttt{\GenericError} is disabled.

\begin{verbatim}
\ifx\nofrenchguillemets@undefined
\else
\nofrenchguillemets
\fi
\end{verbatim}

**Definition commands and expansion.** Redefining the defining commands (see sec. 6.5.12). The original meaning of \texttt{\xdef} is saved in \texttt{\Hy@temp}.

\begin{verbatim}
\let\Hy@temp\xdef
\let\def\HyPsd@DefCommand
\let\gdef\HyPsd@DefCommand
\let\edef\HyPsd@DefCommand
\let\xdef\HyPsd@DefCommand
\let\futurelet\HyPsd@LetCommand
\let\let\HyPsd@LetCommand
\Hy@temp#1{#2}%
\endgroup
\end{verbatim}

**6.2.3 Postprocessing**

If the string is empty time can be saved by omitting the postprocessing process.

\begin{verbatim}
\ifx#1\@empty
\else
\nofrenchguillemets
\fi
\end{verbatim}

**Protecting spaces and removing grouping characters.** In order to check the tokens we must separate them. This will be done with \TeX’s argument parsing. With this method we must the following item takes into account, that makes makes things a little more complicate:

- \TeX does not accept a space as an undelimited argument, it cancels space tokens while looking for an undelimited argument. Therefore we must protect the spaces now.
- An argument can be a single token or a group of many tokens. And within curly braces tokens aren’t find by \TeX’s argument scanning process. Third curly braces as grouping characters cannot be expanded further, so they don’t vanish by the string expansion above. So these characters with catcode 1 and 2 are removed in the following and replaced by an marker for the xspace support.
- \TeX silently removes the outmost pair of braces of an argument. To prevent this on unwanted places, in the following the character $|$ is appended to the string to make an outer brace to an inner one.
First the top level spaces are protected by replacing. Then the string is scanned to detect token groups. Each token group will now be space protected and again scanned for another token groups.

\texttt{\textbackslash HyPsd@ProtectSpaces\#1\%}
\texttt{\let\HyPsd@String\@empty}
\texttt{\expandafter\HyPsd@RemoveBraces\expandafter\{\#1\}\%}
\texttt{\global\let\#1\HyPsd@String}

**Check tokens.** After removing the spaces and the grouping characters the string now should only consists of the following tokens/catcodes:

- 0 command names with start with an escape character.
- 3 math shift
- 4 alignment tabs
- 6 parameter, but this is unlikely.
- 7 superscript
- 8 subscript
- 11 letter
- 12 other
- 13 commands that are active characters.

After \texttt{\HyPsd@CheckCatcodes} the command \texttt{\HyPsd@RemoveMask} is reused to remove the group protection character \texttt{\%}. This character is needed to ensure that the string at least consists of one token if \texttt{\HyPsd@CheckCatcodes} is called.

Because of internal local assignments and tabulars group braces are used.

\texttt{\let\HyPsd@SPACEOPTI\relax}
\texttt{\{\let\HyPsd@String\@empty}
\texttt{\expandafter\HyPsd@CheckCatcodes\#1\HyPsd@End}
\texttt{\global\let\#1\HyPsd@String}
\texttt{\expandafter\HyPsd@RemoveMask\expandafter}
\texttt{\%\expandafter\@empty\#1\HyPsd@End\#1\%}

\texttt{\HyPsd@CheckCatcodes} should no have removed the tokens with catcode 3, 4, 7, and 8. Because a parameter token (6) would cause to many errors before, there should now be only tokens with catcodes 11 or 12. So I think there is no need for a safety step like:

\texttt{\xdef\#1{\expandafter\strip@prefix\meaning\#1\%}}

**Looking for wrong glyphs.** The case that glyphs aren’t defined in the PD1 encoding is caught above in such a way, that the glyph name and a marker is inserted into the string. Now we can safely scan the string for this marker and provide a descriptive warning.

\texttt{\expandafter}
\texttt{\HyPsd@Subst\expandafter{\HyPsd@GlyphErrH\{\relax\}\#1\%}
\texttt{\let\HyPsd@String\@empty}
\texttt{\expandafter\HyPsd@GlyphProcess\#1\relax\@empty}
\texttt{\global\let\#1\HyPsd@String}

**Backslash.** The double backslash disturbs parsing octal sequences, for example in an string like \texttt{abc\051} the sequence \texttt{\051} is detected although the second \texttt{\} belongs to the first backslash.

\texttt{\HyPsd@StringSubst{\textbackslash}{\textbackslash}\#1\%}
Spaces. All spaces have already the form \040. The last postprocessing step will be an optimizing of the spaces, so we already introduce already the necessary command \HyPsd@SPACEOPTI. But first it is defined to be \relax in order to prevent a too early expansion by an \edef. Secondly a \relax serves as a marker for a token that is detected by \xspace.

The code of \frenchb.ldf can produce an additional space before \guillemotright, because \lastskip and \unskip do not work. Therefore it is removed here.

Right parenthesis. Also \xspace detects a right parenthesis. For the \xspace support and the following parenthesis check the different parenthesis notations ) , ), and \051 are converted to one type ) and before \HyPsd@empty with the meaning of \relax is introduced for \xspace. By redefining to \@empty \HyPsd@empty can easily removed later.

Support for package \xspace. \xspace looks for the next token and decides if it expands to a space or not. Following tokens prevent its transformation to a space: Beginning and end of group, handled above by replacing by an italic correction, several punctuation marks, a closing parentheses, and several spaces.

Without package \xspace there are tokens with catcode 11 and 12, \HyPsd@empty and \HyPsd@SPACEOPTI. With package \xspace marker for the italic correction \=/ and \xspace come with. In the package \xspace case the two markers are replaced by commands and an \edef performs the \xspace processing.

In the opposite of the original \xspace \HyPsd@xspace uses an argument instead of a \futurelet, so we have to provide such an argument, if \HyPsd@xspace comes last. Because \HyPsd@Subst with several equal tokens (--) needs a safe last token, in both cases the string gets an additional \HyPsd@empty.
Ligatures. \TeX forms ligatures in its stomach, but the PDF strings are treated only by \TeX’s mouth. The PDFDocEncoding contains some ligatures, but the current version 3 of the AcrobatReader lacks the \textit{fi} and \textit{fl} glyphs, and the Linux version lacks the \textit{emdash} and \textit{endash} glyphs. So the necessary code is provided here, but currently disabled, hoping that version 4 of the AcrobatReader is better. To break the ligatures the user can use an empty group, because it leads to an insertion of an \texttt{\HyPsdead\empty}. If this ligature code will be enabled some day, then the italic correction should also break the ligatures. Currently this occurs only, if package \texttt{xspace} is loaded.

Since newer AcrobatReader versions now show the en- and emdash in a correct way (AR7/Linux, AR8/Linux), the substitution code for them is enabled starting with version 6.78.

Optimizing spaces. Spaces are often used, but they have a very long form \texttt{\040}. They are converted back to real spaces, but not all, so that no space follows after another. In the bookmark case several spaces are written to the .out file, but if the entries are read back, several spaces are merged to a single one.

With Unicode the spaces are replaced by their octal sequences.
Converting to Unicode. At last the eight bit letters have to be converted to Unicode, the masks \8 and \9 are removed and the Unicode marker is added.

Try conversion back to PDFDocEncoding.

User hook. The hook \pdfstringdefPostHook can be used for the purpose to postprocess the string further.

6.3 Encodings

6.3.1 Xe\TeX
6.3.2 Workaround for package linguex

\@ifpackageloaded{linguex}{%
\let\HyLinguex@OrgB\b
\let\HyLinguex@OrgC\c
\let\HyLinguex@OrgD\d
\def\HyLinguex@Restore{%}
\let\b\HyLinguex@OrgB
\let\c\HyLinguex@OrgC
\let\d\HyLinguex@OrgD
}%
\Hy@AtEndOfPackage{%}
pdstringdefDisableCommands{%}
\ltx@ifUndef\oldb{\let\b\oldb}%
\ltx@ifUndef\oldc{\let\c\oldc}%
\ltx@ifUndef\oldd{\let\d\oldd}%
}%
\HyLinguex@Restore\relax
}%

6.3.3 Catcodes saving and restoring for .def files

\Hy@SaveCatcodeSettings
6.3.4 PD1 encoding

The PD1 encoding implements the PDFDocEncoding for use with \LaTeX's NFSS. Because the informational strings are not set by \TeX's typesetting mechanism but for interpreting by the PDF reader, the glyphs of the PD1 encoding are implemented to be safely written to a file (PDF output file, .out file).

The PD1 encoding can be specified as an option of the 'fontenc' package or loaded here. It does not matter what font family is selected, as \TeX does not process it anyway. So use CM.

6.3.5 PU encoding

The PU encoding implements the Unicode encoding for use with \LaTeX's NFSS. Because of large memory requirements the encoding file for Unicode support is only loaded, if option unicode is specified as package option.
Because the file `puenc.def` takes a lot of memory, the loading is defined in the macro `\HyPsd@LoadUnicode` called by the package option `unicode`.

\begin{verbatim}
\def\HyPsd@LoadUnicode{\if@ifundefined{T@PU}{\Hy@SaveCatcodeSettings{pu}\input{puenc.def}\Hy@RestoreCatcodeSettings{pu}\HyLinguex@Restore}{}}\let\HyPsd@LoadUnicode\relax
\end{verbatim}

\begin{verbatim}
\def\HyPsd@LoadExtra{\ifHy@psdextra\ltx@iffileloaded{puenc.def}{\Hy@SaveCatcodeSettings{psdextra}\input{psdextra.def}\Hy@RestoreCatcodeSettings{psdextra}\let\HyPsd@LoadExtra\relax}{}}\fi}
\end{verbatim}

\section{Additional user commands}

\subsection{\texttt{\textorpdfstring}}

While expanding the string in `\pdfstringdef` the switch `\ifHy@pdfstring` is set. This is used by the full expandible macro `\textorpdfstring`. It expects two arguments, the first contains the string that will be set and processed by \TeX{}'s stomach, the second contains the replacement for PDF strings.

\begin{verbatim}
\def\textorpdfstring{\ifHy@pdfstring\expandafter\@secondoftwo\else\expandafter\@firstoftwo\fi}
\end{verbatim}

\subsection{Hooks for `\pdfstringdef`}

Default definition of the hooks for `\pdfstringdef`. The construct `\@ifundefined` with `\let` is a little bit faster than `\providecommand`.

\begin{verbatim}
\@ifundefined{pdfstringdefPreHook}{\let\pdfstringdefPreHook\@empty}{\let\pdfstringdefPreHook\@empty}
\@ifundefined{pdfstringdefPostHook}{\let\pdfstringdefPostHook\@gobble}{\let\pdfstringdefPostHook\@gobble}
\end{verbatim}

In `\pdfstringdefPreHook` the user can add code that is executed before the string, that have to be converted by `\pdfstringdef`, is expanded. So replacements for
problematic macros can be given. The code in `\pdfstringdefPreHook` should not be replaced perhaps by an `\renewcommand`, because a previous meaning gets lost.

Macro `\pdfstringdefDisableCommands` avoids this, because it reuses the old meaning of the hook and appends the new code to `\pdfstringdefPreHook`, e.g.:

```
\pdfstringdefDisableCommands{%
  \let~\textasciitilde
  \def\url{\pdfstringdefWarn\url}%
  \let\textcolor\@gobble
}\%}
```

In the argument of `\pdfstringdefDisableCommands` the character @ can be used in command names. So it is easy to use useful \LaTeX\ commands like \@gobble or \@firstofone.

```
\def\pdfstringdefDisableCommands{%
  \begingroup
  \makeatletter
  \HyPsd@DisableCommands
  \makeatother
  \endgroup
}\%
```

(Partial) fix for bug in `frenchb.lfd` 2010/08/21 v2.5a that destroys `\pdfstringdefDisableCommands` after usage in `\AtBeginDocument`.

```
\let\HyPsd@pdfstringdefDisableCommands\pdfstringdefDisableCommands
\AtBeginDocument{%
  \@ifundefined{pdfstringdefDisableCommands}{%
    \let\pdfstringdefDisableCommands\HyPsd@pdfstringdefDisableCommands%
  }{%
    \let\pdfstringdefDisableCommands\HyPsd@pdfstringdefDisableCommands
  }
}\%
```

The purpose of `\pdfstringdefWarn` is to produce a warning message, so the user can see, that something can go wrong with the conversion to PDF strings.

The prefix `<>` is added to the token. \noexpand protects the probably undefined one during the first expansion step. Then \HyPsd@CheckCatcodes can detect the not allowed token, \HyPsd@CatcodeWarning prints a warning message, after \HyPsd@RemovePrefix has removed the prefix.

```
\pdfstringdefWarn The purpose of `\pdfstringdefWarn` is to produce a warning message, so the user can see, that something can go wrong with the conversion to PDF strings.
```

```
\def\pdfstringdefWarn#1{%
  \expandafter\noexpand\csname<>-\string#1\endcsname
}\%
```

6.5 Help macros for expansion

6.5.1 `\ignorespaces`

```
\ignorespaces
```

With the help of a trick using `\romannumeral` the effect of `\ignorespaces` can be simulated a little. In a special case using an alphabetic constant `\romannumeral` eats an optional space. If the constant is zero, then the `\romannumeral` expression
vanishes. The following macro uses this trick twice, thus \texttt{\HyPsd@ignorespaces}
eats up to two following spaces.
\begin{verbatim}
\begingroup
\catcode0=12 %
\def\x{\endgroup
\def\HyPsd@ignorespaces{%
\romannumeral\expandafter``\expandafter^^@%
\romannumeral``^^@%
}%
\x
\end{verbatim}

\subsection*{6.5.2 Babel languages}

Since version 2008/03/16 v3.8j babel uses inside \texttt{\AtBeginDocument}:
\begin{verbatim}
\pdfstringdefDisableCommands{%
languageshorthands{system}%
}
\end{verbatim}

As consequence the shorthands are shown in the bookmarks, not its result. Therefore \texttt{\languageshorthands} is disabled before the user hook. If there is a need to use the command, then \texttt{\HyOrg@languageshorthands} can be used inside \texttt{\pdfstringdefDisableCommands}.
\begin{verbatim}
\def\HyPsd@BabelPatch{%
\let\HyOrg@languageshorthands\languageshorthands
\let\languageshorthands\HyPsd@LanguageShorthands
}
\begin{group}
\expandafter\expandafter\expandafter\endgroup
\expandafter\ifx\csname pdf@strcmp\endcsname\relax
\let\HyPsd@langshort@system\@empty
\def\HyPsd@LanguageShorthands#1{%
\expandafter\ifx\csname HyPsd@langshort@#1\endcsname
\HyPsd@langshort@system
\expandafter\@gobble
\else
\expandafter\@firstofone
\fi
{\HyOrg@languageshorthands{#1}}%
\}
\%}
\else
\def\HyPsd@LanguageShorthands#1{%
\ifnum\pdf@strcmp{#1}{system}=\z@\expandafter\@gobble\else\expandafter\@firstofone\fi
{\HyOrg@languageshorthands{#1}}%
\}
\fi
\def\Hy@temp{%
@ifpackageloaded{babel}{% \ifnum\pdf@strcmp{\@gobble@firstofone}{#1}=\z@
\expandafter\expandafter\expandafter\endgroup
\expandafter\ifx\csname pdf@strcmp\endcsname\relax
\let\HyPsd@langshort@system\@empty
\def\HyPsd@LanguageShorthands#1{%
\expandafter\ifx\csname HyPsd@langshort@#1\endcsname
\HyPsd@langshort@system
\expandafter\@gobble
\else
\expandafter\@firstofone
\fi
{\HyOrg@languageshorthands{#1}}%
\}
\%}
\else
{\HyOrg@languageshorthands{#1}}%
\}
\%}
\if@ifpackageloaded{babel}{%\else
\fi
\def\Hy@temp{%
@ifpackageloaded{babel}{%\else
\fi
\@ifpackagelater{babel}{2008/03/16}{%\def\HyPsd@BabelPatch{%\let\HyOrg@languageshorthands\languageshorthands
\let\languageshorthands\HyPsd@LanguageShorthands
\end{verbatim}
\end{verbatim}
\let\Hy@temp\empty
\def\HyPsd@BabelPatch{%}
\let\HyOrg@languageshorthands\languageshorthands
}%
%
}%
}%
\Hy@temp
\expandafter\Hy@AtBeginDocument\expandafter{\Hy@temp}

Nothing to do for english.
\ltx@IfUndefined{danish@sh"@sel}{}{%
\def\HyPsd@babel@danish{%
\declare@shorthand{danish}{"|}{}%
\declare@shorthand{danish}{"~}{-}%
}%
}%
\ltx@IfUndefined{dutch@sh"@sel}{}{%
\def\HyPsd@babel@dutch{%
\declare@shorthand{dutch}{"|}{}%
\declare@shorthand{dutch}{"~}{-}%
}%
}%
\ltx@IfUndefined{finnish@sh"@sel}{}{%
\def\HyPsd@babel@finnish{%
\declare@shorthand{finnish}{"|}{}%
}%
}%
\ltx@IfUndefined{french@sh:@sel}{}{%
\def\HyPsd@babel@frenchb{%
\def\guill@spacing{ }%
}%
}%
\ltx@IfUndefined{german@sh"@sel}{}{%
\def\HyPsd@babel@german{%
\declare@shorthand{german}{"f}{f}%
\declare@shorthand{german}{"|}{}%
\declare@shorthand{german}{"~}{-}%
}%
}%
\ltx@IfUndefined{macedonian@sh"@sel}{}{%
\def\HyPsd@babel@macedonian{%
\declare@shorthand{macedonian}{"|}{}%
\declare@shorthand{macedonian}{"~}{-}%
}%
}%
\ltx@IfUndefined{ngerman@sh"@sel}{}{%
\def\HyPsd@babel@ngerman{%
\declare@shorthand{ngerman}{"|}{}%
\declare@shorthand{ngerman}{"~}{-}%
}%
}%
\ltx@IfUndefined{portuges@sh"@sel}{}{%
\def\HyPsd@babel@portuges{%
\declare@shorthand{portuges}{"|}{}%
}%
}%
Nested quoting environments are not supported (<<, >>).
Shorthand "-" of 'russianb.ldf' is not expandable, therefore it is disabled and replaced by -.  

Some internal commands of package cjk are redefined to avoid error messages. For a rudimental support of CJK bookmarks the active characters are redefined so that they print themselves.

After preprocessing of Big5 encoded data the following string for a double-byte character is emitted:

```
^7f<arg1>^7f<arg2>^7f
```

<arg1> is the first byte in the range (always > 0x80); <arg2> is the second byte in decimal notation (≥ 0x40).
The macro \HyPsd@CJKActiveChars is only defined to limit the memory consumption of \HyPsd@CJKhook.
\def\HyPsd@CJKActiveChars#1{\if\relax#1\def#1{\Hy@cjkpu
\the\Hy@cjkpu}\fi\relax}

A character, given by the decimal number is converted to a PDF character.
\def\HyPsd@DecimalToOctal#1{\ifcase #1 \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007\or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017\or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027\or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037\or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047\or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057\or \0\or \1\or \2\or \3\or \4\or \5\or \6\or \7\or \8\or \9\or \10\or \11\or \12\or \13\or \14\or \15\or \16\or \17\or \A\or \B\or \C\or \D\or \E\or \F\or \G\or \H\or \J\or \K\or \L\or \M\or \N\or \O\or \P\or \Q\or \R\or \S\or \T\or \U\or \V\or \W\or \X\or \Y\or \Z\or \133\or \134\or \135\or \136\or \137\or
6.5.5 CJK unicode

\HyPsd@CJKhook@unicode

\let\UnicodeHyPsd@CJK@Unicode
\let\CJKnumberHyPsd@CJKnumber
\let\CJKdigitsHyPsd@CJKdigits

\HyPsd@CJK@Unicode

\def\HyPsd@CJK@Unicode#1#2{%}
\ifnum#1<256%
\HyPsd@DecimalToOctalFirst(#1)%
\else
\ifcase\intcalcMod{#1}{4} \or 4\or 5\or 6\or 7%
\fi
\HyPsd@DecimalToOctalSecond(#2)%
\fi
\def\HyPsd@HighA#1!{%}
\expandafter\expandafter\expandafter\HyPsd@HighB
\IntCalcDiv#1!64!!%
\expandafter\expandafter\expandafter\HyPsd@HighD
\IntCalcMod#1!64!!%
\fi
\HyPsd@DecimalToOctalSecond(#2)%
}
\IntCalcDec#1!!
\def\HyPsd@HighC#1!{\IntCalcDiv#1!4!\backslash}
\IntCalcMod#1!4!
\def\HyPsd@HighD#1!{\ifcase\IntCalcDiv#1!8! 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7\fi\ifcase\IntCalcMod#1!8! 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7\fi}
\def\HyPsd@DecimalToOctalFirst#1{9\ifcase#1 000\or 001\or 002\or 003\or 004\or 005\or 006\or 007\or 010\or 011\or 012\or 013\or 014\or 015\or 016\or 017\or 020\or 021\or 022\or 023\or 024\or 025\or 026\or 027\or 030\or 031\or 032\or 033\or 034\or 035\or 036\or 037\or 040\or 041\or 042\or 043\or 044\or 045\or 046\or 047\or 050\or 051\or 052\or 053\or 054\or 055\or 056\or 057\or 060\or 061\or 062\or 063\or 064\or 065\or 066\or 067\or 070\or 071\or 072\or 073\or 074\or 075\or 076\or 077\or 100\or 101\or 102\or 103\or 104\or 105\or 106\or 107\or 120\or 11\or 112\or 113\or 114\or 115\or 116\or 117\or 120\or 121\or 122\or 123\or 124\or 125\or 126\or 127\or 130\or 131\or 132\or 133\or 134\or 135\or 136\or 137\or 140\or 141\or 142\or 143\or 144\or 145\or 146\or 147\or 150\or 151\or 152\or 153\or 154\or 155\or 156\or 157\or 160\or 161\or 162\or 163\or 164\or 165\or 166\or 167\or 170\or 171\or 172\or 173\or 174\or 175\or 176\or 177\or 200\or 201\or 202\or 203\or 204\or 205\or 206\or 207\or 210\or 211\or 212\or 213\or 214\or 215\or 216\or 217\or 220\or 221\or 222\or 223\or 224\or 225\or 226\or 227\or 230\or 231\or 232\or 233\or 234\or 235\or 236\or 237\or 240\or 241\or 242\or 243\or 244\or 245\or 246\or 247\or 250\or 251\or 252\or 253\or 254\or 255\or 256\or 257\or 260\or 261\or 262\or 263\or 264\or 265\or 266\or 267\or 270\or 271\or 272\or 273\or 274\or 275\or 276\or 277\or 300\or 301\or 302\or 303\or 304\or 305\or 306\or 307\or 310\or 311\or 312\or 313\or 314\or 315\or 316\or 317\or 320\or 321\or 322\or 323\or 324\or 325\or 326\or 327\or 330\or 331\or 332\or 333\or 334\or 335\or 336\or 337\or 340\or 341\or 342\or 343\or 344\or 345\or 346\or 347\or 350\or 351\or 352\or 353\or 354\or 355\or 356\or 357\or 360\or 361\or 362\or 363\or 364\or 365\or 366\or 367\or 370\or 371\or 372\or 373\or 374\or 375\or 376\or 377\fi}
\def\HyPsd@DecimalToOctalSecond#1{\ifcase#1 0\or 001\or 002\or 003\or 004\or 005\or 006\or 007\or 010\or 011\or 012\or 013\or 014\or 015\or 016\or 017\or 020\or 021\or 022\or 023\or 024\or 025\or 026\or 027
\def\HyPsd@CJKnumber#1{\ifnum#1<\z@
\CJK@minus\expandafter\HyPsd@@CJKnumber\expandafter{\number-\number#1}\else\expandafter\HyPsd@@CJKnumber\expandafter{\number#1}\fi}
\def\HyPsd@@CJKnumber#1{\ifcase#1 \CJK@zero\or\CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or\CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine\or\CJK@ten\else\ifnum#1<10000 \HyPsd@CJKnumberFour\IntCalcDiv#1!10000\else\expandafter\expandafter\expandafter\HyPsd@CJKnumberFour\IntCalcDiv#1!10000\@empty\@empty\CJK@tenthousand\fi\fi\fi\fi
\def\HyPsd@@CJKnumber#1{\ifnum#1<10000 \HyPsd@CJKnumberFour\empty\@empty\@empty\empty\@empty\@empty\e
\expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
\IntCalcMod#1!100000000!%
\CJK@zero{10}\
@empty
\else
\expandafter\HyPsd@CJKnumberLarge
\number\IntCalcDiv#1!150000000\expandafter!%
\number\IntCalcMod#1!150000000!!%
\fi
\fi
\fi
\def\HyPsd@CJKnumberLarge#1!#2!{\
\HyPsd@CJKnumberFour#1!{}{20}\
\CJK@hundredmillion\
\ifnum#2=\z@
\else
\expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
\IntCalcDiv#2!10000!%
\CJK@zero{10}\
\CJK@tenthousand
\expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
\IntCalcMod#2!10000!%
\CJK@zero{10}\
\@empty
\fi
\fi
\def\HyPsd@CJKnumberFour#1!#2#3{\
\ifnum#1=\z@
\expandafter\@gobble
\else
\ifnum#1<1000 %
#2%
\HyPsd@CJKnumberThree#1!{}{#3}%
\else
\HyPsd@@CJKnumber{\IntCalcDiv#1!1000!}\
\CJK@thousand
\expandafter\expandafter\expandafter\HyPsd@CJKnumberThree
\IntCalcMod#1!1000!%
\CJK@zero{10}%
\fi
\fi
\def\HyPsd@CJKnumberThree#1!#2#3{\
\ifnum#1=\z@
\else
\ifnum#1<100 %
#2%
\HyPsd@CJKnumberTwo#1!{}{#3}%
\else
\HyPsd@@CJKnumber{\IntCalcDiv#1!100!}\
\CJK@hundred
\expandafter\expandafter\expandafter\HyPsd@CJKnumberTwo
\IntCalcMod#1!100!%
\CJK@zero{10}%
\fi
\fi
\def\HyPsd@CJKnumberTwo#1!#2#3{\
\ifnum#1=\z@
\else
\ifnum#1<10 %
#2%
\HyPsd@CJKnumberOne#1!{}{#3}%
\else
\HyPsd@@CJKnumber{\IntCalcDiv#1!10!}\
\CJK@ten
\expandafter\expandafter\expandafter\HyPsd@CJKnumberOne
\IntCalcMod#1!10!%
\CJK@zero{10}%
\fi
\fi
}
The patch of \@inmathwarn-Patch is needed to get rid of the infinite error loop with glyphs of other encodings (see the explanation above). Potentially the patch is dangerous, if the code in \texttt{ltoutenc.dtx} changes. Checked with \LaTeX\ versions [1998/06/01] and [1998/12/01]. I expect that versions below [1995/12/01] don’t work.
To understand the patch easier, the original code of `@current@cmd` and `@changed@cmd` follows (TEX2 release [1998/12/01]). In the normal case `pdf-stringdef` is executed in a context where `protect` has the meaning of `@typeset-protect` (= `relax`).

\def\@current@cmd#1{\%  
\ifx\protect\@typeset@protect
@inmathwarn#1\%
\else
\noexpand#1\expandafter\@gobble
\fi}
\def\@changed@cmd#1#2{\%  
\ifx\protect\@typeset@protect
@inmathwarn#1\%
\expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
\expandafter\ifx\csname ?\string#1\endcsname\relax
\TextSymbolUnavailable#1%
\global\expandafter\let\csname\cf@encoding \string#1\expandafter\endcsname\csname ?\string#1\endcsname
\else
\noexpand#1\fi
\else
\csname\cf@encoding\string#1\endcsname
\expandafter\endcsname
\noexpand#1\%
\expandafter\@gobble\string#1%
\fi}
\edef\TextSymbolUnavailable#1{\%  
\@latex@error{Command \protect#1 unavailable in encoding \cf@encoding%}
\@eha}
\def\@inmathwarn#1{\%  
\ifmmode\@latex@warning{Command \protect#1 invalid in math mode}%  
\fi}
\def\HyPsd@inmathwarn#1#2{\%  
\ifx#2\expandafter
\end{filecontents*}
6.5.7 Unexpandable spaces

In \Hypsd@@ProtectSpaces the space tokens are replaced by not expandable
commands, that work like spaces:

- So they can caught by undelimited arguments.
- And they work in number, dimen, and skip assignments.

These properties are used in \Hypsd@CheckCatcodes.

\Hypsd@LetUnexpandableSpace

\Hypsd@UnexpandableSpace is used in \Hypsd@@ProtectSpaces. In \yPsd@@ProtectSpaces the space tokens are replaced by unexpandable commands \Hypsd@UnexpandableSpace, but that have the effect of spaces.

6.5.8 Marker for commands

\Hypsd@XSPACE \Hypsd@ITALCORR \Hypsd@GLYPHERR

Some commands and informations cannot be utilized before the string expansion
and the checking process. Command names are filtered out, so we need another
way to transport the information: An unusual # with catcode 12 marks the
beginning of the extra information.

\edef\Hypsd@XSPACE{\string#\string X}
\edef\Hypsd@ITALCORR{\string#\string I}
\edef\Hypsd@GLYPHERR{\string#\string G}

6.5.9 \hspace fix

\Hypsd@hspace

\edef\Hypsd@hspace{1\{\Hypsd@hspace1\END\}}

\Hypsd@hspace \Hypsd@hspace checks whether \hspace is called in its star form.

\edef\Hypsd@hspace{1\{1\END\}}
\ifx\#1\%
\Hypsd@hspace{1\END\}}
\else
\Hypsd@hspace{1\END\}}
\fi
\expandafter\Hypsd@hspace{1\END\}}
\Hypsd@hspace{1\END\}}
\ifdim>0\space\fi

\Hypsd@hspace{1\END\}}
\ifdim>0\space\fi

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6.5.10 Fix for AMS classes

\let\HyPsd@AMSclassfix\relax
\def\HyPsd@AMSclassfix{%
\let\tocpart\HyPsd@tocsection
\let\tocchapter\HyPsd@tocsection
\let\tocappendix\HyPsd@tocsection
\let\tocsection\HyPsd@tocsection
\let\tocsubsection\HyPsd@tocsection
\let\tocsubsubsection\HyPsd@tocsection
\let\tocparagraph\HyPsd@tocsection
}%
\def\HyPsd@tocsection#1#2#3{%
\if@#2\else\if@#1\else#1 \fi#2. \fi
#3%
}%

6.5.11 Reference commands

\HyPsd@href
\def\HyPsd@href#1#{\@secondoftwo}

\HyPsd@ref Macro \HyPsd@ref calls the macro \HyPsd@@ref for star checking. The same methods like in \HyPsd@hspace is used.
\def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%

\HyPsd@@ref Macro \HyPsd@@ref checks if a star is present.
\def\HyPsd@@ref#1*#2\END{%
\ifx\#2\%
\HyPsd@@@ref{#1}%
\else
\expandafter\HyPsd@@@ref
\fi%
}

\HyPsd@@ref \HyPsd@@ref does the work and extracts the first argument.
\def\HyPsd@@@ref#1{%
\expandafter\ifx\csname r@#1\endcsname\relax
??%
\else
\expandafter\expandafter\expandafter
\@car\csname r@#1\endcsname\@nil
\fi
}

\HyPsd@pageref Macro \HyPsd@pageref calls the macro \HyPsd@@pageref for star checking. The same methods like in \HyPsd@hspace is used.
\def\HyPsd@pageref#1{\HyPsd@@pageref#1*\END}

\HyPsd@@pageref Macro \HyPsd@@pageref checks if a star is present.
\def\HyPsd@@pageref#1*#2\END{%
\ifx\#2\%
\HyPsd@@@pageref{#1}%
\else
\expandafter\expandafter\expandafter
\expandafter\expandafter\expandafter
\@car\csname r@#1\endcsname\@nil
\fi
}
\HyPsd@@@pageref  \HyPsd@@@pageref does the work and extracts the second argument.
\def\HyPsd@@@pageref#1{%
\expandafter\ifx\csname r@#1\endcsname\relax
??%
\else
\expandafter\expandafter\expandafter\expandafter
\expandafter\expandafter\expandafter\@car
\expandafter\expandafter\expandafter\@gobble
\csname r@#1\endcsname{}\@nil
\fi
}

\HyPsd@nameref  Macro \HyPsd@nameref calls the macro \HyPsd@@@nameref for star checking. The same methods like in \HyPsd@hspace is used.
\def\HyPsd@nameref#1{\HyPsd@@nameref#1*\END}
\HyPsd@@nameref  Macro \HyPsd@@nameref checks if a star is present.
\def\HyPsd@@nameref#1*#2\END{%
\ifx\#2\%
\HyPsd@@@nameref{#1}%
\else
\expandafter\HyPsd@@@nameref
\fi
}
\HyPsd@autoref  Macro \HyPsd@autoref calls the macro \HyPsd@@@autoref for star checking. The same methods like in \HyPsd@hspace is used.
\def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}
\HyPsd@@autoref  Macro \HyPsd@@autoref checks if a star is present.
\def\HyPsd@@autoref#1*#2\END{%
\ifx\#2\%
\HyPsd@@@autoref{#1}%
\else
\expandafter\HyPsd@@@autoref
\fi
}
6.5.12 Redefining the defining commands

Definitions aren’t allowed, because they aren’t executed in an only expanding context. So the command to be defined isn’t defined and can perhaps be undefined. This would cause TeX to stop with an error message. With a deep trick it is possible to define commands in such a context: \csname \endcsname \endcsname does the job, it defines the command to be \relax, if it has no meaning.

Active characters cannot be defined with this trick. It is possible to define all undefined active characters (perhaps that they have the meaning of \relax). To avoid side effects this should be done in \pdfstringdef shortly before the \xdef job. But checking and defining all possible active characters of the full range (0 until 255) would take a while. \pdfstringdef is slow enough, so this isn’t done.

\HyPsd@DefCommand and \HyPsd@LetCommand expands to the \def-commands and \let-commands with the meaning of \def and \let. So it is detected by \HyPsd@CheckCatcodes and the command name \Autorefname should indicate a forbidden definition command.

The command to be defined is converted to a string and back to a command name with the help of \csname. If the command is already defined, \noexpand prevents a further expansion, even though the command would expand to legal stuff. If the command don’t have the meaning of \relax, \HyPsd@CheckCatcodes will produce a warning. (The command itself can be legal, but the warning is legitimate because of the position after a defining command.)

The difference between \HyPsd@DefCommand and \HyPsd@LetCommand is that the first one also cancels this arguments, the parameter and definition text. The right side of the \let commands cannot be canceled with an undelimited parameter because of a possible space token after \futurelet.
To avoid unmatched \if... tokens, the cases \let\if\iftrue and \let\if\iffalse are checked and ignored.

\HyPsd@DefCommand
\HyPsd@LetCommand

6.5.13 \ifnextchar

In \pdftexdef \ifnextchar is disabled via a \let command to save time. First a warning message is given, then the three arguments are canceled. \ifnextchar cannot work in a correct manner, because it uses \futurelet, but this is a stomach feature, that doesn’t work in an expanding context. There are several variants of \ifnextchar:

- \@ifnextchar
- \kernel@ifnextchar
- \new@ifnextchar from package amsgen.sty (bug report latex/3662).

\def\HyPsd@ifnextchar#1{%
6.5.14 \@protected@testoptifnextchar

Macros with optional arguments don’t work properly, because they call \@ifnextchar to detect the optional argument (see the explanation of \HyPsd@ifnextchar). But a warning, that \@ifnextchar doesn’t work, doesn’t help the user very much. Therefore \@protected@testopt is also disabled, because its first argument is the problematic macro with the optional argument and it is called before \@ifnextchar.

\begin{verbatim}
def\HyPsd@protected@testopt#1{%
\pdfstringdefWarn#1%\gobbletwo%
}%
\end{verbatim}

6.6 Help macros for postprocessing

6.6.1 Generic warning.

For several reasons \space is masked and does not have its normal meaning. But it is used in warning messages, so it is redefined locally:

\begin{verbatim}
def\HyPsd@Warning#1{%
begingroup
\let\space\ltx@space
\Hy@Warning{#1}%
\endgroup
}
\end{verbatim}

6.6.2 Protecting spaces

\HyPsd@ProtectSpaces calls with the expanded string \HyPsd@@ProtectSpacesFi. The expanded string is protected by | at the beginning and end of the expanded string. Because of this there can be no group at the beginning or end of the string and grouping characters are not removed by the call of \HyPsd@@ProtectSpacesFi.

\begin{verbatim}
def\HyPsd@ProtectSpaces#1{|\expandafter\HyPsd@End#1|}
def\HyPsd@@ProtectSpacesFi#1 #2|\HyPsd@End#3|fi{%}
def\HyPsd@@ProtectSpacesFi#1 {%
\iftrue
\expandafter\HyPsd@ProtectSpacesFi
\expandafter\empty@#2| \HyPsd@End#3%
\fi
}
\end{verbatim}

The string can contain command tokens, so it is better to use an \def instead of an \edef.

\begin{verbatim}
def\HyPsd@@ProtectSpacesFi#1 {#2|\HyPsd@End#3|fi{%
\def\HyPsd@@ProtectSpacesFi#1 {#2|\HyPsd@End#3|fi{%
\fi
\ifx\scrollmode#2\scrollmode
\fi
\end{verbatim}
\documentclass{article}

\begin{document}

6.6.3 Remove grouping braces

\texttt{\textbf{\HyPsd@RemoveBraces}} #1 contains the expanded string, the result will be locally written in command \texttt{\HyPsd@String}.

\begin{verbatim}
\def\HyPsd@RemoveBraces#1\HyPsd@End{\ifx\scrollmode#1\scrollmode\else\HyPsd@@RemoveBracesFi#1\HyPsd@End\fi}
\end{verbatim}

\texttt{\HyPsd@RemoveBraces} is called with the expanded string, the end marked by \texttt{\HyPsd@End}, the expanded string again, but enclosed in braces and the string command. The first expanded string is scanned by the parameter text #1 #2. By a comparison with the original form in #3 we can decide whether #1 is a single

\end{document}
token or a group. To avoid the case that \#2 is a group, the string is extended by a `|` before.

While removing the grouping braces an italic correction marker is inserted for supporting package `xspace` and letting ligatures broken.

Because the string is already expanded, the `\if` commands should disappeared. So we can move some parts out of the argument of `\ltx@ReturnAfterFi`.

\begin{verbatim}
1913 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{% 
1914 \fi
1915 \def\Hy@temp@A{#1#2}%
1916 \def\Hy@temp@B{#3}%
1917 \ifx\Hy@temp@A\Hy@temp@B
1918 \expandafter\def\expandafter\HyPsd@String\expandafter{% 
1919 \HyPsd@String#1%
1920 }
1921 \fi\scrollmode#2\scrollmode
1922 \else
1923 \Hy@ReturnAfterFiFiEnd%(%
1924 \HyPsd@RemoveBraces{#2}%
1925 )%
1926 \fi
1927 \else
1928 \def\Hy@temp@A{#1}%
1929 \HyPsd@AppendItalcorr\HyPsd@String
1930 \ifx\Hy@temp@A\@empty
1931 \Hy@ReturnAfterElseFiFiEnd%(%
1932 \HyPsd@RemoveBraces{#2}%
1933 )%
1934 \else
1935 \HyPsd@ProtectSpaces\Hy@temp@A
1936 \HyPsd@AppendItalcorr\Hy@temp@A
1937 \Hy@ReturnAfterFiFiEnd%(%
1938 \expandafter\HyPsd@RemoveBraces\expandafter
1939 \{\Hy@temp@A#2%
1940 )%
1941 \fi
1942 \fi
1943 \Hy@ReturnEnd
1944 }
\end{verbatim}

The string can contain commands yet, so it is better to use `\def` instead of a shorter `\edef`. The two help macros limit the count of `\expandafter`.

\begin{verbatim}
1945 \def\HyPsd@AppendItalcorr#1{% 
1946 \expandafter\HyPsd@@AppendItalcorr\expandafter{\}/#1%
1947 }
1948 \def\HyPsd@AppendItalcorr#1#2{% 
1949 \expandafter\def\expandafter#2\expandafter{#2#1}%
1950 }
\end{verbatim}

\subsection{Catcode check}

\textbf{Workaround for Lua\TeX.} `\HyPsd@CheckCatcodes` might trigger a bug of Lua\TeX\ 0.60.2, 0.70.1, 0.70.2, ... in the comparison with `\ifcat`, see \url{http://tracker.luatex.org/view.php?id=773}.

\begin{verbatim}
1951 \ltx@ifUndefined{directlua}{% 
1952 }{% 
1953 \expandafter\ifx\csname\endcsname\relax\fi
\end{verbatim}

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Check catcodes.

Because \ifcat expands its arguments, this is prevented by \noexpand. In case of command tokens and active characters \ifcat now sees a \relax. After protecting spaces and removing braces \#1 should be a single token, no group of several tokens, nor an empty group. (So the \expandafter\relax between \ifcat and \noexpand is only for safety and it should be possible to remove it.)

\protect and \relax should be removed silently. But it is too dangerous and breaks some code giving them the meaning of  empty. So commands with the meaning of \protect are removed here. (\protect should have the meaning of \@typeset@protect that is equal to \relax).

For the comparison with active characters, – cannot be used because it has the meaning of a blank space here. And active characters need to be checked, if they have been defined using \protected.

\begingroup
\catcode`Q=\active
\let Q\ltx@empty
\gdef\HyPsd@CheckCatcodes#1#2\HyPsd@End{%\global\let\HyPsd@Rest\relax
  \ifcat\relax\noexpand#1\relax
    \ifx#1\protect
      \else
        \ifx#1\penalty
          \afterassignment\HyPsd@AfterCountRemove
        \else
          \ifx#1\kern
            \afterassignment\HyPsd@AfterDimenRemove
          \else
            \HyPsd@CatcodeWarning{#1}%
          \fi
        \fi
      \fi
    \fi
  \fi
  \else
    \ifcat
      \noexpand#1
      \expandafter\expandafter\expandafter\def
      \expandafter\expandafter\expandafter{\HyPsd@String
    \else
      \ifcat
        \fi
      \fi
    \fi
  \fi
\endgroup
\expandafter\def\expandafter\HyPsd@String\expandafter{\%
\HyPsd@String#1%
}
\else
\ifcat#1 SPACE
\expandafter\def\expandafter\HyPsd@String\expandafter{\%
\HyPsd@String\HyPsd@SPACEOPTI
%
}
\else
\ifcat$#1%
\HyPsd@CatcodeWarning{math shift}%
\else
\ifcat&#1%
\HyPsd@CatcodeWarning{alignment tab}%
\else
\ifcat^#1%
\HyPsd@CatcodeWarning{superscript}%
\else
\ifcat_#1%
\HyPsd@CatcodeWarning{subscript}%
\else
\expandafter\def\expandafter\HyPsd@String\expandafter{\%
\HyPsd@String#1%
}
\fi
\fi
\fi
\fi
\fi
\fi
\fi
\fi
\Hy@ReturnAfterFiFiEnd{%
\HyPsd@CheckCatcodes#2\HyPsd@End}
\Hy@ReturnEnd
\HyPsd@AfterCountRemove#1\HyPsd@End{%
\gdef\HyPsd@Rest{#1}

Remove counts, dimens, skips.

Counts like \penalty are removed silently.

\def\HyPsd@AfterCountRemove#1\HyPsd@End{%
\gdef\HyPsd@Rest{#1}
}
If the value of the dimen (\kern) is zero, it can be removed silently. All other values are difficult to interpret. Negative values do not work in bookmarks. Should positive values be removed or should they be replaced by space(s)? The following code replaces positive values greater than 1ex with a space and removes them else.

\begin{verbatim}
def\HyPsd@AfterDimenRemove#1\HyPsd@End{\%  
  \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@\fi>1ex \%  
  \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}\%  
  \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}\%  
  \else  
  \ifdim\dimen@=\z@  
  \else  
    \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}\%  
  \fi  
  \fi  
  \gdef\HyPsd@Rest{#1}\%  
} \end{verbatim}

The glue part of skips do not work in PDF strings and are ignored. Skips (~\hskip~), that are not zero, have the same interpreting problems like dimens (see above).

\begin{verbatim}
def\HyPsd@AfterSkipRemove#1\HyPsd@End{\%  
  \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@\fi>1ex \%  
  \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}\%  
  \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}\%  
  \else  
    \ifdim\skip@=\z@  
    \else  
      \HyPsd@RemoveSpaceWarning{\string\hskip\space\the\skip@}\%  
    \fi  
    \fi  
  \gdef\HyPsd@Rest{#1}\%  
} \end{verbatim}

Catcode warnings.

\begin{verbatim}
def\HyPsd@CatcodeWarning{\%  
  \HyPsd@Warning{\%  
    Token not allowed in a PDF string (\%  
    \ifHy@unicode  
    Unicode\%  
    \else  
    PDFDocEncoding\%  
    \fi  
    \MessageBreak removing `\HyPsd@RemoveCmdPrefix#1'\%  
  \}\%  
} \end{verbatim}

\begin{verbatim}
\begingroup  
catcode`\|=0 \%  
catcode`\=12 \%  \gdef\HyPsd@RemoveCmdPrefix#1\HyPsd@End{\%  
  \expandafter\HyPsd@RemoveCmdPrefix  
  \string#1\@empty\<-|-\@empty|\@empty\%  
\endgroup
def\HyPsd@GetBox\End{\%
6.6.5 Check for wrong glyphs

A wrong glyph is marked with `\relax`, the glyph name follows, delimited by `>`.
`\@empty` ends the string.

```
\def\HyPsd@GlyphProcess#1\relax#2\@empty{%
  \expandafter\def\expandafter\HyPsd@String\expandafter{\HyPsd@String#1%}
  \ifx\#2\%
    \else
      \ltx@ReturnAfterFi{%
        \HyPsd@GlyphProcessWarning#2\@empty%
      }%
    
  }
}

\def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
  \ifx\#2\%
    \HyPsd@Warning{%
      Glyph not defined in \ifHy@unicode U\else D1\fi\space encoding,
      removing `\@backslashchar#1'%
     }
  
  }
```
Spaces.

In the string the spaces are represented by \texttt{\stringopt} tokens. Within an \texttt{\edef} it prints itself as a simple space and looks for its next argument. If another space follows, so it replaces the next \texttt{\stringopt} by an protected space \texttt{\040}.

\texttt{\edef} it prints itself as a simple space and looks for its next argument. If another space follows, so it replaces the next \texttt{\stringopt} by an protected space \texttt{\040}.

6.6.6 Replacing tokens

\texttt{\EscapeTeX} To save tokens \texttt{\StringSubst} is a wrapper for the command \texttt{\Subst} that does all the work: In string stored in command \texttt{\string} it replaces the tokens \texttt{\string} with \texttt{\string}.

\texttt{\Subst}\#1\texttt{\Subst}\#2 with \texttt{\string}.

\texttt{\StringSubst} To save tokens in \texttt{\EscapeTeX} \texttt{\StringSubst} is a wrapper, that expands argument \texttt{\string} before calling \texttt{\Subst}.

\texttt{\EscapeTeX} \texttt{\begingroup}
6.6.7 Support for package \texttt{xspace}

\texttt{xspace} does not work, because it uses a \texttt{futurelet} that cannot be executed in TeX's mouth. So this implementation uses an argument to examine the next token. In a previous version I reused \texttt{@xspace}, but this version is shorter and easier to understand.

6.6.8 Converting to Unicode

Eight bit characters are converted to the sixteen bit ones, \texttt{"\textbackslash 8} is replaced by \texttt{\textbackslash 00}, and \texttt{"\textbackslash 9} is removed. The result should be a valid Unicode PDF string without the Unicode marker at the beginning.
\HyPsd@@GetNextTwoTokens \TeX{} does only allow nine parameters, so we need another macro to get more arguments.
\begin{verbatim}
\def\HyPsd@GetNextTwoTokens#1#2#3\END#4{\% 
\xdef#4{#4#1#2}\% 
\HyPsd@@ConvertToUnicode#3\END#4\%}
\end{verbatim}

\HyPsd@Char
\begin{verbatim}
\begingroup
\catcode0=9 \%
\catcode`^=7 \%
\catcode`^^^=12 \%
\def\x{^^^0000}\% 
\expandafter\endgroup
\ifx\x@empty\%
\def\HyPsd@Char#1{\% 
\ifnum`#1<128 \%
@backslashchar 000#1\% 
\else\%
\ifnum`#1<65536 \%
\expandafter\HyPsd@CharTwoByte\number`#1!\% 
\else\%
\expandafter\expandafter\expandafter\HyPsd@CharSurrogate\intcalcSub{`#1}{65536}!\%
\fi\%
\fi\%
\def\HyPsd@CharTwoByte#1!{\%
\expandafter\expandafter\expandafter\HyPsd@CharOctByte\IntCalcDiv#1!256!!\%
\expandafter\expandafter\expandafter\HyPsd@CharOctByte\IntCalcMod#1!256!!\%
\def\HyPsd@CharOctByte#1!{\%
@backslashchar \IntCalcDiv#1!64!\%
\intcalcDiv{\IntCalcMod#1!64!}{8}!\%
\IntCalcMod#1!8!\%
\def\HyPsd@CharSurrogate#1!{\%
@backslashchar 33\%
\intcalcDiv{\IntCalcMod#1!1024!}{256}!4!\%
\intcalcDiv{\IntCalcMod#1!256!}{256}!!\%
\else\%
\def\HyPsd@Char#1{\%
@backslashchar 000#1\%
\fi\%
\fi\%
\def\HyPsd@CharTwoByte#1!{\%
\expandafter\expandafter\expandafter\HyPsd@CharOctByte\IntCalcDiv\number`#1{1228}!\%
\expandafter\expandafter\expandafter\HyPsd@CharOctByte\IntCalcMod\number`#1{1228}!!\%
\def\HyPsd@CharOctByte#1!{\%
@backslashchar \IntCalcDiv\number`#1{164}!\%
\intcalcDiv{\IntCalcMod\number`#1{164}!}{8}!\%
\IntCalcMod\number`#1{191}!\%
\def\HyPsd@CharSurrogate#1!{\%
@backslashchar \IntCalcDiv\number`#1{262144}!\%
\intcalcDiv{\IntCalcMod\number`#1{262144}!}{1024}!\%
@backslashchar \IntCalcDiv\number`#1{33}!\%
\intcalcDiv{\IntCalcMod\number`#1{33}!}{256}!4!\%
\IntCalcMod\number`#1{256}!!\%
\else\%
\def\HyPsd@Char#1{\%
@backslashchar \number`#1\%
\fi\%
\fi\%
\fi\%
\fi\%
\fi\%
\fi\%
\fi\%
\fi\%
\fi\%
\end{verbatim}

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6.6.9 Support for UTF-8 input encoding

After \usepackage[utf8]{inputenc} there are macros that expect the UTF-8 octets as arguments. Therefore we can calculate the PDF octal sequences directly. Because the PDF format is limited to UCS-2, conversion macros are needed for UTF-8 sequences with two and three octets only.

This calculation must be done in an expandable context, so we use \TeX here for performance reasons. Unhappily the results of divisions are rounded. Thus a circumvention via \texttt{dimexpr} is used, e.g.:

\begin{verbatim}
\numexpr 123/4\relax is replaced by
\number\dimexpr.25\dimexpr 123sp\relax\relax
\end{verbatim}

The two octet form of UTF-8 110aaabb (A) and 10cccddd (B) must be converted into octal numbers 00a and bcd. The result is \texttt{\8a\bcd} (with a, b, c, d as octal numbers). The conversion equations:

\begin{align}
    a & := A/4 - 48 \\
    b & := A - 4 \ast (A/4) \\
    c & := B/8 - 8 \ast ((8 \ast (B/8))/8) \\
    d & := B - 8 \ast (B/8)
\end{align}
Three octet form: 1110aabb (A), 10bccccd (B), and 10eeefff (C). The result is $\text{\texttt{\textbackslash a\textbackslash b\textbackslash c\textbackslash d\textbackslash e\textbackslash f}}$ (with a, ..., f as octal numbers). The conversion equations:

\[
\begin{align*}
  a & := A/4 - 56 \\
  b & := 2 \times (A - 4 \times (A/4)) + ((B - 128 < 32)?0:1) \\
  c & := B/4 - 32 - ((B - 128 < 32)?0:8) \\
  d & := B - 4 \times (B/4) \\
  e & := C/8 - 16 \\
  f & := C - 8 \times (C/8)
\end{align*}
\]

Surrogates: 4 octets in UTF-8, a surrogate pair in UTF-16. High surrogate range: U+D800–U+DBFF, low surrogate range: U+DC00-U+DFFF.
\number\numexpr\ifodd#2 4+\fi
\dimexpr.0625\dimexpr`#3sp-128sp\relax\relax
\expandafter\HyPsd@@@UTFviii@four\number
\numexpr`#3-16*\dimexpr.0625\dimexpr`#3sp|%
}%
\def\HyPsd@@@UTFviii@four#1|#2{%
\number\numexpr4+\dimexpr.25\dimexpr#1sp\relax\relax
\csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
\number\dimexpr.125\dimexpr`#2sp-128sp\relax\relax
\number\numexpr`#2-8*\dimexpr.125\dimexpr`#2sp\relax\relax\relax
}%

Input encoding utf8x of package ucs uses macro `unichar`. Values greater than "FFFF are not supported.
\def\HyPsd@unichar#1{%
\ifHy@unicode
\ifnum#1>"10FFFF %
\HyPsd@UnicodeReplacementCharacter % illegal
\else
\ifnum#1>"FFFF %
High-surrogate code point. (*D800 = 55296, \p@ = 1pt = 65536sp)
\expandafter\HyPsd@unichar\expandafter{\number\numexpr 55296+%
\dimexpr.0009765625\dimexpr\number#1sp-\p@
\relax\relax\relax
}\}
Low-surrogate code point. (*DC00 = 56320, *DC00 - 65536 = -9216)
\expandafter\HyPsd@unichar\expandafter{\number\numexpr#1-9216%
-1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
\relax\relax\relax
}\}
\else
\ifnum#1>"7FF %
\expandafter\HyPsd@unichar@first@byte\expandafter{\number\numexpr#1-256*%
\dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
}\}
\else
\expandafter\HyPsd@unichar@second@byte\expandafter{\number\numexpr#1-256*%
\dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
}\}
\fi
\fi
\fi
\ifnum#1>"FFF %
\else
\ifnum#1>"375 % unsupported (Unicode -> PDF Doc Encoding)
\fi
\fi
\def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
Die faces are provided by

\begin{tabular}{ll}
Package & Macro \\
ifsym & \Cube \\
epsdice & \epsdice \\
hhcount & \fcdice \\
\end{tabular}

\Cube and \epsdice restrict the range to the numbers one to six. \fcdice generates for larger numbers several dice faces with the sum matching the number. The implementation for the PDF strings follows \fcdice.

\begin{verbatim}
\def\HyPsd@DieFace#1{\ifHy@unicode
\ifnum#1<1 \HyPsd@UnicodeReplacementCharacter
\else \ifnum#1>6 \9046\205
\expandafter\expandafter\expandafter
\HyPsd@DieFaceLarge\intcalcSub{#1}{6}!
\else \9046\20\intcalcDec{#1} \fi \fi \fi \fi \fi}
\end{verbatim}
6.6.11 Support for moon phases of package china2e

6.6.12 Support for package pifont
\begin{verbatim}
2533     \else
2534     \ifnum#1>160 %
2535         \expandafter\expandafter\expandafter
2536         \HyPsd@@ding\intcalcNum{#1}!%
2537     \else
2538         \HyPsd@UnicodeReplacementCharacter
2539     \fi
2540 \fi
2541 \fi
2542 \else
2543 \fi
2544 \fi
2545 \fi
2546 }

\HyPsd@@ding

2547 \def\HyPsd@@ding{!{%
2548 \ltx@ifundefined{HyPsd@ding@#1}{%
2549 \ifnum#1<127 %
2550 \9047%
2551 \HyPsd@DecimalToOctalSecond{\IntCalcSub#1!32!}%
2552 \else
2553 \ifnum#1<168 %
2554 \9047\14\IntCalcSub#1!160!%
2555 \else
2556 \ifnum#1>181 %
2557 \9047\HyPsd@DecimalToOctalSecond{\IntCalcSub#1!164!}%
2558 \else
2559 % 172..181 -> U+2460..U+2469
2560 \9044\HyPsd@DecimalToOctalSecond{\IntCalcSub#1!76!}%
2561 \fi
2562 \fi
2563 \fi
2564 }{%
2565 \csname HyPsd@ding@#1\endcsname
2566 }%
2567 }

\@namedef{HyPsd@ding@32}{\space}
\% U+260E BLACK TELEPHONE
\@namedef{HyPsd@ding@37}{\9046\016} % U+260E
\@namedef{HyPsd@ding@42}{\9046\033} % U+261B
\@namedef{HyPsd@ding@43}{\9046\036} % U+261E
\@namedef{HyPsd@ding@72}{\9046\005} % U+25CF BLACK CIRCLE
\@namedef{HyPsd@ding@108}{\9045\317} % U+25CF
\@namedef{HyPsd@ding@110}{\9045\240} % U+25A0
\@namedef{HyPsd@ding@111}{\9045\262} % U+25B2
\@namedef{HyPsd@ding@112}{\9045\274} % U+25BC
\@namedef{HyPsd@ding@116}{\9045\030} % U+25C6 BLACK DIAMOND
\@namedef{HyPsd@ding@117}{\9045\006} % U+25C6
\@namedef{HyPsd@ding@118}{\9045\007} % U+25D7 RIGHT HALF BLACK CIRCLE
\end{verbatim}
7 Support of other packages

7.1 Class memoir

```
\ifclassloaded{memoir}{%  
\Hy@AtEndOfPackage{\RequirePackage{memhfixc}}%  
}%
```

7.2 Package subfigure

Added fix for version 2.1. Here \sub@label is defined.

```
\ifpackageloaded{subfigure}{%  
  \ltx@IfUndefined{sub@label}{%  
    \Hy@hypertexnamesfalse  
    }{%  
      \renewcommand*{\sub@label}[1]{%  
        \@bsphack  
        \subfig@oldlabel{#1}  
        \if@filesw  
        \begingroup  
        \edef\@currentlabstr{\expandafter\strip@prefix\meaning\@currentlabelname}  
        \protected@write\@auxout{}{\string\newlabel{sub@#1}{\@nameuse{@@thesub\@captype}}{\thepage}{\expandafter\strip@period\@currentlabstr\relax\relax\@@@}{\@currentHref}}  
        \endgroup  
        \fi  
        \@esphack  
      }%  
      }%  
      }%  
      \if@filesw  
      \begingroup  
      \edef\@currentlabstr{\expandafter\strip@prefix\meaning\@currentlabelname}  
      \protected@write\@auxout{}{\string\newlabel{sub@#1}{\@nameuse{@@thesub\@captype}}{\thepage}{\expandafter\strip@period\@currentlabstr\relax\relax\@@@}{\@currentHref}}  
      \endgroup  
    }%  
    \if@filesw  
    \begingroup  
    \edef\@currentlabstr{\expandafter\strip@prefix\meaning\@currentlabelname}  
    \protected@write\@auxout{}{\string\newlabel{sub@#1}{\@nameuse{@@thesub\@captype}}{\thepage}{\expandafter\strip@period\@currentlabstr\relax\relax\@@@}{\@currentHref}}  
    \endgroup  
  }%  
  \if@filesw  
  \begingroup  
  \edef\@currentlabstr{\expandafter\strip@prefix\meaning\@currentlabelname}  
  \protected@write\@auxout{}{\string\newlabel{sub@#1}{\@nameuse{@@thesub\@captype}}{\thepage}{\expandafter\strip@period\@currentlabstr\relax\relax\@@@}{\@currentHref}}  
  \endgroup  
%  
\endgroup
```
7.3 Package xr and xr-hyper

The beta version of xr that supports \XR@addURL is called xr-hyper. Therefore we test for the macro itself and not for the package name:

2634 \ltx@IfUndefined{XR@addURL}{%
2635 }{%
If reading external aux files check whether they have a non zero fourth field in \newlabel and if so, add the URL as the fifth field.

2636 \def\XR@addURL!1{\XR@addURL}{}
2637 \def\XR@addURL!2{\XR@addURL}{}
2638 \if!#4!
2639 \else
2640 \fi
2641 \XR@addURL
2642 \fi
2643 }%
2644 }

Providing dummy definitions.

2645 \def\Hy@true{true}
2646 \def\Hy@false{false}

2647 \let\literalps@out\@gobble
2648 \newcommand\pdfbookmark[3][{}]{}
2649 \def\Acrobatmenu#1#2{\leavevmode#2}
2650 \def\Hy@writebookmark#1#2#3#4#5{}%

8 Help macros for links

Anchors get created on the baseline of where they occur. If an XYZ PDF view is set, this means that the link places the top of the screen on the baseline of the target. If this is an equation, for instance, it means that you cannot see anything. Some links, of course, are created at the start of environments, and so it works. To allow for this, anchors are raised, where possible, by some small amount. This defaults to \baselineskip, but users can set it to something else in two ways (thanks to Heiko Oberdiek for suggesting this):

1. Redefine \HyperRaiseLinkDefault to be eg the height of a \strut
2. Redefine \HyperRaiseLinkHook to do something complicated; it must give a value to \HyperRaiseLinkLength, which is what actually gets used

2651 \let\HyperRaiseLinkHook\@empty
2652 \def\HyperRaiseLinkDefault{\baselineskip}

\HyperRaiseLinkHook allows the user to reassign \HyperRaiseLinkLength.

2653 \newcount\Hy@SavedSpaceFactor
2654 \def\Hy@SaveSpaceFactor{%
2655 \global\Hy@SavedSpaceFactor=%
2656 }
2657 \def\Hy@ResetSpaceFactor{%
2658 \relax
2659 \ifnum\Hy@SavedSpaceFactor>\z@ 
2660 \ifnum\Hy@SavedSpaceFactor>\z@ 
2661 \spacefactor=\Hy@SavedSpaceFactor
2662 \fi
2663 \fi

73
Inserting a \special command to set a destination destroys the \lastskip value.

\def\Hy@SaveLastskip{% 
\let\Hy@RestoreLastskip\relax 
\ifvmode 
\ifdim\lastskip=\z@ 
\let\Hy@RestoreLastskip\nobreak 
\else 
\begingroup 
skip@=-\lastskip 
\edef\x{% 
\endgroup 
\noexpand\Hy@RestoreLastskip{% 
\noexpand\ifvmode 
\noexpand\nobreak 
\vskip\the\skip@ 
\vskip\the\lastskip\relax 
\fi 
} 
\fi 
\else 
\ifhmode 
\ifdim\lastskip=\z@ 
\let\Hy@RestoreLastskip\nobreak 
\else 
\begingroup 
skip@=-\lastskip 
\edef\x{% 
\endgroup 
\noexpand\vskip\the\skip@ 
\noexpand\the\lastskip\relax 
\noexpand\fi 
} 
\fi 
\fi 
\else 
\edef\x{% 
\fi 
}} 
\def\Hy@RestoreLastskip{% 
\edef\x{% 
\ifvmode 
\ifdim\lastskip=\z@ 
\let\Hy@RestoreLastskip\nobreak 
\else 
\begingroup 
\edef\x{% 
\endgroup 
\fi 
}} 
\def\Hy@SaveLastskip{% 
\let\Hy@RestoreLastskip\relax 
\ifvmode 
\ifdim\lastskip=\z@ 
\let\Hy@RestoreLastskip\nobreak 
\else 
\begingroup 
\edef\x{% 
\endgroup 
\fi 
}} 
\edef\x{% 
\fi 
}
\endgroup
\def\noexpand\Hy@RestoreLastskip{%
\noexpand\ifhmode
\noexpand\nobreak
\hskip\the\skip@
\hskip\the\lastskip\relax
\noexpand\fi
}%
}\fi
\fi
\fi
}%

9 Options
\SetupKeyvalOptions{%
family=Hyp,%
prefix=HyOpt%
} }

9.1 Help macros
\IfHyperBooleanExists
\def\IfHyperBooleanExists#1{%
\ltx@ifundefined{Hy@#1false}\ltx@secondoftwo{%
\ltx@ifundefined{KV@Hyp@#1@default}\ltx@secondoftwo\ltx@firstoftwo
}%
}%
\@namedef{KV@Hyp@stoppedearly@default}{}

\IfHyperBoolean
\def\IfHyperBoolean#1{%
\IfHyperBooleanExists{#1}{%
\csname ifHy@#1\endcsname
\expandafter\ltx@firstoftwo
\else
\expandafter\ltx@secondoftwo
\fi
}\ltx@secondoftwo
}%

\Hy@boolkey
\def\Hy@boolkey#1#2{%
\edef\Hy@tempa{#2}%
\lowercase\expandafter{\expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
\ifx\Hy@tempa\@empty
\let\Hy@tempa\Hy@true%
\else
\ifx\Hy@tempa\Hy@false
\else
\fi
\fi
\fi
\else
\fi
\fi

75
Some options take a string value out of a limited set of values. Macro `\Hy@CheckOptionValue` checks whether the given value `#1` for option `#2` is a member of the value list `#3`.

```
\begin{verbatim}
def\Hy@CheckOptionValue#1#2#3{% 
\begingroup 
def\x{#1} 
@onelevel@sanitize\x 
\let y=y 
def\do##1##2{% 
def\z{##1} 
@onelevel@sanitize\z 
@ifx\x\z 
\let y=n
\let\do\@gobbletwo
\fi
\end{verbatim}
```
\Hy@DefNameKey \#1: option name
\#2: \do list with known values, first argument of \do is value, second argument is a comment.
\def\Hy@DefNameKey#1{%
\expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
}

\Hy@UseNameKey
\def\Hy@UseNameKey#1#2{%
\ifx#2\@empty
\else
/#1/#2%
\fi
\let#1\@empty
}

9.2 Defining the options
\def\define@key{Hyp}{implicit}[true]{%
\Hy@boolkey{implicit}{#1}{%
\def\define@key{Hyp}{draft}[true]{%
\Hy@boolkey{draft}{#1}{%
\def\define@key{Hyp}{final}[true]{%
\Hy@boolkey{final}{#1}{%
\let\KV@Hyp@nolinks\KV@Hyp@draft
\def\Hy@ObsoletePaperOption#1{%
}
If we are going to PDF via HyperTeX \special commands, the dvips (-z option) processor does not know the height of a link, as it works solely on the position of the closing \special. If we use this option, the \special is raised up by the right amount, to fool the dvi processor.

Most PDF-creating drivers do not allow links to be broken

Determines whether an automatic anchor is put on each page

Are the page links done as plain arabic numbers, or do they follow the formatting of the package? The latter loses if you put in typesetting like \textbf or the like.

Are the names for anchors made as per the HyperTeX system, or do they simply use what \LaTeX provides?

Completely ignore the names as per the HyperTeX system, and use unique counters.

Currently, dvips doesn’t allow anchors nested within targets, so this option tries to stop that happening. Other processors may be able to cope.
10 Options for different drivers

\newif\ifHy@DviMode
\let\Hy@DviErrMsg\ltx@empty
\ifpdf
  \def\Hy@DviErrMsg{pdfTeX or LuaTeX is running in PDF mode}\
\else
  \ifxetex
    \def\Hy@DviErrMsg{XeTeX is running}\
  \else
    \ifvtex
      \ifvtexdvi
        \Hy@DviModetrue
      \else
        \def\Hy@DviErrMsg{VTeX is running, but not in DVI mode}\
      \fi
    \else
      \Hy@DviModetrue
    \fi
  \fi
\fi
\def\HyOpt@CheckDvi#1{\ifHy@DviMode\expandafter\ltx@firstofone\else\Hy@Error{Wrong DVI mode driver option `#1', because \Hy@DviErrMsg}\@ehc\expandafter\ltx@gobble\fi}
\DeclareVoidOption{tex4ht}{\Hy@texhttrue\kvsetkeys{Hyp}{colorlinks=true}\def\BeforeTeXIVht{\RequirePackage{color}}\def\Hy@driver{htex4ht}\def\MaybeStopEarly{\Hy@Message{Stopped early}\Hy@AtBeginDocument{\PDF@FinishDoc}{\gdef\PDF@FinishDoc{}}}\@ehc\expandafter\ltx@gobble\endinput}
\DeclareVoidOption{pdftex}{\ifpdf\def\Hy@driver{hpdftex}\PassOptionsToPackage{pdftex}{color}\else\Hy@Error{Wrong driver option `pdftex', because pdfTeX in PDF mode is not detected}\@ehc\fi}
\DeclareVoidOption{pdftex}{\ifpdf\def\Hy@driver{hpdftex}\PassOptionsToPackage{pdftex}{color}\else\Hy@Error{Wrong driver option `pdftex', because pdfTeX in PDF mode is not detected}\@ehc\fi
\DeclareVoidOption{luatex}{%
  \ifpdf
    \ifx\pdfextension\@undefined
      \def\Hy@driver{hpdftex}%
      \PassOptionsToPackage{pdftex}{color}%
    \else
      \def\Hy@driver{hluatex}%
      \PassOptionsToPackage{luatex}{color}%
    \fi
  \else
    \Hy@Error{\
      Wrong driver option `luatex',\MessageBreak
      because lua\TeX\ in PDF mode is not detected%}
  \fi
}\fi

\DeclareVoidOption{nativepdf}{%
  \HyOpt@CheckDvi{nativepdf}{%
    \def\Hy@driver{hdvips}%
    \PassOptionsToPackage{dvips}{color}%
  }%
}

\DeclareVoidOption{dvipdfm}{%
  \HyOpt@CheckDvi{dvipdfm}{%
    \def\Hy@driver{hdvipdfm}%
  }%
}

\DeclareVoidOption{dvipdfmx}{%
  \HyOpt@CheckDvi{dvipdfmx}{%
    \def\Hy@driver{hdvipdfm}%
    \PassOptionsToPackage{dvipdfmx}{color}%
  }%
}

\define@key{Hyp}{dvipdfmx-outline-open}[true]{%
  \expandafter\ifx\csname if#1\expandafter\endcsname
    \csname iftrue\endcsname
  \else
    \chardef\SpecialDvipdfmxOutlineOpen\@ne
  \fi
}

\DeclareVoidOption{xetex}{%
  \ifxetex
    \def\Hy@driver{hxetex}%
  \else
    \Hy@Error{\
      Wrong driver option `xetex',\MessageBreak
      because Xe\TeX\ is not detected%}
  \fi
}\fi

\DeclareVoidOption{pdfmark}{%
  \HyOpt@CheckDvi{pdfmark}{%
    \def\Hy@driver{hdvips}%
  }%
}

\DeclareVoidOption{dvips}{%
  \ifx\dvipsextension\@undefined
    \def\Hy@driver{hvips}%
    \PassOptionsToPackage{dvips}{color}%
  \else
    \def\Hy@driver{hdvips}%
  \fi
}\fi

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No more special treatment for ps2pdf. Let it sink or swim.
11 Options to add extra features

Make included figures (assuming they use the standard graphics package) be hypertext links. Off by default. Needs more work.

The automatic footnote linking can be disabled by option hyperfootnotes.

Set up back-referencing to be hyper links, by page, slide or section number,
12 Language options

The `\autoref` feature depends on the language.

```latex
\def\HyLang@afrikaans{\%
  \def\equationautorefname{Vergelyking}\%
  \def\footnoteautorefname{Voetnota}\%
  \def\itemautorefname{Item}\%
  \def\figureautorefname{Figuur}\%
  \def\tableautorefname{Tabel}\%
  \def\partautorefname{Deel}\%
  \def\appendixautorefname{Bylae}\%
  \def\chapterautorefname{Hoofstuk}\%
  \def\sectionautorefname{Afdeling}\%
  \def\subsectionautorefname{Subafdeling}\%
  \def\subsubsectionautorefname{Subsubafdeling}\%
  \def\paragraphautorefname{Paragraaf}\%
  \def\subparagraphautorefname{Subparagraaf}\%
  \def\FancyVerbLineautorefname{Lyn}\%
  \def\theoremautorefname{Teorema}\%
  \def\pageautorefname{Bladsy}\%
}\%
\def\HyLang@english{\%
  \def\equationautorefname{Equation}\%
  \def\footnoteautorefname{footnote}\%
  \def\itemautorefname{item}\%
  \def\figureautorefname{Figure}\%
  \def\tableautorefname{Table}\%
  \def\partautorefname{Part}\%
  \def\appendixautorefname{Appendix}\%
  \def\chapterautorefname{chapter}\%
  \def\sectionautorefname{section}\%
  \def\subsectionautorefname{subsection}\%
  \def\subsubsectionautorefname{subsubsection}\%
  \def\paragraphautorefname{paragraph}\%
  \def\subparagraphautorefname{subparagraph}\%
}\%

\PassOptionsToPackage{hyperpageref}{backref}\
\Hy@backreftrue
\else
  \ifx\Hy@tempa\Hy@false
    \Hy@backreffalse
  \else
    \Hy@WarnOptionValue{#1}{pagebackref}{`true' or `false'}\%
  \fi
\fi
```

Make index entries be links back to the relevant pages. By default this is turned on, but may be stopped.

```latex
\define@key{Hyp}{hyperindex}[true]{\%
  \Hy@boolkey{hyperindex}{#1}\%
}\%
```

Configuration of encap char.

```latex
\define@key{Hyp}{encap}[\|]{\%
  \def\HyInd@EncapChar{#1}\%
}\%
```

Configuration of encap char.
Next commented section for Russian is provided by Olga Lapko.

Next follow the checked reference names with commented variants and explanations. All they are abbreviated and they won’t create a grammatical problems in the middle of sentences.

The most weak points in these abbreviations are the \equationautorefname, \theoremautorefname and the \FancyVerbLineautorefname. But those three, and also the \footnoteautorefname are not too often referenced. Another rather weak point is the \appendixautorefname.

The abbreviated reference to the equation: it is not for “the good face of the book”, but maybe it will be better to get the company for the \theoremautorefname? The name of the equation reference has common form for both nominative and accusative but changes in other forms, like of \autoref{auto} etc. The full name must follow full name of the \theoremautorefname.

The abbreviated reference to the page: it is not for “the good face of the book”, but maybe it will be better to get the company for the \theoremautorefname?
The variant of footnote has abbreviation form of the synonym of the word “footnote”. This variant of abbreviated synonym has alternative status (maybe obsolete?).

3482  \def\footnoteautorefname{%
3483  \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr.\ \cyrp\cyrr\cyri\cyrm. %
3484  }%

Commented form of the full synonym for “footnote”. It has common form for both nominative and accusative but changes in other forms, like “of \autoref{auto}”

3485 % \def\footnoteautorefname{%
3486 % \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr\cyro\cyre\ %
3487 % \cyrp\cyrr\cyri\cyrm\cyre\cyrch\cyra\cyrm\cyri\cyre
3488 % }%

Commented forms of the “footnote”: have different forms, the same is for the nominative and accusative. (The others needed?)

3489 % \def\Nomfootnoteautorefname{\cyrc\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%
3490 % \def\Accfootnoteautorefname{\cyrc\cyrs\cyrn\cyro\cyrs\cyrk\cyru}%

Name of the list item, can be confused with the paragraph reference name, but reader could understand meaning from context(?). Commented variant has common form for both nominative and accusative but changes in other forms, like “of \autoref{auto}” etc.

3491  % \def\itemautorefname{\cyr\cyrs.}%
3492  % \def\itemautorefname{\cyr\cyrs\cyrn\cyrk\cyrt}%

Names of the figure and table have stable (standard) abbreviation forms. No problem in the middle of sentence.

3493  \def\figureautorefname{\cyrc\cyrr\cyri\cyrs.}%
3494  \def\tableautorefname{\cyrc\cyrt\cyra\cyrb\cyrl.}%

Names of the part, chapter, section(s) have stable (standard) abbreviation forms. No problem in the middle of sentence.

3495  \def\partautorefname{\cyrc\cyrch.}%
3496  \def\chapterautorefname{\cyrc\cyrg\cyrl.}%
3497  \def\sectionautorefname{\cyrc\cyrr\cyra\cyrk\cyrrd.}%

Name of the appendix can use this abbreviation, but it is not standard for books, i.e, not for “the good face of the book”. Commented variant has common form for both nominative and accusative but changes in other forms, like “of \autoref{auto}” etc.

3498  \def\appendixautorefname{\cyrc\cyrp\cyrr\cyri\cyrs\cyrl.}%
3499  \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrs\cyrl\cyre\cyrrzh\cyre\cyrm\cyri\cyre}
3500  % }%

The sectioning command have stable (almost standard) and common abbreviation form for all levels (the meaning of these references visible from the section number). No problem.

3502  \def\subsectionautorefname{\cyrc\cyrr\cyra\cyrz\cyrd.}%
3503  \def\subsubsectionautorefname{\cyrc\cyrr\cyra\cyrz\cyrd.}%

The names of references to paragraphs also have stable (almost standard) and common abbreviation form for all levels (the meaning of these references is visible from the section number). No problem in the middle of sentence.

3504  \def\paragraphautorefname{\cyrc\cyrp.}%
3505  \def\subparagraphautorefname{\cyrc\cyrp.}%
Commented variant can be used in books but since it has common form for both nominative and accusative but it changes in other forms, like “of \autoref{auto)” etc.

The name of verbatim line. Here could be a standard of the abbreviation (used very rare). But the author preprint publications (which have not any editor or corrector) can use this abbreviation for the page reference. So the meaning of the line reference can be read as reference to the page.

Commented names of the “verbatim line”: have different forms, also the nominative and accusative.

The alternative, ve-e-e-eery professional abbreviation, was used in typography markup for typesetters.

The names of theorem: if we want have “the good face of the book”, so the theorem reference must have the full name (like equation reference). But ...

Commented forms of the “theorem”: have different forms, also the nominative and accusative.

Name of the page stable (standard) abbreviation form. No problem.
More work is needed in case of options vietnamese and vietnam.

\DeclareVoidOption{vietnamese}{% 
\Hy@AtEndOfPackage{% 
\Ifundefined{T@PU}{% 
\input{puvnenc.def}% 
}% 
}% 
}% 
\DeclareVoidOption{vietnam}{% 
\Hy@AtEndOfPackage{% 
\Ifundefined{T@PU}{% 
\input{puvnenc.def}% 
}% 
}% 
}%

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Similar for option \texttt{arabic} that just loads the additions to PU encoding for Arabi.

\begin{verbatim}
\DeclareVoidOption{arabic}{%
  \Hy@AtEndOfPackage{%
    \@ifundefined{T@PU}{%}
      \input{puarenc.def}%
    }%
  }%
\}
\end{verbatim}

13 Options to change appearance of links

Colouring links at the \LaTeX{} level is useful for debugging, perhaps.

\begin{verbatim}
\define@key{Hyp}{colorlinks}[true]{%
  \Hy@boolkey{colorlinks}{#1}{%}
}
\DeclareVoidOption{hidelinks}{%
  \Hy@colorlinksfalse
  \Hy@ocgcolorlinksfalse
  \Hy@frenchlinksfalse
  \def\Hy@colorlink##1{\begingroup}
  \def\Hy@endcolorlink{\endgroup}
  \def@pdfborder{0 0 0}
  \let@pdfborderstyle\ltx@empty
}
\define@key{Hyp}{ocgcolorlinks}[true]{%
  \Hy@boolkey{ocgcolorlinks}{#1}{%}
}
\Hy@AtBeginDocument{%
  \begingroup
    \@ifundefined{OBJ@OCG@view}{%
      \ifHy@ocgcolorlinks
        \Hy@Warning{%
          \Driver{} does not support \texttt{ocgcolorlinks},
          \MessageBreak
          using \texttt{colorlinks} instead%
        }%
      \fi
    }{%
    }
  }
\define@key{Hyp}{frenchlinks}[true]{%
  \Hy@boolkey{frenchlinks}{#1}{%}
}
\endgroup
\end{verbatim}

14 Bookmarking

\begin{verbatim}
\begingroup\expandafter\expandafter\expandafter\endgroup
\expandafter\ifx\csname chapter\endcsname\relax
  \def\toclevel@part{0}%
\else
  \def\toclevel@part{-1}%
\fi
\def\toclevel@chapter{0}
\def\toclevel@section{1}
\end{verbatim}
The depth of the outlines is controlled by option \texttt{bookmarksdepth}. The option acts globally and distinguishes three cases:

- \texttt{bookmarksdepth}: Without value hyperref uses counter \texttt{tocdepth} (compatible behaviour and default).

- \texttt{bookmarksdepth=<number>:} the depth is set to <number>.

- \texttt{bookmarksdepth=<name>:} The \texttt{name} must not start with a number or minus sign. It is a document division name (part, chapter, section, …). Internally the value of macro \texttt{toclevel@<name>} is used.
Richard Curnow <richard@curnow.demon.co.uk> suggested this functionality. It adds section numbers etc to bookmarks.

Option CJKbookmarks enables the patch for CJK bookmarks.
15 PDF-specific options

\pdfpagetransition The value of option pdfpagetransition is stored in \pdfpagetransition. Its initial value is set to \relax in order to be able to differentiate between a not used option and an option with an empty value.

\pdfpageduration The value of option pdfpageduration is stored in \pdfpageduration. Its initial value is set to \relax in order to be able to differentiate between a not used option and an option with an empty value.

The entry for the /Hid key in the page object is only necessary, if it is used and set to true for at least one time. If it is always false, then the /Hid key is not written to the pdf page object in order not to enlarge the pdf file.

The value of the bordercolor options are not processed by the color package. Therefore the value consists of space separated rgb numbers in the range 0 until 1.

Package xcolor provides \XColor{bordercolor} since version 1.1. If the two spaces in the color specification are missing, then the value is processed as color specification from package xcolor by using \XColor{bordercolor} (since xcolor 2004/05/09 v1.11, versions 2005/03/24 v2.02 until 2006/11/28 v2.10 do not work because of a bug that is fixed in 2007/01/21 v2.11).
\def\Hy@ColorList{cite, file, link, menu, run, url}
\@for\Hy@temp:=\Hy@ColorList\do{\
\edef\Hy@temp{\
\noexpand\define@key{Hyp}{\Hy@temp bordercolor}{\%
\noexpand\HyColor@HyperrefBorderColor
\expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
\hyperref{#1}{\%
\Hy@temp bordercolor{#1}%%
}}%}
\Hy@temp%
\def\Hy@WarningPageBorderColor{\
\Hy@WarningNoLine{Option `pagebordercolor' is not available anymore}\
\global\let\Hy@WarningPageBorderColor\relax%}
\define@key{Hyp}{allbordercolors}{\
\def\Hy@temp##1##2{\
\HyColor@HyperrefBorderColor{#1}##1{hyperref}{##2bordercolor}\
}}%
\Hy@temp\@citebordercolor{cite}\
\Hy@temp\@filebordercolor{file}\
\Hy@temp\@linkbordercolor{link}\
\Hy@temp\@menubordercolor{menu}\
\Hy@temp\@runbordercolor{run}\
\Hy@temp\@urlbordercolor{url}\
}
\define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
\Hy@DefNameKey{pdfhighlight}{\
\do{/I}{Invert}\
\do{/N}{None}\
\do{/O}{Outline}\
\do{/P}{Push}\
}
\def\Hy@setpdfhighlight{\
\ifx\@pdfhighlight\@empty\else/H\@pdfhighlight\fi}
\define@key{Hyp}{pdfborder}{\
\let\Hy@temp\@pdfborder\
\def\@pdfborder{#1}\
\Hy@Match\@pdfborder{}{\
^^^^\HyPat@NonNegativeReal/ \%
\HyPat@NonNegativeReal/ \%
\HyPat@NonNegativeReal/%
( ?\[
\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)*)?$%}
\Hy@Warning{\
Invalid value `\@pdfborder'
for option `pdfborder'.
Option setting is ignored%}
\fi}
\def\Hy@temp{\
\let\Hy@temp\@pdfborder\
\def\@pdfborder{#1}\
\Hy@Match\@pdfborder{}{\
^^^^\HyPat@NonNegativeReal/ \%
\HyPat@NonNegativeReal/ \%
\HyPat@NonNegativeReal/%
( ?\[
\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)*)?$%}
\Hy@Warning{\
Invalid value `\@pdfborder'
for option `pdfborder'.
Option setting is ignored%}
\kvsetkeys{Hyp}{unicode}\fi
\else
\let\HyXeTeX@CheckUnicode\relax
\fi
\def\HyPs@PrerenderUnicode#1{%
\begingroup
\expandafter\ifx\csname PrerenderUnicode\endcsname\relax
\else
\sbox0{%
\let\GenericInfo\@gobbletwo
\let\GenericWarning\@gobbletwo
\let\GenericError\@gobblefour
\PrerenderUnicode{#1}%
}\fi
\endgroup
\define@key{Hyp}{pdftitle}{%
\HyXeTeX@CheckUnicode
\HyPs@XeTeXBigCharstrue
\HyPs@PrerenderUnicode{#1}%
\pdfstringdef\@pdftitle{#1}%
}
\define@key{Hyp}{pdfauthor}{%
\HyXeTeX@CheckUnicode
\HyPs@XeTeXBigCharstrue
\HyPs@PrerenderUnicode{#1}%
\pdfstringdef\@pdfauthor{#1}%
}
\define@key{Hyp}{pdfproducer}{%
\HyXeTeX@CheckUnicode
\HyPs@XeTeXBigCharstrue
\HyPs@PrerenderUnicode{#1}%
\pdfstringdef\@pdfproducer{#1}%
\ifxetex
\Hy@Warning{%
pdfproducer: xdvipdfmx will use its own setting\MessageBreak
instead of the value given%
}\else
\def\Hy@temp{hdvipdfm}%
\ifx\Hy@driver\Hy@temp
\Hy@Warning{%
dxvipdfmx will use its own setting\MessageBreak
instead of the value given%
}\fi
\fi
\define@key{Hyp}{pdfcreator}{%
Test according to ABNF of RFC 3066.
\Hy@Match\@pdflang{icase}{% ~% [a-z]{1,8}% (-[a-z0-9]{1,8})% $% )%\}

Test according to ABNF of RFC 5646.
\Hy@Match\@pdflang{icase}{% ~% % langtag
  (% language
    [a-z]{2,3}% ([a-z]{3}(-[a-z]{3}){0,2})?% extlang
    |[a-z]{4}% reserved for future use
    |[a-z]{5,8}% registered language subtag
  )%
  (-[a-z]{4})??% script
  C-([a-z]{2})|([0-9]{3})??% region
  C-([a-z]{5,8}|[0-9][a-z0-9]{2,8})??% variant
  C-[0-9a-wyz]-([a-z0-9]{2,8})??% extension
  C-[x-([a-z0-9]{1,8})]??% privateuse
  % privateuse
  |x-([a-z0-9]{1,8})??%
  % grandfathered/irregular
  |en-GB-oed%
  |i-(ami|bnm|default|enochian|hak|klingon|lux)|%
  |mengo|navajo|pwn|tao|tay|tsu)%
  |sgn-(BE-FR|BE-NL|CH-DE)%
  % grandfathered/regular
  |art-lo|ban%
  |cel-gaulish%
  |no-(bok|nyn)%
  |zh-(guoyu|hak|min|min-nan|xiang)%
  )%
  %\)
  %\}

Test for unique extensions.
\Hy@Match{-\@pdflang}{icase}{-{a-wyz0-9}-%\}
\Hy@Match\@pdflang{icase}{-x-}{}% % remove privateuse
\edef\Hy@temp{-\@pdflang}%
\Hy@Match\@temp{icase}{}%
\Hy@Match\@pdflang{icase}{}% ~%
\Hy@Match\@pdflang{icase}{}% ~%
(-{a-wyz0-9}|-{a-z0-9}{2,8})%
User-assigned country codes are forbidden in language tags (RFC 3066).

\[\text{User-assigned country codes are forbidden in language tags (RFC 3066).}\]
Allow the user to use `\ExecuteOptions` in the cfg file even though this package does not use the normal option mechanism. Use `\hyper@normalize` as a scratch
macro, since it is going to be defined in a couple of lines anyway.

To add flexibility, we will not use the ordinary processing of package options, but put them through the \texttt{keyval} package. This section was written by David Carlisle.

\begin{verbatim}
\SetupKeyvalOptions{family=Hyp}
\DeclareLocalOptions{a4paper,a5paper,b5paper,letterpaper,legalpaper,executivepaper%}
\AddOption\tex4ht if package \texttt{tex4ht} is loaded.
\Ifpackagewith{hyperref}{tex4ht}{%}
\Ifpackageloaded{tex4ht}{%}
\PassOptionsToPackage{tex4ht}{hyperref}%
\IfUndefined{HCode}{%}
\begingroup
\def\Hy@pkg{tex4ht}%
\def\Hy@temp@A#1\RequirePackage[#2]#3#4\Hy@NIL{%}
\ifx\Hy@temp@A\ltx@empty%
\else
\def\Hy@param{#3}%
\ifx\Hy@param\Hy@pkg%
\PassOptionsToPackage{#2}{tex4ht}%
\expandafter\expandafter\expandafter\@gobble%
\else
\expandafter\expandafter\expandafter\ltx@firstofone%
\fi%
\fi{
\Hy@temp@A#4\Hy@NIL}%
}\if%
\expandafter\expandafter\expandafter\@gobble%
\fi%
\endgroup
\PassOptionsToPackage{tex4ht}{hyperref}%
\end{verbatim}

After processing options.
15.1 Package xspace support

\def\Hy@xspace@end{}
\ltx@ifundefined{xspaceaddexceptions}{% \Hy@AtBeginDocument{% \ltx@ifundefined{xspaceaddexceptions}{% \def\Hy@xspace@end{% \ltx@gobble{end for xspace}% }% \xspaceaddexceptions{% \Hy@xspace@end,\hyper@linkend,\hyper@anchorend }% }{\def\Hy@xspace@end{% \ltx@gobble{end for xspace}% }\xspaceaddexceptions{% \Hy@xspace@end,\hyper@linkend,\hyper@anchorend }% }% }{\def\Hy@xspace@end{% \ltx@gobble{end for xspace}% }\xspaceaddexceptions{% \Hy@xspace@end,\hyper@linkend,\hyper@anchorend }% }% }

15.2 Option draft

\Hy@AtBeginDocument{% \ifHy@draft \let\hyper@@anchor\@gobble \gdef\hyper@link#1#2#3{#3\Hy@xspace@end}% \def\hyper@anchorstart#1#2{#2\Hy@xspace@end}% \def\hyper@anchorend{\Hy@xspace@end}% \let\hyper@linkstart\@gobbletwo \let\hyper@linkend{\Hy@xspace@end}% \def\hyper@linkurl#1#2{#1\Hy@xspace@end}% \def\hyper@linkfile#1#2#3{#1\Hy@xspace@end}% \def\hyper@link@[#1]#2#3#4{#4\Hy@xspace@end}% \Acrobatmenu#1#2{\leavevmode#2\Hy@xspace@end}\let\PDF@SetupDoc\@empty \let\PDF@FinishDoc\@empty \let\@fifthoffive\@secondoftwo \let\@secondoffive\@secondoftwo \let\ReadBookmarks\relax \let\WriteBookmarks\relax \Hy@WarningNoLine{Draft mode on}% \fi \Hy@DisableOption{draft}% \Hy@DisableOption{nolinks}% \Hy@DisableOption{final}% \Hy@DisableOption{pdfa}% \ifHy@pdfa \ifnum\Hy@pdfversion<4 \kvsetkeys{Hyp}{pdfversion=1.4}% \fi \Hy@DisableOption{pdfversion}% \def\Acrobatmenu#1#2{\leavevmode#2\Hy@xspace@end}\let\PDF@SetupDoc\@empty \let\PDF@FinishDoc\@empty \let\@fifthoffive\@secondoftwo \let\ReadBookmarks\relax \let\WriteBookmarks\relax \Hy@WarningNoLine{Draft mode on}% \fi \Hy@DisableOption{pdfa}%

15.3 PDF/A

\Hy@DisableOption{pdfa}% \ifHy@pdfa \ifnum\Hy@pdfversion<4 \kvsetkeys{Hyp}{pdfversion=1.4}% \fi \Hy@DisableOption{pdfversion}% \def\Acrobatmenu#1#2{\leavevmode#2\Hy@xspace@end} \leavevmode

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15.4 Patch for babel's `texttilde`  

Babel does not define `\texttilde` in NFSS2 manner, so the NFSS2 definitions of PD1 or PU encoding is not compatible. To fix this, `\texttilde` is defined in babel manner.

```
4644 \Hy@nextfalse
4645 \ltx@ifundefined{spanish@sh}@sel}{\Hy@nexttrue}
4646 \ltx@ifundefined{galician@sh}@sel}{\Hy@nexttrue}
4647 \ltx@ifundefined{estonian@sh}@sel}{\Hy@nexttrue}
4648 \ifHy@next
4649 \let\texttilde\%-\%
4650 \fi
4651 \def\Hy@wrapper@babel@1@2{\%
4652 \begingroup
4653 \Hy@safe@activetrue
```
\set@display@protect
\edef\x{#2}\%
@onelevel@sanitize\x
\toks@{\#1}\%
\edef\x{\endgroup\the\toks@{\x}}\%
x
}
\def\Hy@WrapperDef#1{\%
\begingroup
\escapechar=\m@ne
\xdef\Hy@gtemp{\expandafter\noexpand\csname HyWrap@\string#1\endcsname}
\endgroup
\edef#1{\noexpand\Hy@wrapper@babel\expandafter\noexpand\Hy@gtemp}\%
\endgroup
\edef\#1{\%
\noexpand\Hy@wrapper@babel
\expandafter\noexpand\Hy@gtemp
}\%
\expandafter\def\Hy@gtemp
}
ifHy@hyperfigures
\Hy@Info{Hyper figures ON}\
else
\Hy@Info{Hyper figures OFF}\
fi
ifHy@nesting
\Hy@Info{Link nesting ON}\
else
\Hy@Info{Link nesting OFF}\
fi
ifHy@hyperindex
\Hy@Info{Hyper index ON}\
else
\Hy@Info{Hyper index OFF}\
fi
ifHy@plainpages
\Hy@Info{Plain pages ON}\
else
\Hy@Info{Plain pages OFF}\
fi
ifHy@backref
\Hy@Info{Backreferencing ON}\
else
\Hy@Info{Backreferencing OFF}\
fi
ifHy@typexml
\Hy@AtEndOfPackage{\
\RequirePackage{color}\
\RequirePackage{nameref}[2012/07/28]}\%
}\
\Hy@DisableOption{typexml}
ifHy@implicit
\Hy@InfoNoLine{Implicit mode ON; LaTeX internals redefined}\
else
\Hy@InfoNoLine{Implicit mode OFF; no redefinition of LaTeX internals}\
\def\MaybeStopEarly{\
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15.4.1 Driver loading

Some drivers can be detected. Check for these drivers, whether the given driver
option is ok. Otherwise force the right driver or use the default driver.

```latex
\ifx\Hy@driver\empty
\else
  \ifx\pdftexextension\@undefined
    \def\Hy@temp{pdftex}\else
      \def\Hy@temp{pdfTeX}\fi
  \else
    \def\Hy@temp{tex}\fi
\fi
\ifpdf
\ifx\Hy@driver\Hy@temp
\else
  \Hy@WarningNoLine{Wrong driver `\Hy@driver.def';
\MessageBreak
pdfTeX is running in PDF mode.\MessageBreak
Forcing driver `\Hy@temp.def'\MessageBreak}
\let\Hy@driver\Hy@temp
\fi
\else
  \Hy@WarningNoLine{Wrong driver `\Hy@driver.def';
\MessageBreak
pdfTeX is not running in PDF mode.\MessageBreak
Using default driver}\MessageBreak
\let\Hy@driver\@empty
\fi
\fi
```
If the driver is not given, find the right driver or use the default driver.

\ifx\etex
  \def\Hy@driver{hxetex}\
\else
  \ifvtexhtml
    \def\Hy@driver{hvtexhtm}\
    \MaybeStopEarly{\Hy@Message{Stopped early}}\
    \Hy@AtBeginDocument{\PDF@FinishDoc}{\gdef\PDF@FinishDoc{}}\
  }\
  \endinput\
\else
  \ifvtexpdf
    \def\Hy@driver{hvtex}\
  \else
    \ifvtexps
      \def\Hy@driver{hvtex}\
    \else
      \ifx\HyOpt@DriverFallback\ltx@empty
        \let\Hy@driver\Hy@defaultdriver
        \def\HyOpt@DriverType{ (default)}\
      \else
        \begingroup
          \toks@\expandafter{\HyOpt@DriverFallback}\
          \edef\x{\endgroup\noexpand\kvsetkeys{Hyp}{\the	oks@}}\
        \x\
        \ifx\Hy@driver\ltx@empty
          \let\Hy@driver\Hy@defaultdriver
          \def\HyOpt@DriverType{ (default)}\
        \else
          \def\HyOpt@DriverType{ (fallback)}\
        \fi
      \fi
    \fi
  \fi
\fi
\fi
\ifx\Hy@driver\Hy@defaultdriver
  \def\Hy@temp{hdviwind}\
  \ifx\Hy@temp\Hy@driver
    \kvsetkeys{Hyp}{colorlinks}\PassOptionsToPackage{dviwindo}{color}\
  \fi
\else
  \def\HyOpt@DriverType{ (custom)}\
  \let\Hy@driver\HyOpt@CustomDriver
\fi
\Hy@InfoNoLine{Driver\HyOpt@DriverType: \Hy@driver}\
\chardef\Hy@VersionChecked=0 %
\input{\Hy@driver.def}
Support for open outlines is enabled for Xe\TeX \( \geq 0.9995 \). I don’t know, if older versions also support this. AFAIK older dvipdfmx versions will break, thus the switch cannot be turned on by default.

15.4.2 Bookmarks

The purpose of the \texttt{\@firstofone}-number-space-construct is that no \texttt{\relax} will be inserted by \TeX before the \texttt{\else}:

\begin{verbatim}
\def\WriteBookmarks{0}
\def\@bookmarkopenstatus#1{%
  \ifnum#1<\expandafter\@firstofone\expandafter
  \relax
  \fi
}"
\end{verbatim}
Add wrapper for setting standard catcodes (babel’s shorthands).
\def\Hy@CatcodeWrapper#1{\let\Hy@EndWrap\ltx@empty\def\TMP@EnsureCode##1##2{\edef\Hy@EndWrap{\Hy@EndWrap\catcode##1 \the\catcode##1\relax\catcode##1 ##2\relax}}\TMP@EnsureCode{10}{12}\TMP@EnsureCode{33}{12}\TMP@EnsureCode{34}{12}\TMP@EnsureCode{36}{3}\TMP@EnsureCode{38}{4}\TMP@EnsureCode{39}{12}\TMP@EnsureCode{40}{12}\TMP@EnsureCode{41}{12}\TMP@EnsureCode{42}{12}\TMP@EnsureCode{43}{12}\TMP@EnsureCode{44}{12}\TMP@EnsureCode{45}{12}\TMP@EnsureCode{46}{12}\TMP@EnsureCode{47}{12}\TMP@EnsureCode{48}{12}\TMP@EnsureCode{49}{12}\TMP@EnsureCode{50}{12}\TMP@EnsureCode{51}{12}\TMP@EnsureCode{52}{12}\TMP@EnsureCode{53}{12}\TMP@EnsureCode{54}{12}\TMP@EnsureCode{55}{12}\TMP@EnsureCode{56}{12}\TMP@EnsureCode{57}{12}\TMP@EnsureCode{58}{12}\TMP@EnsureCode{59}{12}\TMP@EnsureCode{60}{12}\TMP@EnsureCode{61}{12}\TMP@EnsureCode{62}{12}\TMP@EnsureCode{63}{12}\TMP@EnsureCode{64}{12}\TMP@EnsureCode{65}{12}\TMP@EnsureCode{66}{12}\TMP@EnsureCode{67}{12}\TMP@EnsureCode{68}{12}\TMP@EnsureCode{69}{12}\TMP@EnsureCode{70}{12}\TMP@EnsureCode{71}{12}\TMP@EnsureCode{72}{12}\TMP@EnsureCode{73}{12}\TMP@EnsureCode{74}{12}\TMP@EnsureCode{75}{12}\TMP@EnsureCode{76}{12}\TMP@EnsureCode{77}{12}\TMP@EnsureCode{78}{12}\TMP@EnsureCode{79}{12}\TMP@EnsureCode{80}{12}\TMP@EnsureCode{81}{12}\TMP@EnsureCode{82}{12}\TMP@EnsureCode{83}{12}\TMP@EnsureCode{84}{12}\TMP@EnsureCode{85}{12}\TMP@EnsureCode{86}{12}\TMP@EnsureCode{87}{12}\TMP@EnsureCode{88}{12}\TMP@EnsureCode{89}{12}\TMP@EnsureCode{90}{12}\TMP@EnsureCode{91}{12}\TMP@EnsureCode{92}{12}\TMP@EnsureCode{93}{12}\TMP@EnsureCode{94}{7}\TMP@EnsureCode{95}{8}\TMP@EnsureCode{96}{12}\TMP@EnsureCode{97}{12}\TMP@EnsureCode{98}{12}\TMP@EnsureCode{99}{12}\TMP@EnsureCode{100}{12}\ TMP@EnsureCode{124}{12}
\HyColor@UseColor expects a macro as argument. It contains the color specification.
\HyAtBeginDocument{% 
\ifHy@ocgcolorlinks 
\kvsetkeys{Hyp}{colorlinks}% 
\ifHy@pdfa
\Hy@Warning{% PDF/A: Optional Content Groups are prohibited,\MessageBreak
using `colorlinks' instead of `ocgcolorlinks'%
}%
\Hy@ocgcolorlinksfalse
\fi
\fi
\ifHy@ocgcolorlinks
\else
\Hy@DisableOption{ocgcolorlinks}%
\fi
\ifHy@colorlinks
\def\@pdfborder{0 0 0}%
\let\@pdfborderstyle\@empty
\ifHy@typexml
\else
\Hy@CatcodeWrapper{%
\RequirePackage{color}%
}%
\fi
\def\Hy@colorlink#1{%
\begingroup
\HyColor@UseColor#1%
}\def\Hy@endcolorlink{\endgroup}%
\Hy@Info{Link coloring ON}%
\else
\ifHy@frenchlinks
\def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
\def\Hy@endcolorlink{\endgroup}%
\Hy@Info{French linking ON}%
\else
for grouping consistency:
\def\Hy@colorlink#1{\begingroup}%
\def\Hy@endcolorlink{\endgroup}%
\Hy@Info{Link coloring OFF}%
\fi
\fi
\Hy@DisableOption{colorlinks}%
\Hy@DisableOption{frenchlinks}%
\ifHy@texht
\long\def\@firstoffive#1#2#3#4#5{#1}%
\long\def\@secondoffive#1#2#3#4#5{#2}%
\long\def\@thirdoffive#1#2#3#4#5{#3}%
\long\def\@fourthoffive#1#2#3#4#5{#4}%
\long\def\@fifthoffive#1#2#3#4#5{#5}%
\providecommand*{\@safe@activestrue{}}%
16 User hypertext macros

We need to normalise all user commands taking a URL argument: Within the argument the following special definitions apply: \#, \%, ~ produce #, %, - respectively. For consistency ~ produces - as well. At the top level only if not within the argument of another command, you can use # and % unescaped, to produce themselves. Even if, say, # is entered as \# it will be converted to \# so it does not die if written to an aux file etc. \# will write as # locally while making \specials.

\begingroup
\endlinechar=-1 %
\catcode`\^^A=14 %
\catcode`\\M\active
\catcode`\%\active
\catcode`\#\active
\catcode`\_\active
\catcode`\$\active
\catcode`\&\active
\gdef\hyper@normalise{\^^A
\begingroup
\catcode`\\M\active
\def\^^M{ }\^^A
\catcode`\%\active
\let\%\@percentchar
\let\%\@percentchar
\catcode`\#\active
\def\#{\hyper@hash}\^^A
\def\#{\hyper@hash}\^^A
\@makeother\&\^^A
\edef&{\string&}\^^A
\edef\&{\string&}\^^A
\edef\textunderscore{\string_}\^^A
\let\_\textunderscore
\let\_\textunderscore
\let\textasciitilde\hyper@tilde
\let\\@backslashchar
\edef${\string$}\^^A
\Hy@safe@activestrue
\hyper@normalise\^^A
\catcode`#=6 \^^A
\gdef\Hy@ActiveCarriageReturn{\^^M}\^^A
\gdef\hyperOnormalise#1\#2{\^^A
\def\Hy@tempa{#2}\^^A
\ifx\Hy@tempa\Hy@ActiveCarriageReturn
\ltx@ReturnAfterElseFi{\^^A
\hyper@@normalise{#1}\^^A
\ltx@ReturnAfterFi{\^^A
\hyper@@normalise{#1}{#2}\^^A
\fi
\else
\ltx@ReturnAfterElseFi{\^^A
\hyper@@normalise{#1}{#2}\^^A
\fi
\fi
\endgroup
\newcommand*{\hyper@chars}{\let\#\hyper@hash \let\%\@percentchar \Hy@safe@activestrue}
\def\hyperlink#1#2{\hyper@@link{}{#1}{#2}}
\def\Hy@VerboseLinkStart#1#2{\ifHy@verbose \begingroup \Hy@safe@activestrue \xdef\Hy@VerboseGlobalTemp{(#1) `#2'} \Hy@Info{Reference \Hy@VerboseGlobalTemp} \xdef\Hy@VerboseGlobalTemp{\Hy@VerboseGlobalTemp, % line \the\inputlineno} \endgroup \let\Hy@VerboseLinkInfo\Hy@VerboseGlobalTemp \@onelevel@sanitize\Hy@VerboseLinkInfo \fi}
\def\Hy@VerboseAnchor#1{\ifHy@verbose \begingroup \xdef\x{\endgroup \write\m@ne{Package `hyperref' Info: \textendash{} End of reference \Hy@VerboseLinkInfo.} \x} \fi}
\def\Hy@VerboseLinkInfo{<VerboseLinkInfo>}
\def\Hy@VerboseLinkInfoEnd{<VerboseLinkInfo>}
\ifHy@verbose \begingroup \xdef\x{\endgroup \write\m@ne{Package `hyperref' Info: \ End of reference \Hy@VerboseLinkInfo.} \x} \fi
\let\x\x
If a next action is set, then also a new window should be opened. Otherwise AR
reclaims that it closes the current file with discarding the next actions.
Load package \texttt{url.sty} and save the meaning of the original \texttt{\url} in \texttt{\nolinkurl}.

\begin{verbatim}
\RequirePackage{url}
\let\HyOrg@url\url
\def\Hurl\begingroup \Url
\DeclareRobustCommand*{\nolinkurl}{\hyper@normalise\nolinkurl@}
\def\nolinkurl@#1{\Hurl{#1}}
\end{verbatim}

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\hyperref is more complicated, as it includes the concept of a category of link, used to make the name. This is not really used in this package. \hyperdef sets up an anchor in the same way. They each have three parameters of category, linkname, and marked text, and \hyperref also has a first parameter of URL. If there is an optional first parameter to \hyperdef, it is the name of a \LaTeX label which can be used in a short form of \hyperref later, to avoid remembering the name and category.

We also have a need to give a \LaTeX label to a hyper reference, to ease the pain of referring to it later.
16.1 Link box support for XeTeX

\newdimen\XeTeXLinkMargin
\setlength{\XeTeXLinkMargin}{2pt}
\ifxetex
\font\XeTeXLink@font=pzdr at 1sp
\newcommand*{\XeTeXLink@space}{\begingroup\XeTeXLink@font
\@xxxii\endgroup}
\newcommand{\XeTeXLinkBox}{\begingroup\leavevmode
\sbox\z@{#1}\begingroup\dimen@=\dp\z@
\advance\dimen@ by \XeTeXLinkMargin
\setbox\tw@=\llap{\XeTeXLinkBox\relax#1}\endgroup
\endgroup}
\else
\fi
\expandafter\expandafter\expandafter\newcommand\newcommand{\XeTeXLinkBox}{[1]{\relax#1}#1}
17 Underlying basic hypertext macros

Links have an optional type, a filename (possibly a URL), an internal name, and some marked text. (Caution: the internal name may contain babel shorthand characters.) If the second parameter is empty, its an internal link, otherwise we need to open another file or a URL. A link start has a type, and a URL.

\def\hyper@link\{\let\Hy@reserved@a\relax\@ifnextchar[\hyper@link@}{\hyper@link@[link]}%
\def\hyper@link@[#1]#2#3#4{%\ltx@ifempty{#4}{%\link text\Hy@Warning{Suppressing empty link}%\toks@{}}{\begingroup\protected@edef\Hy@tempa{#2}\edef\Hy@tempb{#3}\ifx\Hy@tempa\ltx@empty\ifx\Hy@tempb\ltx@empty\Hy@Warning{Suppressing link with empty target}\toks@{}}{\% link text\Hy@Warning{Suppressing empty link}%\toks@{}}\endgroup\fi}%
\begingroup\leavevmode\sbox\z@{#1}\copy\z@\begingroup\leavevmode\sbox\z@{#3}\copy\z@\endgroup\begingroup\leavevmode\sbox\z@{#4}\copy\z@\endgroup\begingroup\leavevmode\sbox\z@{#4}\copy\z@\endgroup\fi

The problem here is that the first (URL) parameter may be a local file: reference (in which case some browsers treat it differently) or a genuine URL, in which case we'll have to activate a real Web browser. Note that a simple name is also a URL, as that is interpreted as a relative file name. We have to worry about # signs in a local file as well.

Parameters are:

1. The URL or file name
2. The type
3. The internal name
4. The link string

We need to get the 1st parameter properly expanded, so we delimit the arguments rather than passing it inside a group.
If there are no colons at all (#6 is blank), it's a local file; if the URL type (#4) is blank, it's probably a Mac filename, so treat it like a file: URL. The only flaw is if it's a relative Mac path, with several colon-separated elements — then we lose. Such names must be prefixed with an explicit dvi:

```
\ifx\#6\%
  \@hyper@linkfile file:#7\{#3}{#2}{#7}\
\else
  \ifx\#4\%
    \@hyper@linkfile file:#7\{#3}{#2}{#7}\
  \else
    If the URL type is 'file', pass it for local opening
    \def\@pdftempa{#4}\
    \ifx\@pdftempa\@pdftempwordfile
      \@hyper@linkfile#7\{#3}{#2}{#7}\
    \else
      if it starts 'run:', it's to launch an application.
      \ifx\@pdftempa\@pdftempwordrun
        \ifHy@pdfa
          \Hy@Error{PDF/A: Launch action is prohibited}\
        \else
          \@hyper@launch#7\{#3}{#2}\
        \fi
      \else
        otherwise it's a URL
        \hyper@linkurl{#3}{#7\ifx\#2\%\else\hyper@hash#2\fi}\
      \fi
    \fi
  \fi
\fi
```

By default, turn run: into file:

```
\def\@hyper@launch run:#1\#2#3{% filename, anchor text, linkname
  \hyper@linkurl(#3){#7\ifx\#2\%\else\hyper@hash#2\fi}\
\def\@hyper@linkfile file:#1\#2#3#4{%
  \filename@parse{#1}\
  \ifx\filename@ext\relax
    \@hyper@linkfile:\{#3}{#2}{#7}\
  \else
    \@hyper@linkfile file:#7\{#3}{#2}{#7}\
  \fi
\fi
```

D P Story <story@uakron.edu> pointed out that relative paths starting .. fell over. Switched to using \filename@parse to solve this.
Anchors have a name, and marked text. We have to be careful with the marked text, as if we break off part of something to put a `\special` around it, all hell breaks loose. Therefore, we check the category code of the first token, and only proceed if its safe. Tanmoy sorted this out.

A curious case arises if the original parameter was in braces. That means that `#2` comes here a multiple letters, and the `\noexpand` just looks at the first one, putting the rest in the output. Yuck.

\long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
\long\def\@hyper@@anchor#1\relax#2#3\relax{\ifx\#1\%#2\Hy@Warning{Ignoring empty anchor}%
\else
\def\anchor@spot{#2#3}%
\let\put@me@back\@empty
\if\relax#2\relax\else
\if\Hy@nesting
\else
\if\cat\noexpand#2\relax
\else
\if\cat\noexpand\relax#2\relax
\else
\typeout{Anchor start is not alphanumeric %}
on input line\the\inputlineno%
\let\anchor@spot\@empty
\def\put@me@back{#2#3}%
\fi
\fi
\fi
\fi
\fi
\fi
\if\Hy@destlabel
\hyper@newdestlabel
\def\hyper@newdestlabel#1#2{\begingroup\Hy@safe@activestrue\edef\x{\endgroup
\noexpand@newl@bel{HyDL}{#1}{#2}%%%%}
\x
}%
\let\anchor@spot\@empty
\def\put@me@back{#2#3}%
\fi
\fi
\fi
\fi
\fi
\if\Hy@activeanchor
\anchor@spot
\else
\hyper@anchor{#1}%
\fi
\expandafter\put@me@back
\fi
\let\anchor@spot\@empty
}\}
\let\anchor@spot\ltx@empty

18 Option ‘destlabel’
\long\def\hyper@newdestlabel#1#2{%
\begingroup\Hy@safe@activestrue
\def\x\endgroup
\noexpand@newl@bel{HyDL}{#1}{#2}%%%%
}%
\x
}%%%%
Provide a dummy default definition of \hyper@newdestlabel inside the .aux files.

19 Compatibility with the \texttt{\LaTeX2html} package

Map our macro names on to Nikos’, so that documents prepared for that system will work without change.

Note, however, that the whole complicated structure for segmenting documents is not supported; it is assumed that the user will load html.sty first, and then hyperref.sty, so that the definitions in html.sty take effect, and are then overridden in a few circumstances by this package.

This is really too much. The \texttt{\LaTeX2html} package defines its own \texttt{\hyperref} command, with a different syntax. Was this always here? Its weird, anyway. We interpret it in the ‘printed’ way, since we are about fidelity to the page.
20 Forms creation

Allow for creation of PDF or HTML forms. The effects here are limited somewhat by the need to support both output formats, so it may not be as clever as something which only wants to make PDF forms.

I (Sebastian) could not have started this without the encouragement of T V Raman.

20.1 Field flags

The field flags are organized in a bit set.

Each flag has a option name, an \if switch, and a bit position. The default is always 'false', the flag is clear. This is also the default of the switch created by \newif.

The names of the flags in the PDF specification (1.7) are used as lowercase option names.

\HyField@NewFlag
\HyField@NewFlagOnly
\HyField@NewOption
\HyField@NewBitsetFlag

Package 'bitset' uses zero based positions, the PDF specification starts with one.
The bit set is \texttt{HyField@#1}

\begin{verbatim}
def\HyField@UseFlag#1#2{\lowercase{\HyField@@UseFlag{#2}}{#1}}
def\HyField@@UseFlag#1#2{\bitsetSetValue{HyField@#2}{\csname HyField@#2@#1\endcsname}{\csname ifFld@#1\endcsname 1\else 0\fi}}

def\HyField@SetFlag#1#2{\lowercase{\HyField@@SetFlag{#2}}{#1}}
def\HyField@@SetFlag#1#2{\bitsetSetValue{HyField@#2}{\csname HyField@#2@#1\endcsname}{1}}

def\HyField@PrintFlags#1#2{\ifHy@verbose\begingroup\let\Hy@temp\@empty\let\MessageBreak\relax\expandafter\@for\expandafter\x\expandafter=\expandafter=%\bitsetGetSetBitList{HyField@#1}\do{%\edef\Hy@temp{\Hy@temp\csname HyField@#1@\x\endcsname\MessageBreak}\edef\x{\endgroup\noexpand\Hy@Info{Field flags: %\if\csname#2\endcsname S\else/\fi\bitsetGetDec{HyField@#1} %\bitsetGetHex{HyField@#1}(0x\bitsetGetHex{HyField@#1}{32})\MessageBreak\Hy@temp}}}
\end{verbatim}

\texttt{HyField@UseFlag} The bit set is \texttt{HyField@#1}

\texttt{HyField@SetFlag} The bit set is \texttt{HyField@#1}

\texttt{HyField@PrintFlags}
20.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”
\HyField@NewFlag{Ff}{ReadOnly}{1}
\HyField@NewFlag{Ff}{Required}{2}
\HyField@NewFlag{Ff}{NoExport}{3}

“Table 8.75 Field flags specific to button fields”
\HyField@NewFlag{Ff}{NoToggleToOff}{15}
\HyField@NewFlag{Ff}{Radio}{16}
\HyField@NewFlag{Ff}{Pushbutton}{17}
\HyField@NewFlag{Ff}{RadiosInUnison}{26}

“Table 8.77 Field flags specific to text fields”
\HyField@NewFlag{Ff}{Multiline}{13}
\HyField@NewFlag{Ff}{Password}{14}
\HyField@NewFlag{Ff}{FileSelect}{21} PDF 1.4
\HyField@NewFlag{Ff}{DoNotSpellCheck}{23} PDF 1.4
\HyField@NewFlag{Ff}{DoNotScroll}{24} PDF 1.4
\HyField@NewFlag{Ff}{Comb}{25} PDF 1.4
\HyField@NewFlag{Ff}{RadiosInUnison}{26} PDF 1.5

“Table 8.79 field flags specific to choice fields”
\HyField@NewFlag{Ff}{Combo}{18}
\HyField@NewFlag{Ff}{Edit}{19}
\HyField@NewFlag{Ff}{Sort}{20}
\HyField@NewFlag{Ff}{MultiSelect}{22} PDF 1.4
% \HyField@NewFlag{Ff}{DoNotSpellCheck}{23} PDF 1.4
\HyField@NewFlag{Ff}{CommitOnSelChange}{27} PDF 1.5

Signature fields are not supported.

Until 6.76i hyperref uses field option ‘combo’ to set three flags ‘Combo’, ‘Edit’, and ‘Sort’. Option ‘popdown’ sets flag ‘Combo’ only.

\texttt{\newif\ifFld@popdown}
\define@key{Field}{popdown}[true]{% 
\lowercase\Field@boolkey{#1}{popdown} %
\texttt{}}

Annotation flags. The form objects are widget annotations. There are two flags for readonly settings, the one in the annotation flags is ignored, instead the other in the field flags is used.

Flag \texttt{Print} is not much useful, because hyperref do not use the appearance entry of the annotations for most fields.
\HyField@NewFlag{F}{Invisible}{1}
\HyField@NewFlag{F}{Hidden}{2} PDF 1.2
\HyField@NewFlag{F}{Print}{3} PDF 1.2
\HyField@NewFlag{F}{NoZoom}{4} PDF 1.2
% \HyField@NewFlag{F}{NoRotate}{5} PDF 1.3
\HyField@NewFlag{F}{NoView}{6} PDF 1.3
\HyField@NewFlag{F}{Locked}{8} PDF 1.4
\HyField@NewFlag{F}{ToggleNoView}{9} PDF 1.5
\HyField@NewFlag{F}{LockedContents}{10} PDF 1.7

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Submit flags. Flag 1 Include/Exclude is not supported, use option noexport instead.

```latex
\HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
\HyField@NewFlagOnly{Submit}{ExportFormat}{3}
\HyField@NewFlag{Submit}{GetMethod}{4}
\HyField@NewFlag{Submit}{SubmitCoordinates}{5}
\HyField@NewFlagOnly{Submit}{XFDF}{6}
\HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
\HyField@NewFlag{Submit}{IncludeAnnotations}{8}
\HyField@NewFlag{Submit}{SubmitPDF}{9}
\HyField@NewFlag{Submit}{CanonicalFormat}{10}
\HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
\HyField@NewFlag{Submit}{ExclFKey}{12}
\HyField@NewFlag{Submit}{EmbedForm}{14}
```

```latex
\define@key{Field}{export}{%\lowercase{\def\Hy@temp{#1}}}%
\@ifundefined{Fld@export@\Hy@temp}{%\@onelevel@sanitize\Hy@temp}{%\let\Fld@export\Hy@temp}
\Hy@Error{\% Unknown export format \texttt{\`\`\`\`\`\`\Hy@temp}\MessageBreak
\% Known formats are `FDF`, `HTML`, `XFDF`, and `PDF`}\%}
\}@ehc
\%\}%
\let\Fld@export\Hy@temp
```

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20.1.2 Set submit flags

\HyField@FlagsSubmit

\def\HyField@FlagsSubmit{%
  \bitsetReset{HyField@Submit}%
  \ifcase\@nameuse{Fld@export}\Fld@export\fi %

  \HyField@UseFlag{Submit}{IncludeNoValueFields}%
  \HyField@UseFlag{Submit}{SubmitCoordinates}%
  \HyField@UseFlag{Submit}{IncludeAnnotations}%
  \HyField@UseFlag{Submit}{CanonicalFormat}%
  \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
  \HyField@UseFlag{Submit}{ExclFKey}%
  \HyField@UseFlag{Submit}{EmbedForm}%

  \or % HTML
  \HyField@SetFlag{Submit}{ExportFormat}%
  \HyField@UseFlag{Submit}{IncludeNoValueFields}%
  \HyField@UseFlag{Submit}{GetMethod}%
  \HyField@UseFlag{Submit}{SubmitCoordinates}%
  \HyField@UseFlag{Submit}{CanonicalFormat}%

  \or % XFDF
  \HyField@SetFlag{Submit}{XFDF}%
  \HyField@UseFlag{Submit}{IncludeNoValueFields}%
  \HyField@UseFlag{Submit}{SubmitCoordinates}%
  \HyField@UseFlag{Submit}{CanonicalFormat}%

  \or % PDF
  \HyField@SetFlag{Submit}{SubmitPDF}%
  \HyField@UseFlag{Submit}{GetMethod}%

  \fi

  \n
  \HyField@PrintFlags{Submit}{submit button field}%

} %

20.1.3 Set annot flags in fields

\HyField@FlagsAnnot

\def\HyField@FlagsAnnot#1{%
  \bitsetReset{HyField@F}%
  \HyField@UseFlag{F}{Invisible}%
  \HyField@UseFlag{F}{Hidden}%
  \HyField@UseFlag{F}{Print}%
  \HyField@UseFlag{F}{NoZoom}%
  \HyField@UseFlag{F}{NoRotate}%

  \let\Fld@submitflags\ltx@empty

  \bitsetIsEmpty{HyField@Submit}{%}

  \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
}

} %
20.1.4 Pushbutton field

```
\HyField@FlagsPushButton
5919 \def\HyField@FlagsPushButton{%\n5920 \HyField@FlagsAnnot{push button field}%\n5921 \bitsetReset{HyField@Ff}\n5922 \HyField@UseFlag{Ff}{ReadOnly}\n5923 \HyField@UseFlag{Ff}{Required}\n5924 \HyField@UseFlag{Ff}{NoExport}\n5925 \HyField@SetFlag{Ff}{Pushbutton}\n5926 \HyField@PrintFlags{Ff}{push button field}%\n5927 \bitsetIsEmpty{HyField@Ff}%\n5928 \let\Fld@flags\ltx@empty\n5929 }\n5930 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%\n5931 }\n5932 }
```

20.1.5 Check box field

```
\HyField@FlagsCheckBox
5933 \def\HyField@FlagsCheckBox{%\n5934 \HyField@FlagsAnnot{check box field}%\n5935 \bitsetReset{HyField@Ff}\n5936 \HyField@UseFlag{Ff}{ReadOnly}\n5937 \HyField@UseFlag{Ff}{Required}\n5938 \HyField@UseFlag{Ff}{NoExport}\n5939 \HyField@PrintFlags{Ff}{check box field}%\n5940 \bitsetIsEmpty{HyField@Ff}%\n5941 \let\Fld@flags\ltx@empty\n5942 }%\n5943 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%\n5944 }%\n5945 }
```

20.1.6 Radio button field

```
\HyField@FlagsRadioButton
5946 \def\HyField@FlagsRadioButton{%\n5947 \HyField@FlagsAnnot{radio button field}%\n5948 \bitsetReset{HyField@Ff}%\n5949 \HyField@UseFlag{Ff}{ReadOnly}%\n5950 \HyField@UseFlag{Ff}{Required}%\n5951 \HyField@UseFlag{Ff}{NoExport}%\n5952 \HyField@UseFlag{Ff}{NoToggleToOff}%\n5953 \HyField@SetFlag{Ff}{Radio}%
```
\HyField@UseFlag{Ff}{RadiosInUnison}\%
\HyField@PrintFlags{Ff}{radio button field}\%
\bitsetIsEmpty{HyField@Ff}\{%
  \let\Fld@flags\ltx@empty
%
}\{%
  \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
%
\}

20.1.7 Text fields

\HyField@FlagsText
\def\HyField@FlagsText{%
  \HyField@FlagsAnnot{text field}%
  \bitsetReset{HyField@Ff}%
  \HyField@UseFlag{Ff}{ReadOnly}%
  \HyField@UseFlag{Ff}{Required}%
  \HyField@UseFlag{Ff}{NoExport}%
  \HyField@UseFlag{Ff}{Multiline}%
  \HyField@UseFlag{Ff}{Password}%
  \HyField@UseFlag{Ff}{FileSelect}%
  \HyField@UseFlag{Ff}{DoNotSpellCheck}%
  \HyField@UseFlag{Ff}{DoNotScroll}%
  \ifFld@comb
    \ifcase0\ifFld@multiline
      \else\ifFld@password
        \else\ifFld@fileselect
          \else 1\fi\fi\relax
      \Hy@Error{Field option `comb' cannot used together with `multiline', `password', or `fileselect'}%
    \}@ehc
  \else
    \HyField@UseFlag{Ff}{Comb}%
  \fi
  \fi
  \HyField@UseFlag{Ff}{RichText}%
  \HyField@PrintFlags{Ff}{text field}%
  \bitsetIsEmpty{HyField@Ff}{%
    \let\Fld@flags\ltx@empty
  \}%
\}

20.1.8 Choice fields

\HyField@FlagsChoice
\def\HyField@FlagsChoice{%
  \HyField@FlagsAnnot{choice field}%
  \bitsetReset{HyField@Ff}%
  \HyField@UseFlag{Ff}{ReadOnly}%
  \HyField@UseFlag{Ff}{Required}%
  \HyField@UseFlag{Ff}{NoExport}%
  \HyField@UseFlag{Ff}{Combo}%
  \ifFld@combo
    \HyField@UseFlag{Ff}{Edit}%
  \fi
  \HyField@UseFlag{Ff}{RichText}%
  \HyField@PrintFlags{Ff}{text field}%
  \bitsetIsEmpty{HyField@Ff}{%
    \let\Fld@flags\ltx@empty
  \}%
\}
20.2 Choice field

\HyField@PDFChoices #1: list of choices in key value syntax, key = exported name, value = displayed text.

Input: \Fld@default, \Fld@value, if\Fld@multiselect

Result: \Fld@choices with entries: /Opt, /DV, /V, /I.

\def\HyField@PDFChoices#1{\begingroup
\global\let\Fld@choices\ltx@empty
\let\HyTmp@optlist\ltx@empty
\let\HyTmp@optitem\relax
\count@=0
\kv@parse{#1}{\ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
\xdef\Fld@choices{\Fld@choices\[(\kv@key)(\kv@key)\]}%
\else
\xdef\Fld@choices{\Fld@choices(\kv@key)}%
\fi
\else
\Hy@pdfstringdef\kv@value\kv@value
\xdef\Fld@choices{\Fld@choices\[(\kv@value)(\kv@key)\]}%
\fi
\edef\HyTmp@optlist{%
\HyTmp@optlist
\HyTmp@optitem{\the\count@}{\kv@key}0%
}\advance\count@ by 1%
\@gobbletwo
\xdef\Fld@choices{/Opt[\Fld@choices]}%
\if\Fld@multiselect
\HyField@@PDFChoices{DV}\Fld@default
\HyField@@PDFChoices{V}\Fld@value
\else
\if\Fld@default
\else
\pdfstringdef\Hy@gtemp\Fld@default
\xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
\fi
\fi
\endgroup}
\HyField@@PDFChoices

\def\HyField@@PDFChoices#1#2{\fi\def\HyTmp@optitem##1##2##3{\def\HyTmp@key{##2}\ifx\HyTmp@key\Hy@gtemp\expandafter\def\expandafter\HyTmp@optlist\expandafter{\HyTmp@optlist\HyTmp@optitem{##1}{##2}1\%}\let\HyTmp@found=Y\else\expandafter\def\expandafter\HyTmp@optlist\expandafter{\HyTmp@optlist\HyTmp@optitem{##1}{##2}##3}\fi}\expandafter\comma@parse\expandafter{#2}{\pdfstringdef\Hy@gtemp\comma@entry\let\HyTmp@found=N\expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty\ifx\HyTmp@found Y\advance\count@ by 1\else\@onelevel@sanitize\comma@entry\PackageWarning{hyperref}{\string\ChoiceBox: Ignoring value \comma@entry, it cannot be found in the choices}\fi\@gobble}\def\HyTmp@optitem##1##2##3{\ifnum##3=1(##2)\fi}\ifcase\count@\or\xdef\Fld@choices{\Fld@choices/\#1\HyTmp@optlist}%\else\xdef\Fld@choices{\Fld@choices/\#1[\HyTmp@optlist]}%\ifx#1V%
20.3 Forms

\HyField@SetKeys

\def\HyField@SetKeys{%
\kvsetkeys{Field}%
}%

\newif\ifFld@checked
\newif\ifFld@disabled
\Fld@checkedfalse
\Fld@disabledfalse
\newcount\Fld@menulength
\newdimen\Field@Width
\newdimen\Fld@charsize
\Fld@charsize=10\p@
\def\Fld@maxlen{0}
\def\Fld@align{0}
\def\Fld@color{0 0 0 rg}
\def\Fld@bgcolor{1 1 1}
\def\Fld@bordercolor{1 0 0}
\def\Fld@bordersep{1\p@}
\def\Fld@borderwidth{1}
\def\Fld@borderstyle{S}
\def\Fld@cbsymbol{4}
\def\Fld@radiosymbol{H}
\def\Fld@rotation{0}
\def\Form{%
\@ifnextchar[{{\@Form}{\@Form[]}}
%
\def\endForm{{}\@endForm}
\newif\ifForm@html
\Form@htmlfalse
\def\Form@boolkey#1#2{%
\csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
%
\define@key{Form}{action}{%
\hyper@normalise\Hy@DefFormAction{#1}%
}%
\def\Hy@DefFormAction{\def\Form@action}
\def\enc@@html{html}
\define@key{Form}{encoding}{%
\def\Hy@tempa{#1}%
\ifx\Hy@tempa\enc@@html
\Form@htmltrue
%
\def\new\Form@boolkey#1#2{%
\csname Form@boolkey#1#2\endcsname
%
\def\new\Form@boolkey#1#2{%
\csname Form@boolkey#1#2\endcsname
\def\Fld@export{html}\
\else
\Hy@Warning{\message
Form `encoding' key with \message
unknown value `#1'}\fi
\Form@htmlfalse
\fi
\def\Form@html{}
\@namedef{Form@html@post}{0}
\@namedef{Form@html@get}{1}
\newif\ifHyField@NeedAppearances
\def\HyField@NeedAppearancesfalse{\global\let\ifHyField@NeedAppearances\iffalse}
\def\HyField@NeedAppearancestrue{\global\let\ifHyField@NeedAppearances\iftrue}
\HyField@NeedAppearancestrue
\define@key{Form}{method}{\lowercase{\def\Hy@temp{#1}}}\@ifundefined{Form@method@\Hy@temp}{\@onelevel@sanitize\Hy@temp\Hy@Error{\message
Unknown method `\message\Known values are `post' and `get'}\@ehc}{\let/Form@method\Hy@temp\ifcase\@nameuse{Form@method@\Hy@temp} \Fld@getmethodfalse\else \Fld@getmethodtrue \fi}
\def\Form@method{}
\@namedef{Form@method@post}{0}
\@namedef{Form@method@get}{1}
\ifHy@texht
\fi
\def\Form@method{}
\@namedef{Form@method@post}{0}
\@namedef{Form@method@get}{1}
\newif\ifHyField@NeedAppearances
\def\HyField@NeedAppearancesfalse{\global\let\ifHyField@NeedAppearances\iffalse}
\def\HyField@NeedAppearancestrue{\global\let\ifHyField@NeedAppearances\iftrue}
\HyField@NeedAppearancestrue
\define@key{Form}{NeedAppearances}{true}{\edef\Hy@tempa{#1}\ifx\Hy@tempa\Hy@true\HyField@NeedAppearancestrue\else\ifx\Hy@tempa\Hy@false\HyField@NeedAppearancesfalse\else\Hy@Error{\message
Unexpected value `\message\of option `NeedAppearances' instead of `true' or `false'}\@ehc\fi\fi\fi\fi\@ehc}
\Field@boolkey#1#2{\csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname}
\ifHy@texht
\newtoks\Field@toks
\Field@toks=={}%
def\Field@addtoks#1#2{%edef\@processme{\Field@toks{\the\Field@toks\space #1="#2"}}%
@processme}
def\Hy@WarnHTMLFieldOption#1{%\Hy@Warning{% HTML field option `#1'\MessageBreak is ignored%
}%}
def\Fld@checkequals#1=#2=#3\{%\def\@currDisplay{#1}\%
@ifx\#2\%
\def\@currValue{#1}\%
#else\%
\def\@currValue{#2}\%
\fi\%
\def\Fld@checkequals#1=#2=#3\%
\def\currDisplay{#1}\%
@ifx\#2\%
\def\currValue{#1}\%
#else\%
\def\currValue{#2}\%
\fi\%
\fi\%
\define@key{Field}{loc}{\def\Fld@loc{#1}}%
\define@key{Field}{checked}{lowercase{\Field@boolkey{#1}}{checked}}%
\define@key{Field}{disabled}{lowercase{\Field@boolkey{#1}}{disabled}}%
@ifHy@texht
\define@key{Field}{accesskey}{\Field@addtoks{accesskey}{#1}}%
\define@key{Field}{tabkey}{\Field@addtoks{tabkey}{#1}}%
#else
\Hy@WarnHTMLFieldOption{accesskey}%
\Hy@WarnHTMLFieldOption{tabkey}%
\fi\%
\define@key{Field}{name}{\def\Fld@name{#1}}%
\let\Fld@altname\relax
\define@key{Field}{altname}{\def\Fld@altname{#1}}%
\let\Fld@mappingname\relax
\define@key{Field}{mappingname}{\def\Fld@mappingname{#1}}%
@ifHy@texht
\def\Fld@altname\relax
\define@key{Field}{altname}{\def\Fld@altname{#1}}%
\let\Fld@mappingname\relax
\define@key{Field}{mappingname}{\def\Fld@mappingname{#1}}%
\fi
Invalid value `\pdfborderstyle` for option `pdfborderstyle`. Valid values: Solid, Dashed, Beveled, Inset, Underline. Option setting is ignored.

\let\Fld@borderstyle\Hy@temp
\define@key{Field}{bordersep}{\def\Fld@bordersep{#1}}
\define@key{Field}{default}{\def\Fld@default{#1}}
\define@key{Field}{align}{\def\Fld@align{#1}}
\define@key{Field}{value}{\Hy@pdfstringdef\Fld@value{#1}}
\define@key{Field}{checkboxsymbol}{\Fld@DingDef\Fld@cbsymbol{#1}}
\define@key{Field}{radiosymbol}{\Fld@DingDef\Fld@radiosymbol{#1}}
\def\Fld@DingDef#1#2{\let\Fld@temp\ltx@empty\Fld@@DingDef#2\ding\@nil\let#1\Fld@temp}
\def\Fld@@DingDef#1\ding#2#3\@nil{\expandafter\def\expandafter\Fld@temp\expandafter{\Fld@temp#1}\ifx\#3\%
\expandafter\@gobble\else\begingroup\lccode`0=#2\relax\lowercase\endgroup\expandafter\def\expandafter\Fld@temp\expandafter{\Fld@temp0}\expandafter\@firstofone\fi\Fld@@DingDef#3\@nil\expandafter\@firstofone}}
\define@key{Field}{rotation}{%
\def\Fld@rotation{#1}\%
}
\define@key{Field}{backgroundcolor}{%
\HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}\%
}
\define@key{Field}{bordercolor}{%
\HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}\%
}
\define@key{Field}{color}{%
\HyColor@FieldColor{#1}\Fld@color{hyperref}{color}\%
}
\let\Fld@onclick@code\ltx@empty
\let\Fld@format@code\ltx@empty
\let\Fld@validate@code\ltx@empty
\let\Fld@calculate@code\ltx@empty
\let\Fld@keystroke@code\ltx@empty
\let\Fld@onfocus@code\ltx@empty
\let\Fld@onblur@code\ltx@empty
\let\Fld@onmousedown@code\ltx@empty
\let\Fld@onmouseup@code\ltx@empty
\let\Fld@onenter@code\ltx@empty
\let\Fld@onexit@code\ltx@empty
\def\Hy@temp{keystroke}
\def\Hy@temp{format}
\def\Hy@temp{validate}
\def\Hy@temp{calculate}
\def\Hy@temp{onfocus}
\def\Hy@temp{onblur}
\def\Hy@temp{onenter}
\def\Hy@temp{onexit}
\def\Hy@temp{calculatesortkey}

\ifHy@pdfa
\define@key{Field}{#2}{%
\Hy@Error{%
PDF/A: Additional action `#2' is prohibited%
}\@ehc
}%
\else
\define@key{Field}{#2}{%
\def#1{##1}
}%
\fi
\ifHy@texht
\define@key{Field}{#2}{%
\Field@addtoks{#1}{##1}
}%
\fi
\def\Hy@temp{ondblclick} \def\Hy@temp{onmousedown} \def\Hy@temp{onmouseup} \def\Hy@temp{onmouseover} \def\Hy@temp{onmousemove} \def\Hy@temp{onmouseout} \def\Hy@temp{onkeydown} \def\Hy@temp{onkeyup} \ifHy@texht \define@key{Field}{onclick}{\TextField@addtoks{onclick}{#1}} \else \ifHy@pdfa \define@key{Field}{onclick}{\Hy@Error{PDF/A: Action `onclick' is prohibited}\@ehc} \else \define@key{Field}{onclick}{\def\Fld@onclick@code{#1}} \fi \fi \fi

\DeclareRobustCommand\TextField {% \@ifnextchar[\TextField@open{(\TextField@open)}]{\TextField@open{(\TextField@open)}} %
\@ifnextchar{\TextField@open{(\TextField@open)}{\TextField@open{(\TextField@open)}}} {\TextField@open{(\TextField@open)}}

\DeclareRobustCommand\ChoiceMenu{% \@ifnextchar[\TextField@open{(\TextField@open)}]{\TextField@open{(\TextField@open)}} %
\@ifnextchar{\TextField@open{(\TextField@open)}{\TextField@open{(\TextField@open)}}} {\TextField@open{(\TextField@open)}}

\DeclareRobustCommand\CheckBox{% \@ifnextchar[\TextField@open{(\TextField@open)}]{\TextField@open{(\TextField@open)}} %
\@ifnextchar{\TextField@open{(\TextField@open)}{\TextField@open{(\TextField@open)}}} {\TextField@open{(\TextField@open)}}

\DeclareRobustCommand\PushButton{% \@ifnextchar[\TextField@open{(\TextField@open)}]{\TextField@open{(\TextField@open)}} %
\@ifnextchar{\TextField@open{(\TextField@open)}{\TextField@open{(\TextField@open)}}} {\TextField@open{(\TextField@open)}}

\DeclareRobustCommand\Gauge{% \@ifnextchar[\TextField@open{(\TextField@open)}]{\TextField@open{(\TextField@open)}} %
\@ifnextchar{\TextField@open{(\TextField@open)}{\TextField@open{(\TextField@open)}}} {\TextField@open{(\TextField@open)}}

\DeclareRobustCommand\Submit{% \@ifnextchar[\TextField@open{(\TextField@open)}]{\TextField@open{(\TextField@open)}} %
\@ifnextchar{\TextField@open{(\TextField@open)}{\TextField@open{(\TextField@open)}}} {\TextField@open{(\TextField@open)}}

\DeclareRobustCommand\Reset{% \@ifnextchar[\TextField@open{(\TextField@open)}]{\TextField@open{(\TextField@open)}} %
\@ifnextchar{\TextField@open{(\TextField@open)}{\TextField@open{(\TextField@open)}}} {\TextField@open{(\TextField@open)}}
\def\LayoutTextField#1#2{% label, field
\def#1 #2%
}
\def\LayoutChoiceField#1#2{% label, field
#1 #2%
}
\def\LayoutCheckField#1#2{% label, field
#1 #2%
}
\def\LayoutPushButtonField#1{% button
#1%
}
\def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
\def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
\def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
\def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
\def\MakeButtonField#1{\sbox0{\hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%\hskip}\ht0%\@tempdima\ht0 %\advance\@tempdima by \Fld@borderwidth bp %\ht0\@tempdima\@tempdima\dp0 %\@tempdima\dp0\@tempdima\advance\@tempdima by \Fld@borderwidth bp %\advance\@tempdima by \Fld@borderwidth bp %\box0\relax}{%}
\def\DefaultHeightofSubmit{14pt}
\def\DefaultWidthofSubmit{2cm}
\def\DefaultHeightofReset{14pt}
\def\DefaultWidthofReset{2cm}
\def\DefaultHeightofCheckBox{\baselineskip}
\def\DefaultWidthofCheckBox{\baselineskip}
\def\DefaultHeightofChoiceMenu{\baselineskip}
\def\DefaultWidthofChoiceMenu{\baselineskip}
\def\DefaultHeightofText{\baselineskip}
\def\DefaultHeightofTextMultiline{4\baselineskip}
\def\DefaultWidthofText{3cm}
\def\DefaultOptionsofSubmit{print,name=Submit,noexport}
\def\DefaultOptionsofReset{print,name=Reset,noexport}
\def\DefaultOptionsofPushButton{print}
\def\DefaultOptionsofCheckBox{print}
\def\DefaultOptionsofChoiceMenu{print}
\def\DefaultOptionsofListBox{print}
\def\DefaultOptionsofComboBox{print,edit,sort}
\def\DefaultOptionsofPopdownBox{print}
\def\DefaultOptionsofRadio{print,notoggletocoff}

Default options for the types of ChoiceMenu.

Setup

\ifHy@hyperfigures
\Hy@Info{Hyper figures ON}\
\fi


22 Low-level utility macros

We need unrestricted access to the #, - and " characters, so make them nice macros.
\edef\hyper@hash{\string#}
\edef\hyper@tilde{\string~}
\edef\hyper@quote{\string"}

Support \label before \begin{document}.
\def\@currentHref{Doc-Start}
\let\Hy@footnote@currentHref@empty

We give the start of document a special label; this is used in backreferencing-by-section, to allow for cites before any sectioning commands. Set up PDF info.
\Hy@AtBeginDocument{%
\Hy@pdfstringtrue
\PDF@SetupDoc
\let\PDF@SetupDoc@empty
\Hy@DisableOption{pdfpagescrop}%
\Hy@DisableOption{pdfpagemode}%
\Hy@DisableOption{pdfnonfullscreenpagemode}%
\Hy@DisableOption{pdfdirection}%
\Hy@DisableOption{pdfviewarea}%
\Hy@DisableOption{pdfviewclip}%
23 Localized nullifying of package

Sometimes we just don’t want the wretched package interfering with us. Define an environment we can put in manually, or include in a style file, which stops the hypertext functions doing anything. This is used, for instance, in the Elsevier classes, to stop \hyperref playing havoc in the front matter.

\def\NoHyper{%
  \def\hyper@@anchor##1##2{##2\Hy@xspace@end}%
  \global\let\hyper@livelink\hyper@link
  \gdef\hyper@link##1##2##3{##3\Hy@xspace@end}%
  \let\hyper@anchor\ltx@gobble
  \let\hyper@anchorstart\ltx@gobble
  \def\hyper@anchorend{\Hy@xspace@end}%
  \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
  \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
  \let\Hy@backout\@gobble
}
24 Package nohyperref

This package is introduced by Sebastian Rahtz.

Package nohyperref is a dummy package that defines some low level and some top-level commands. It is done for jadetex, which calls hyperref low-level commands, but it would also be useful with people using normal hyperref, who really do not want the package loaded at all.

Some low-level commands:

Some top-level commands:
\section*{25 The Mangling Of Aux and Toc Files}

Some extra tests so that the hyperref package may be removed or added to a document without having to remove .aux and .toc files (this section is by David Carlisle) All the code is delayed to \begin{document}

First the code to deal with removing the hyperref package from a document.

Write some stuff into the aux file so if the next run is done without hyperref, then \texttt{\providecommand} and \texttt{\newlabel} are defined to cope with the extra arguments.

But the new aux file will be read again at the end, with the normal definitions expected, so better put things back as they were.

If the document is being run with hyperref put this definition into the aux file, so we can spot it on the next run.
Now the code to deal with adding the hyperref package to a document with aux and toc written the standard way.

If hyperref was used last time, do nothing. If it was not used, or an old version of hyperref was used, don’t use that TOC at all but generate a warning. Not ideal, but better than failing with pre-5.0 hyperref TOCs.

26 Title strings

If options pdftitle and pdfauthor are not used, these informations for the pdf information dictionary can be extracted by the nd
The case, that \re given before hyperref is loaded, is much more complicated, because LaTeX initializes the macros title and author with LaTeX error and warning messages.

\begin{verbatim}
def\process@me#1\@nil#2{%
\expandafter\let\expandafter\x\csname @#2\endcsname
\edef\y{\expandafter\strip@prefix\meaning\x}%
\def\c##1#1##2\@nil{%
  \ifx\##1\%
  \else
    \expandafter\gdef\csname Hy@#2\expandafter\endcsname\expandafter{\x}%
  \fi
}\expandafter\c\y\relax#1\@nil%
}\expandafter\process@me\string\@latex@\@nil{title}%
\expandafter\process@me\string\@latex@\@nil{author}%
\endgroup
\fi
\Hy@DisableOption{pdfusetitle}
\end{verbatim}

Macro $\Hy@UseMaketitleInfos$ is used in the driver files, before the information entries are used.

The newline macro $\newline$ or $\backslash$ is much more complicated. In the title a good replacement can be a space, but can be already a space after $\backslash$ in the title string. So this space is removed by scanning for the next non-empty argument.

In the macro $\author$ the newline can perhaps separate the different authors, so the newline expands here to a comma with space.

The possible arguments such as space or the optional argument after the newline macros are not detected.

\begin{verbatim}
def\Hy@UseMaketitleString#1{%
\ltx@ifUndef\Hy@#1{}{%
  \begingroup
  \let\Hy@saved@hook\pdfstringdefPreHook
  \pdfstringdefDisableCommands{%
    \expandafter\let\expandafter\%\\csname Hy@newline@#1\endcsname
    \let\newline\%
    \def\and{; }%
  }%
  \expandafter\ifx\csname @pdf#1\endcsname\@empty
    \expandafter\pdfstringdef\csname @pdf#1\endcsname{\Hy@#1\@empty}
  \fi
  \global\let\pdfstringdefPreHook\Hy@saved@hook
  \endgroup
}\end{verbatim}

$\Hy@UseMaketitleInfos$ is used in the driver files, before the information entries are used.
27 Page numbers
This stuff is done by Heiko Oberdiek.

28 Every page

28.1 PDF /PageLabels

Internal macros of this module are marked with \HyPL@.

\thispdfpagelabel The command \thispdfpagelabel allows to label a special page without the redefinition of \thepage for the page.
\HyPL@Labels  The page labels are collected in \HyPL@Labels and set at the end of the document.
\let\HyPL@Labels\ltx@empty

\Hy@abspage  We have to know the the absolute page number and introduce a new counter for that.
\newcount\Hy@abspage
\Hy@abspage=0 \%

For comparisons with the values of the previous page, some variables are needed:
\def\HyPL@LastType{init}\%
\def\HyPL@LastNumber{0}\%
\let\HyPL@LastPrefix\ltx@empty

Definitions for the PDF names of the \LaTeX pendants.
\def\HyPL@arabic{D}\%
\def\HyPL@Roman{R}\%
\def\HyPL@roman{r}\%
\def\HyPL@Alph{A}\%
\def\HyPL@alph{a}\%
\let\HyPL@SlidesSetPage\ltx@empty
\ltx@ifclassloaded{slides}{%
\def\HyPL@SlidesSetPage{%
\advance\c@page\ltx@one
\ifnum\value{page}>\ltx@one
\protected@edef\HyPL@SlidesOptionalPage{%
\Hy@SlidesFormatOptionalPage{the\page}\%
\else
\let\HyPL@SlidesOptionalPage\ltx@empty
\fi
\advance\c@page-\ltx@one
\let\Hy@temp Y%
\ifx\HyPL@Type\HyPL@LastType
\HyPL@EveryPage
\def\HyPL@EveryPage{%
\begingroup
\ifx\HyPL@thisLabel\relax
\let\HyPL@page\ltx@one
\HyPL@SlidesSetPage
\else
\let\HyPL@page\HyPL@thisLabel
\Hy@global\let\HyPL@thisLabel\relax
\fi
\let\HyPL@Type\relax
\ifnum\c@page>0 \%
\iftx\HyPL@SlidesSetPage\ltx@empty
\expandafter\Hy@CheckThePage\HyPL@page\@nil
\else
\fi
\fi
\let\Hy@temp Y%
\iftx\HyPL@Type\HyPL@LastType
\fi
\fi
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\HyPL@CheckThePage \HyPL@CheckThePage calls \HyPL@@CheckThePage that does the job.

\HyPL@@CheckThePage The first check is, is \texttt{\thepage} is defined such as in \LaTeX, e.g.: \texttt{\csname @arabic\endcsname\c@page}. In the current implementation the check fails, if there is another \texttt{\csname} before.

The second check tries to detect \texttt{\arabic{page}} at the end of the definition text of \texttt{\thepage}.

\def\HyPL@@CheckThePage\#1\@nil{\def\HyPL@@CheckThePage\#1\#1\csname\endcsname\c@page\@nil{}}
The help macro \texttt{\HyPL@Format} is executed while a \texttt{\protected@edef} in the second check method of \texttt{\HyPL@@@CheckPage}. The first occurrences of, for example, \texttt{\arabic{page}} is marked by \texttt{\HyPL@found} that is also defined by \texttt{\csname}. 

\begin{verbatim}
\def\HyPL@Format#1#2{% 
  \ifx\HyPL@found\@undefined 
  \expandafter\expandafter\expandafter\ifx\csname c@#2\endcsname\c@page 
  \expandafter\noexpand\csname HyPL@found\endcsname{#1}% 
  \else 
  \expandafter\noexpand\csname#1\endcsname{#2}% 
  \fi 
  \else 
  \expandafter\noexpand\csname#1\endcsname{#2}% 
  \fi 
}\
\end{verbatim}

\texttt{\HyPL@@@CheckPage} If the second check method is successful, \texttt{\HyPL@@@CheckPage} scans the result of \texttt{\HyPL@Format} and stores the found values.

\begin{verbatim}
\def\HyPL@@@CheckPage#1\HyPL@found#2\@nil{% 
  \def\Hy@tempa{#2}% 
  \def\Hy@tempb{\HyPL@found\relax}% 
  \ifx\Hy@tempa\Hy@tempb 
  \def\HyPL@Type{@#2}% 
  \def\HyPL@Prefix{#1} 
  \fi 
}\
\end{verbatim}

\texttt{\HyPL@StorePageLabel} Dummy for drivers that does not support /PageLabel.

\begin{verbatim}
\providecommand*{\HyPL@StorePageLabel}{1}{% 
\end{verbatim}
The /PageLabels entry does not make sense, if the absolute page numbers and the page labels are the same. Then \texttt{\textbackslash HyPL@Labels} has the meaning of \texttt{\textbackslash HyPL@Useless}.

\begin{verbatim}
def\texttt{\textbackslash HyPL@Useless}{0<</S/D>>}\
@onelevel@sanitize\texttt{\textbackslash HyPL@Useless}
\end{verbatim}

\texttt{\textbackslash HyPL@SetPageLabels} The page labels are written to the PDF catalog. The command \texttt{\textbackslash Hy@PutCatalog} is defined in the driver files.

\begin{verbatim}
def\texttt{\textbackslash HyPL@SetPageLabels}{%\@onelevel@sanitize\texttt{\textbackslash HyPL@Labels}\
\ifx\texttt{\textbackslash HyPL@Labels}\texttt{\textbackslash @empty}\else\ifx\texttt{\textbackslash HyPL@Labels}\texttt{\textbackslash HyPL@Useless}\else\texttt{\textbackslash Hy@PutCatalog{/PageLabels<</Nums[\texttt{\textbackslash HyPL@Labels}]>>}}%\fi\fi\fi\}%
\end{verbatim}

Option ‘pdfpagelabels’ has been used and is now disabled.

\begin{verbatim}
def\texttt{\textbackslash Hy@DisableOption}{pdfpagelabels}
\end{verbatim}

\subsection{pdflatex and VTeX}

Because of pdflatex’s \texttt{\textbackslash pdfcatalog} command the /PageLabels entry can set at end of document in the first run.

\begin{verbatim}
def\texttt{\textbackslash pdfcatalog}{%\set\texttt{\textbackslash Hy@PutCatalog}{\texttt{\textbackslash \itx@gobble}}\set\texttt{\textbackslash Hy@PutCatalog}{\texttt{\textbackslash pdfcatalog}}%}
\end{verbatim}

The code for VTeX is more complicated, because it does not allow the direct access to the /Catalog object. The command scans its argument and looks for a /PageLabels entry.

VTeX 6.59g is the first version, that implements \texttt{\special{!pdfpagelabels...}}. For this version \texttt{\VTeXversion} reports 660.

\begin{verbatim}
def\texttt{\textbackslash \itx@gobble}{%\edef\texttt{\textbackslash Hy@VTeXversion}{%\ifx\texttt{\VTeXversion}\texttt{\@undefined}\z@\else\texttt{\VTeXversion}\fi}}\set\texttt{\textbackslash Hy@PutCatalog}{\texttt{\pdf@ifdraftmode}{%\set\texttt{\textbackslash Hy@PutCatalog}{\texttt{\itx@gobble}}}\set\texttt{\textbackslash Hy@PutCatalog}{\texttt{\pdfcatalog}}%}
\end{verbatim}

\VTeX 6.59g is the first version, that implements \texttt{\special{!pdfpagelabels...}}. For this version \texttt{\VTeXversion} reports 660.
\begin{verbatim}
\ifnum\Hy@VTeXversion<660 \%
 \gdef\Hy@PutCatalog#1{\%
 \Hy@WarningNoLine{\%
 VTeX 6.59g or above required for pdfpagelabels\%}
 \%
 }\%
 \else \%
 \gdef\Hy@PutCatalog#1{\%
 \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
 \%
 \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{\%
 \ifx\#2\%
 \else
 \immediate\special{!pdfpagelabels #2}\%
 \fi
 \%
 }\%
 \fi
 \endgroup

This macro adds the entry #1 to \HyPL@Labels.
\ifHy@pdfpagelabels
 \def\HyPL@StorePageLabel#1{\%
 \toks@\expandafter{\HyPL@Labels}\%
 \xdef\HyPL@Labels{\%
 \the\toks@\%
 \the\Hy@abspage<<#1>>\%
 }\%
 \fi

Package \texttt{atveryend} is used to get behind the final \texttt{\clearpage} and to avoid a \texttt{\clearpage} in \texttt{\AtEndDocument}. Then the PDF catalog entry for \texttt{\PageLabels} is set.
\RequirePackage{atveryend}[2009/12/07]\%
\AtVeryEndDocument{\%
 \HyPL@SetPageLabels\%
 }\%
\fi
\endgroup

\HyPL@StorePageLabel
\end{verbatim}

28.1.2 xetex

\ifxetex
\HyPsd@LoadUnicode
\Hy@unicodetrue
\ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
\else
\let\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
\fi
\fi
\HyPsd@LoadStringEnc
\define@key{Hyp}{unicode}{true}{\%
 \Hy@boolkey{unicode}{#1}{\%
 \fi
\endgroup
\fi

\else
    \Hy@Warning{%
        XeTeX driver only supports `unicode=true'. Ignoring\MessageBreak
        option setting `unicode=false'%
    }%
\fi
\fi}
\define@key{Hyp}{pdfencoding}{%
\edef\HyPsd@temp{#1}%
\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
\let\HyPsd@pdfencoding\HyPsd@temp
\else
\ifx\HyPsd@temp\HyPsd@pdfencoding@auto
\let\HyPsd@pdfencoding\HyPsd@temp
\else
    \Hy@Warning{%
        XeTeX driver only supports `pdfencoding=unicode|auto'. Ignoring option `pdfencoding=\HyPsd@temp'\MessageBreak
    }%
\fi
\fi
\fi%
\if\HyXeTeX@CheckUnicode
\fi
\fi\relax
\langle
/xetex\rangle
28.1.3 pdfmarkbase, dvipdfm, xetex
\begingroup
\@ifundefined{headerps@out}{}{%
\toks@\expandafter{\Hy@FirstPageHook}%
\xdef\Hy@FirstPageHook{%
    userdict /?pdfmark systemdict /exec get put%}
\if\Hy@FirstPageHook
\else
\fi
\toks@\expandafter{\Hy@FirstPageHook}%
\noexpand\headerps@out{%
    systemdict /pdfmark known%
\if\Hy@FirstPageHook
\else
\fi
\systemdict /pdfmark known%
\if\Hy@FirstPageHook
\else
\fi
\langle
pdfmarkbase\rangle
\def\Hy@PutCatalog#1{\@pdfm@mark{docview <<#1>>}}
\def\Hy@PutCatalog#1{\pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} <<#1>>}}}%
\endgroup
\langle
pdfmarkbase\rangle
\langle
dvipdfm | xetex\rangle\def\Hy@PutCatalog#1{\@pdfm@mark{docview <<#1>>}}
\langle
dvipdfm | xetex\rangle

\ifHy@pdfpagelabels
\HyPL@StorePageLabel
This macro writes a string to the .aux file.
\def\HyPL@StorePageLabel#1{% 
  \if@filesw 
  \begingroup 
  \edef\Hy@tempa{\the\Hy@abspage<<#1>>}% 
  \immediate\write\@mainaux{% 
    \string\HyPL@Entry{\Hy@tempa}% 
  }% 
  \endgroup 
  \fi 
}\endgroup

Write a dummy definition of \HyPL@Entry for the case, that the next run is
done without hyperref. A marker for the rerun warning is set and the /PageLabels
is written.
\Hy@AtBeginDocument{% 
  \if@filesw 
  \immediate\write\@mainaux{% 
    \string\providecommand\string*\string\HyPL@Entry[1]{}% 
  }% 
  \fi 
}\fi 
\ifx\HyPL@Labels@empty 
  \Hy@WarningNoLine{Rerun to get /PageLabels entry}% 
\else 
  \HyPL@SetPageLabels 
\fi 
\let\HyPL@Entry\@gobble
\fi 
\fi 
\HyPL@Entry
\def\HyPL@Entry#1{% 
  \expandafter\gdef\expandafter\HyPL@Labels\expandafter{\HyPL@Labels#1}% 
}\fi 
\fi
\fi\MaybeStopEarly
\Hy@stoppedearlyfalse

29 Automated \LaTeX{} hypertext cross-references

Anything which can be referenced advances some counter; we overload this
to put in a hypertext starting point (with no visible anchor), and make a note of
that for later use in \label. This will fail badly if \theH<name> does not ex-
and to a sensible reference. This means that classes or package which introduce

new elements need to define an equivalent \texttt{theH<name>} for every \texttt{the<name>}. We do make a trap to make \texttt{theH<name>} be the same as \texttt{arabic<name>}, if \texttt{theH<name>} is not defined, but this is not necessarily a good idea. Alternatively, the ‘naturalnames’ option uses whatever \LaTeX provides, which may be usable. But then its up to you to make sure these are legal PDF and HTML names. The ‘hypertexnames=false’ option just makes up arbitrary names.

All the shenanigans is to make sure section numbers etc are always arabic, separated by dots. Who knows how people will set up \texttt{@currentlabel}? If they put spaces in, or brackets (quite legal) then the hypertext processors will get upset.

But this is flaky, and open to abuse. Styles like \texttt{subeqn} will mess it up, for starters. Appendices are an issue, too. We just hope to cover most situations. We can at least cope with the standard sectioning structure, allowing for \texttt{part} and \texttt{chapter}.

Start with a fallback for equations

\begin{verbatim}
def\Hy@CounterExists#1{\begingroup\expandafter\expandafter\expandafter\endgroup\expandafter\ifx\csname c@#1\endcsname\relax\else\begingroup\expandafter\expandafter\expandafter\endgroup\expandafter\ifx\csname the#1\endcsname\relax\expandafter\expandafter\expandafter\@gobble\else\expandafter\expandafter\expandafter\@firstofone\fi\fi\fi}
def\Hy@CounterExists{section}{\providecommand\theHequation{\theHsection.\arabic{equation}}}\def\Hy@CounterExists{part}{\providecommand\theHpart{\arabic{part}}}\if\ltx@IfUndefined{thechapter}{\providecommand\theHsection{\arabic{section}}\providecommand\theHfigure{\arabic{figure}}\providecommand\theHtable{\arabic{table}}}{}\providecommand\theHchapter{\arabic{chapter}}\providecommand\theHfigure{\theHchapter.\arabic{figure}}\providecommand\theHtable{\theHchapter.\arabic{table}}\providecommand\theHsection{\theHchapter.\arabic{section}}}\providecommand\theHsubsection{\theHsection.\arabic{subsection}}\providecommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}\providecommand\theHparagraph{\theHsubsubsection.\arabic{paragraph}}\providecommand\theHsubparagraph{\theHparagraph.\arabic{subparagraph}}\providecommand\theHtheorem{\theHsection.\arabic{theorem}}\providecommand\theHthm{\theHsection.\arabic{thm}}

Thanks to Greta Meyer (gbd@pop.cwru.edu) for making me realize that enumeration starts at 0 for every list! But \texttt{item} occurs inside \texttt{trivlist}, so check if its a real \texttt{item} before incrementing counters.
\end{verbatim}

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Tanmoy asked for this default handling of undefined \theH<name> situations. It really isn’t clear what would be ideal, whether to turn off hyperizing of unknown elements, to pick up the textual definition of the counter, or to default it to something like \arabic{name}. We take the latter course, slightly worriedly.

We do not want the handler for \refstepcounter to cut in during the processing of \item (we handle that separately), so we provide a bypass conditional.

AMSL\LaTeX processes all equations twice; we want to make sure that the hyper stuff is not executed twice, so we use the AMS \ifmeasuring@, initialized if AMS math is not used.
\def\hyper@refstepcounter#1{% 
\edef\This@name{#1}% 
\ifx\This@name\name@of@eq 
\@ifundefined{theHequation}{% 
\make@stripped@name{\theequation}% 
\let\theHequation\newname% 
\fi 
\HyCnt@ProvideTheHCounter{#1}% 
\ifmeasuring% 
\else 
\Hy@raisedlink{% 
\hyper@anchorstart{\@currentHref}\hyper@anchorend% 
\}% 
\fi 
}{}% 
\fi 
\Hy@ProvideTheHCounter
\theH<counter> is not set for counters that are defined before \texttt{hyperref} is loaded. In \texttt{\textbackslash cl@\textbackslash ckpt}, the clear counter list of the artificial counter \texttt{\textbackslash ckpt}, \texttt{\LaTeX} remembers the defined counters (needed for \texttt{\textbackslash include}). We check the clear counter lists, whether our counter is present. If we found it, then we add the parent counter value to \texttt{\theH<counter>}. The \texttt{\@elt} list is used in sanitized form for the comparison, because the list might contain other stuff than \texttt{\@elts}. Also it simplifies the implementation, because \texttt{\LaTeX'}, substring search \texttt{\in@} can be used.

\def\HyCnt@ProvideTheHCounter#1{% 
\expandafter\ifundefined{theH#1}{% 
\expandafter\def\csname theH#1\endcsname{}% 
\def\Hy@temp{\@elt{#1}}% 
\ltx@onelevel@sanitize\Hy@temp% 
\let\HyOrg@elt\@elt% 
\edef\@elt{\noexpand\HyCnt@LookForParentCounter\csname theH#1\endcsname}% 
\expandafter\cl@\textbackslash ckpt% 
\let\@elt\HyOrg@elt% 
\expandafter\expandafter\HyCnt@LookForParentCounter% 
\expandafter\noexpand\csname theH#1\endcsname% 
\}% 
\fi 
\Hy@LookForParentCounter
\def\HyCnt@LookForParentCounter#1#2{% 
\expandafter\if\csname cl@#2\endcsname\expandafter\endcsname% 
\csname cl@#2\endcsname% 
\ltx@IfUndefined{cl@#2}{% 
\ltx@onelevel@sanitize\Hy@temp% 
\edef\Hy@temp{\noexpand\in@{\Hy@temp}{\Hy@temp}}% 
\ifdef@elt{#1}{% 
\expandafter\noexpand\csname theH#1\endcsname% 
\}% 
\indent% 
\}\textbackslash cl@\textbackslash ckpt% 
\indent% 
\expandafter\expandafter\HyCnt@LookForParentCounter% 
\ltx@IfUndefined{\textbackslash \textbackslash arabic\csname c@#1\endcsname}{% 
\expandafter\expandafter\endcsname% 
\textbackslash arabic\csname c@#1\endcsname% 
\}% 
\}% 
\indent% 
\Hy@LookForParentCounter% 
\def\HyCnt@LookForParentCounter#1#2{% 
\expandafter\if\csname cl@#2\endcsname\expandafter\endcsname% 
\csname cl@#2\endcsname% 
\ltx@IfUndefined{c@#2}{% 
\ltx@onelevel@sanitize\Hy@temp% 
\edef\Hy@temp{\noexpand\in@{\Hy@temp}{\Hy@temp}}% 
\ifdef@elt{#1}{% 
\expandafter\noexpand\csname theH#1\endcsname% 
\}% 
\indent% 
\}\textbackslash ifn@% 
\indent% 
\expandafter\expandafter\HyCnt@LookForParentCounter% 
\ltx@IfUndefined{\textbackslash \textbackslash undefined\csname theH#2\endcsname}{% 
\expandafter\expandafter\endcsname% 
\textbackslash undefined\csname theH#2\endcsname% 
\}% 
\indent% 
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After `\appendix` “chapter” (or “section” for classes without chapter) should be replaced by “appendix” to get `\autoref` work. Macro `\Hy@chapapp` contains the current valid name like `\@chapapp`, which cannot be used, because this string depends on the current language.

The “french” package defines counter `\thechapter` by `\newcounterchapter`, if `\@ifundefinedchapter`.

```latex
\begingroup\expandafter\expandafter\expandafter\endgroup
\expandafter\ifx\csname chapter\endcsname\relax
\def\Hy@chapterstring{section}\else
\def\Hy@chapterstring{chapter}\fi
\def\Hy@appendixstring{appendix}
\def\Hy@chapapp\Hy@chapterstring
\ltx@IfUndefined{appendix}{\let\HyOrg@appendix\appendix}{\let\HyOrg@appendix\appendix}
\def\Hy@Test@alph\HyOrg@appendix
\def\Hy@Test@alph#1{\ifcase#1\or a\or b\or c\or d\or e\or f\or g\or h\or i\or j\or k\or l\or m\or n\or o\or p\or q\or r\or s\or t\or u\or v\or w\or x\or y\or z\else Alph\number\value{#1}\fi}
\def\appendix{\ltx@IfUndefined{chapter}{\gdef\theHsection{\Hy@Test@alph{section}}}{\gdef\theHchapter{\Hy@Test@alph{chapter}}}\def\Hy@chapapp\Hy@appendixstring\HyOrg@appendix}
```
Because of Babel mucking around, nullify \textlatin when making names. And 
\@number because of babel’s lrlatex.def.

\begin{verbatim}
\def\hyper@makecurrent#1{\begingroup\Hy@safe@activestrue\edef\Hy@param{#1}\ifx\Hy@param\Hy@chapterstring\let\Hy@param\Hy@chapapp\fi\if\Hy@hypertexnames\let\@number\@firstofone\def\@fnsymbol##1{fnsymbol\number##1}\def\@arabic##1{\number##1}\if\@alph\Hy@Test@alph\else\def\@alph{alph\number}\fi\if\@Alph\Hy@Test@Alph\else\def\@Alph{Alph\number}\fi\if\Hy@naturalnames\let\textlatin\@firstofone\xdef\HyperGlobalCurrentHref{\csname the#1\endcsname}\else\xdef\HyperGlobalCurrentHref{\csname theH#1\endcsname}\relax\else H\fi\fi\else\Hy@GlobalStepCount\Hy@linkcounter\xdef\HyperGlobalCurrentHref{\Hy@param.\the\Hy@linkcounter}\fi}
}\end{verbatim}

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30 Package lastpage support

Package lastpage directly writes the \newlabel command to the aux file. Because package hyperref requires additional arguments, the internal command \lastpage@putlabel is redefined. The patch is deferred by \AtBeginDocument, because it is possible that package lastpage is loaded after package hyperref. The same algorithm (options hypertexnames and plainpages) is used to get the page anchor name as in \Hy@EveryPageAnchor (see sec. 39). The link will not work if option pageanchor is set to false.

\lastpage@putlabel

7409 \endgroup
7410 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
7411 \ifHy@localanchorname
7412 \let\@currentHref\HyperLocalCurrentHref
7413 \else
7414 \global\let\@currentHref\HyperGlobalCurrentHref
7415 \fi
7416 }

\Hy@MakeCurrentHref

7420 \global\let\HyperGlobalCurrentHref\HyperLocalCurrentHref
7422 \ifHy@localanchorname
7423 \let\@currentHref\HyperLocalCurrentHref
7424 \else
7425 \global\let\@currentHref\HyperGlobalCurrentHref
7426 \fi
7427 }

\Hy@MakeCurrentHrefAuto

7428 \def\Hy@MakeCurrentHrefAuto#1{%
7429 \@ifpackageloaded{fancyvrb}{%
7433 \@ifpackagelater{fancyvrb}{1998/05/20}{%}
7436 \FV@StepLineNo
7437 \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
7438 }%}
7439 }%
7440 %
7441 %
7442 %
7443 %
7444 %

\@currentHlabel \@currentHlabel is only defined for compatibility with package ‘hypdvips’.

7445 \def\@currentHlabel{\@currentHref}

\lastpage@putlabel

7446 \Hy@AtBeginDocument{%
7447 \@ifclassloaded{revtex4}{%
7448 \def\vers@lastpage.sty{1994/06/25}%
7449 }{}%
### Package ifthen support

Since version 6.75a this is done in package nameref.

For compatibility `\hypergetref` and `\hypergetpageref` are still provided. But they do not generate warnings, if the reference is undefined.

```latex
\def\hypergetref#1{\getrefbykeydefault{#1}{}{??}}
\def\hypergetpageref#1{\getrefbykeydefault{#1}{page}{0}}
```

### Package titlesec and titletoc support

This code is contributed by Javier Bezos (Email: jbezos@arrakis.es).

Package titlesec support:

```latex
\@ifpackageloaded{titlesec}{% 
  \def\ttl@Hy@steplink#1{% 
    \Hy@MakeCurrentHrefAuto{#1*}% 
    \noexpand\Hy@raisedlink{% 
      \noexpand\hyper@anchorstart{\@currentHref}% 
      \noexpand\hyper@anchorend 
      \def\noexpand\ttl@Hy@SavedCurrentHref{\@currentHref} 
      \ttl@Hy@PatchSaveWrite 
    }% 
  }% 
  \def\ttl@Hy@PatchSaveWrite{% 
    \begingroup 
    \toks@\expandafter{\ttl@savewrite}% 
    \edef\x{\endgroup 
      \def\noexpand\ttl@savewrite{\let\noexpand\@currentHref 
        \ttl@Hy@SavedCurrentHref 
        \the\toks@ }% 
    }% 
    \x 
  }% 
  \def\ttl@Hy@refstepcounter#1{% 
    \let\ttl@b\Hy@raisedlink 
    \def\Hy@raisedlink##1{\def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}}% 
    \refstepcounter{#1} 
    \let\Hy@raisedlink\ttl@b 
  }% 
}{}% 
```

Package titletoc support:

```latex
\@ifpackageloaded{titletoc}{% 
  \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}% 
}{}% 
```
33 Package varioref support

Package nameref uses five arguments for the ref system. Fix provided by Felix Neubauer (felix.neubauer@gmx.net).

\def\Hy@varioref@undefined{???}{???}{?}{?}{??}
\@ifpackageloaded{varioref}{%
  \def\vref@pagenum#1#2{%\@ifundefined{r@#2}{\expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined}{}%\edef#1{\getpagerefnumber{#2}}%}
%
Package varioref redefines \refstepcounter, thus it needs fixing, if the package
is loaded *after* hyperref.

\def\Hy@varioref@refstepcounter#1{%\stepcounter{#1}\protected@edef\@currentlabel{\csname p@#1\expandafter\endcsname\csname the#1\endcsname}}
\AtBeginDocument{%\ifx\refstepcounter\Hy@varioref@refstepcounter\let\H@refstepcounter\refstepcounter\let\refstepcounter\Hy@saved@refstepcounter\fi\}}

34 Package longtable support

Sometimes the anchor of the longtable goes to the previous page. Thus the follow-
ing patch separates the anchor setting and counter incrementation by hyperref’s
\refstepcounter and the anchor setting is moved after \vskip\LTpre.

Patch of \LT@array: replace \refstepcounter by the original \H@refstepcounter without anchor generation

\@ifpackageloaded{longtable}{%\begingroup\def\y{\LT@array}\@ifundefined{scr@LT@array}{}{\def\y{\adl@LT@array}}\def\y{\scr@LT@array}\long\def\x\refstepcounter#1#2@sharp#3#4@nil{%\expandafter\endgroup\expandafter\def\y[##1]{##2}@sharp#####4%}}\expandafter\expandafter\expandafter\x\y[#1]{#2}@nil

Patch of \LT@start: add anchor before first line after \vskip\LTpre

\begingroup\def\x{\LT@start}\ifvoid\LT@foot\fi\@nil{%\expandafter\endgroup\expandafter\def\x{\LT@start}\ifvoid\LT@foot\fi\@nil}
35 Equations

We want to make the whole equation a target anchor. Overload \texttt{equation}, temporarily reverting to original \texttt{refstepcounter}. If, however, it is in AMS math, we do not do anything, as the tag mechanism is used there (see section 42). The exception is that we move the equation incrementation inside the math environment to avoid specials outside and a wrong vertical spacing of equation environments.

\begin{verbatim}
\let\new@refstepcounter\refstepcounter
\let\H@equation\equation
\let\H@endequation\endequation
\@ifpackageloaded{amsmath}{% 
  \long\def\Hy@temp{% 
    \incr@eqnum 
    \mathdisplay@push 
    \st@rredfalse \global\@eqnswtrue 
    \mathdisplay{equation}% 
  }% 
  \ifx\Hy@temp\equation
    \expandafter\ifx\csname if@fleqn\expandafter\endcsname\csname iftrue\endcsname
    \long\def\equation{% 
      \mathdisplay@push 
      \st@rredfalse \global\@eqnswtrue 
      \mathdisplay{equation}% 
      \incr@eqnum
    }%
    \fi
  \fi
}\else
  \long\def\equation{% 
    \mathdisplay@push 
    \st@rredfalse \global\@eqnswtrue 
    \mathdisplay{equation}% 
    \incr@eqnum
  }%
\fi
\end{verbatim}

\texttt{\mathopen} is needed in case the equation starts with a unary minus, for example.
My goodness, why can’t \LaTeX{} be consistent? Why is \verb|\eqnarray| set up differently from other objects?

People (you know who you are, Thomas Beuth) sometimes make an \verb|\eqnarray| where all the lines end with \verb|\notag|, so there is no suitable anchor at all. In this case, pass by on the other side.

This is quite heavy-handed, but it works for now. If its an \verb|\eqnarray*| we need to disable the hyperref actions. There may well be a cleaner way to trap this. Bill Moss found this.

Then again, we have the \verb|subeqnarray| package. Tanmoy provided some code for
The aim of this macro is to produce a sanitized version of its argument, to make it a safe label.

Support for amsmath's subequations:
Support for package *amsthm* (Daniel Müllner): also *cleveref*.

7726 \HyAtBeginDocument{%
7727 \ifpackageloaded{cleveref}{%
7728 \let\Hy@savedthm@thm
7729 \def\@thm{\ifhmode\unskip\fi\Hy@savedthm}%
7730 }{%
7731 \ifpackageloaded{amsthm}{%

Class *amsbook* uses a different definition of \@thm, where two lines are added (thanks to Dan Luecking for his analysis):

\let\thm@indent\indent % indent
\thm@headfont{\scshape}% heading font small caps

7732 \def\Hy@temp#1#2#3{%
7733  \ifhmode\unskip\unskip\par\fi
7734  \normalfont
7735  \trivlist
7736  \let\thmheadnl\relax
7737  \let\thm@swap\@gobble
7738  \let\thm@indent\indent % indent
7739  \thm@headfont{\scshape}% heading font small caps
7740  \thm@notefont{\fontseries\mddefault\upshape}%
7741  \thm@headpunct{.}% add period after heading
7742  \thm@headsep 5\p@ plus\p@ minus\p@\relax
7743  \thm@space@setup
7744  \#1% style overrides
7745  \@topsep \thm@preskip % used by thm head
7746  \@topsepadd \thm@postskip % used by \@endparenv
7747  \def\@tempa{#2}\ifx\empty\@tempa
7748  \def\@tempa{\@begintheorem{#3}{\csname the#2\endcsname}}\[
7749  \else
7750  \refstepcounter{#2}%
7751  \def\@tempa{\@begintheorem{#3}{\csname the#2\endcsname}}\[
7752  \]%
7753  \]%
7754  \]%
7755  \]%
7756  \]%
7757  \]%
7758  \]%
7759  \]%
7760  \]%
7761  \]%
7762  \]%
7763  \]%
7764  \]%
7765  \]%
7766  \]%
7767  \]%
7768  \]%
7769  \]%
7770  \]%
7771  \]%
7772  \]%
7773  \]%
7774  \]%
7775  \]%
7776  \]%

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non amsthm case, remove final space on line before a theorem for github issue 11.

36 Footnotes

The footnote mark is a hypertext link, and the text is a target. We separately number the footnotes sequentially through the text, separately from whatever labels the text assigns. Too hard to keep track of markers otherwise. If the raw forms \footnotemark and \footnotetext are used, force them to use un-hyper original.
Redefine \@footnotemark, borrowing its code (at the cost of getting out of sync with latex.ltx), to take advantage of its white space and hyphenation fudges. If we just overload it, we can get variant documents (the word before the footnote is treated differently). Thanks to David Carlisle and Brian Ripley for confusing and helping me on this.
Support for footnotes in p columns of longtable. Here \texttt{footnote} commands are split into \texttt{footnotemark} and a call of \texttt{footnotetext} with the optional argument, that is not supported by hyperref. The result is a link by \texttt{footnotemark} without valid anchor.
Footnotes for fancyvrb (Fix by Manuel Pégourié-Gonnard).

KOMA-Script defines \footref that uses both \ref and \@footnotemark resulting in two links, one of them wrong.
But the special footnotes in \texttt{\maketitle} are much too hard to deal with properly. Let them revert to plain behaviour. The koma classes add an optional argument.

\begin{verbatim}
\let\HyOrg@maketitle\maketitle
\let\Hy@saved@footnotemark\@footnotemark
\let\Hy@saved@footnotetext\@footnotetext
\let\@footnotemark\H@@footnotemark
\let\@footnotetext\H@@footnotetext
\@ifnextchar\[\Hy@maketitle@optarg{%\]
\HyOrg@maketitle
\Hy@maketitle@end
\def\Hy@maketitle@optarg\[#1\]{\HyOrg@maketitle\[#1\]\Hy@maketitle@end
\def\Hy@maketitle@end{\ifx\@footnotemark\H@@footnotemark
\let\@footnotemark\Hy@saved@footnotemark\fi\ifx\@footnotetext\H@@footnotetext
\let\@footnotetext\Hy@saved@footnotetext\fi}
\realfootnote
\def\realfootnote{\@ifnextchar\[\@xfootnote{\stepcounter{\@mpfn}\protected@xdef\@thefnmark{\thempfn}\H@@footnotemark\H@@footnotetext\]
\fi\Hy@disableoption{hyperfootnotes}}
\def\@xfootnotenext\[#1\]{\begingroup\csname c@\@mpfn\endcsname #1\relax\unrestored@protected@xdef\@thefnmark{\thempfn}\endgroup\@footnotetext}
\def\@xfootnotemark\[#1\]{\begingroup\c@footnote #1\relax\unrestored@protected@xdef\@thefnmark{\thefootnote}\endgroup\@footnotemark}
\def\@footnotemark{\leavevmode}
\end{verbatim}

\texttt{\realfootnote} Does anyone remember the function and purpose of \texttt{\realfootnote}?
37 Float captions

Make the float caption the hypertext anchor; curiously enough, we can’t just copy the definition of \@caption. Its all to do with expansion. It screws up. Sigh.

\def\caption{%
  \ifx\@captype\@undefined
    \@latex@error{\noexpand\caption outside float}@ehd
  \expandafter\@gobble
  \else
  \H@refstepcounter\@captype
  \let\Hy@tempa\@caption
  \if@undefined{float@caption}{%
    \expandafter\ifx\csname @float@c@\@captype\endcsname
    \float@caption
    \let\Hy@tempa\Hy@float@caption
  \fi
  %
  \expandafter\@firstofone
  \fi
  \dblarg{\Hy@tempa\@captype}%
%
\def\@caption#1[#2]#3{%
  \if@capstart\csname iftrue\endcsname
  \global\let\@currentHref\hc@currentHref
  \else
  \hyper@makecurrent{\@captype}%
  \fi
  \@ifundefined{NR@gettitle}{%
    \def\@currentlabelname{#2}%
  }{%
    \NR@gettitle{#2}%
  }%
  \par\addcontentsline{\c@\@captype}{\ignorespaces#2}%
  \protect\numberline{\csname the\@captype\endcsname}{\ignorespaces #3}%
  %
  \begingroup
  \@parboxrestore
  \par
  \if@minipage
    \@setminipage
  \fi
  \normalsize
  \expandafter\ifx\csname if@capstart\endcsname
    \csname iftrue\endcsname
    \global\@capstartfalse
  \else
    \@makecaption{\csname fnum@\@captype\endcsname}{\ignorespaces #3}%
  \fi
  %
  \begingroup
  \@parboxrestore
  \par
  \if@minipage
    \@setminipage
  \fi
  \normalsize
  \expandafter\ifx\csname if@capstart\endcsname
    \csname iftrue\endcsname
    \global\@capstartfalse
  \else
    \@makecaption{\csname fnum@\@captype\endcsname}{\ignorespaces #3}%
  \fi
  %
  \begingroup
  \@parboxrestore
  \par
  \if@minipage
    \@setminipage
  \fi
  \normalsize
  \expandafter\ifx\csname if@capstart\endcsname
    \csname iftrue\endcsname
    \global\@capstartfalse
  \else
    \@makecaption{\csname fnum@\@captype\endcsname}{\ignorespaces #3}%
  \fi
  %
  \begingroup
  \@parboxrestore
  \par
  \if@minipage
    \@setminipage
  \fi
  \normalsize
  \expandafter\ifx\csname if@capstart\endcsname
    \csname iftrue\endcsname
    \global\@capstartfalse
  \else
    \@makecaption{\csname fnum@\@captype\endcsname}{\ignorespaces #3}%
  \fi
  %
  \begingroup
  \@parboxrestore
  \par
  \if@minipage
    \@setminipage
  \fi
  \normalsize
  \expandafter\ifx\csname if@capstart\endcsname
    \csname iftrue\endcsname
    \global\@capstartfalse
  \else
    \@makecaption{\csname fnum@\@captype\endcsname}{\ignorespaces #3}%
  \fi

If we cannot have nesting, the anchor is empty.

\iffHy@nesting
    \expandafter\hyper@@anchor\expandafter{\@currentHref}{#3}\
\else
    \Hy@raisedlink{\expandafter\hyper@@anchor\expandafter{\@currentHref}{\relax}}{\relax}{#3}\
\fi
\par
\endgroup

\HyNew@float@makebox is introduced as feature request of Axel Sommerfeldt to make the life easier for his package ‘caption’.

\let\Hy@float@caption\@caption
\newcommand{\HyNew@float@makebox}{% #1\relax
    \ifx\Hy@float@currentHref\@undefined
        \expandafter\hyper@@anchor\expandafter{\Hy@float@currentHref}{\relax}
        \global\let\Hy@float@currentHref\@undefined
    \else
        \global\let\Hy@float@caption\@currentHref
        \let\HyNew@float@makebox\float@makebox
    \fi
}{}

\PackageError{caption}{\caption outside float}{
\def\caption{
    \ifx\@captype\@undefined
        \@latex@error{\noexpand\caption outside float}\@ehd
    \else
        \hyper@makecurrent{\@captype}
    \fi
    \global\let\Hy@float@caption\@currentHref
    \let\float@makebox\HyNew@float@makebox
}\par
\let\float@caption
\def\caption{
    \ifx\@captype\@undefined
        \@latex@error{\noexpand\caption outside float}\@ehd
    \else
        \hyper@makecurrent{\@captype}
    \fi
    \global\let\Hy@float@caption\@currentHref
    \let\float@makebox\HyNew@float@makebox
}{}
38 Bibliographic references

This is not very robust, since many styles redefine these things. The package used
to redefine \@citex and the like; then we tried adding the \hyperref call explicitly
into the .aux file. Now we redefine \bibcite; this still breaks some citation packages
so we have to work around them. But this remains extremely dangerous. Any or
all of achemso and drftcite may break.

However, lets make an attempt to get natbib right, because thats a powerful,
important package. Patrick Daly (daly@linmpi.mpg.de) has provided hooks for
us, so all we need to do is activate them.

Do not play games if we have natbib support. Macro extra@binfo added for
chapterbib support. Chapterbib also wants \@extra@binfo in the hyper-link, but
since the link tag is not expanded immediately, we use \@extra@b@citeb, so cites
in a chapter will link to the bibliography in that chapter.
Package \texttt{babel} redefines \texttt{\bibcite} with macro \texttt{\bbl@cite@choice}. It needs to be overwritten to avoid the warning “Label(s) may have changed.”.

\begin{verbatim}
\def\bibcite#1#2{% 
  \@newl@bel{b}{#1\@extra@binfo}{% 
    \hyper@@link[cite]{cite.#1}{#2}{#2}% 
  }% 
\} %
\gdef\@extra@binfo{} %
\let\Hy@bibcite\bibcite
\begingroup
  \@ifundefined{bbl@cite@choice}{}{% 
    \g@addto@macro\bbl@cite@choice{% 
      \let\bibcite\Hy@bibcite 
    }% 
  }% 
\endgroup
\end{verbatim}

\texttt{@BIBLABEL} is working around a ‘feature’ of Rev\TeX{}.

\begin{verbatim}
\providecommand*{\@BIBLABEL}{\@biblabel}% 
\def\@lbibitem[#1]#2{% 
  \@skiphyperreftrue
  \H@item[cite.#2]{\@extra@b@citeb}% 
  \ifx\Hy@raisedlink\@empty
    \hyper@anchorstart{cite.#2}{\@extra@b@citeb}% 
    \@BIBLABEL{#1}% 
  \else
    \Hy@raisedlink{\hyper@anchorstart{cite.#2}{\@extra@b@citeb}}% 
    \@BIBLABEL{#1}% 
  \fi
  \hfill
  \@skiphyperreffalse
  \if@filesw
    \begingroup
      \let\protect\noexpand
      \immediate\write\@auxout{\string\bibcite{#2}{\the\value{\@listctr}}}% 
    \endgroup
  \fi
}\end{verbatim}

Since \texttt{\bibitem} is doing its own labelling, call the raw version of \texttt{\item}, to avoid extra spurious labels.

\begin{verbatim}
\def\@bibitem[#1]{% 
  \@skiphyperreffalse\H@item\@skiphyperreffalse
  \Hy@raisedlink{% 
    \hyper@anchorstart{cite.#1}{\@extra@b@citeb}\relax\hyper@anchorend
  }% 
}\end{verbatim}
Revtex (bless its little heart) takes over \bibcite and looks at the result to measure something. Make this a hypertext link and it goes ape. Therefore, make an anodyne result first, call its business, then go back to the real thing.

Tanmoy provided this replacement for CITEX. Lord knows what it does. For chapterbib added: extra@b@citeb

\if@ifundefined{\@CITE}{\def\@CITE{\@cite}}{}%
No, life is too short. I am not going to understand the Revtex \@collapse macro, I shall just restore the original behaviour of \@citex; sigh. This is SO vile.

Override Peter Williams’ Harvard package; we have to a) make each of the citation types into a link; b) make each citation write a backref entry, and c) kick off a backreference section for each bibliography entry.

The redefinitions have to be deferred to \begin{document}, because if harvard.sty is loaded and html.sty is present and detects pdfTeX, then hyperref is already loaded at the begin of harvard.sty, and the \newcommand macros causes error messages.

\@ifpackageloaded{harvard}{%}
\Hy@AtBeginDocument{%}

38.1 Package harvard

Override Peter Williams’ Harvard package; we have to a) make each of the citation types into a link; b) make each citation write a backref entry, and c) kick off a backreference section for each bibliography entry.

The redefinitions have to be deferred to \begin{document}, because if harvard.sty is loaded and html.sty is present and detects pdfTeX, then hyperref is already loaded at the begin of harvard.sty, and the \newcommand macros causes error messages.
38.2 Package chicago

The links by \citeN and \shortciteN should include the closing parentheses.

\citeN
\begin{verbatim}
\def\citeN{%
  \def\@citeseppen{-1000}\
  \def\@cite##1##2{##1}\
  \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}\
  \@citedata@opt
}\
\end{verbatim}

\shortciteN
\begin{verbatim}
\def\shortciteN{%
  \def\@citeseppen{-1000}\
  \def\@cite##1##2{##2 (##3\@cite@opt)}\
  \@citedata@opt
}\
\end{verbatim}

\@citedata@opt
\begin{verbatim}
\def\@citedata@opt{%
  \let\@cite@opt\@empty\
  \@ifnextchar [{%\let\@tempswa\true\@citedatax@opt\["]%\else\let\@tempswa\false\@citedatax[]%\}\end{verbatim}

\@citedatax@opt
\begin{verbatim}
\def\@citedatax@opt[#1]{{\@cite@opt, #1}}\
\end{verbatim}

\@citedatax
\begin{verbatim}
\def\@citedatax[]{$\@citedata@opt$}\
\end{verbatim}
The last page should not contain a /Dur key, because there is no page after the last page. Therefore at the last page there should be a command \hypersetup{pdf-pageduration={}}. This can be set with \AtEndDocument, but it can be too late, if the last page is already finished, or too early, if lots of float pages will follow. Therefore currently nothing is done by hyperref.

This where we supply a destination for each page.

\ltx@ifclassloaded{slides}{%
  \def\Hy@SlidesFormatOptionalPage#1{(#1)}%
  \def\Hy@PageAnchorSlidesPlain{%
    \advance\c@page\ltx@one
    \edef\Hy@TempPageAnchor{\noexpand\hyper@@anchor{\the\c@slide.\the\c@overlay.\the\c@note%\ifnum\c@page=\ltx@one\else.\the\c@page\fi}}%
    \advance\c@page-\ltx@one
  }%
  \def\Hy@PageAnchorSlide{%
    \advance\c@page\ltx@one
    \ifnum\c@page>\ltx@one%
      \ltx@IfUndefined{theHpage}{%
        \protected@edef\Hy@TheSlideOptionalPage{\Hy@SlidesFormatOptionalPage{\thepage}}%
      }{%
        \protected@edef\Hy@TheSlideOptionalPage{\Hy@SlidesFormatOptionalPage{\theHpage}}%
      }
    \else
      \def\Hy@TheSlideOptionalPage{}
    \fi
    \pdfstringdef\@the@H@page{\csname the\ltx@ifundefined{theH\Hy@SlidesPage}{}{H}\Hy@SlidesPage\endcsname\Hy@TheSlideOptionalPage}
  }%
  \ltx@gobblethree
}{%
40 Table of contents

TV Raman noticed that people who add arbitrary material into the TOC generate a bad or null link. We avoid that by checking if the current destination is empty. But if ‘the most recent destination’ is not what you expect, you will be in trouble.

```latex
\def\addcontentsline#1#2#3{%
  toc extension, type, tag
\begingroup
  \let\label\@gobble
  \ifx\@currentHref\@empty
    \Hy@Warning{%
      No destination for bookmark of \string\addcontentsline,%
      \MessageBreak destination is added%
    }%
    \phantomssection
  \fi
  \expandafter\ifx\csname toclevel@#2\endcsname\relax
    \begingroup
      \def\Hy@tempa{#1}%
      \ifx\Hy@tempa\Hy@bookmarkstype
        \Hy@WarningNoLine{%
          bookmark level for unknown #2 defaults to 0%
        }%
      \else
        \Hy@Info{bookmark level for unknown #2 defaults to 0}%
      \fi
    \endgroup
    \expandafter\gdef\csname toclevel@#2\endcsname{0}%
  \fi
  \edef\Hy@toclevel{\csname toclevel@#2\endcsname}%
  \Hy@writebookmark{\csname the#2\endcsname}{#3}{\@currentHref}{\Hy@toclevel}{#1}%
  \ifHy@verbose
    \begingroup
      \def\Hy@tempa{#3}%
      @onelevel@sanitize\Hy@tempa
      \let\temp@online\on@line
      \let\on@line\@empty
      \Hy@Info{%
        bookmark\temp@online:
        thecounter {\csname the#2\endcsname}
        text {\Hy@tempa}
        reference {\@currentHref}
        toclevel {\Hy@toclevel}
        type {#1}%
      }%
    \endgroup
  \fi
  \addtocontents{#1}{%
    \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
  }%
\endgroup
}\endgroup
```

The page number might be empty. In this case the link for the page number is
suppressed to avoid little link boxes.

\begin{verbatim}
\def\contentsline#1#2#3#4{% 
  \begingroup
  \Hy@safe@active=true
  \def\noexpand\Hy@tocdestname{#4}\x
  \ifx\Hy@tocdestname\ltx@empty
    \csname l@#1\endcsname{#2}{#3}%
  \else
    \csname l@#1\endcsname{#2}{#3}%
  \fi
\endgroup
\end{verbatim}

\section{New counters}

The whole theorem business makes up new counters on the fly; we are going to
intercept this. Sigh. Do it at the level where new counters are defined.
8669 \let\H@definecounter@definecounter
8670 \def@definecounter#1{%
8671 \H@definecounter{#1}%
8672 \expandafter\gdef\csname theH#1\endcsname{\arabic{#1}}%
8673 }

But what if they have used the optional argument to \texttt{\newtheorem} to determine when the numbering is reset? OK, we’ll trap that too.

8674 \let\H@newctr@newctr
8675 \def@newctr#1[#2]{%
8676 \H@newctr#1[{#2}]%
8677 \expandafter\gdef\csname theH#1\endcsname{\csname the\@ifundefined{theH#2}{}{H}#2\endcsname.\arabic{#1}%
8678 }
8679 }

42 \texttt{AMSLATE\TeX} compatibility

Oh, no, they don’t use anything as simple as \texttt{\refstepcounter} in the AMS! We need to intercept some low-level operations of theirs. Damned if we are going to try and work out what they get up to. Just stick a label of ‘AMS’ on the front, and use the label \textit{they} worked out. If that produces something invalid, I give up. They’ll change all the code again anyway, I expect (SR).

Version 6.77p uses a patch by Ross Moore.

8681 \@ifpackageloaded\{amsmath\}\{%
8682 \def\Hy@make@anchor{%
8683 \Hy@MakeCurrentHrefAuto\{AMS\}%
8684 \Hy@raisedlink\{\hyper@anchor\{\currentHref\}\hyper@anchorend\}%
8685 }
8686 \def\Hy@make@df@tag@@#1{%
8687 \gdef\df@tag{\maketag@@@{\Hy@make@anchor#1}}%
8688 \def\@currentlabel{#1}%
8689 }
8690 }
8691 \}
8692 \def\Hy@make@df@tag@@@#1{%
8693 \gdef\df@tag{\tagform@{\Hy@make@anchor#1}}%
8694 \toks@\exp\{\p@equation\{#1\}\}%
8695 \def\@currentlabel{\the\toks@}%
8696 }
8697 }
8698 }
8699 \let\HyOrg@make@df@tag@@\make@df@tag@@
8700 \let\HyOrg@make@df@tag@@@\make@df@tag@@@
8701 \let\make@df@tag@@@\Hy@make@df@tag@@@
8702 \let\make@df@tag@@\Hy@make@df@tag@@
8703 }

Only play with \texttt{\seteqlebal} if we are using pdftex. Other drivers cause problems; requested by Michael Downes (AMS).

8704 \@ifpackage\{hyperref\}\{pdftex\}\{%
8705 \let\H@seteqlabel@seteqlabel
8706 \def@seteqlabel#1{%
8707 \H@seteqlabel{#1}%
8708 \xdef\currentHref\{AMS.\currentHref\}%
8709 \Hy@raisedlink{%
This code I simply cannot remember what I was trying to achieve. The final result seems to do nothing anyway.

\let\Htagform@\tagform@
\def\tagform@#1{\maketag@@@{\hyper@@anchor{\@currentHref}{(\ignorespaces#1\unskip)}}}
\def\eqref#1{\textup{\Htagform@{\ref{#1}}}}

42.1 \@addtoreset and \numberwithin patches

\@addtoreset puts a counter to the reset list of another counter. After a reset the counter starts again with perhaps already used values. Therefore the hyperref version of the counter print command \texttt{\the\Hcounter} is redefined in order to add the parent counter.

\let\HyOrg@addtoreset\@addtoreset
\def\@addtoreset#1#2{\HyOrg@addtoreset{#1}{#2}\expandafter\xdef\csname the\H#1\endcsname{\expandafter\noexpand\csname the\@ifundefined{the\H#2}{}H#2\endcsname\the\value{#1}\
}}
\numberwithin A appropiate definition of hyperref’s companion counter (\texttt{\the\H...}) is added for correct link names.
43 Included figures

Simply intercept the low level graphics package macro.

44 hyperindex entries

Internal command names are prefixed with \HyInd@.

Hyper-indexing works crudely, by forcing code onto the end of the index entry with the | feature; this puts a hyperlink around the printed page numbers. It will not proceed if the author has already used the | specifier for something like emboldening entries. That would make Makeindex fail (cannot have two | specifiers). The solution is for the author to use generic coding, and put in the requisite \hyperpage in his/her own macros along with the boldness.

This section is poor stuff; it’s open to all sorts of abuse. Sensible large projects will design their own indexing macros any bypass this.

The definition of `\nohyperpage` is just a precaution. It is used to mark code that does not belong to a page number, but `\nohyperpage` is never executed.
This again is quite flaky, but allow for the common situation of a page range separated by en-rule. We split this into two different hyperlinked pages.

The argument of `$\hyperpage$` can be empty. And the line breaking algorithm of Makeindex can introduce spaces. So we have to remove them.
45 Compatibility with foiltex

46 Compatibility with seminar slide package

This requires seminar.bg2, version 1.6 or later. Contributions by Denis Girou (denis.girou@idris.fr).
This breaks TeX4ht, so leave it to last. Emend \@setref to put out a hypertext link as well as its normal text (which is used as an anchor). (\endinput have to be on the same line like \fi, or you have to use \expandafter before.)
Now some extended referencing. \ref* and \pageref* are not linked, and \autoref prefixes with a tag based on the type.
\HyRef@StarSetRef{#1}\@secondoffive
\def\@namerefstar#1{\HyRef@StarSetRef{#1}\@thirdoffive}
\def\@ifpackageloaded{varioref}{\ HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive}
\def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{\MakeUppercase#1}
\DeclareRobustCommand*{\Ref}{\@ifstar\@Refstar\HyRef@Ref}
\def\HyRef@Ref#1{\hyperref[\#1]{\Ref*{\#1}}}
\def\Vr@f#1{\leavevmode\unskip\vref@space\hyperref[\#1]{\Ref*{\#1}}\let\vref@space\nobreakspace\@vpageref[\unskip]{\#1}}
\def\vr@f#1{\leavevmode\unskip\vref@space\begingroup\let\T@pageref\@pagerefstar\hyperref[\#1]{\Ref*{\#1}}\vpageref[\unskip]{\#1}\endgroup}
\DeclareRobustCommand*{\autopageref}{\@ifstar{\HyRef@autopagerefname\pageref*{\#1}}\HyRef@autopageref}
\def\HyRef@autopagerefname{\ltx@IfUndefined{pageautorefname}{\ltx@IfUndefined{pagename}{\Hy@Warning{No autoref name for `page'}}{\pagename\nobreakspace}}{\pageautorefname\nobreakspace}}
\def\HyRef@autopageref#1{\hyperref[\#1]{\HyRef@autopagerefname\pageref*{\#1}}}
\leavevmode is added to make package wrapfigure happy, if \autoref starts a paragraph.
\begin{verbatim}
\DeclareRobustCommand*{\autoref}{% \leavevmode @ifstar{\HyRef@autoref\@gobbletwo}{\HyRef@autoref\hyper@@link}}%
\def\HyRef@autoref#1#2{% \begingroup \Hy@safe@activestrue \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}% \endgroup}
\def\HyRef@autosetref#1#2#3{% \ltx@IfUndefined{\HyRef@name autorefname}{\ltx@IfUndefined{\HyRef@name name}{\HyRef@StripStar#1\*\@nil{#1}}{\edef\HyRef@currentHtag{\expandafter\noexpand\csname\HyRef@name name\endcsname\noexpand~}}}{\edef\HyRef@currentHtag{\expandafter\noexpand\csname\HyRef@name autorefname\endcsname\noexpand~}}% \Hy@Warning{No autoref name for `#1'}% }%\ifcase 0\ifx\relax1\fi\ifx\Hy@varioref\undefined1\fi\relax\edef\HyRef@thisref{\expandafter\@fourthoffive#1\@empty\@empty\@empty}% \expandafter\HyRef@testreftype\HyRef@thisref.\% \Hy@safe@activesfalse \if\HyRef@testrefstype\HyRef@thisref.\% \expandafter\@fourthoffive#1\@empty\@empty\@empty\else\protect\G@refundefinedtrue\nfss@text{\reset@font\bfseries ??}\@latex@warning{Reference `#2' on page \thepage\space undefined} \fi\fi \endgroup\null}
\else
\protect\G@refundefinedtrue
\nfs@text{\reset@font\bfseries ??}\%\latex@warning{Reference `#2' on page \thepage\space undefined}\%\fi
\end{verbatim}
\end{verbatim}

Support for package showkeys.

Defaults for the names that \autoref uses.
47 Configuration files

47.1 PS/PDF strings

Some drivers write PS or PDF strings. These strings are delimited by parentheses, therefore a lonely unmatched parenthesis must be avoided to avoid PS or PDF syntax errors. Also the backslash character itself has to be protected.

\Hy@pstringdef

Therefore such strings should be passed through \Hy@pstringdef. The first argument holds a macro for the result, the second argument is the string that needs protecting. Since version 1.30.0 pdfTeX offers pdfescapestring.

\begingroup\expandafter\expandafter\expandafter\endgroup
\expandafter\ifx\csname pdf@escapestring\endcsname\relax
\begingroup
\catcode\|=0 %
\@makeother\%
|@firstofone{|endgroup
|def|Hy@pstringdef#1#2{%
|begingroup
|edef~{|string~}%
|xdef|Hy@gtemp{#2}%
|endgroup
|let#1|Hy@gtemp
|@onelevel@sanitize#1%
|edef#1{|expandafter|Hy@ExchangeBackslash#1|@nil}%
|edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
|edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
|def|Hy@ExchangeBackslash#1\#2|@nil{%
|#1%
|ifix|\#2\%%
|else
|\%
|ltx@ReturnAfterFi{%
|Hy@ExchangeBackslash#2|@nil
|)}%
|f
|)%
This driver is for Han The Thanh’s \TeX variant which produces PDF directly. This has new primitives to do PDF things, which usually translate almost directly to PDF code, so there is a lot of flexibility which we do not at present harness.

Set PDF version if requested by option pdfversion.

- pdf\TeX 1.10a, 2003-01-16: \texttt{pdfoptionpdfminorversion}

- pdf\TeX 1.30, 2005-08-081: \texttt{pdfminorversion}
Or `\string\RequirePackage{pdf14}` can be used before `\string\documentclass` as shortcut.

The PDF version number could not be set, because some PDF objects are already written.

The version should be set as early as possible:

\expandafter`\string\Hy@pdfminorversion`\string\relax

\ifnum`\Hy@pdfversion`<5 %
\ltx@ifundefined{pdfobjcompresslevel}{%}
\space
\string`\pdfobjcompresslevel`=`0`\string\relax
\fi
\fi
\fi
\PackageInfo{hyperref}{%}
\expandafter`\string\Hy@pdfminorversion`\string\relax
\if\Hy@ocgcolorlinks
\pdf@ifdraftmode{}{%
\immediate`\pdfobj`{
<<
/Type/OCG
/Name(View)
/Usage<<
/Print<<
/PrintState/OFF
>>
/ViewState/ON
>>
>>
}%
\edef`\OBJ@OCG@view`{\the\pdflastobj 0 R}
\immediate`\pdfobj`{
<<
/Type/OCG
/Name(Print)
}%
\edef`\Hy@pdfversion`{\number`\Hy@pdfminorversion`}
}%
\PackageInfo{hyperref}{%}
\expandafter`\string\Hy@pdfminorversion`\string\space
\edef`\Hy@pdfversion`{\number`\Hy@pdfminorversion`}%
\PackageInfo{hyperref}{%}
\expandafter`\string\Hy@pdfminorversion`\string\space
\edef`\OBJ@OCG@view`{\the\pdflastobj 0 R}%
\PackageInfo{hyperref}{%}
\expandafter`\string\Hy@pdfminorversion`\string\space
\edef`\OBJ@OCG@view`{\the\pdflastobj 0 R}%
\edef\OBJ@OCG@print{\the\pdflastobj}\space 0 R}%
\immediate\pdfobj{[\OBJ@OCG@view\space\OBJ@OCG@print]}
\edef\OBJ@OCGs{\the\pdflastobj}\space 0 R}%
\pdffont{%/OCProperties{%/OCGs \OBJ@OCGs}
%/D{%/OFF{%/OCView \OBJ@OCG@view}
%/Category{/View}}%}
%/AS{/Event/View%/OCGs \OBJ@OCGs
%/Category{/Print}}%}
%/Event/Export%/OCGs \OBJ@OCGs
%/Category{/Print}}%}
\begingroup
\edef\x{\endgroup
\pdfpageresources{%/Properties{%/OCView \OBJ@OCG@view}
%/OCPrint \OBJ@OCG@print}
%/Event/View%/OCGs \OBJ@OCGs
%/Category{/View}}%}
%/Event/Print%/OCGs \OBJ@OCGs
%/Category{/Print}}%}
%/Event/Export%/OCGs \OBJ@OCGs
%/Category{/Print}}%}
\begingroup
\edef\x{\endgroup

\Hy@AtBeginDocument{%
\def\Hy@colorlink#1{%

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First, allow for some changes and additions to pdftex syntax:

```
\ifHy@ocgcolorlinks
  \def\Hy@ocgcolor{#1}%
  \setbox0=\hbox\bgroup\color@begingroup
  \else
  \HyColor@UseColor#1%
  \fi
\def\Hy@endcolorlink{\
  \ifHy@ocgcolorlinks
  \color@endgroup\egroup
  \pdfliteral page{/OC/OCPrint BDC}\
  \rlap{\copy0}\
  \pdfliteral page{EMC/OC/OCView BDC}\
  \begingroup
  \expandafter\HyColor@UseColor\Hy@ocgcolor
  \box0 %
  \endgroup
  \pdfliteral page{EMC}\
  \fi
}\fi
```

First set up the default linking

```
\providecommand\@pdfview{XYZ}
```

First define the anchors:

```
\ifhmode
  \@savsf\spacefactor
\fi
```

```
\Hy@WrapperDef\new@pdflink#1{\
  \ifhmode
  \Hy@SaveLastskip
  \Hy@VerboseAnchor{#1}\
  \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}\
  \Hy@DestName\Hy@pstringDest\@pdfview
  \Hy@RestoreLastskip
  \ifhmode
    \let\pdfstartlink\@undefined\% less than version 14
    \let\pdflinkmargin\@tempdima
    \let\pdfxform\pdfform
    \let\pdflastxform\pdflastform
    \let\pdfrefxform\pdfrefform
  \else
    \pdflinkmargin1pt %
  \fi
```

First set up the default linking

```
\providecommand\@pdfview{XYZ}
```

First define the anchors:

```
\Hy@WrapperDef\new@pdflink#1{\
  \ifhmode
  \@savsf\spacefactor
\fi
```

```
\Hy@SaveLastskip
\Hy@VerboseAnchor{#1}\
\Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}\
\Hy@DestName\Hy@pstringDest\@pdfview
\Hy@RestoreLastskip
\ifhmode
```

215
Wrap the call of \pdffile in \Hy@DestName. Then it can easier be catched by package hypdestopt.

Now the links; the interesting part here is the set of attributes which define how the link looks. We probably want to add a border and color it, but there are other choices. This directly translates to PDF code, so consult the manual for how to change this. We will add an interface at some point.
\def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
begingroup
\def\Hy@pstringF{#2}%
\Hy@CleanupFile\Hy@pstringF
\Hy@pstringdef\Hy@pstringF\Hy@pstringF
\Hy@pstringdef\Hy@pstringD{#3}%
\Hy@MakeRemoteAction
\leavevmode
\pdfstartlink
attr{%
\Hy@setpdfborder
\Hy@setpdfhighlight
\ifx\@filebordercolor\relax
\else
/C[\@filebordercolor]%
\fi
}
user {%
/Subtype/Link%
\ifHy@pdfa /F 4\fi
/A<<%
/F(\Hy@pstringF)%
/S/GoToR%
\Hy@SetNewWindow
If #3 is empty, page 0; if its a number, Page number, otherwise a named destination.

\afterassignment\xxx\count@=0\foo%
\def\xxx#1!{%
\ifx\xxx#1\xxx
foo was an integer
\else
it wasnt
\fi
}
\ifx\#3\%
/D(\Hy@pstringD)%
\fi
\Hy@href@nextactionraw
>>%
\relax
\Hy@colorlink\@filecolor#1\Hy@xspace@end
\close@pdflink
\endgroup
\def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
begingroup
\def\Hy@pstringdef\Hy@pstringF{#1}%
\Hy@pstringdef\Hy@pstringP{#3}%
\leavevmode
\pdfstartlink
attr{%
\ifnum\pdfexversion<140 \\
\else \\
\edef@pdfproducer{pdfTeX}\%
\fi \\
\edef@pdfproducer{\edef@pdfproducer-%\\expandafter\@car\the\pdfexversion\@empty\@nil.\\expandafter\@cdr\the\pdfexversion\@empty\@nil.\pdfexrevision}\%
\fi \\
\fi \\
\fi \\
\begingroup \\
\count@=\luatexversion \\
\divide\count@ by 100 \\
\edef\x{\the\count@} \\
\count@=-\x\relax \\
\multiply\count@ by 100 \\
\advance\count@ by \luatexversion \\
\edef\x{\endgroup\edef\noexpand@pdfproducer{LuaTeX-\x.\the\count@.\luatexrevision}} \\
\fi \\
\fi \\
\PDF@SetupDox \\
\def\PDF@SetupDoc{\% \\
\ifx@pdfpagescrop\empty \\
\else \\
\edef\process@me{% \\
@pdfpagesattr={% \\
/CropBox[@pdfpagescrop]% \\
\expandafter\ifx\expandafter\%\the@pdfpagesattr\% \\
\else \\
^^J\the@pdfpagesattr \\
\fi \\
} \\
\process@me \\
\fi \\
\pdfcatalog{% \\
/PageMode/@pdfpagemode \\
@ifx@baseurl\empty \\
\else \\
/URI<</Base(@pdfstringdef\Hy@pstringB(@@baseurl)>>% \\
\fi \\
\fi \\
\pdfcatalog{% \\
/PageMode/@pdfpagemode \\
@ifx@baseurl\empty \\
\else \\
/URI<</Base(@pdfstringdef\Hy@pstringB)>>% \\
\fi \\
\fi \\
\ifx@pdfstartpage\empty \\
\else \\
\ifx@pdfstartview\empty \\
\else \\
\pdfcatalog{% \\
/URI<</Base(@pdfstringdef\Hy@pstringB)>>% \\
\fi \\
\fi \\
\fi \\
\ifx@pdfstartpage\empty \\
\else \\
\pdfcatalog{% \\
/URI<</Base(@pdfstringdef\Hy@pstringB)>>% \\
\fi \\
\fi \\
\fi \\
\openaction goto page/@pdfstartpage/@pdfstartview\%
}
\begin{verbatim}
\@pdfpagetransition is initialized with \relax. So it indicates, if option pdfpagetransition is used. First previous \Trans entries are removed. If a new \Trans key exists, it is appended to \pdfpageattr.
\def\hyper@pagetransition{%
  \ifx\@pdfpagetransition\relax
  \else
    \expandafter\Hy@RemoveTransPageAttr\the\pdfpageattr^^J/Trans{}>>\END
    \ifx\@pdfpagetransition\@empty
      \else
        \edef\@processme{%
          \global\pdfpageattr{\the\pdfpageattr^^J/Trans << /S /\@pdfpagetransition space >>}%
        }
        \@processme
    \fi
  \fi
}%
\def\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
  \ifx\%#2\%
    \global\pdfpageattr{#1}%
  \else
    \global\pdfpageattr{#1^^J/Trans {#2}{#3}{#4}\END}%
  \fi
}\end{verbatim}

\textbf{\Hyper@RemoveTransPageAttr} \textbf{\@pdfpagetransition} removes a \Trans entry from \pdfpageattr. It is called with the end marker \~\~\~J/Trans{}\>>\END. The trick is the empty group that does not appear in legal \pdfpageattr code. It appears in argument \#2 and shows, whether the parameter text catches a really \Trans object or the end marker.
\texttt{\textbackslash hyperpageduration} \texttt{\textbackslash pdfpageduration} is initialized with \texttt{\textbackslash relax}. So it indicates, if option pdfpageduration is used. First previous /Dur entries are removed. If a new /Dur key exists, it is appended to \texttt{\pdfpageattr}.

\begin{verbatim}
\def\hyper@pageduration{\
\ifx\@pdfpageduration\relax\
\else\
\expandafter\Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END\
\ifx\@pdfpageduration\@empty\
\else\
\edef\@processme{\global\pdfpageattr{\the\pdfpageattr}^^J/Dur \@pdfpageduration \space stati\%^J/\END}
\fi
\fi
}
\end{verbatim}

\texttt{\textbackslash Hy@RemoveDurPageAttr} Macro \texttt{\textbackslash Hy@RemoveDurPageAttr} removes a /Dur entry from \texttt{\pdfpageattr}. It is called with the end marker ^^J/Dur{} \END. The trick is the empty group that does not appear in legal \texttt{\pdfpageattr} code. It appears in argument #2 and shows, whether the parameter text catches a really /Dur object or the end marker.

\begin{verbatim}
\gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{\
\ifx#2\%
\else\Hy@RemoveDurPageAttr#1#4\END\fi
}
\end{verbatim}

\texttt{\textbackslash hyper@pagehidden} The boolean value of the key /Hid is stored in switch \texttt{\ifHy@pdfpagehidden}. First previous /Hid entries are removed, then the new one is appended, if the value is true (the PDF default is false).

\begin{verbatim}
\def\hyper@pagehidden{\
\ifHy@useHidKey\
\expandafter\
\Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END\
\ifHy@pdfpagehidden\
\edef\@processme{\global\pdfpageattr{\the\pdfpageattr}^^J/Hid true \space stati\%^J/\END}
\fi
\fi
}
\end{verbatim}
Macro \Hy@RemoveHidPageAttr removes a /Hid entry from \pdfpageattr. It is called with the end marker "J/Hid{} \END. The trick is the empty group that does not appear in legal \pdfpageattr code. It appears in argument #2 and shows, whether the parameter text catches a really /Hid object or the end marker.

\begin{verbatim}
\def\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
  \ifx\#2\%
    \global\pdfpageattr{#1}%
  \else
    \Hy@RemoveHidPageAttr#1#4\END
  \fi
}
\end{verbatim}

Also Xe\TeX{} support \pdfpagewidth and \pdfpageheight, but it does not provide \pdfhorigin and \pdfvorigin.

\begin{verbatim}
⟨/pdftex⟩
10116 ⟨pdftex | xetex⟩
10117 \Hy@AtBeginDocument{%
10118  \ifHy@setpagesize
10119   \expandafter\@firstofone
10120  \else
10121   \expandafter\@gobble
10122  \fi
10123 }%
10124 \else
10125 \ifclassloaded{seminar}{%
10126  ⟨/pdftex⟩
10127  \setlength{\pdfhorigin}{1truein}%
10128  ⟨/pdftex⟩
10129 \fi
10130 \ifdim\paperwidth=\z@}
10131 \else
10132   \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
10133 \fi
10134 \ifdim\paperheight=\z@}
10135 \else
10136   \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
10137 \fi
10138 \else
10139 \ifdim\paperheight=\z@}
10140 \else
10141   \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
10142 \fi
10143 \ifdim\paperwidth=\z@}
10144 \else
10145   \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
10146 \fi
10147 \fi
10148 \}}%
\end{verbatim}

\ltx@IfUndefined{stockwidth}{%
47.2.1 Fix for problem with different nesting levels

\AtBeginShipoutFirst adds an additional box layer around the first output page. This disturbs pdfTeX’s low level link commands \pdfstartlink and \pdfendlink, if a link is broken across the first and second output page.

The problem could be fixed by replacing \AtBeginShipoutFirst, because the box layer is not necessary for pdfTeX – no \specials need to be inserted. However it’s easier to add an additional box level for the pages after the first one. Also \AtBeginShipoutFirst could be invoked independently from hyperref.
Since version 2011/10/05 v1.16 of package ‘atbegshi’ \AtBeginShipoutFirst does not add a additional box layer.

10197 \def\Hy@FixNotFirstPage{% 
10198 \gdef\Hy@FixNotFirstPage{% 
10199 \setbox\AtBeginShipoutBox=\hbox{% 
10200 \copy\AtBeginShipoutBox
10201 }% 
10202 }% 
10203 }% 
10204 \ltx@ifpackagelater{atbegshi}{2011/10/05}{% 
10205 }{% 
10206 \AtBeginShipout{\Hy@FixNotFirstPage}% 
10207 }% 
10208 ⟨/pdftex⟩

47.3 hypertex

The Hyper\TeX specification (this is borrowed from an article by Arthur Smith) says that conformant viewers/translators must recognize the following set of \special commands:

href: html:<a href = "href_string">

name: html:<a name = "name_string">

end: html:</a>

image: html:<img src = "href_string">

base_name: html:<base href = "href_string">

The href, name and end commands are used to do the basic hypertext operations of establishing links between sections of documents. The image command is intended (as with current html viewers) to place an image of arbitrary graphical format on the page in the current location. The base_name command is be used to communicate to the dvi viewer the full (URL) location of the current document so that files specified by relative URL’s may be retrieved correctly.

The href and name commands must be paired with an end command later in the \TeX file — the \TeX commands between the two ends of a pair form an anchor in the document. In the case of an href command, the anchor is to be highlighted in the dvi viewer, and when clicked on will cause the scene to shift to the destination specified by href_string. The anchor associated with a name command represents a possible location to which other hypertext links may refer, either as local references (of the form href="#name_string" with the name_string identical to the one in the name command) or as part of a URL (of the form URL#name_string). Here href_string is a valid URL or local identifier, while name_string could be any string at all: the only caveat is that ‘‘’ characters should be escaped with a backslash (\), and if it looks like a URL name it may cause problems.

10209 ⟨/hypertex⟩
10210 \providecommand*{\XR@ext}{dvi}
10211 \let\PDF@FinishDoc\ltx@empty
10212 \def\PDF@SetupDoc{%
10213 \ifx\@baseurl\@empty
10214 \else
10215 \special{html:<base href="@baseurl">}%

226
If we want to raise up the final link `special`, we need to get its height; ask me why `LATEX` constructs make this totally foul up, and make us revert to basic `TeX`. 
I do not know.

Very poor implementation of \hyper@link without considering \#1.

Very poor implementation of \hyper@link without considering \#1.

Very poor implementation of \hyper@link without considering \#1.

Because of the interaction with the dvihps processor, we have to subtract a little from the height. This is not clean, or checked. Check with Mark Doyle about what gives here. It may not be needed with the new dvips (Jan 1997).

Very poor implementation of \hyper@link without considering \#1.

47.4 dviwindo

[This was developed by David Carlisle]. Within a file dviwindo hyperlinking is used, for external URL’s a call to \wwwbrowser is made. (You can define this command before or after loading the hyperref package if the default c:/netscape/netscape is not suitable) Dviwindo could in fact handle external links
to dvi files on the same machine without calling a web browser, but that would mean parsing the URL to recognise such, and this is currently not done.

This was more or less blindly copied from the hypertext.cfg. For dvwindo, \LaTeX must specify the size of the active area for links. For some hooks this information is available but for some, the start and end of the link are specified separately in which case a fixed size area of 10000000sp wide by \baselineskip high is used.

\providecommand*{\XR@ext}{dvi}
\providecommand*{\wwwbrowser}{C:\\netscape\\netscape}
\Hy@WrapperDef\hyper@anchor#1{% 
  \Hy@SaveLastskip 
  \Hy@VerboseAnchor{#1} 
  \begingroup 
  \let\protect=\\string 
  \special{mark: #1} 
  \endgroup 
  \Hy@activeanchortrue 
  \Hy@colorlink@anchorcolor@anchor@spot@Hy@endcolorlink 
  \Hy@activeanchorfalse 
  \Hy@RestoreLastskip }

\def\hyper@linkstart#1#2{% 
  \Hy@VerboseLinkStart{#1}{#2} 
  \expandafter\Hy@colorlink\csname @#1color\endcsname 
  \special{button: 
    \number\wd@tempboxa \space 
    \number\ht@tempboxa \space 
    #2} 
}

\def\hyper@linkend{% 
  \Hy@endcolorlink 
}

\def\hyper@link#1#2#3{% 
  \Hy@VerboseLinkStart{#1}{#2} 
  \leavevmode 
  \ifHy@raiselinks 
    \Hy@SaveSpaceFactor 
    \Hy@SaveSavedSpaceFactor 
    \sbox\@tempboxa{\Hy@RestoreSpaceFactor\#3} 
    \Hy@RestoreSavedSpaceFactor 
  \fi 
  \leavevmode 
  \unskip 
  \lower\@linkdim\hbox{ 
    \special{button: 
      \number\wd@tempboxa \space 
      \number\ht@tempboxa \space 
      \number\ht\@tempboxa \space 
      \number\ht\@tempboxa \space 
      \number\ht\@tempboxa \space 
      #2} 
}
47.5 dvipdfm/xetex dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)
10701 /Event/View%
10702 /OCGs \OBJ@OCGs
10703 /Category[/View]%
10704 >>%
10705 <<%
10706 /Event/Print%
10707 /OCGs \OBJ@OCGs
10708 /Category[/Print]%
10709 >>%
10710 <<%
10711 /Event/Export%
10712 /OCGs \OBJ@OCGs
10713 /Category[/Print]%
10714 >>%
10715 ]%
10716 >>%
10717 >>%
10718 >>%
10719 }%
10720 \AtBeginShipout{%
10721 \setbox\AtBeginShipoutBox="\hbox{%
10722 \copy\AtBeginShipoutBox
10723 \@pdfm@mark{%
10724 put @resources <<%
10725 /Properties<<%
10726 /OCView \OBJ@OCG@view
10727 /OCPrint \OBJ@OCG@print
10728 >>%
10729 >>%
10730 }%
10731 }%
10732 }%
10733 \Hy@AtBeginDocument{%
10734 \def\Hy@colorlink#1{%
10735 \begingroup
10736 \ifHy@ocgcolorlinks
10737 \def\Hy@ocgcolor{#1}%
10738 \setbox0="\hbox\bgroup\color@begingroup
10739 \else
10740 \HyColor@UseColor#1%
10741 \fi
10742 }%
10743 \def\Hy@endcolorlink{%
10744 \ifHy@ocgcolorlinks
10745 \color@endgroup\egroup
10746 \mbox{%
10747 \@pdfm@mark{content /OC/OCPrint BDC}%
10748 \rlap{\copy0}%
10749 \@pdfm@mark{content EMC/OC/OCView BDC}%
10750 \begingroup
10751 \expandafter\HyColor@UseColor\Hy@ocgcolor
10752 \box0 %
10753 \endgroup
10754 \@pdfm@mark{content EMC}%
10755 }%
10756 \fi
10757 \endgroup
236
Use primitive counter arithmetic here to avoid amsmath redefining \stepcounter (github issue/13)

\def\Hy@BeginAnnot#1{\%
  \global\advance\c@Hy@AnnotLevel\@ne
  \ifnum\c@Hy@AnnotLevel=\@ne
    #1
  \fi
}\def\Hy@EndAnnot{\%
  \ifnum\value{Hy@AnnotLevel}=\@ne
    \Hy@endcolorlink
    \@pdfm@mark{eann}\%
  \fi
  \global\advance\c@Hy@AnnotLevel\m@ne
}\def\Hy@undefinedname{UNDEFINED}\def\hyper@linkstart#1#2{\%
  \Hy@VerboseLinkStart{#1}{#2}\%
  \leavevmode
  \Hy@BeginAnnot{\%
    \protected@edef\Hy@testname{#2}\%
    \ifx\Hy@testname\@empty
      \Hy@Warning{\%
        Empty destination name,\MessageBreak
        using \texttt{\Hy@undefinedname}\%
      \}%
    \else
      \Hy@pstringdef\Hy@testname{\%
        \expandafter\HyperDestNameFilter\expandafter{\%
          \Hy@testname\%
        \}}\%
    \fi
    \@pdfm@mark{bann<<\%
      /Type/Annot\%
      /Subtype/Link\%
      /D(#2)\%
      \Hy@href@nextactionraw
      >>\%
    \%
}
Detect Xe\TeX{}. However, but xdvi spd fmx will overwrite it in the final PDF file.

\begingroup\expandafter\expandafter\expandafter\endgroup
\expandafter\ifx\csname XeTeXversion\endcsname\relax
\else
\edef\@pdfproducer{Xe\TeX{} \the\XeTeXversion\XeTeXrevision}\fi
\fi
\def\PDF@FinishDoc{%
  \Hy@UseMaketitleInfos
  \HyInfo@GenerateAddons
  \@pdfm@mark{%
    docinfo<<%
    /Title(\@pdftitle)%
    /Subject(\@pdfsubject)%
    /Creator(\@pdfcreator)%
    \ifx\@pdfformationdate\@empty
      \else
    /CreationDate(\@pdfformationdate)%
    \else
    \ifx\@pdfmoddate\@empty
      \else
    /ModDate(\@pdfmoddate)%
    \else
    /Author(\@pdfauthor)%
    \ifx\@pdfproducer\relax
      \else
    /Producer(\@pdfproducer)%
    \else
    /Keywords(\@pdfkeywords)%
    \ifx\@pdftrapped\@empty
      \else
    /Trapped(\@pdftrapped)
\def\PDF@SetupDoc{%}
\edef\Hy@temp{%
  \if\Hy@pdftoolbar
    \else
      \HideToolbar true\fi
  \else
    \if\Hy@pdfmenubar
      \else
        \HideMenuBar true\fi
    \else
      \if\Hy@pdfwindowui
        \else
          \HideWindowUI true\fi
      \else
        \if\Hy@pdffitwindow
          \FitWindow true\fi
        \else
          \if\Hy@pdfcenterwindow
            \CenterWindow true\fi
          \else
            \if\Hy@pdfdisplaydoctitle
              \DisplayDocTitle true\fi
            \else
              \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreensourcemode
            \fi
          \fi
        \fi
      \fi
    \fi
  \fi
  \if\Hy@pdffitwindow
    \else
      \if\Hy@pdfcenterwindow
        \CenterWindow true\fi
      \else
        \if\Hy@pdfdisplaydoctitle
          \DisplayDocTitle true\fi
        \else
          \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreensourcemode
        \fi
      \fi
  \fi
  \if\Hy@UseNameKey{Direction}\@pdfdirection
    \else
      \Hy@UseNameKey{ViewArea}\@pdfviewarea
  \fi
  \if\Hy@UseNameKey{ViewClip}\@pdfviewclip
    \else
      \Hy@UseNameKey{ViewClip}\@pdfviewclip
  \fi
  \if\Hy@UseNameKey{PrintArea}\@pdfprintarea
    \else
      \Hy@UseNameKey{PrintArea}\@pdfprintarea
  \fi
  \if\Hy@UseNameKey{PrintClip}\@pdfprintclip
    \else
      \Hy@UseNameKey{PrintClip}\@pdfprintclip
  \fi
  \if\Hy@UseNameKey{PrintScaling}\@pdfprintscaling
    \else
      \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
  \fi
  \if\Hy@UseNameKey{Duplex}\@pdfduplex
    \else
      \if\Hy@pdfpicktraybypdfsize\@empty
        \else
          \PickTrayByPDFSize \@pdfpicktraybypdfsize
        \fi
      \fi
    \else
      \if\Hy@pdfprintpagerange\@empty
        \else
          \PrintPageRange[\@pdfprintpagerange]
        \fi
      \fi
    \else
      \if\Hy@pdfnumcopies\@empty
        \else
          \NumCopies \@pdfnumcopies
        \fi
      \fi
    \fi
  \fi
  \if\Hy@pstringdef\Hy@pstringB{\@baseurl}\%}
  \else
    \if\Hy@pstringdef\Hy@pstringB(\@baseurl)\%}
  \else
    \docview<%}
  \else
    \if\Hy@pdffitstartpage\@empty
      \else
        \if\Hy@pdffitstartview\@empty
          \else
            \OpenAction[\@page]\@pdffitstartpage\@pdffitstartview]
        \fi
      \fi
    \else
      \if\Hy@baseurl\@empty
        \else
          /URI</Base(\Hy@pstringB)>%}
    \fi
  \fi
}
\fi
"PageMode" @pdfpagemode
\ifx@temp\@empty
/ViewerPreferences <<@temp>>
\fi
@UseNameKey{PageLayout}@pdfpagelayout
\ifx@pdflang\relax
/Lang(@pdflang)%
\else
/Lang(@pdflang)%
\fi
>>%
\ifx@pdfpagescrop\@empty
\else
@pdfm@mark{put @pages </CropBox[@pdfpagescrop]>>}%
\fi
}%
*/dvipdfm | xetex*
*/dvipdfm | xetex*
\hyper@pagetransition
\def\hyper@pagetransition{%
\ifx@pdfpagetransition\relax
\else
\ifx@pdfpagetransition\@empty
\else
\special{pdf:put @thispage %
</Trans</S/@pdfpagetransition>>}%
\fi
\fi
\fi
}
\hyper@pageduration
\def\hyper@pageduration{%
\ifx@pdfpageduration\relax
\else
\ifx@pdfpageduration\@empty
\else
\special{pdf:put @thispage %
</Dur @pdfpageduration>>%
\fi
\fi
\fi
}
\hyper@pagehidden
\def\hyper@pagehidden{%
@useHidKey
\special{pdf:put @thispage %
</Hid @pdfpagehidden true \else false \fi>>%
\fi
\fi
}
\g@addto@macro@EveryPageBoxHook{%
}
Xe\TeX uses pdf\TeX’s method \pdffilewidth and \pdffileheight for setting the paper size.

\AtBeginShipoutFirst{% \ifHy@setpagesize \begingroup \@ifundefined{stockwidth}{% \ifdim\paperwidth>\z@ \ifdim\paperheight>\z@ \special{papersize=\the\paperwidth,\the\paperheight}% \fi \fi }{\ifdim\stockwidth>\z@ \ifdim\stockheight>\z@ \special{papersize=\the\stockwidth,\the\stockheight}% \fi \fi }\endgroup \fi \Hy@DisableOption{setpagesize}% \fi }% \AtBeginShipoutFirst{% \makeatletter \AtBeginShipoutFirst{% \makeatother %

47.6 VTeX typesetting system

VTeX version 6.68 supports \texttt{\mediawidth} and \texttt{\mediaheight}. The \texttt{\ifx} construct is better than a \texttt{\csname}, because it avoids the definition and the hash table entry of a previous undefined macro.

\begin{verbatim}
\if\mediaheight\relax
\if\Hy@setpagesize
\providecommand*{\VTeXInitMediaSize}{%  
  \iftx@ifUndefined{stockwidth}{%    \ifdim\paperheight>0pt %      \setlength\mediaheight\paperheight    \fi (%)  \setlength\mediawidth\paperwidth  \fi
\fi
\fi\fi
\\else
\fi\fi\fi
\end{verbatim}
Older versions of VTeX require \texttt{xyz} in lower case.
\providecommand*{\@pdfview}{\textit{xyz}}
\providecommand*{\@pdfborder}{0 0 1}
\let\CurrentBorderColor=\@linkbordercolor
\Hy@WrapperDef\hyper@anchor\#1{% 
\Hy@SaveLastskip 
\let\protect=\string 
\hyper@chars 
\special{!aname \HyperDestNameFilter{\#1};\@pdfview}% 
\endgroup 
\Hy@activeanchortrue 
\Hy@colorlink\@anchorcolor\anchor@spot\Hy@endarcolorlink 
\Hy@activeanchorfalse 
\Hy@RestoreLastskip 
} 
\Hy@WrapperDef\hyper@anchorstart\#1{% 
\Hy@SaveLastskip 
\let\protect=\string 
\hyper@chars 
\special{!aname \HyperDestNameFilter{\#1};\@pdfview}% 
\endgroup 
\Hy@activeanchortrue 
\Hy@colorlink\@anchorcolor\anchor@spot\Hy@endarcolorlink 
\Hy@activeanchorfalse 
\Hy@RestoreLastskip 
} 
\def\@urltype{url}
\def\Hy@undefinedname{UNDEFINED}
\def\hyper@anchorend{% 
\Hy@activeanchorfalse 
\Hy@RestoreLastskip 
} 
\def\@urltype{url}
\def\Hy@undefinedname{UNDEFINED}
\def\hyper@anchorend{% 
\Hy@activeanchorfalse 
\Hy@RestoreLastskip 
} 
\edef\CurrentBorderColor{\csname @#1bordercolor\endcsname} 
\ifx\Hy@tempa@urltype 
\special{!% 
\Hy@VerbosityLinkStart\#1\#2{% 
\Hy@pstringdef\Hy@pstringURI{\#2}% 
\expandafter\Hy@colorlink\csname @#1color\endcsname 
\ltx@ifUndefined{\@#1bordercolor}{% 
\let\CurrentBorderColor=\relax 
\} 
\let\CurrentBorderColor=}% 
\ltx@ifx\Hy@tempa@urltype 
\endgroup 
\Hy@VerbosityLinkStart\#1\#2{% 
\Hy@pstringdef\Hy@pstringURI{\#2}% 
\expandafter\Hy@colorlink\csname @#1color\endcsname 
\ltx@ifUndefined{\@#1bordercolor}{% 
\let\CurrentBorderColor=\relax 
\} 
\let\CurrentBorderColor=}% 
\ltx@ifx\Hy@tempa@urltype 
\endgroup 
\Hy@VerbosityLinkStart\#1\#2{% 
\Hy@pstringdef\Hy@pstringURI{\#2}% 
\expandafter\Hy@colorlink\csname @#1color\endcsname 
\ltx@ifUndefined{\@#1bordercolor}{% 
\let\CurrentBorderColor=\relax 
\} 
\let\CurrentBorderColor=}% 
\ltx@ifx\Hy@tempa@urltype 
\endgroup 
\Hy@VerbosityLinkStart\#1\#2{% 
\Hy@pstringdef\Hy@pstringURI{\#2}% 
\expandafter\Hy@colorlink\csname @#1color\endcsname 
\ltx@ifUndefined{\@#1bordercolor}{% 
\let\CurrentBorderColor=\relax 
\} 
\let\CurrentBorderColor=}%
246
\def\hyper@linkurl#1#2{\begingroup\Hy@pstringdef\Hy@pstringURI{#2}\hyper@chars\leavevmode\special{!\aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)\ifHy@href@ismap/IsMap true\fi\Hy@href@nextactionraw}>;\a=<\ifHy@pdfa /F 4\fi\Hy@setpdfborder\ifx\@urlbordercolor\relax\else/C \[@urlbordercolor\]%\fi\Hy@colorlink\@urlcolor#1\Hy@xspace\end\Hy@endcolorlink\special{!endaref}\endgroup}

\def\hyper@link#1#2#3{\Hy@VerboseLinkStart{#1}{#2}\ltx@ifUndefined{@#1bordercolor}{\let\CurrentBorderColor\relax}{\edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}}\leavevmode\protected@edef\Hy@testname{#2}\ifx\Hy@testname\@empty\Hy@Warning{Empty destination name,\MessageBreakusing `\Hy@undefinedname'}\let\Hy@testname\Hy@undefinedname\fi\special{!\aref \expandafter\HyperDestNameFilter\expandafter{\Hy@testname};\a=<\ifHy@pdfa /F 4\fi\Hy@setpdfborder\ifx\CurrentBorderColor\relax\else/C \[@urlbordercolor\]%\fi\Hy@colorlink\@urlcolor\end\Hy@endcolorlink\special{!endaref}}\leavevmode\protection@edef\Hy@testname\Hy@undefinedname\Hy@Warning{Empty destination name,\MessageBreakusing `\Hy@undefinedname'}\let\Hy@testname\Hy@undefinedname\fi\special{!%\aref \expandafter\HyperDestNameFilter\expandafter{\Hy@testname};\a=<\ifHy@pdfa /F 4\fi\Hy@setpdfborder\ifx\CurrentBorderColor\relax\else/C \[@urlbordercolor\]%\fi\Hy@colorlink\@urlcolor\end\Hy@endcolorlink\special{!endaref}}\leavevmode\protection@edef\Hy@testname\Hy@undefinedname\Hy@Warning{Empty destination name,\MessageBreakusing `\Hy@undefinedname'}\let\Hy@testname\Hy@undefinedname\fi\special{!%\aref \expandafter\HyperDestNameFilter\expandafter{\Hy@testname};\a=<\ifHy@pdfa /F 4\fi\Hy@setpdfborder\ifx\CurrentBorderColor\relax\else/C \[@urlbordercolor\]%\fi\Hy@colorlink\@urlcolor\end\Hy@endcolorlink\special{!endaref}}
The following code (transition effects) is made by Alex Kostin.

The code below makes sense for VTeX 7.02 or later.
Please never use `\@ifundefined{VTeXversion}{..}{..}` globally.

```
\ifnum\Hy@VTeXversion<702 %
  \else
  \def\hyper@pagetransition{%
    \ifx\@pdfpagetransition\relax
      \else
        \ifx\@pdfpagetransition\@empty
          Standard incantation.
          1. Does an old entry have to be deleted? 2. If 1=yes, how to delete?
        \else
          \hvtex@parse@trans@pdfpagetransition
        \fi
      \fi
    \fi
  \}\fi
\if\fi
```

I have to write an “honest” parser to convert raw PDF code into VTeX `\special{!trans <transition_effect>}.

(AVK)

Syntax of VTeX `\special{!trans <transition_effect>}:

```
<transition_effect> ::= <transition_style>[<transition_duration>]
<transition_style> ::= <Blinds_effect> | <Box_effect> | 
  <Dissolve_effect> | <Glitter_effect> | 
  <Split_effect> | <Wipe_effect>
<Blinds_effect> ::= B[<effect_dimension>]
<Box_effect> ::= X[<effect_motion>]
<Dissolve_effect> ::= D
<Glitter_effect> ::= G[<effect_direction>]
<Split_effect> ::= S[<effect_motion>][<effect_dimension>]
<Wipe_effect> ::= W[<effect_direction>]
<Replace_effect> ::= R
<effect_direction> ::= <number>
<effect_dimension> ::= H | V
<effect_motion> ::= I | O
<transition_duration> ::= <number>
```

Transition codes:

```
\def\hvtex@trans@effect@Blinds\{\def\hvtex@trans@code{B}\}%
\def\hvtex@trans@effect@Box\{\def\hvtex@trans@code{X}\}%
\def\hvtex@trans@effect@Dissolve\{\def\hvtex@trans@code{D}\}%
\def\hvtex@trans@effect@Glitter\{\def\hvtex@trans@code{G}\}%
\def\hvtex@trans@effect@Split\{\def\hvtex@trans@code{S}\}%
\def\hvtex@trans@effect@Wipe\{\def\hvtex@trans@code{W}\}%
\def\hvtex@trans@effect@R\{\def\hvtex@trans@code{R}\}%
```

Optional parameters:

```
\def\hvtex@par@dimension{/Dm}%
\def\hvtex@par@direction{/Di}%
\def\hvtex@par@duration{/D}%
```

Tokenizer:

Notice that tokens in the input buffer must be space delimited.

Initializing code:

First token is the PDF transition name without escape.

Leading space(s)?

The buffer is empty, nothing to do.

Now is time to parse optional parameters.

Reentrant macro to parse optional parameters.

/D is the effect duration in seconds. \VTeX\ special takes it in milliseconds.

/M can be either /I or /O

/Dm can be either /H or /V
Valid values for /Di are 0, 270, 315 (the Glitter effect) or 0, 90, 180, 270 (the Wipe effect).

I'm not guilty of possible overflow.

And all the mess is just for this.
Caution: In opposite to the other drivers, the argument of \special{!onopen#1} is a reference name. The VTeX’s postscript mode will work with a version higher than 7.0x.

The command \VTeXOS is defined since version 7.45. Magic values encode the operating system:

1: WinTel
2: Linux
3: OS/2
4: MacOS
5: MacOS/X

\VTeXOS is defined since version 7.45. Magic values encode the operating system:

1: WinTel
2: Linux
3: OS/2
4: MacOS
5: MacOS/X
Current \pdffinfo key syntax:

<table>
<thead>
<tr>
<th>Key</th>
<th>Field</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>Author</td>
<td>String</td>
</tr>
<tr>
<td>b</td>
<td>CropBox</td>
<td>String</td>
</tr>
<tr>
<td>c</td>
<td>Creator</td>
<td>String</td>
</tr>
<tr>
<td>k</td>
<td>Keywords</td>
<td>String</td>
</tr>
<tr>
<td>l</td>
<td>PageLayout</td>
<td>PS</td>
</tr>
<tr>
<td>p</td>
<td>PageMode</td>
<td>PS</td>
</tr>
<tr>
<td>r</td>
<td>Producer</td>
<td>String</td>
</tr>
<tr>
<td>s</td>
<td>Subject</td>
<td>String</td>
</tr>
<tr>
<td>t</td>
<td>Title</td>
<td>String</td>
</tr>
<tr>
<td>u</td>
<td>URI</td>
<td>PS</td>
</tr>
<tr>
<td>v</td>
<td>ViewPreferences</td>
<td>PS</td>
</tr>
</tbody>
</table>

Note: PS objects that are dicts are in <<<..>>> (yuck; no choice).

\def\PDF@SetupDoc{\ifx\@pdfpagescrop\@empty
\else
\special{!pdfinfo b=<\@pdfpagescrop>}%
\fi
\ifx\@pdfstartpage\@empty
\else
\special{!onopen Page\@pdfstartpage}%
\fi
\special{!pdfinfo p=</\@pdfpagemode>}%
\ifx\@baseurl\@empty
\else
\special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
\fi
\special{!pdfinfo v=<<<%}
\ifHy@pdftoolbar\else /HideToolbar true\fi
\ifHy@pdffitwindow /FitWindow true\fi
\ifHy@pdfcenterwindow /CenterWindow true\fi
\ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
\if\Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode\fi
\if\Hy@UseNameKey{Direction}\@pdfdirection\fi
\if\Hy@UseNameKey{ViewArea}\@pdfviewarea\fi
\if\Hy@UseNameKey{ViewClip}\@pdfviewclip\fi
\if\Hy@UseNameKey{PrintArea}\@pdfprintarea\fi
\if\Hy@UseNameKey{PrintClip}\@pdfprintclip\fi
\if\Hy@UseNameKey{PrintScaling}\@pdfprintscaling\fi
\if\Hy@UseNameKey{Duplex}\@pdfduplex\fi
\if\Hy@picktraybypdfsize\@empty
\else
/PickTrayByPDFSize \@pdfpicktraybypdfsize
47.7 Fix for Adobe bug number 466320

If a destination occurs at the very begin of a page, the destination is moved to the previous page by Adobe Distiller 5. As workaround Adobe suggests:
But unfortunately this fix generates an empty page at the end of the document. Therefore another fix is used by writing some clipped text.

The fix has to be passed unchanged through GeX, if VTeX in PostScript mode with GeX is used.

47.8 Direct pdfmark support

Drivers that load \texttt{pdfmark.def} have to provide the correct macro definitions of

\begin{itemize}
  \item \texttt{@pdfproducer} for document information
  \item \texttt{literals@out} PostScript output
  \item \texttt{headerps@out} PostScript output that goes in the header area
\end{itemize}

and the correct definitions of the following PostScript procedures:
\begin{verbatim}
H.S  start of anchor, link or rect
#1 H.A  end of anchor, argument=baselineskip in pt
#1 H.L  end of link, argument=baselineskip in pt
H.R  end of rect
H.B  raw rect code

11769 \( \langle \text{pdfmark} \rangle \)
11770 \Hy@breaklinks@unsupported
11771 \def\HyperPat@ObjRef{%
11772 \{[^{}]+\}+%}
11773 }
11774 \def\Hyper@anchor#1{%
11775 \Hy@SaveLastskip
11776 \Hyper@VerboseAnchor{#1}%
11777 \begingroup
11778 \pdfmark\[anchor@spot]{%
11779 pdfmark=/DEST,%
11780 linktype=anchor,%
11781 View=/\@pdfview \@pdfviewparams,%
11782 DestAnchor={#1}%
11783 }%
11784 \endgroup
11785 \Hy@RestoreLastskip
11786 }
11787 \ltx@IfUndefined{hyper@anchorstart}{}{\endinput}
11788 \def\Hyper@anchorstart#1{%
11789 \Hy@SaveLastskip
11790 \Hyper@VerboseAnchor{#1}%
11791 \literalps@out{H.S}%
11792 \Hy@AllowHyphens
11793 \xdef\hyper@currentanchor{#1}%
11794 \Hyper@activeanchortrue
11795 }
11796 \def\hyper@anchorend{%
11797 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
11798 \pdfmark{%
11799 pdfmark=/DEST,%
11800 linktype=anchor,%
11801 View=/\@pdfview \@pdfviewparams,%
11802 DestAnchor=\hyper@currentanchor,%
11803 }%
11804 \Hyper@activeanchorfalse
11805 \Hy@RestoreLastskip
11806 }
11807 \ifHy@breaklinks
11808 \Hyper@VerboseLinkStart{#1}{#2}%
11809 \else
11810 \leavevmode
11811 \ifmmode
11812 \let\Hyper@LinkMath{$}%
11813 \else
11814 \let\Hyper@LinkMath\ltx@empty
11815 \let\Hyper@LinkMath\ltx@empty
11816 \fi
11817 \Hy@SaveSpaceFactor
11818 \bbox\bgroup
11819 \Hy@RestoreSpaceFactor
11820 \Hy@LinkMath
\end{verbatim}
We have to allow for \baselineskip having an optional stretch and shrink (you meet this in slide packages, for instance), so we need to strip off the junk. David Carlisle, of course, wrote this bit of code.
\edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}\
\begingroup
\protected@edef\Hy@testname{#2}\
\ifx\Hy@testname\@empty\
   \Hy@Warning{Empty destination name,\MessageBreak using `\Hy@undefinedname'\MessageBreak}\
\let\Hy@testname\Hy@undefinedname\
\fi
\pdfmark[\{#3\}]{\Color=\Hy@tempcolor,\linktype={#1},\AcroHighlight=\@pdfhighlight,\Border=\@pdfborder,\BorderStyle=\@pdfborderstyle,\pdfmark=/ANN,\Subtype=/Link,\PDFAFlags=4,\Dest=\Hy@testname}\
\endgroup
\newtoks\pdf@docset
\def\PDF@FinishDoc{\Hy@UseMaketitleInfos\HyInfo@GenerateAddons\let\Hy@temp\@empty\ifx\@pdfcreationdate\@empty\else\def\Hy@temp{CreationDate=\@pdfcreationdate,}\fi\ifx\@pdfmoddate\@empty\else\expandafter\def\expandafter\Hy@temp\expandafter{\Hy@temp\ModDate=\@pdfmoddate,}\fi\ifx\@pdfproducer\relax\else\expandafter\def\expandafter\Hy@temp\expandafter{\Hy@temp\Producer=\@pdfproducer,}\fi\fi\expandafter\pdfmark\expandafter{\Hy@temp\pdfmark=/DOCINFO,\Title=\@pdftitle,\Subject=\@pdfsubject,\Creator=\@pdfcreator,\Author=\@pdfauthor,\Keywords=\@pdfkeywords,\Trapped=\@pdftrapped}
\endgroup
We define a single macro, pdfmark, which uses the `keyval` system to define the various allowable keys; these are exactly as listed in the pdfmark reference for Acrobat 3.0. The only addition is `pdfmark` which specifies the type of pdfmark to create (like ANN, LINK etc). The surrounding round and square brackets in the pdfmark commands are supplied, but you have to put in `/` characters as needed for the values.
The complicated bit is working out the right enclosing rectangle of some piece of \TeX text, needed by the /Rect key. This solution originates with Toby Thain (tobyt@netspace.net.au).

For the case breaklinks is enabled, I have added two hooks, the first one for package setouterhbox, it provides a hopefully better method without setting the text twice.

```
\usepackage[hyperref]{setouterhbox}
```

With the second hook, also you can set the text twice, e.g.:

```
\long\def\Hy@setouterhbox#1#2{\long\def\my@temp{#2}}
\def\Hy@breaklinksunhbox#1{\my@temp}
```

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If the text has to be horizontal mode stuff then just unbox the saved box like this, which saves executing it twice, which can mess up counters etc (thanks DPC...).
but if it can have multiple paragraphs you’d need one of these, but in that case the measured box size would be wrong anyway.

\ifHy@breaklinks\else\box\pdf@box\fi
\ifHy@breaklinks{#1}\else\box\pdf@box\fi

All the supplied material is stored in a token list; since I do not feel sure I quite understand these, things may not work as expected with expansion. We’ll have to experiment.

This is the list of allowed keys. See the Acrobat manual for an explanation.
\let\Hy@BorderArrayPatch\@empty
% parameter is a dictionary
\define@key{PDF}{BorderStyle}{
  \edef\Hy@temp{#1}\n  \ifx\Hy@temp\@empty\else\n  \pdf@addtoks{<<#1>>}{BS}\n  \fi\n}
% parameter is an array
\define@key{PDF}{Color}{{\pdf@addtoks{[#1]}{Color} % hash-ok}
\define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
% parameter is an integer
\define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
% parameter is an array
\define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox} % hash-ok
\define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
% parameter is a string or file
\define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
% parameter is a destination
\define@key{PDF}{Dest}{{\Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}}%
  \if\Hy@pstringDest\@empty\Hy@pdfmarkerrortrue\Hy@Warning{Destination with empty name ignored}\else\pdf@addtoks{(%\Hy@pstringDest) cvn}{Dest}\fi}
\define@key{PDF}{DestAnchor}{{\Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}}%
  \if\Hy@pstringDest\@empty\Hy@pdfmarkerrortrue\Hy@Warning{Destination with empty name ignored}\else\pdf@addtoks{(%\Hy@pstringDest) cvn}{Dest}\fi
\define@key{PDF}{Dir}{{\pdf@addtoks{(#1)}{Dir}}}
% parameter is a string
\define@key{PDF}{File}{{\pdf@addtoks{(#1)}{File}}}
% parameter is an int
\define@key{PDF}{Flags}{{\pdf@addtoks{#1}{Flags}}
\define@key{PDF}{PDFAFlags}{{\if\Hy@pdfa\pdf@addtoks{#1}{F}\else\pdf@addtoks{#1}{F}\fi}}
% parameter is a name
% parameter is a string
\define@key{PDF}{ID}{\pdf@addtoks{\#1}{ID}}% hash-ok
% parameter is a string
\define@key{PDF}{MacFile}{\pdf@addtoks{\#1}{MacFile}}
% parameter is a string
\define@key{PDF}{ModDate}{\pdf@addtoks{\#1}{ModDate}}
% parameter is a string
\define@key{PDF}{Op}{\pdf@addtoks{\#1}{Op}}
% parameter is a Boolean
\define@key{PDF}{Open}{\pdf@addtoks{\#1}{Open}}
% parameter is a integer or name
\define@key{PDF}{Page}{\pdf@addtoks{\#1}{Page}}
% parameter is a name
\define@key{PDF}{PageMode}{\pdf@addtoks{\#1}{PageMode}}
% parameter is a string
\define@key{PDF}{Params}{\pdf@addtoks{\#1}{Params}}
% parameter is an array
\define@key{PDF}{Rect}{\pdf@addtoks{\#1}{Rect}}% hash-ok
% parameter is a integer
\define@key{PDF}{SrcPg}{\pdf@addtoks{\#1}{SrcPg}}
% parameter is a name
\define@key{PDF}{Subtype}{\pdf@addtoks{\#1}{Subtype}}
% parameter is a string
\define@key{PDF}{Unix}{\pdf@addtoks{\#1}{Unix}}
% parameter is a string
\define@key{PDF}{UnixFile}{\pdf@addtoks{\#1}{UnixFile}}
% parameter is an array
\define@key{PDF}{View}{\pdf@addtoks{\#1}{View}}% hash-ok
% parameter is a string
\define@key{PDF}{WinFile}{\pdf@addtoks{\#1}{WinFile}}

% parameter is the keys used in the DOCINFO section.
\define@key{PDF}{Author}{\pdf@addtoks{\#1}{Author}}
\define@key{PDF}{Creator}{\pdf@addtoks{\#1}{Creator}}
\define@key{PDF}{CreationDate}{\pdf@addtoks{\#1}{CreationDate}}
\define@key{PDF}{ModDate}{\pdf@addtoks{\#1}{ModDate}}
\define@key{PDF}{Producer}{\pdf@addtoks{\#1}{Producer}}
\define@key{PDF}{Subject}{\pdf@addtoks{\#1}{Subject}}
\define@key{PDF}{Keywords}{\pdf@addtoks{\#1}{Keywords}}
\define@key{PDF}{ModDate}{\pdf@addtoks{\#1}{ModDate}}
\define@key{PDF}{Base}{\pdf@addtoks{\#1}{Base}}
\define@key{PDF}{URI}{\pdf@addtoks{\#1}{URI}}
\define@key{PDF}{Trapped}{\pdf@addtoks{\#1}{Trapped}}
\edef\Hy@temp{\#1}\
\ifx\Hy@temp\@empty
\else
\pdf@addtoks{/#1}{Trapped}
\fi
\fi
}
And now for some useful examples:

```
\def\PDFNextPage{\@ifnextchar[\{\PDFNextPage\}{\PDFNextPage[]}}
\def\PDFNextPage[\#1]#2{\pdfmark[#2]{\#2}{\#1}}
\def\PDFPreviousPage{\@ifnextchar[\{\PDFPreviousPage\}{\PDFPreviousPage[]}}
\def\PDFPreviousPage[\#1]#2{\pdfmark[#2]{\#2}{\#1}}
\def\PDFOpen#1{\pdfmark{#1}}
```

This will only work if you use Distiller 2.1 or higher.
Unfortunately, some parts of the \texttt{pdfmark} PostScript code depend on vagaries of the dvi driver. We isolate here all the problems.

47.9 Rokicki’s dvips

dvips thinks in 10ths of a big point, its coordinate space is resolution dependent, and its $y$ axis starts at the top of the page. Other drivers can and will be different!

The work is done in \texttt{SDict}, because we add in some header definitions in a moment.

Unless I am going mad, this \textit{appears} to be the relationship between the default coordinate system (PDF), and dvips;
the latter’s coordinates are resolution dependent, but what that .01383701 is, who
knows? well, almost everyone except me, I expect…And yes, Maarten Gelderman
<mgelderman@econ.vu.nl> points out that its 1/72.27 (the number of points to
an inch, big points to inch is 1/72). This also suggests that the code would be
more understandable (and exact) if 0.013 div would be replaced by 72.27 mul, so
here we go. If this isn’t right, I’ll revert it.

12501 /DvipsToPDF{72.27 mul Resolution div} def
12502 /PDFToDvips{72.27 div Resolution mul} def
12503 /BPToDvips{72 div Resolution mul}def%

The values inside the /Boder array are not taken literally, but interpreted by
ghostscript using the resolution of the dvi driver. I don’t know how other distiller
programs behaves in this manner.

12504 /BorderArrayPatch{%
12505 exch{%
12506 dup dup type/integertype eq exch type/realtype eq or%
12507 {BPToDvips}if%
12508 }forall%
12509 }def%

The rectangle around the links starts off exactly the size of the box; we will to
make it slightly bigger, 1 point on all sides.

12510 /HyperBorder {1 PDFToDvips} def%
12511 /H.V {pdf@hoff pdf@voff null} def%
12512 /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def%

H.S (start of anchor, link, or rect) stores the x and y coordinates of the current
point, in PDF coordinates

12513 /H.S {%
12514 currentpoint %
12515 HyperBorder add /pdf@lly exch def%
12516 dup DvipsToPDF 72 add /pdf@hoff exch def%
12517 HyperBorder sub /pdf@llx exch def%
12518 } def%

The calculation of upper left y is done without raising the point in \TeX, by
simply adding on the current \baselineskip to the current y. This is usually too
much, so we remove a notional 2 points.

We have to see what the current baselineskip is, and convert it to the dvips
coordinate system.

Argument: baselineskip in pt. The x and y coordinates of the current point,
minus the baselineskip

12519 /H.L {%
12520 2 sub dup%
12521 /HyperBasePt exch def%
12522 PDFToDvips /HyperBaseDvips exch def%
12523 currentpoint %
12524 HyperBaseDvips sub /pdf@llx exch def%
12525 /pdf@urx exch def%
12526 } def%
12527 /H.A {%
12528 H.L %
12529 /pdf@voff = the distance from the top of the page to a point
12530 /\baselineskip above the current point in PDF coordinates

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47.10 \texttt{VTeX’s vtexpdfmark driver}

This part is derived from the dvips (many names reflect this).

The origin seems to be the same as \TeX’s origin, 1 in from the left and 1 in downwards from the top. The direction of the $y$ axis is downwards, the opposite of the dvips case. Units seems to be pt or bp.

\begin{verbatim}
47.10  \texttt{VTeX’s vtexpdfmark driver}

This part is derived from the dvips (many names reflect this).

The origin seems to be the same as \TeX’s origin, 1 in from the left and 1 in downwards from the top. The direction of the $y$ axis is downwards, the opposite of the dvips case. Units seems to be pt or bp.

\end{verbatim}
The rectangle around the links starts off exactly the size of the box; we will to make it slightly bigger, 1 point on all sides.

The $x$ and $y$ coordinates of the current point, minus the `\baselineskip`: $\text{pdf@ury} = Y_c + \text{HyperBasePt} + \text{HyperBorder}$, $\text{pdf@urx} = X_c + \text{HyperBorder}$. 

`/H.S {\H.L \currentpoint \HyperBasePt \HyperBorder} def`
At the suggestion of Jacques Distler (distler@golem.ph.utexas.edu), try to derive a suitable driver for Textures. This was initially a copy of dvips, with some guesses about Textures behaviour. Ross Moore (ross@maths.mq.edu.au) has added modifications for better compatibility, and to support use of pdfmark.

Start by defining a macro that expands to the end-of-line character. This will be used to format the appearance of PostScript code, to enhance readability, and avoid excessively long lines which might otherwise become broken to bad places.

\Hy@ps@CR

The macro \Hy@ps@CR contains the end-of-line character.

Textures has two types of \special command for inserting PostScript code directly into the dvi output. The `postscript` way preserves TeX’s idea of where on the page the \special occurred, but it wraps the contents with a save–restore pair, and adjusts the user-space coordinate system for local drawing commands. The `rawpostscript` way simply inserts code, without regard for the location on the page.

Thus, to put arbitrary PostScript coding at a fixed location requires using both \special constructions. It works by pushing the device-space coordinates onto the operand stack, where they can be used to transform back to the correct user-space coordinates for the whole page, within a `rawpostscript` \special.

The `prepostscript` is a 3rd kind of \special, used for inserting definitions into the dictionaries, before page-building begins. These are to be available for use on all pages.
To correctly support the \texttt{pdfmark} method, for embedding PDF definitions with \texttt{.ps} files in a non-intrusive way, an appropriate definition needs to be made \textit{before} the file \texttt{pdfmark.def} is read. Other parameters are best set afterwards.

These are called at the start and end of unboxed links; their job is to leave available PS variables called \texttt{pdf@llx pdf@lly pdf@urx pdf@ury}, which are the coordinates of the bounding rectangle of the link, and \texttt{pdf@hoff pdf@voff} which are the PDF page offsets. The \texttt{Rect} pair are called at the LL and UR corners of a box known to \LaTeX.
Textures provides built-in support for HyperTeX specials so this part combines code from hypertex.def with what is established by loading pdfmark.def, or any other driver.
Very poor implementation of \hyper@link without considering #1.

\def\hyper@link#1#2#3{
  \Hy@VerboseLinkStart{#1}{#2}
  \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}
}

\def\hyper@image#1#2{
  \begingroup
  \hyper@chars
  \special{html:<img src=\hyper@quote#1\hyper@quote>}
  \endgroup
}

\section{dvipsone}

% \subsection{dvipsone driver}
% Over-ride the default setup macro in pdfmark driver to use Y\&Y commands.
% \dvipsone

\providecommand*{\XR@ext}{pdf}
\let\Hy@raisedlink\ltx@empty
\providecommand*{\@pdfborder}{0 0 1}
\providecommand*{\@pdfborderstyle{}}
\def\literalps@out#1{\special{ps:#1}}
\def\headerps@out#1{\special{headertext=#1}}
\input{pdfmark.def}
\ifx\@pdfproducer\relax
  \def\@pdfproducer{dvipsone + Distiller}
\fi
\HyInfo@AddonUnsupportedtrue
\def\PDF@FinishDoc{\
  \Hy@UseMakeTitleInfos\
  \HyInfo@TrappedUnsupported\
  \special{PDF: Keywords \pdfkeywords}\
  \special{PDF: Title \pdftitle}\
  \special{PDF: Creator \pdfcreator}\
  \ifx\pdfcreationdate@empty
    \else
      \special{PDF: CreationDate \pdfcreationdate}\
    \fi
  \ifx\pdfmoddate@empty
    \else
      \special{PDF: ModDate \pdfmoddate}\
    \fi
  \special{PDF: Author \pdfauthor}\
  \ifx\pdfproducer\relax
    \else
      \special{PDF: Producer \pdfproducer}\
    \fi
  \special{PDF: Subject \pdfsubject}\
  \Hy@DisableOption{pdfauthor}\
  \Hy@DisableOption{pdftitle}\
  \Hy@DisableOption{pdfsubject}\
  \Hy@DisableOption{pdfcreator}\
  \Hy@DisableOption{pdfcreationdate}\
  \Hy@DisableOption{pdfmoddate}\
  \Hy@DisableOption{pdfproducer}\
  \Hy@DisableOption{pdfkeywords}\
  \Hy@DisableOption{pdfinfo}\
}\
\def\PDF@SetupDoc{\
  \def\Hy@temp{}\
  \ifx\pdfstartpage@empty
    \else
      \ifx\pdfstartview@empty
        \else
          \edef\Hy@temp{\
            \noexpand\pdfmark{pdfmark=/DOCVIEW,\
              PageMode=/\pdfpagemode\
            \Hy@temp}\
          }\
        \fi
      \fi
    \else
      \edef\Hy@temp{\
        ,Page=\pdfstartpage\
        ,View=\pdfstartview\
      }\
    \fi
  \fi
  \edef\Hy@temp{\
    \ifHy@pdftoolbar
      /HideToolbar true
    \fi
  }\
  \edef\Hy@temp{\
    \noexpand\pdfmark{pdfmark=/PAGES,CropBox=\pdfpagescrop}\
  }\
  \edef\Hy@temp{\
    \if\pdfstartpage\relax
      \else
        ,Page=\pdfstartpage\
      \fi
    \if\pdfstartview\relax
      \else
        ,View=\pdfstartview\
      \fi
  }\
  \edef\Hy@temp{\
    \ifHy@temp
      \else
        ,PageMode=/\pdfpagemode\
      \fi
    \ifHy@temp
      \else
        ,CropBox=\pdfpagescrop\
      \fi
  }\
  \edef\Hy@temp{\
    \if\pdfstartpage\relax
      \else
        ,Page=\pdfstartpage\
      \fi
    \if\pdfstartview\relax
      \else
        ,View=\pdfstartview\
      \fi
  }\
  \edef\Hy@temp{\
    \ifHy@temp
      \else
        ,PageMode=/\pdfpagemode\
      \fi
    \ifHy@temp
      \else
        ,CropBox=\pdfpagescrop\
      \fi
  }\
}
These are called at the start and end of unboxed links; their job is to leave available PS variables called \texttt{pdf@llx pdf@lly pdf@urx pdf@ury}, which are the coordinates of the bounding rectangle of the link, and \texttt{pdf@hoff pdf@voff} which are the PDF
page offsets. These latter are currently not used in the dvipsone setup. The Rect
pair are called at the LL and UR corners of a box known to \TeX.
\gdef\HyFirstPageHook{%
\headerps@out{%
dvipsone lives in scaled points; does this mean 65536 or 65781?
/DvipsToPDF { 65781 div } def%
/PDFToDvips { 65781 mul } def%
/BPToDvips { 65781 mul } def%
/HyperBorder { 1 PDFToDvips } def%
/H.B { /Rect [pdf@llx pdf@lly pdf@urx pdf@ury] } def%
The values inside the /Boder array are not taken literally, but interpreted by
ghostscript using the resolution of the dvi driver. I don’t know how other distiller
programs behaves in this manner.
/BorderArrayPatch{%
exch{%
dup dup type/integertype eq exch type/realtype eq or%
{BPToDvips}if%
}forall%
}def%
/H.S {%
currentpoint %
HyperBorder add /pdf@lly exch def %
dup DvipsToPDF 72 add /pdf@hoff exch def %
HyperBorder sub /pdf@llx exch def%
} def%
/H.L {%
2 sub %
PDFToDvips /HyperBase exch def %
currentpoint %
HyperBase sub /pdf@ury exch def%
/pdf@urx exch def%
} def%
/H.A {%
currentpoint exch pop %
HyperBase sub % baseline skip
DvipsToPDF /pdf@voff exch def%
} def%
/H.R {%
currentpoint %
HyperBorder sub /pdf@ury exch def %
HyperBorder add /pdf@urx exch def %
currentpoint exch pop DvipsToPDF /pdf@voff exch def%
} def%
}%
)%
}%
def\setpdflinkmargin#1{%
\begingroup
\setlength{\dimen@}{#1}\
\literalps@out{%
/HyperBorder{\strip@pt\dimen@\space PDFToDvips}def%
}%
\endgroup
}%
dvipsone}
47.13 TeX4ht

\providecommand*{\XR@ext}{html}
\let\Hy@raisedlink\ltx@empty
\ifpackageloaded{tex4ht}{\Hy@InfoNoLine{tex4ht is already loaded}}{\RequirePackage[htex4ht]{tex4ht}}
\hyperlinkfileprefix{}
\let\PDF@FinishDoc\ltx@empty
\def\PDF@SetupDoc{\ifx\@baseurl\@empty\else\special{t4ht=<base href="\@baseurl">}\fi}
\Hy@WrapperDef\hyper@anchor#1{\Hy@SaveLastskip\Hy@VerboseAnchor{#1}\begingroup\let\protect=\string\special{t4ht=<a name=%\hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}\endgroup\Hy@activeanchortrue\Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink\special{t4ht=</a>}\Hy@activeanchorfalse\Hy@RestoreLastskip}
\def\hyper@anchorend{\special{t4ht=</a>}\Hy@activeanchorfalse\Hy@RestoreLastskip}
\def\@urltype{url}
\def\hyper@linkstart#1#2{\Hy@VerboseLinkStart{#1}{#2}\expandafter\Hy@colorlink\csname @#1color\endcsname\def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype\special{t4ht=<a href=\hyper@quote#2\hyper@quote>}\else\begingroup\hyper@chars\special{t4ht=<a name=%\hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}\endgroup\fi}
\def\@urltype{url}
\def\hyper@linkstart#1#2{\Hy@VerboseLinkStart{#1}{#2}\expandafter\Hy@colorlink\csname @#1color\endcsname\def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype\special{t4ht=<a href=\hyper@quote#2\hyper@quote>}\else\begingroup\hyper@chars\special{t4ht=<a name=%\hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}\endgroup\fi}
\def\@urltype{url}
\def\hyper@linkstart#1#2{\Hy@VerboseLinkStart{#1}{#2}\expandafter\Hy@colorlink\csname @#1color\endcsname\def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype\special{t4ht=<a href=\hyper@quote#2\hyper@quote>}\else\begingroup\hyper@chars\special{t4ht=<a name=%\hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}\endgroup\fi}

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Poor implementation of `\hyper@link` without considering `#1`.

```latex
\def\hyper@link#1#2#3{% 
  \Hy@VerboseLinkStart{#1}{#2} 
  \hyper@linkurl{#3}{\#1\HyperDestNameFilter{#2}}% 
}%
```

```latex
\def\hyper@image#1#2{% 
  \begingroup 
  \hyper@chars 
  \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}% 
  \endgroup 
}%
```

```latex
\def\hyper@linkfile#1#2#3{% 
  \hyper@linkurl{#1}{\HyperDestNameFilter{#2}\ifx\#3\else\##3\fi}% 
}%
```

```latex
\def\hyper@linkurl#1#2{ 
  \leavevmode 
  \ifHy@raiselinks 
    \Hy@SaveSpaceFactor \Hy@SaveSavedSpaceFactor 
    \sbox@tempboxa{\Hy@RestoreSpaceFactor#1} 
    \Hy@RestoreSavedSpaceFactor 
    \@linkdim\dp@tempboxa 
    \lower\@linkdim\hbox{\begingroup \hyper@chars 
      \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}% 
      \% 
    \endgroup} 
    \Hy@colorlink\@urlcolor 
    \Hy@RestoreSpaceFactor 
  \else 
    \begingroup 
      \hyper@chars 
      \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}% 
      \Hy@colorlink\@urlcolor 
    \endgroup 
  \fi 
}%
```

```latex
\def\hyper@linkend{% 
  \special{t4ht=/a} \Hy@endcolorlink 
}%
```

```latex
\def\hyper@linkkurl#1#2{% 
  \ifHy@raiselinks 
    \Hy@SaveSpaceFactor \Hy@SaveSavedSpaceFactor 
    \sbox@tempboxa{\Hy@RestoreSpaceFactor#1} 
    \Hy@RestoreSavedSpaceFactor 
    \@linkdim\ht@tempboxa 
    \lower\@linkdim\hbox{% 
      \begingroup 
        \hyper@chars 
        \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}% 
        \% 
      \endgroup} 
      \Hy@colorlink\@urlcolor 
      \Hy@RestoreSpaceFactor 
  \else 
    \Hy@endcolorlink 
  \fi 
}%
```

```latex
\IfExists{\Hy@linkfileprefix#1\Hy@linkfile#2\ifx\#3\else\##3\fi}{% 
  }% 
}\fi 
```
Fix for tex4ht.

\AtBeginDocument{%
\let\expandafter\Hy@OrgMakeLabel\csname Make:Label\endcsname
\expandafter\def\csname Make:Label\endcsname#1#2{%
\ifhmode
\Hy@SaveSpaceFactor
\else
\global\Hy@SavedSpaceFactor=1000 %
\fi
\Hy@OrgMakeLabel{#1}{\Hy@RestoreSpaceFactor
\Hy@xspace@end%}
\Hy@SaveSpaceFactor
}\Hy@RestoreSpaceFactor%
}
⟨/tex4ht⟩
⟨*/tex4htcfg⟩
\IfFileExists{\jobname.cfg}{\endinput}{}
\Preamble{html}
\begin{document}%
\EndPreamble
\TeX{TeX}
\OMEGA{Omega}
\LaTeX{La\TeX}
\LaTeXe{La\TeX2e}
e\TeX{e-\TeX}
\MF{Metafont}
\MP{MetaPost}
⟨/tex4htcfg⟩

48 Driver-specific form support

48.1 pdffmarks

/\pdfmark
\long\def\@Form[#1]{%
\g@addto@macro\Hy@FirstPageHook{%
\headerps@out{%
/_objdef(pdfDocEncoding)%
/type/dict%
/OBJ pdffmark%
}%
\}{pdfDocEncoding}%
<<<%
/Type/Encoding%
/Differences[%
24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
/tildé %
(4) show
(8) show
(Submit) show
(Submit)
\Message{Sorry, pdfmark drivers do not support FORM gauges}
\newcount\HyField@AnnotCount
\HyField@AnnotCount=\z@
def\HyField@AdvanceAnnotCount{%
\global\advance\HyField@AnnotCount\@ne%
}
def\HyField@TheAnnotCount{%
the\HyField@AnnotCount%
}
edef\Fld@pageobjref{/P{ThisPage<string>}}
def\HyField@AddToFields#1{%
pdfmark{%
pdfmark=/APPEND,%
Raw={%
/string{afields<string>}%
/string{#1\HyField@TheAnnotCount<string>}%
)%}

}%

\ifx\Fld@calculate@code\ltx@empty
else

\pdfmark{%
pdfmark=/APPEND,%
Raw={%
/string{corder<string>}%
/string{#1\HyField@TheAnnotCount<string>}%
)%}

}%

fi

\@TextField[#1]{% parameters, label
\def\Fld@name{#2}\
\let\Fld@default\ltx@empty
\let\Fld@value\@empty
\def\Fld@width{\DefaultWidthofText}\
\def\Fld@height{\
\ifFld@multiline
\DefaultHeightofTextMultiline
\else
\DefaultHeightofText
\fi
}
\begingroup
\expandafter\HyField@SetKeys\expandafter{\DefaultOptionsofText,#1}\
\HyField@FlagsText
\if\Fld@hidden\def\Fld@width{1sp}\fi
\if\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
\HyField@AdvanceAnnotCount
\LayoutTextField{#2}{%}
\leavevmode
\Hy@escapeform\PDFForm@Text
\pdfmark{\MakeTextField{\Fld@width}{\Fld@height}}{%
pdfmark=/ANN,%
objdef=text\HyField@TheAnnotCount,%

}
\DefaultOptionsofPushButton.#1%
\ifHy@pdfa
\Hy@Error{%
PDF/A: Push button with JavaScript is prohibited%
}\@ehc
\LayoutPushButtonField{%
\leavevmode
\MakeButtonField{#2}%
}\%
\else
\HyField@FlagsPushButton
\ifFld@hidden\def\Fld@width{1sp}\fi
\HyField@AdvanceAnnotCount
\LayoutPushButtonField{%
\leavevmode
\Hy@escapeform\PDFForm@Push
\pdfmark\MakeButtonField{#2}{%
pdfmark=/ANN,%
objdef=push\HyField@TheAnnotCount,%
Raw={\PDFForm@Push}%
}\%
}\%
\HyField@AddToFields{push}%
\fi
\endgroup
\def\@Submit[#1]{%
\def\Fld@width{\DefaultWidthofSubmit}%
\def\Fld@height{\DefaultHeightofSubmit}%
\begingroup
\expandafter\HyField@SetKeys\expandafter{\DefaultOptionsofSubmit,#1%}
\HyField@FlagsPushButton
\HyField@FlagsSubmit
\ifFld@hidden\def\Fld@width{1sp}\fi
\Hy@escapeform\PDFForm@Submit
\pdfmark\MakeButtonField{#2}{%
pdfmark=/ANN,%
objdef=submit\HyField@TheAnnotCount,%
Raw={\PDFForm@Submit /AP<</N{Submit}/D{SubmitP}>>}%
}\%
\HyField@AddToFields{submit}%
\endgroup
\def\@Reset[#1]{%
\def\Fld@width{\DefaultWidthofReset}%
\def\Fld@height{\DefaultHeightofReset}%
\begingroup
\expandafter\HyField@SetKeys\expandafter{\DefaultOptionsofReset,#1%}
\HyField@FlagsPushButton
\HyField@FlagsSubmit
\ifFld@hidden\def\Fld@width{1sp}\fi
\Hy@escapeform\PDFForm@Submit
\pdfmark\MakeButtonField{#2}{%
pdfmark=/ANN,%
objdef=submit\HyField@TheAnnotCount,%
Raw={\PDFForm@Submit /AP<</N{Submit}/D{SubmitP}>>}%
}\%
\HyField@AddToFields{submit}%
\endgroup
\}}
PDF/A: Reset action is prohibited
\MakeButtonField{#2}
\else
\HyField@FlagsPushButton
\ifFld@hidden\def\Fld@width{1sp}\fi
\Hy@escapeform\PDFForm@Reset
\HyField@AdvanceAnnotCount
\pdfmark{\MakeButtonField{#2}}{%
pdfmark=/ANN,%
objdef=reset\HyField@TheAnnotCount,%
Raw={\PDFForm@Reset}%
}%
\HyField@AddToFields{reset}%
\fi
\endgroup
\def\@CheckBox[#1]#2{% parameters, label
\def\Fld@name{#2}%
\def\Fld@default{0}%
\begingroup
\def\Fld@width{\DefaultWidthofCheckBox}%
\def\Fld@height{\DefaultHeightofCheckBox}%
\expandafter\HyField@SetKeys\expandafter{\DefaultOptionsofCheckBox,#1}%
\HyField@FlagsCheckBox
\ifFld@hidden\def\Fld@width{1sp}\fi
\HyField@AdvanceAnnotCount
\LayoutCheckField{#2}{%
\leavevmode
\Hy@escapeform\PDFForm@Check
\pdfmark{\MakeCheckField{\Fld@width}{\Fld@height}}{%
pdfmark=/ANN,%
objdef=check\HyField@TheAnnotCount,%
Raw={\PDFForm@Check}%
}%
\HyField@AddToFields{check}%
\endgroup
\)
\langle /pdfmark \rangle
48.2 HyperTeX
\def\@Form[#1]{%
\Hy@Message{Sorry, HyperTeX does not support FORMs}%
}\let\@endForm\ltx@empty
\def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
\Hy@Message{Sorry, HyperTeX does not support FORM gauges}%
}\def\@TextField[#1]#2{% parameters, label
\Hy@Message{Sorry, HyperTeX does not support FORM text fields}%
}\def\@CheckBox[#1]#2{% parameters, label
\Hy@Message{Sorry, HyperTeX does not support FORM checkboxes}%
\def\@ChoiceMenu[#1]{% parameters, label, choices
    \Hy@Message{Sorry, HyperTeX does not support FORM choice menus}%
}\def\@PushButton[#1]{% parameters, label
    \Hy@Message{Sorry, HyperTeX does not support FORM pushbuttons}%
}\def\@Reset[#1]{% 
    \Hy@Message{Sorry, HyperTeX does not support FORMs}%
}\def\@Submit[#1]{% 
    \Hy@Message{Sorry, HyperTeX does not support FORMs}%
}\def\@Form[#1]{% 
    \kvsetkeys{Form}{#1}%
    \HCode{<form action="\Form@action" method="\Form@method">}%
}\def\@endForm{
    \HCode{</form>}}\def\@Gauge[#1]{% parameters, label, minimum, maximum
    \Hy@Message{Sorry, TeX4ht does not support gauges}%
}\def\@TextField[#1]{% parameters, label
    \let\Hy@reserved@a\@empty
    \def\Fld@name{#2}\let\Fld@default\ltx@empty
    \bgroup
    \Field@toks={ }\kvsetkeys{Field}{#1}\HCode{<label for="\Fld@name">#2</label>}%
    \if\Fld@password
        \@@PasswordField
    \else
        \@@TextField
    \fi
    \egroup
}\def\@@PasswordField{
    \HCode{<input type="password" id="\Fld@name" name="\Fld@name"
        value="\Fld@default" \the\Field@toks>}}\def\@@TextField{
    \if\Fld@multiline
        \HCode{<textarea id="\Fld@name" name="\Fld@name"
            readonly \fi
    \else
        \HCode{<\@@PasswordField
    \else
        \HCode{<\@@TextField
    \fi
    \egroup
\def\@@PasswordField{%
    \HCode{%
        <input type="password" %
        id="\Fld@name" %
        name="\Fld@name" %
        \if\Fld@hidden type="hidden" \fi
        \value="\Fld@default" %
        \the\Field@toks
        >%}
}\def\@@TextField{%
    \if\Fld@multiline
        \HCode{<textarea %
            \if\Fld@readonly readonly \fi
        id="\Fld@name" %
        name="\Fld@name" %
293
\def \@ChoiceMenu[#1]{% parameters, label, choices
  \def \Fld@name{#2}\par
  \let \Fld@default \ltx@empty
  \let \Hy@reserved@a \relax
  \begingroup
    \Fld@findlength#3\par
    \Field@toks={ }\par
    \kvsetkeys{Field}{#1}\par
    \ifFld@radio
      \expandafter \@@Radio#3\par
    \else
      \expandafter \@@Menu#3\par
    \fi
  \endgroup
}
\def \Fld@findlength#1\par{
  \Fld@menulength=0
  \@for \@curropt:=#1\do{\Hy@StepCount \Fld@menulength}
}
\def \@@Menu#1\par{
  \HCode{<select size="\the \Fld@menulength" \par
    name="\Fld@name" \par
    \the Field@toks>\par
  \@for \@curropt:=#1\do{\expandafter \Fld@checkequals \@curropt==\par
    \HCode{<option \par
      \ifx \@curropt \Fld@default selected \fi
      value="\@currValue"> \@currDisplay</option>\par
  }\par
  }\par
  \HCode{</select>\par}
}
\def \@@Radio#1\par{
  \@for \@curropt:=#1\do{\expandafter \Fld@checkequals \@curropt==\par
    \HCode{<input type="radio" \par
      \ifx \@curropt \Fld@default checked \fi
      name="\Fld@name" \par
      value="\@currValue" \par
    }\par
  }\par
  }\par
  }\par
  }\par
}\def \@@Menu#1\par{
  }\par
  \HCode{<select size="\the \Fld@menulength" \par
    name="\Fld@name" \par
    \the Field@toks>\par
  \@for \@curropt:=#1\do{\@\@Menu\par
    }\par
  }\par
  }\par
  }\par
  }\par
}\def \@@Radio#1\par{
  }\par
  \HCode{<input type="radio" \par
    \ifx \@curropt \Fld@default checked \fi
    name="\Fld@name" \par
    value="\@currValue" \par
  }\par
  }\par
\def\@PushButton[#1]{\def\Fld@name{#2}\bgroup\Field@toks={}\kvsetkeys{Field}{#1}\HCode{<input type="button" name="\Fld@name" value="#2" \the\Field@toks>}%\HCode{</button>}\egroup}
def\@Submit[#1]{\HCode{<button type="submit">#2</button>}}
def\@Reset[#1]{\HCode{<button type="reset">#2</button>}}
def\@CheckBox[#1]{\let\Hy@reserved@a@empty\def\Fld@name{#2}\def\Fld@default{0}\bgroup\Field@toks={}\kvsetkeys{Field}{#1}\HCode{<input type="checkbox" \ifFld@checked checked \fi \ifFld@disabled disabled \fi \ifFld@readonly readonly \fi name="\Fld@name" \ifFld@hidden type="hidden" \fi value="\Fld@default" \the\Field@toks>%#2%}\egroup}
def\@Gauge[#1]{\Hy@Message{Sorry, pdftex does not support FORM gauges}}
\makefieldobject{#1}{#2}{#3}{#4}{#5}{#6}

48.4 \textsc{pdfTeX}
\def\@makefieldobject[#1]{\immediate\pdfxform0\edef\csname #2Object\endcsname{\the\pdflastxform 0 R}}
Insertion sort for calculation field list. In case of equal sort keys (for example, if ‘calculatesortkey’ is not used at all) the keys keep document calling order.

Insertion sort for calculation field list. In case of equal sort keys (for example, if ‘calculatesortkey’ is not used at all) the keys keep document calling order.

Insertion sort for calculation field list. In case of equal sort keys (for example, if ‘calculatesortkey’ is not used at all) the keys keep document calling order.

Insertion sort for calculation field list. In case of equal sort keys (for example, if ‘calculatesortkey’ is not used at all) the keys keep document calling order.

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Insertion sort for calculation field list. In case of equal sort keys (for example, if ‘calculatesortkey’ is not used at all) the keys keep document calling order.

Insertion sort for calculation field list. In case of equal sort keys (for example, if ‘calculatesortkey’ is not used at all) the keys keep document calling order.

Insertion sort for calculation field list. In case of equal sort keys (for example, if ‘calculatesortkey’ is not used at all) the keys keep document calling order.

Insertion sort for calculation field list. In case of equal sort keys (for example, if ‘calculatesortkey’ is not used at all) the keys keep document calling order.

Insertion sort for calculation field list. In case of equal sort keys (for example, if ‘calculatesortkey’ is not used at all) the keys keep document calling order.

Insertion sort for calculation field list. In case of equal sort keys (for example, if ‘calculatesortkey’ is not used at all) the keys keep document calling order.
\AtVeryEndDocument{%
\immediate\pdfobj{%
/FIELDS\HyField@fields{
/IFX\HyField@cofields{\ltx@empty
\else
/CO{``\ltx@empty
/If\HyField@pdfa
/else
/IfHyField@NeedAppearances
/NeedAppearances true{
\fi
\fi
\else
/DA{\Helv 10 Tf 0 g}%
/IfHy@pdfa
/else
\ifHyField@NeedAppearances
/NeedAppearances true%
\fi
\fi
\else
%}
/\edef\OBJ@acroform{\the\pdflastobj}%
/\pdfcatalog{/AcroForm \OBJ@acroform space 0 R}%
/\pdffield{\Helv 10 Tf 0 g}{Ding}%
/\pdffield{\fbox{\textcolor{yellow}{\textsf{Submit}}}}{Submit}%
/\pdffield{\fbox{\textcolor{yellow}{\textsf{SubmitP}}}}{SubmitP}%
}%
\let\@endForm\ltx@empty
\let\HyAnn@AbsPageLabel\ltx@empty
\let\Fld@pageobjref\ltx@empty
/\pagedeclaration{\ifpackageloaded{zref-abspage}{
\newcount\HyAnn@Count
\HyAnn@Count=\ltx@zero
\def\HyAnn@AbsPageLabel{\zref@labelbyprops{HyAnn@\the\HyAnn@Count}abspage}%
\fi}
/\pagedeclaration{\ifpackageloaded{zref-abspage}{
\zref@labelbyprops{HyAnn@\the\HyAnn@Count}abspage}%
\fi}
\endinput

Same as \ding{123} of package pifont.
\begin{group}
\fontfamily{pzd}\
\fontencoding{U}\
\fontseries{m}\
\fontshape{n}\
\selectfont
\ifpdfa
\else
\fi
\end{group}
\Hy@StepCount\Fld@menulen\th\n\settowidth{\@tempdimb}{\@currDisplay}\n\ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi\n\advance\@tempdima by 15\p@\n\begingroup\n\HyField@SetKeys{#1}\n\edef\x{\endgroup\n\noexpand\expandafter\n\noexpand\HyField@SetKeys\n\noexpand\expandafter{\n\expandafter\noexpand\csname DefaultOptionsof\n\ifFld@radio\nRadio\%
\else\n\iffld@combo\n\iffld@popdown\n\PopdownBox\%
\else\n\ComboBox\%
\fi\n\else\n\ ListBox\%
\fi\n\fi\n\endcsname\nx\n\HyField@SetKeys{#1}\n\PDFForm@Name\n\ifFld@hidden\def\Fld@width{1sp}\fi\n\ifx\Fld@value\relax\let\Fld@value\Fld@default\fi\n\LayoutChoiceField{#2}{\n\iffld@radio\n\HyField@FlagsRadioButton\n\iffld@combo\n\iffld@popdown\n\PopdownBox\%
\else\n\ComboBox\%
\fi\n\else\n\@@Listbox{#3}\n\endgroup\n\fi\n\endgroup\n\iffld@combo\n\iffld@popdown\n\@@Listbox{#3}\n\endgroup\n\fi\n\iffld@radio\n\HyField@FlagsRadioButton\n\iffld@combo\n\iffld@popdown\n\PopdownBox\%
\else\n\ComboBox\%
\fi\n\else\n\@@Listbox{#3}\n\endgroup\n\fi\n\iffld@radio\n\HyField@FlagsRadioButton\n\iffld@combo\n\iffld@popdown\n\PopdownBox\%
\else\n\ComboBox\%
\fi\n\else\n\@@Listbox{#3}\n\endgroup\n\fi\n\iffld@radio\n\HyField@FlagsRadioButton\n\iffld@combo\n\iffld@popdown\n\PopdownBox\%
\else\n\ComboBox\%
\fi\n\else\n\@@Listbox{#3}\n\endgroup\n\fi
Laurent.Guillope@math.univ-nantes.fr (Laurent Guillope) persuades me that this was wrong: /\Fid@name/the/Fld@listcount. But I leave it here to remind me that it is untested.

\def\@PushButton[#1]#2{% parameters, label
  \def\@name{#2}%
  \begingroup
    \expandafter\HyField@SetKeys\expandafter{DefaultOptionsofPushButton,#1%}
  \PDFForm@Name
  \ifHy@pdfa
    \Hy@Error{PDF/A: Push button with JavaScript is prohibited%}
    \@ehc
  \LayoutPushButtonField{\leavevmode\MakeButtonField{#2}}%
  \pdfendlink
  \HyField@AddToFields
}\endgroup
}
\else
\HyField@FlagsPushButton
\ifFld@hidden\def\Fld@width{1sp}\fi
\LayoutPushButtonField{%}
\leavevmode
\HyAnn@AbsPageLabel
\Hy@escapeform\PDFForm@Push
pdfstartlink user \{\PDFForm@Push\}\relax
\MakeButtonField{#2}%
pdfeendlink
\HyField@AddToFIELDS
%
\fi
\endgroup
}
\def\@Submit[#1]#2{%
def\Fld@width{\DefaultWidthofSubmit}%
def\Fld@height{\DefaultHeightofSubmit}%
\begingroup
\expandafter\HyField@SetKeys\expandafter{\DefaultOptionsofSubmit,#1}%
\HyField@FlagsPushButton
\HyField@FlagsSubmit
\ifFld@hidden\def\Fld@width{1sp}\fi
\leavevmode
\HyAnn@AbsPageLabel
\Hy@escapeform\PDFForm@Submit
\pdfestartlink user {%
\PDFForm@Submit
/AP<</N \SubmitObject/D \SubmitPObject>>%
\relax
\MakeButtonField{#2}%
pdfeendlink
\HyField@AddToFIELDS
\endgroup
}
\def\@Reset[#1]#2{%
def\Fld@width{\DefaultWidthofReset}%
def\Fld@height{\DefaultHeightofReset}%
\begingroup
\expandafter\HyField@SetKeys\expandafter{\DefaultOptionsofReset,#1}%
\HyField@FlagsPushButton
\ifHy@pdfa
\Hy@Error{%
PDF/A: Reset action is prohibited%
}\@ehc
\else
\HyField@FlagsPushButton
\ifFld@hidden\def\Fld@width{1sp}\fi
\HyAnn@AbsPageLabel
\Hy@escapeform\PDFForm@Reset
pdfstartlink user \{\PDFForm@Reset\}\relax
}
14198  \MakeButtonField{\#2}\
14199  \pdfendlink
14200  \HyField@AddToFields
14201  \fi
14202  \endgroup
14203  }
14204  \def\@CheckBox[#1]{% parameters, label
14205  \def\Fld@name{#2}\
14206  \def\Fld@default{0}\
14207  \begingroup
14208  \def\Fld@width{\DefaultWidthofCheckBox}\%
14209  \def\Fld@height{\DefaultHeightofCheckBox}\%
14210  \expandafter\HyField@SetKeys\expandafter{%
14211  \DefaultOptionsofCheckBox,#1\%
14212  }
14213  \PDFForm@Name
14214  \HyField@FlagsCheckBox
14215  \ifFld@hidden\def\Fld@width{1sp}\fi
14216  \LayoutCheckField{#2}{%
14217  \leavevmode
14218  \HyAnn@AbsPageLabel
14219  \Hy@escapeform\PDFForm@Check
14220  \pdfstartlink user \PDFForm@Check\relax
14221  \MakeCheckField{\Fld@width}{\Fld@height}\
14222  \pdfendlink
14223  \HyField@AddToFields
14224  }%
14225  \endgroup
14226  }
14227  \def\Hy@FormObjects{%
14228  \pdfobj {%
14229  <<%
14230  /Type/Encoding%
14231  /Differences[%
14232  24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
14233  /ring/tilde %
14234  39/quotestring %
14235  96/grave %
14236  128/bullet/dagger/daggerdbl/ellipsis/endash/endash/fiorin%
14237  /fraction/guilsinglleft/guilsinglright/minus/perthousand%
14238  /quoteright/quotestringbase/trademark/b/float/divide/oe%
14239  /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
14240  164/currency %
14241  166/brokenbar %
14242  168/dieresis/copyright/ordfeminine %
14243  172/logicalnot/nextdef/registered/macron/degree/plusminus%
14244  /twosuperior/threesuperior/acute/mu %
14245  183/periodcentered/cedilla/onesuperior/ordmasculine %
14246  188/onequarter/onehalf/threequarters %
14247  192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
14248  /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
14249  /iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
14250  /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
14251  /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
14252  /agrave/acute/acircumflex/atilde/adieresis/aring/ae%
14253  /ccedilla/egrave/ecut/e circumflex/edieresis/igrave%
D. P. Story adapted the pdfTEX forms part for dvipdfm, of which version 0.12.7b or higher is required because of a bug.

48.5 dvipdfm, xetex

D. P. Story adapted the pdfTEX forms part for dvipdfm, of which version 0.12.7b or higher is required because of a bug.
settings dimensions for an using \pdfm@box.

\def\dvipdfm@setdim{height \the\ht\pdfm@box\space
\width \the\wd\pdfm@box\space
\depth \the\dp\pdfm@box\space}

\HyField@AnnotCount
\newcount\HyField@AnnotCount
\HyField@AnnotCount=\z@

\HyField@AdvanceAnnotCount
\def\HyField@AdvanceAnnotCount{%
\global\advance\HyField@AnnotCount\@ne
}

\HyField@TheAnnotCount
\def\HyField@TheAnnotCount{%
the\HyField@AnnotCount
}

\Fld@pageobjref
\def\Fld@pageobjref{/P @thispage}%

\HyField@AddToFfields
\def\HyField@AddToFfields[#1]{%
@pdfm@mark{put @afields @#1\HyField@TheAnnotCount}%
@fx\Fld@calculate@code\ltx@empty
\else
@pdfm@mark{put @corder @#1\HyField@TheAnnotCount}%
\fi
}

\@TextField
\def\@TextField[#1]{% parameters, label
\def\Fld@name{#1}
\let\Fld@default\ltx@empty
\let\Fld@value\@empty
\def\Fld@width{\DefaultWidthofText}
\def\Fld@height{%
\if\Fld@multiline
305
14344 \DefaultHeightofTextMultiline
14345 \else
14346 \DefaultHeightofText
14347 \fi
14348 }%
14349 \begingroup
14350 \expandafter\HyField@SetKeys\expandafter{\%
14351 \DefaultOptionsofText,#1%
14352 )%
14353 \PDFForm@Name
14354 \HyField@FlagsText
14355 \ifFld@hidden\def\Fld@width{1sp}\fi
14356 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
14357 \setbox\pdfm@box=\hbox{%
14358 \MakeTextField{\Fld@width}{\Fld@height}{\Fld@height}{% }
14359 )%
14360 \HyField@AdvanceAnnotCount
14361 \LayoutTextField{#2}{%}
14362 \leavevmode
14363 \Hy@escapeform\PDFForm@Text
14364 \@pdfm@mark{%
14365 \dvipdfm@setdim << \PDFForm@Text >>%
14366 )%
14367 }%
14368 )%
14369 \unhbox\pdfm@box
14370 \HyField@addToFields{text}%
14371 % record in @afields array
14372 \endgroup
14373 }

\@ChoiceMenu
14374 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
14375 \def\Fld@name{#2}%
14376 \let\Fld@default\relax
14377 \let\Fld@value\relax
14378 \def\Fld@width{\DefaultWidthofChoiceMenu}%
14379 \def\Fld@height{\DefaultHeightofChoiceMenu}%
14380 \begingroup
14381 \Fld@menulength=0 %
14382 \@tempdimb=0 \@for\@curropt:=#3\do{%
14383 \expandafter\Fld@checkequals\@curropt==\%
14384 \Hy@StepCount\Fld@menulength
14385 \settowidth{\@tempdimb}{\@currDisplay}%
14386 \ifdim\@tempdimb<\@tempdimb\@tempdimb\@tempdimb\fi
14387 \advance\@tempdimb by 15p%
14388 }%
14389 \advance\@tempdimb by 15p%
14390 \begingroup
14391 \HyField@SetKeys{#1}%
14392 \edef\x{\endgroup
14393 \noexpand\expandafter\HyField@SetKeys{\%}
14394 \noexpand\HyField@SetKeys%
14395 \noexpand\expandafter{\%
14396 \expandafter\noexpand\cname DefaultOptionsof%
14397 \ifFld@radio
14398 \Radio%
14399 \else

306
\begin{verbatim}
14400 \ifFld@combo
14401 \ifFld@popup\n14402 \begin{PopdownBox}\%  
14403 \else
14404 \begin{ComboBox}\%  
14405 \fi
14406 \else
14407 \begin{ListBox}\%  
14408 \fi
14409 \fi
14410 \endcsname\%  
14411 \x  
14412 \x bbox  
14413 \HyField@SetKeys{#1}\%  
14414 \PDFForm@Name  
14415 \ifFld@hidden\def\Fld@width{1sp}\fi  
14416 \ifx\Fld@value\relax\let\Fld@value\Fld@default\fi  
14417 \LayoutChoiceField{#2}{\%  
14418 \ifFld@radio\begin{HyField@FlagsRadioButton\%  
14419 \@@Radio{#3}\%  
14420 \else\begin{HyField@FlagsChoice\%  
14421 \ifdim\Fld@width<\@tempdima  
14422 \ifdim\@tempdima<1cm\@tempdima1cm\fi  
14423 \edef\Fld@width{\the\@tempdima}\%  
14424 \fi  
14425 \@@Listbox{#3}\%  
14426 \endgroup\%  
14427 \endgroup\}  
14428 \}  
14429 \endgroup  
14430 \}  
14431 \ifFld@combo\}  
14432 \edef\Fld@listcount=0\%  
14433 \edef\EdefEscapeName\Fld@default{\Fld@default}\%  
14434 \setbox\pdfm@box=\hbox{\%  
14435 \expandafter\Fld@checkequals\@curropt==\%  
14436 \edef\@currValue{\@currValue}\%  
14437 \@currDisplay\space\%  
14438 \leavevmode\%  
14439 \Hy@escapeform\PDFForm@Radio\%  
14440 \endgroup\%  
14441 \endgroup\%  
14442 \}
\end{verbatim}

\@Radio

\begin{verbatim}
14443 \def\@Radio\#1{\%  
14444 \Fld@listcount=0\%  
14445 \edef\EdefEscapeName\Fld@default{\Fld@default}\%  
14446 \setbox\pdfm@box=\hbox{\%  
14447 \MakeRadioField{\Fld@width}{\Fld@height}\%  
14448 \}  
14449 \@for\@curropt:=#1\do{\%  
14450 \expandafter\Fld@checkequals\@curropt==\%  
14451 \edef\EdefEscapeName\@currValue{\@currValue}\%  
14452 \Hy@StepCount{\Fld@listcount}  
14453 \currDisplay=space  
14454 \leavevmode\%  
14455 \Hy@escapeform\PDFForm@Radio\%  
\end{verbatim}
\@PushButton
\def\@PushButton[#1]#2{% parameters, label
\def\Fld@name{#2}%
\begingroup
\expandafter\HyField@SetKeys\expandafter{\DefaultOptionsofPushButton,#1%
\PDFForm@Name
\ifHy@pdfa
\Hy@Error{PDF/A: Push button with JavaScript is prohibited}%
\else
\LayoutPushButtonField{}
\fi
\leavevmode

\MakeButtonField{#2}\%
\else
\setbox\pdfm@box=\hbox{\MakeButtonField{#2}}\%
\HyField@FlagsPushButton
\ifFld@hidden\def\Fld@width{1sp}\fi
\HyField@AdvanceAnnotCount
\LayoutPushButtonField{%
\leavevmode
\Hy@escapeform\PDFForm@Push
\pdfm@mark{%
ann @push\HyField@TheAnnotCount\space
\dvipdfm@setdim
<<\PDFForm@Push>>%
}%
}\unhbox\pdfm@box
\HyField@AddToFields{push}%
\fi
\endgroup
\@Submit
\def\@Submit[#1]#2{%
\def\Fld@width{\DefaultWidthofSubmit}\%
\def\Fld@height{\DefaultHeightofSubmit}\%
\begingroup
\expandafter\HyField@SetKeys\expandafter{\DefaultOptionsofSubmit,#1%}
\HyField@FlagsPushButton
\HyField@FlagsSubmit
\ifFld@hidden\def\Fld@width{1sp}\fi
\setbox\pdfm@box=\hbox{\MakeButtonField{#2}}\%
\leavevmode
\Hy@escapeform\PDFForm@Submit
\pdfm@mark{%
ann @submit\HyField@TheAnnotCount\space
\dvipdfm@setdim
<<\PDFForm@Submit>>%
}%
\unhbox\pdfm@box%
\HyField@AddToFields{submit}%
\endgroup
}\@Reset
\def\@Reset[#1]#2{%
\def\Fld@width{\DefaultWidthofReset}\%
\def\Fld@height{\DefaultHeightofReset}\%
\begingroup
\expandafter\HyField@SetKeys\expandafter{\DefaultOptionsofReset,#1%}
\HyField@FlagsPushButton
\HyField@FlagsSubmit
\ifFld@hidden\def\Fld@width{1sp}\fi
\setbox\pdfm@box=\hbox{\MakeButtonField{#2}}\%
\leavevmode
\Hy@escapeform\PDFForm@Reset
\pdfm@mark{%
ann @reset\HyField@TheAnnotCount\space
\dvipdfm@setdim
<<\PDFForm@Reset>>%
}%
\unhbox\pdfm@box%
\HyField@AddToFields{reset}%
\endgroup

PDF/A: Reset action is prohibited
}
\else
\MakeButtonField{#2}%
\fi
\ifFld@hidden\def\Fld@width{1sp}\fi
\setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
\Hy@escapeform\PDFForm@Reset
\HyField@AdvanceAnnotCount
\@pdfm@mark{%
ann @reset\HyField@TheAnnotCount\space
\dvipdfm@setdim
<<\PDFForm@Reset>>%
}%
\unhbox\pdfm@box
\HyField@AddToFields{reset}%
\fi
\endgroup

\@CheckBox
\def\@CheckBox[#1]#2{% parameters, label
\def\Fld@name{#2}%
\def\Fld@default{0}%
\begingroup
\def\Fld@width{\DefaultWidthofCheckBox}%
\def\Fld@height{\DefaultHeightofCheckBox}%
\expandafter\HyField@SetKeys\expandafter{%
\DefaultOptionsofCheckBox,#1%
}%
\PDFForm@Name
\HyField@FlagsCheckBox
\ifFld@hidden\def\Fld@width{1sp}\fi
\setbox\pdfm@box=\hbox{%
\MakeCheckField{\Fld@width}{\Fld@height}%
}
\HyField@AdvanceAnnotCount
\LayoutCheckField{#2}{%
\leavevmode
\Hy@escapeform\PDFForm@Check
\@pdfm@mark{%
ann @check\HyField@TheAnnotCount\space
\dvipdfm@setdim
<<\PDFForm@Check>>%
}%
\unhbox\pdfm@box
\HyField@AddToFields{check}%
}%
\endgroup
\endgroup
\def\Hy@FormObjects{%
\@pdfm@mark{obj OBJpdfdocencoding%
<<%}
/Type/Encoding%
/Differences[
24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
48.6 Common forms part

\begingroup \expandafter \expandafter \expandafter \endgroup 311
\begingroup
\ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
\ifHy@unicode
\Hy@unicodefalse
\fi
\HyPsd@XeTeXBigCharstrue
\pdfstringdef\Hy@gtemp#1{
\endgroup
\let#1\Hy@gtemp
}

\Fld@additionalactions
\def\Fld@additionalactions{%
K input (keystroke) format
\ifx\Fld@keystroke@code\@empty
\else
/K</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
\fi

F display format
\ifx\Fld@format@code\@empty
\else
/F</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
\fi

V validation
\ifx\Fld@validate@code\@empty
\else
/V</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
\fi

C calculation
\ifx\Fld@calculate@code\@empty
\else
/C</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
\fi

Fo receiving the input focus
\ifx\Fld@onfocus@code\@empty
\else
/Fo</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
\fi

Bl loosing the input focus (blurred)
\ifx\Fld@onblur@code\@empty
\else
/Bl</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
\fi

D pressing the mouse button (down)
\ifx\Fld@onmousedown@code\@empty
\else
/D</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
\fi

U releasing the mouse button (up)
\ifx\Fld@onmouseup@code\@empty
\else
/U</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
\fi
E cursor enters the annotation’s active area.
\documentclass{article}
\usepackage{hyperref}
\begin{document}
\texttt{if \texttt{\textbackslash Fld@onenter\textbackslash code} \texttt{@empty}}
\texttt{else}
\texttt{E<</S/JavaScript/JS(\texttt{\textbackslash Hy@escapestring(\texttt{\textbackslash Fld@onenter\textbackslash code})})>>%}
\texttt{\textbackslash fi}
X cursor exits the annotation’s active area.
\texttt{if \texttt{\textbackslash Fld@onexit\textbackslash code} \texttt{@empty}}
\texttt{else}
\texttt{X<</S/JavaScript/JS(\texttt{\textbackslash Hy@escapestring(\texttt{\textbackslash Fld@onexit\textbackslash code})})>>%}
\texttt{\textbackslash fi}
\texttt{}}
\def\Fld@additionalactions{\%}
\texttt{if \texttt{-\textbackslash Fld@@additionalactions-}}
\texttt{else}
\texttt{if \texttt{\textbackslash Hy@pdfa}}
\texttt{else}
\texttt{AA<<\texttt{\textbackslash Fld@@additionalactions>>%}}
\texttt{\textbackslash fi}
\texttt{\textbackslash fi}
\texttt{}}
\def\Fld@annotnames{\%}
\texttt{\textbackslash T(\texttt{\textbackslash Fld@name})%}
\texttt{if \texttt{\textbackslash Fld@altname}\texttt{relax}}
\texttt{else}
\texttt{TU(\texttt{\textbackslash Fld@altname})%}
\texttt{\textbackslash fi}
\texttt{if \texttt{\textbackslash Fld@mappingname}\texttt{relax}}
\texttt{else}
\texttt{TM(\texttt{\textbackslash Fld@mappingname})%}
\texttt{\textbackslash fi}
\texttt{}}
\def\PDFForm@Check{\%}
\texttt{\textbackslash Subtype/\textbackslash Widget%}
\texttt{\textbackslash Fld@annotflags}
\texttt{\textbackslash Fld@pageobjref}
\texttt{\textbackslash Fld@annotnames}
\texttt{\textbackslash FT/Btn%}
\texttt{\textbackslash Fld@flags}
\texttt{\textbackslash Q \textbackslash Fld@align}
\texttt{\textbackslash BS<</W \textbackslash Fld@borderwidth /S/\textbackslash Fld@borderstyle>>%}
\texttt{\textbackslash AP<< /N <</Yes<<<<>> %new string /Yes is from below}
\texttt{\textbackslash MK<<%}
\texttt{\textbackslash fnum\textbackslash Fld@rotation=\textbackslash z@}
\texttt{\textbackslash fi}
\texttt{\textbackslash Fld@rotation}
\texttt{\textbackslash fi}
\texttt{\textbackslash Fld@bordercolor\texttt{relax}}
\texttt{\textbackslash else}
\texttt{\textbackslash BC[\textbackslash Fld@bordercolor]%}
\texttt{\textbackslash fi}
\texttt{\textbackslash Fld@bgcolor\texttt{relax}}
\texttt{\textbackslash else}
\end{document}
New code, the default value is used for all buttons
\PDFForm@Text

\def\PDFForm@Text{\%}
\def\PDFForm@Submit{\%}

\PDFForm@Submit
\PDFForm@Reset

\ifHy@pdfa
\else
\def\PDFForm@Reset{%
\Subtype/Widget%
\Fld@annotflags
\Fld@pageobjref
\Fld@annotnames
\FT/Btn%
\Fld@flags
\H/P%
\DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
\ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi\fi
\ifnum\Fld@rotation=\z@ \else
/R \Fld@rotation
\fi
\ifx\Fld@bordercolor\relax\else
/BC[\Fld@bordercolor]%
\fi
% /CA (Clear)
% /AC (Done)
}%
\fi
\langle pdfform \rangle
\langle *package \rangle
49 Bookmarks in the PDF file

This was originally developed by Yannis Haralambous (it was the separate repere.sty); it needed the repere or makebook.pl post-processor to work properly. Now redundant, as it is done entirely in \LaTeX{} macros.

To write out the current section title, and its rationalized number, we have to intercept the \@sect command, which is rather dangerous. But how else to see the information we need? We do the same for \@ssect, giving anchors to unnumbered sections. This allows things like bibliographies to get bookmarks when used with a manual \addcontentsline

\phantomsection
\Hy@MakeCurrentHrefAuto{section*}
\Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}

\langle/package\rangle

49.1 Bookmarks

This section was written by Heiko Oberdiek; the code replaces an earlier version by David Carlisle.

The first part of bookmark code is in section 6. Further documentation is available as paper and slides of the talk, that Heiko Oberdiek has given at the EuroTeX'99 meeting in Heidelberg. See paper.pdf and slides.pdf in the doc directory of hyperref.

When using the right-to-left typesetting based on \vTeX, the order of the \BOOKMARK commands written to the \@outlinefile could appear wrong, because of mis-feature of \vTeX’s implementation (that it processes the shipped out lines left-to-right, instead of the order in which they appear in the document). The wrong order will appear when the file contains two bookmarks on the same line typeset right-to-left.

To work around this problem, the bookmark@seq@number counter is used to write the bookmark’s sequential number into a comment in the \@outlinefile, which could be used to post-process it to achieve the proper ordering of \BOOKMARK commands in that file.
\begin{group}
\setcode{"{ (%)\setcode{"\}%\setcode{1{ (%)\setcode{2{ (%)\setcode{3{ (%)\setcode{5{ (%)\setcode{7{ (%)\setcode{\#{ (%)\setcode{\{ (%)\setcode{\} (%)\lowercase{ %\endgroup

In the call of \BOOKMARK the braces around \#4 are omitted, because it is not likely, that the level number contains \].

\newcommand{\currentpdfbookmark}{%\pdfbookmark[\Hy@currentbookmarklevel]{\@nil}}\newcommand{\subpdfbookmark}{%\@tempcnta\Hy@currentbookmarklevel\Hy@StepCount\@tempcnta}
Tobias Oetiker rightly points out that we need a way to force a bookmark entry. So we introduce \pdfbookmark, with two parameters, the title, and a symbolic name. By default this is at level 1, but we can reset that with the optional first argument.

The macros for calculating structure of outlines are derived from those by Petr Olsak used in the texinfopdf macros.

49.1.1 Rerun warning

\Hy@OutlineRerunCheck

49.1.2 Driver stuff

The VTEX section was written originally by VTEX, but then amended by Denis Girou (denis.girou@idris.fr), then by Taco Hoekwater (taco.hoekwater@wkap.nl). The problem is that VTEX, with its close integration of the PDF backend, does look at the contents of bookmarks, escaping \ and the like.

Plain octal codes doesn’t work with versions below 6.50. So for early versions hex numbers have to be used. It would be possible to program this instead of the large \ifcase, but I’m too lazy to sort that out now.
\ReadBookmarks

\def\ReadBookmarks{%
  \begingroup
    \def\0{\hv@pdf@char 0}%
    \def\1{\hv@pdf@char 1}%
    \def\2{\hv@pdf@char 2}%
    \def\3{\hv@pdf@char 3}%
    \def\({(}%
    \def\){)}%
    \def\do##1{%
      \ifnum\catcode`##1=\active
        \@makeother##1%
      \else
        \ifnum\catcode`##1=6 \%
          \@makeother##1%
        \fi
      \fi
    }%
    \dospecials
    \Hy@safe@activestrue
    \escapechar=`\%
    \def\@@BOOKMARK[##1][##2][##3][##4][##5]{%}
    \calc@bm@number{##5}%
  }%
  \if\pdf@ifdraftmode{}{%
    \begingroup
      \ifnum\catcode`\=\active
        \@makeother\%
      \else
        \ifnum\catcode`\=6 \%
          \@makeother\%
        \fi
      \fi
    }%
    \dospecials
    \Hy@safe@activestrue
    \escapechar=`\%
    \def\@@BOOKMARK[##1][##2][##3][##4][##5]{%}
    \calc@bm@number{##5}%
  }
  \if\pdf@ifdraftmode{}{%
    \begingroup
      \ifnum\catcode`\=\active
        \@makeother\%
      \else
        \ifnum\catcode`\=6 \%
          \@makeother\%
        \fi
      \fi
    }%
  }
  \if\pdf@ifdraftmode{}{%
    \begingroup
      \ifnum\catcode`\=\active
        \@makeother\%
      \else
        \ifnum\catcode`\=6 \%
          \@makeother\%
        \fi
      \fi
    }%

\endgroup
}\InputIfFileExists{\jobname.out}{}}%
\endgroup
\if\WriteBookmarks{}%
\else
  \if@filesw
    \newwrite\@outlinefile
    \Hy@OutlineRerunCheck
    \immediate\openout\@outlinefile=\jobname.out\relax
    \if\Hy@typexml
      \immediate\write\@outlinefile{<relaxxml>\relax}%
    \fi
  \fi
\fi
\fi
\fi
\fi
\fi
\fi
\fi
\fi
}\endgroup
}
If there is no chapter number (\frontmatter or \backmatter) then the counting by \refstepcounter{chapter} is not executed, so there will be no destination for \ddcontentsline. So \chapter is overloaded to avoid this:

\ltx@ifundefined{chapter}{% 
  \let\Hy@org@chapter\@chapter
  \def\chapter{% 
    \def\Hy@next{% 
      \Hy@MakeCurrentHrefAuto{\Hy@chapapp*} 
      \Hy@raisedlink{% 
        \hyper@anchorstart{\@currentHref}\hyper@anchorend 
      }% 
    }% 
    \ifnum\Hy@secnum@part>\m@ne 
      \phantomsection 
    \fi 
  }% 
  \iftrue{\csname if@mainmatter\endcsname}% 
  \let\Hy@org@chapter\relax 
  \fi 
% 
% \ltx@iftrue{\csname if@mainmatter\endcsname}{% 
%   \let\Hy@org@chapter\relax 
%   \fi 
% }% 
% 
\ifnum\c@secnumdepth>\m@ne 
\fi 
\fi 
\Hy@org@chapter 
\let\H@old@chapter\#1% 
\H@old@chapter }% 
\let\H@old@part\@part 
\begingroup\expandafter\expandafter\expandafter\endgroup 
\expandafter\ifx\csname chapter\endcsname\relax 
\let\Hy@secnum@part\z@ 
\else 
\let\Hy@secnum@part\m@ne 
\fi 
\def\@part{% 
  \def\Hy@secnum@part\c@secnumdepth 
  \phantomsection 
  \fi 
\fi 
\H@old@part 
\let\H@old@part\#1% 
\H@old@part }% 
\let\H@old@chapter\@chapter 
\def\@chapter{% 
  \Hy@MakeCurrentHrefAuto{\Hy@chapapp*} 
  \Hy@raisedlink{% 
    \hyper@anchorstart{\@currentHref}\hyper@anchorend 
  }% 
} 

\H@old@chapter #1

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50 Compatibility with koma-script classes

Hard-wire in an unpleasant over-ride of komascript ‘scrbook’ class for Tobias Isenberg (Tobias.Isenberg@gmx.de). With version 6.71b the hack is also applied to ‘scrreprt’ class and is removed for koma-script versions since 2001/01/01, because Markus Kohm supports hyperref in komascript.
Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

### PD1 encoding

```
\DeclareFontEncoding{PD1}{}{}
```

Accents

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\DeclareTextAccent{'}{PD1}{textasciigrave}
\DeclareTextAccent{"}{PD1}{textacute}
\DeclareTextAccent{"}{PD1}{textasciicircum}
\DeclareTextAccent{"}{PD1}{texttilde}
\DeclareTextAccent{"}{PD1}{textasciicaron}
\DeclareTextAccent{.}{PD1}{textdotaccent}
\DeclareTextAccent{c}{PD1}{textcedilla}
\DeclareTextAccent{a}{PD1}{textasciimacron}
\DeclareTextAccent{b}{PD1}{textmacronbelow}
\DeclareTextAccent{d}{PD1}{textdotbelow}
```

Composite commands

```
\DeclareTextCompositeCommand{\'}{PD1}{{empty}{textasciigrave}}
\DeclareTextCompositeCommand{\'}{PD1}{{empty}{textacute}}
\DeclareTextCompositeCommand{\'}{PD1}{{empty}{textasciicircum}}
\DeclareTextCompositeCommand{\'}{PD1}{{empty}{texttilde}}
\DeclareTextCompositeCommand{\'}{PD1}{{empty}{textasciicaron}}
\DeclareTextCompositeCommand{\textasciimacron}{PD1}{{empty}{textmacronbelow}}
```
Special white space escape characters not for use in bookmarks but for other PDF strings.

Accent glyph names

\DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}
\DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textasciicaron}
\DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
\DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
\DeclareTextCompositeCommand{\=}{PD1}{\@empty}{\textasciimacron}
\DeclareTextCompositeCommand{\b}{PD1}{\@empty}{\textmacronbelow}
\DeclareTextCompositeCommand{\d}{PD1}{\@empty}{\textdotbelow}
\DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
\DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}
\DeclareTextCommand{\newtie}{PD1}[1]{\TextSymbolUnavailable{\newtie{#1}}#1}

% U+0009 (CHARACTER TABULATION)
\DeclareTextCommand{\textHT}{PD1}{\011}
% U+000A (LINE FEED)
\DeclareTextCommand{\textLF}{PD1}{\012}
% U+000D (CARRIAGE RETURN)
\DeclareTextCommand{\textCR}{PD1}{\015}

% U+02D8 BREVE; breve
\DeclareTextCommand{\textasciibreve}{PD1}{\030}
% U+02C7 CARON; caron
\DeclareTextCommand{\textasciicaron}{PD1}{\031}
% U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
\DeclareTextCommand{\textcircumflex}{PD1}{\032}
% U+02D9 DOT ABOVE; dotaccent
\DeclareTextCommand{\textdotaccent}{PD1}{\033}
% U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
\DeclareTextCommand{\texthungarumlaut}{PD1}{\034}
% U+02DA RING ABOVE; ring
\DeclareTextCommand{\textring}{PD1}{\036}
% U+02DC SMALL TILDE; ilde, *tilde
\DeclareTextCommand{\texttilde}{PD1}{\037}
% U+001B: U+0020 SPACE; *space, spacehackarabic
% U+0021 EXCLAMATION MARK; exclam
% U+0022 QUOTATION MARK; quotedbl
% U+0023 NUMBER SIGN; numbersign
% U+0024 DOLLAR SIGN; dollar
The euro \texteuro{} is inserted in version 1.3 of the PDF specification.

Slot $\textfont{237}$ (0x9F) is not defined in PDFDocEncoding.

The euro \texteuro{} is inserted in version 1.3 of the PDF specification.

No glyph $\textfont{255}$ in PDFDocEncoding.
\textdegree \textplusminus \texttwosuperior \textthreesuperior \textacute \textmu \textparagraph \textperiodcentered \textcedilla \textonesuperior \textordmasculine \guillemotright \textonequarter \textonehalf \textthreequarters \textquestiondown \ Agrave \ Aacute \ Acircumflex \ Atilde \ Adieresis \ Aring \ AE \ Ccedilla \ Egrave \ Eacute \ Ecircumflex \ Igrave
Glyphs that consist of several characters.

\text{\textcelsius}
Polish aliases. PDF encoding does not have the characters, but it is useful to Poles to have the plain letters regardless. Requested by Wojciech Myszka (W.Myszka@immt.pwr.wroc.pl).

51.2 PU encoding

51.2.1 NFSS2 accents

% U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
\DeclareTextCommand{\grave}{PU}{\83\000}% U+0300

% U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
\DeclareTextCommand{\acute}{PU}{\83\001}% U+0301

% U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
\DeclareTextCommand{\circ}{PU}{\83\002}% U+0302

% U+0303 COMBINING MACRON; macroncmb
\DeclareTextCommand{\=}{PU}{\83\003}% U+0303

% U+0304 COMBINING BREVE; brevecmb
\DeclareTextCommand{\~}{PU}{\83\004}% U+0304

% U+0305 COMBINING DIAERESIS; dieresis cmb
\DeclareTextCommand{\^}{PU}{\83\005}% U+0305

% U+0306 COMBINING TILDE; tildecmb, *tildecomb
\DeclareTextCommand{\~}{PU}{\83\006}% U+0306

% U+0307 COMBINING DOT ABOVE; dotaccentcmb
\DeclareTextCommand{\{\^}{PU}{\83\007}% U+0307
\DeclareTextCommand{"}{PU}[1]{#1\83\010}% U+0308
% U+030A COMBINING RING ABOVE; ringcmb
\DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A
% U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
\DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B
% U+030C COMBINING CARON; caroncmb
\DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C
% U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
\DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F
\DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
% U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
\DeclareTextCommand{\textinvbreve}{PU}[1]{#1\83\021}% U+0311
\DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311
% U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
\DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323
% U+0324 COMBINING DIAERESIS BELOW; dieresisbelowcmb; \textsubumlaut (tipa)
\DeclareTextCommand{\textsubumlaut}{PU}[1]{#1\83\044}% U+0324
% U+0325 COMBINING RING BELOW; ringbelowcmb; \textsutring (tipa)
\DeclareTextCommand{\textsutring}{PU}[1]{#1\83\045}% U+0325
% U+0327 COMBINING CEDILLA; cedillacmb
\DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327
% U+0328 COMBINING OGONEK; ogonekcmb
\DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328
% U+032D COMBINING CIRCUMFLEX ACCENT BELOW;
% U+032E COMBINING BREVE BELOW; brevebelowcmb
\DeclareTextCommand{\textsubcircum}{PU}[1]{#1\83\055}% U+032D
% U+0330 COMBINING MACRON BELOW; macronbelowcmb
\DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0330
% U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
\DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
% U+20DD COMBINING ENCLOSING CIRCLE
\DeclareTextCommand{\textcircled}{PU}[1]{#1\9040\335}% U+20DD

Double accents.
\DeclareTextCommand{\textasciigrave}{PU}[1]{\@empty}{\textasciigrave}
\DeclareTextCommand{\acute}{PU}[1]{\@empty}{\textacute}
\DeclareTextCommand{\grave}{PU}[1]{\@empty}{\textasciigrave}
\DeclareTextCommand{\breve}{PU}[1]{\@empty}{\textasciibreve}
\DeclareTextCommand{\macron}{PU}[1]{\@empty}{\textasciimacron}
\DeclareTextCommand{\hungarumlaut}{PU}[1]{\@empty}{\texthg}
\DeclareTextCommand{\ogonek}{PU}[1]{\@empty}{\textogonek}
\DeclareTextCommand{\textumlaut}{PU}[1]{\@empty}{\textumlaut}
\DeclareTextCommand{\textumlaut}{PU}[1]{\@empty}{\textumlaut}
\DeclareTextCommand{\textumlaut}{PU}[1]{\@empty}{\textumlaut}

\empty is an artefact of the NFSS2 machinery, it gets inserted for empty arguments and spaces.
\DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}
\DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}
\DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}
\DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}
\DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textasciimacron}
\DeclareTextCompositeCommand{\C}{PU}{\@empty}{\textcedilla}
\DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotaccent}
\DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}
\DeclareTextCompositeCommand{\t}{PU}{\@empty}{\textasciitilde}
\DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}
\DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textasciitilde}
\DeclareTextCompositeCommand{\C}{PU}{\@empty}{\textcedilla}
\DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotaccent}
\DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}
51.2.2 Basic Latin: U+0000 to U+007F

Special white space escape characters.

\% U+0009 (CHARACTER TABULATION)
\% U+000A (LINE FEED)
\% U+000D (CARRIAGE RETURN)
\% U+0020 SPACE; space, spacehackarabic
\% U+0021 EXCLAMATION MARK; exclam
\% U+0022 QUOTATION MARK; quotedbl
\% U+0023 NUMBER SIGN; numbersign
\% U+0024 DOLLAR SIGN; dollar
\%* \textdollar -> \mathdollar
\%* \textdollar -> \EyesDollar (marvosym)
\% U+0025 PERCENT SIGN; percent
\% U+0026 AMPERSAND; ampersand
\%* \textampersand -> \binampersand (stmaryrd)
\%* \textampersand -> \with (cmll)
\% U+0027 APOSTROPHE; quotesingle
\% U+0028 LEFT PARENTHESIS; parenleft
\% U+0029 RIGHT PARENTHESIS; parenright
\% U+002A ASTERISK; asterisk; (?)
\% U+002B PLUS SIGN; plus; \MVPlus (marvosym)
\% U+002C COMMA; comma; \MVComma (marvosym)
\% U+002D HYPHEN-MINUS; hyphen; \MVMinus (marvosym)
\% U+002E FULL STOP; period; \MVPeriod (marvosym)
\% U+002F SOLIDUS; slash; \MVDivision (marvosym)
\% U+0030 DIGIT ZERO; zero; \MVZero (marvosym)
\% U+0031 DIGIT ONE; one; \MVOne (marvosym)
\% U+0032 DIGIT TWO; two; \MVTtwo (marvosym)
\% U+0033 DIGIT THREE; three; \MVTthree (marvosym)
\% U+0034 DIGIT FOUR; four; \MVFour (marvosym)
\% U+0035 DIGIT FIVE; five; \MVFive (marvosym)
\% U+0036 DIGIT SIX; six; \MVSix (marvosym)
\% U+0037 DIGIT SEVEN; seven; \MVSeven (marvosym)
\% U+0038 DIGIT EIGHT; eight; \MVEight (marvosym)
\% U+0039 DIGIT NINE; nine; \MVNine (marvosym)
16161 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
16162 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1
16163 % U+00A2 CENT SIGN; cent
16164 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2
16165 % U+00A3 POUND SIGN; sterling
16166 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3
16167 %* \textsterling -> \mathsterling (LaTeX)
16168 %* \textsterling -> \pounds (LaTeX)
16169 % U+00A4 CURRENCY SIGN; currency
16170 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4
16171 % U+00A5 YEN SIGN; yen
16172 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5
16173 % U+00A6 BROKEN BAR; brokenbar
16174 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6
16175 %* \textbrokenbar -> \brokenvert (wasysym)
16176 % U+00A7 SECTION SIGN; section
16177 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7
16178 %* \textsection -> \mathsection (LaTeX)
16179 %* \textsection -> \S (LaTeX)
16180 % U+00A8 DIAERESIS; dieresis
16181 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8
16182 % U+00A9 COPYRIGHT SIGN; copyright
16183 \DeclareTextCommand{\textcopyright}{PU}{\80\251}%* U+00A9
16184 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
16185 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA
16186 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
16187 motleft
16188 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB
16189 % U+00AC NOT SIGN; logicalnot
16190 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC
16191 % U+00AD REGISTERED SIGN; registered
16192 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AD
16193 % U+00AF MACRON; *macron, overscore
16194 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF
16195 % U+00B0 DEGREE SIGN; degree
16196 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0
16197 % U+00B1 PLUS-MINUS SIGN; plusminus
16198 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1
16199 % U+00B2 SUPERSCRIPT TWO; twosuperior
16200 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}%* U+00B2
16201 % U+00B3 SUPERSCRIPT THREE; threesuperior
16202 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}%* U+00B3
16203 % U+00B4 ACUTE ACCENT; acute
16204 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4
16205 % U+00B5 MICRO SIGN; mu, mu1
16206 % U+00B6 PILCROW SIGN; paragraph
16207 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5
16208 %* \textparagraph -> \mathparagraph (LaTeX)
16209 % U+00B7 MIDDLE DOT; middot, *periodcentered
16210 %* \textperiodcentered -> \MultiplicationDot (marvosym)
16211 % U+00B8 CEDILLA; cedilla
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% U+00EE LATIN SMALL LETTER I WITH DIAERESIS; idieresis
% U+00EF LATIN SMALL LETTER ETH; eth
% U+00F0 LATIN SMALL LETTER E WITH TILDE; eth
% U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
% U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
% U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
% U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
% U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
% U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
% U+00F7 DIVISION SIGN; divide
% U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
% U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
% U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
% U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
% U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
% U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
% U+00FE LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
% U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
% U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron
% U+0101 LATIN SMALL LETTER A WITH MACRON; amacron
% U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve
% U+0103 LATIN SMALL LETTER A WITH BREVE; abreve
% U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek
% U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek
% U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute
% U+0107 LATIN CAPITAL LETTER C WITH CEDILA; Ccedilla
% U+0108 LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot
% U+0109 LATIN CAPITAL LETTER C WITH STROKE; Cstroke
% U+010A LATIN CAPITAL LETTER C WITH TILDE; Ctilde
% U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot
% U+010C LATIN SMALL LETTER C WITH STROKE; cstroke
% U+010D LATIN SMALL LETTER C WITH TILDE; ctilde
% U+010E LATIN CAPITAL LETTER C WITH DIACRITICAL MARKS; Cdiacritics
% U+010F LATIN SMALL LETTER C WITH DIACRITICAL MARKS; cdiacritics

51.2.4 Latin Extended-A: U+0080 to U+017F
% U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron
% U+0101 LATIN SMALL LETTER A WITH MACRON; amacron
% U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve
% U+0103 LATIN SMALL LETTER A WITH BREVE; abreve
% U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek
% U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek
% U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute
% U+0107 LATIN CAPITAL LETTER C WITH CEDILA; Ccedilla
% U+0108 LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot
% U+0109 LATIN CAPITAL LETTER C WITH STROKE; Cstroke
% U+010A LATIN CAPITAL LETTER C WITH TILDE; Ctilde
% U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot
% U+010C LATIN SMALL LETTER C WITH STROKE; cstroke
% U+010D LATIN SMALL LETTER C WITH TILDE; ctilde
% U+010E LATIN CAPITAL LETTER C WITH DIACRITICAL MARKS; Cdiacritics
% U+010F LATIN SMALL LETTER C WITH DIACRITICAL MARKS; cdiacritics
\DeclareTextCompositeCommand{\}.}{PU}{G}{\81\040}% U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotaccent
\DeclareTextCompositeCommand{\}.}{PU}{g}{\81\041}% U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent
\DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaaccent
\DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent
\DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex
\DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex
\DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar
\DeclareTextCommand{\texthbar}{PU}{\81\047}% U+0127 LATIN SMALL LETTER H WITH STROKE; hbar, \hbar (AmS)
\DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde
\DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129 LATIN SMALL LETTER I WITH TILDE; itilde
\DeclareTextCompositeCommand{\~}{PU}{\i}{\81\051}% U+0129
\DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron
\DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B LATIN SMALL LETTER I WITH MACRON; imacron
\DeclareTextCompositeCommand{\=}{PU}{\i}{\81\053}% U+012B
\DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve
\DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D LATIN SMALL LETTER I WITH BREVE; ibreve
\DeclareTextCompositeCommand{\u}{PU}{\i}{\81\055}% U+012D
\DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek
\DeclareTextCompositeCommand{\k}{PU}{i}{\81\056}% U+012E
\DeclareTextCompositeCommand{\k}{PU}{\i}{\81\056}% U+012E
\DeclareTextCompositeCommand{\}.}{PU}{I}{\81\060}% U+0130 LATIN CAPITAL LETTER K WITH DOT ABOVE; Kdot, Kdotaccent
\DeclareTextCompositeCommand{\}.}{PU}{k}{\81\066}% U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaaccent
\DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136
\DeclareTextCompositeCommand{\IJ}{PU}{\81\062}% U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex
\DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134
\DeclareTextCompositeCommand{\c}{PU}{j}{\81\065}% U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex
\DeclareTextCompositeCommand{\c}{PU}{\j}{\81\065}% U+0135
The canonical name of U+0138, small letter kra, would be \text{kgreenlandic}, following the glyph naming convention. However latex/base/inputenc.dtx has chosen \text{kra}.

There seems to be no variants of letters ‘L’ and ‘l’ with a dot above (reasonable). Therefore the \.
accent is reused instead of making a separate accent macro \textmiddledot.

\% U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotaccent
\DeclareTextCompositeCommand{\cdot}{PU}{L}{\81\107}% U+013F
\% U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent
\DeclareTextCompositeCommand{\cdot}{PU}{l}{\81\108}% U+0140
\% U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
\DeclareTextCommand{\L}{PU}{\81\109}% U+0141
\% U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
\DeclareTextCommand{\l}{PU}{\81\110}% U+0142
\% U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute
\DeclareTextCompositeCommand{\'}{PU}{N}{\81\111}% U+0143
\% U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute
\DeclareTextCompositeCommand{\'}{PU}{n}{\81\112}% U+0144
\% U+0145 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napostrophe, quoterightn
\ DeclareTextCommand{\textnapostrophe}{PU}{\81\113}% U+0145
\% U+0146 LATIN SMALL LETTER O WITH MACRON; Omacron
\ DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+0146
\% U+0147 LATIN CAPITAL LETTER O WITH MACRON; Omacron
\ DeclareTextCommand{\=}{PU}{O}{\81\115}% U+0147
\% U+0148 LATIN SMALL LETTER O WITH MACRON; omacron
\ DeclareTextCompositeCommand{\textng}{PU}{\81\116}% U+0148
\% U+0149 LATIN SMALL LETTER O PRECEDED BY APOSTROPHE; napostrophe, quoterightn
\ DeclareTextCommand{\textnapostrophe}{PU}{\81\117}% U+0149
\% U+014A LATIN CAPITAL LETTER ENG; Eng
\ DeclareTextCommand{\NG}{PU}{\81\118}% U+014A
\% U+014B LATIN SMALL LETTER ENG; eng
\ DeclareTextCommand{\ng}{PU}{\81\119}% U+014B
\%* \ng -> \eng (wsuipa)
\%* \ng -> \engma (phonetic)
\% U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron
\ DeclareTextCompositeCommand{\=}{PU}{O}{\81\120}% U+014C
\% U+014D LATIN CAPITAL LETTER R WITH ACUTE; Racute
\ DeclareTextCompositeCommand{\'}{PU}{R}{\81\121}% U+014D
\% U+014E LATIN SMALL LETTER R WITH ACUTE; racute
\ DeclareTextCompositeCommand{\'}{PU}{r}{\81\122}% U+014E
\% U+014F LATIN CAPITAL LETTER R WITH CEDILLA; Rcommaaccent
\ DeclareTextCompositeCommand{\c}{PU}{R}{\81\123}% U+014F
\% U+0150 LATIN SMALL LETTER R WITH CEDILLA; rcommaaccent
\ DeclareTextCompositeCommand{\c}{PU}{r}{\81\124}% U+0150
\% U+0151 LATIN CAPITAL LETTER R WITH CARON; Rcaron
\ DeclareTextCompositeCommand{\v}{PU}{R}{\81\125}% U+0151
\% U+0152 LATIN SMALL LETTER R WITH CARON; rcaron
\ DeclareTextCompositeCommand{\v}{PU}{r}{\81\126}% U+0152
\% U+0153 LATIN CAPITAL LETTER R PRECEDED BY APOSTROPHE; rapostrophe, quoterightr
\ DeclareTextCommand{\textrapostrophe}{PU}{\81\127}% U+0153
\% U+0154 LATIN CAPITAL LETTER R WITH STROKE; Rslash
\ DeclareTextCommand{\R}{PU}{\81\128}% U+0154
\% U+0155 LATIN SMALL LETTER R WITH STROKE; rslash
\ DeclareTextCommand{\r}{PU}{\81\129}% U+0155
\% U+0156 LATIN CAPITAL LETTER S WITH ACUTE; Sacute
\ DeclareTextCompositeCommand{\'}{PU}{S}{\81\130}% U+0156
\% U+0157 LATIN SMALL LETTER S WITH ACUTE; sacute
\ DeclareTextCompositeCommand{\'}{PU}{s}{\81\131}% U+0157
\% U+0158 LATIN CAPITAL LETTER S WITH CEDILLA; Scommaaccent
\ DeclareTextCompositeCommand{\c}{PU}{S}{\81\132}% U+0158
\% U+0159 LATIN SMALL LETTER S WITH CEDILLA; scommaaccent
\ DeclareTextCompositeCommand{\c}{PU}{s}{\81\133}% U+0159
\% U+015A LATIN CAPITAL LETTER S WITH STROKE; Sslash
\ DeclareTextCommand{\S}{PU}{\81\134}% U+015A
\% U+015B LATIN SMALL LETTER S WITH STROKE; slash
\ DeclareTextCommand{\s}{PU}{\81\135}% U+015B
\% U+015C LATIN CAPITAL LETTER T WITH ACUTE; Tacute
\ DeclareTextCompositeCommand{\'}{PU}{T}{\81\136}% U+015C
\% U+015D LATIN SMALL LETTER T WITH ACUTE; tacute
\ DeclareTextCompositeCommand{\'}{PU}{t}{\81\137}% U+015D
\% U+015E LATIN CAPITAL LETTER T WITH CEDILLA; Tcommaaccent
\ DeclareTextCompositeCommand{\c}{PU}{T}{\81\138}% U+015E
\% U+015F LATIN SMALL LETTER T WITH CEDILLA; tcommaaccent
\ DeclareTextCompositeCommand{\c}{PU}{t}{\81\139}% U+015F
\% U+0160 LATIN CAPITAL LETTER T WITH CARON; Tcaron
\ DeclareTextCompositeCommand{\v}{PU}{T}{\81\140}% U+0160
\% U+0161 LATIN SMALL LETTER T WITH CARON; tcaron
\ DeclareTextCompositeCommand{\v}{PU}{t}{\81\141}% U+0161
\% U+0162 LATIN CAPITAL LETTER T PRECEDED BY APOSTROPHE; tapostrophe, quoterightt
\ DeclareTextCommand{\texttapostrophe}{PU}{\81\142}% U+0162
\% U+0163 LATIN CAPITAL LETTER U WITH ACUTE; Uacute
\ DeclareTextCompositeCommand{\'}{PU}{U}{\81\143}% U+0163
\% U+0164 LATIN SMALL LETTER U WITH ACUTE; uacute
\ DeclareTextCompositeCommand{\'}{PU}{u}{\81\144}% U+0164
\% U+0165 LATIN CAPITAL LETTER U WITH CEDILLA; Ucommaaccent
\ DeclareTextCompositeCommand{\c}{PU}{U}{\81\145}% U+0165
\% U+0166 LATIN SMALL LETTER U WITH CEDILLA; ucommaaccent
\ DeclareTextCompositeCommand{\c}{PU}{u}{\81\146}% U+0166
\% U+0167 LATIN CAPITAL LETTER U WITH CARON; Ucaron
\ DeclareTextCompositeCommand{\v}{PU}{U}{\81\147}% U+0167
\% U+0168 LATIN SMALL LETTER U WITH CARON; ucaron
\ DeclareTextCompositeCommand{\v}{PU}{u}{\81\148}% U+0168
\% U+0169 LATIN SMALL LETTER U PRECEDED BY APOSTROPHE; napostrophe, quoterightu
\ DeclareTextCommand{\textnapostrophe}{PU}{\81\149}% U+0169
\% U+016A LATIN CAPITAL LETTER U WITH STROKE; Uslash
\ DeclareTextCommand{\U}{PU}{\81\150}% U+016A
\% U+016B LATIN SMALL LETTER U WITH STROKE; uslash
\ DeclareTextCommand{\u}{PU}{\81\151}% U+016B
\% U+016C LATIN CAPITAL LETTER V WITH ACUTE; Vacute
\ DeclareTextCompositeCommand{\'}{PU}{V}{\81\152}% U+016C
\% U+016D LATIN SMALL LETTER V WITH ACUTE; vacute
\ DeclareTextCompositeCommand{\'}{PU}{v}{\81\153}% U+016D
\% U+016E LATIN CAPITAL LETTER V WITH CEDILLA; Vcommaaccent
\ DeclareTextCompositeCommand{\c}{PU}{V}{\81\154}% U+016E
\% U+016F LATIN SMALL LETTER V WITH CEDILLA; vcommaaccent
\ DeclareTextCompositeCommand{\c}{PU}{v}{\81\155}% U+016F
\% U+0170 LATIN CAPITAL LETTER V WITH CARON; Vcaron
\ DeclareTextCompositeCommand{\v}{PU}{V}{\81\156}% U+0170
\% U+0171 LATIN SMALL LETTER V WITH CARON; vcaron
\ DeclareTextCompositeCommand{\v}{PU}{v}{\81\157}% U+0171
\% U+0172 LATIN CAPITAL LETTER V PRECEDED BY APOSTROPHE; vapos
51.2.5 Latin Extended-B: \U+0180 to \U+024F

- \U+0181 LATIN SMALL LETTER B WITH STROKE; \textcrb (tipa)

- \U+01B0 LATIN SMALL LETTER L WITH DOT ABOVE; ldot, ldotasec
% U+0260 LATIN SMALL LETTER G WITH HOOK; ghook; \textthtg (tipa)
\DeclareTextCommand{\textthtg}{PU}{\82\140} % U+0260
%* \textthtg -> \hookg (wsuipa)
% U+0261 LATIN SMALL LETTER SCRIPT G; gscript;
% \textscriptg (tipa), \scriptg (wsuipa)
\DeclareTextCommand{\textscriptg}{PU}{\82\141} %* U+0261
%* \textscriptg -> \varg (phonetic)
% U+0262 LATIN LETTER SMALL CAPITAL G; \textscg (tipa), \scg (wsuipa)
\DeclareTextCommand{\textscg}{PU}{\82\142} %* U+0262
% U+0263 LATIN SMALL LETTER GAMMA; gammalatinsmall;
% \textipagamma (wsuipa), \vod (phonetic)
\DeclareTextCommand{\textipagamma}{PU}{\82\143} %* U+0263
%* \textipagamma -> \vod (pnonetic)
% U+0264 LATIN SMALL LETTER RAMS HORN; ramshorn;
% \babygamma (wsuipa)
\DeclareTextCommand{\textbabygamma}{PU}{\82\144} % U+0264
% U+0265 LATIN SMALL LETTER TURNED H; hturned; \textturnh (tipa)
\DeclareTextCommand{\textturnh}{PU}{\82\145} % U+0265
%* \textturnh -> \invh (wsuipa)
%* \textturnh -> \udesc (phonetic)
% U+0266 LATIN SMALL LETTER H WITH HOOK; hhook; \texthth (tipa)
\DeclareTextCommand{\texthth}{PU}{\82\146} % U+0266
%* \texthth -> \hookh (wsuipa)
%* \texthth -> \voicedh (phonetic)
% U+0267 LATIN SMALL LETTER HENG WITH HOOK; henghook; \texththeng (tipa)
\DeclareTextCommand{\texththeng}{PU}{\82\147} % U+0267
%* \texththeng -> \hookheng (wsuipa)
% U+0268 LATIN SMALL LETTER I WITH STROKE;
% \textbari (tipa), \bari (wsuipa)
\DeclareTextCommand{\textbari}{PU}{\82\150} %* U+0268
%* \textbari -> \ibar (phonetic)
% U+0269 LATIN SMALL LETTER IOTA; iota; \textniiota (wsuipa)
\DeclareTextCommand{\textniiota}{PU}{\82\151} %* U+0269
%* \textniiota -> \vari (phonetic)
% U+026A LATIN LETTER SMALL CAPITAL I; \textsci (tipa), \sci (wsuipa)
\DeclareTextCommand{\textsci}{PU}{\82\152} %* U+026A
% U+026B LATIN SMALL LETTER L WITH MIDDLE TILDE; lmiddletilde;
% \textltilde (tipa)
\DeclareTextCommand{\textltilde}{PU}{\82\153} % U+026B
%* \textltilde -> \tildel (wsuipa)
% U+026C LATIN SMALL LETTER L WITH RETROFLEX HOOK;
% \textrtaill (tipa)
\DeclareTextCommand{\textrtaill}{PU}{\82\154} % U+026C
%* \textrtaill -> \latfric (wsuipa)
% U+026D LATIN SMALL LETTER L WITH RETROFLEX HOOK;
% \hookr (tipa)
\Decla...
\DeclareTextCommand{\texthtq}{PU}{\82\240}% U+02A0
\% U+02A1 LATIN LETTER GLOTTAL STOP WITH STROKE; glottalstopstroke;
\% \textbarglotstop (tipa)
\DeclareTextCommand{\textbarglotstop}{PU}{\82\241}% U+02A1
\% U+02A2 LATIN LETTER REVERSED GLOTTAL STOP WITH STROKE/
\% latinletterreversedglottalstop; glottalstopstrokeversed;
\% \textbarrevglotstop (tipa)
\DeclareTextCommand{\textbarrevglotstop}{PU}{\82\242}% U+02A2
\% U+02A3 LATIN SMALL LETTER DZ DIGRAPH; dzaltone; \textdzlig (tipa)
\% * \textdzlig -> \dz (wsuipa)
\% U+02A4 LATIN SMALL LETTER DEZH DIGRAPH; dezh; \textdyoghlig (tipa)
\DeclareTextCommand{\textdyoghlig}{PU}{\82\244}% U+02A4
\% U+02A5 LATIN SMALL LETTER TS DIGRAPH; ts; \texttslig (tipa)
\% U+02A6 LATIN SMALL LETTER TESH DIGRAPH; tesh; \textteshlig (tipa)
\% * \textteshlig -> \tesh (wsuipa)
\% U+02A7 LATIN SMALL LETTER TC DIGRAPH WITH CURL; tccurl;
\% \texttctclig (tipa)
\% U+02A8 LATIN SMALL LETTER TURNED H WITH FISHHOOK;
\% \textlhtlongy (tipa)
\% U+02AF LATIN SMALL LETTER TURNED H WITH FISHHOOK AND TAIL;
\% \textvibyy (tipa)
\% U+02B0 MODIFIER LETTER REversed COMMA; commareversedmod, afii64937; \textrevapostrophe (tipa)
\% U+02C0 MODIFIER LETTER GLOTTAL STOP; glottalstopmod;
\% \textextraiseglotstop (tipa)
\% U+02C2 MODIFIER LETTER LEFT ARROWHEAD; arrowheadleftmod;
\% \textlptr (tipa)
\% U+02C3 MODIFIER LETTER RIGHT ARROWHEAD; arrowheadrightmod;
\% \textrptr (tipa)
\% U+02C7 CARON; caron
\% \textasciicaron (tipa)
\% U+02C8 MODIFIER LETTER LOW VERTICAL LINE; verticallinelowmod;
\% \textsecstress (tipa)
\% U+02C9 MODIFIER LETTER VERTICAL LINE; verticallinemod;
\% \textprimstress (tipa)
\% U+02CC MODIFIER LETTER LOW VERTICAL LINE; verticallinemod;
\% \textsecstress (tipa)
\% U+02C0 MODIFIER LETTER TURNED H WITH FISHHOOK;
\% \textlhtlongy (tipa)
\% U+02AF LATIN SMALL LETTER TURNED H WITH FISHHOOK AND TAIL;
\% \textvibyy (tipa)
\% U+02B0 MODIFIER LETTER REversed COMMA; commareversedmod, afii64937; \textrevapostrophe (tipa)
\% U+02C0 MODIFIER LETTER GLOTTAL STOP; glottalstopmod;
\% \textextraiseglotstop (tipa)
\% U+02C2 MODIFIER LETTER LEFT ARROWHEAD; arrowheadleftmod;
\% \textlptr (tipa)
\% U+02C3 MODIFIER LETTER RIGHT ARROWHEAD; arrowheadrightmod;
\% \textrptr (tipa)
\% U+02C7 CARON; caron
\% \textasciicaron (tipa)
\% U+02C8 MODIFIER LETTER LOW VERTICAL LINE; verticallinemod;
\% \textsecstress (tipa)
\% U+02CC MODIFIER LETTER LOW VERTICAL LINE; verticallinemod;
\% \textsecstress (tipa)
\% U+02C0 MODIFIER LETTER TURNED H WITH FISHHOOK;
\% \textlhtlongy (tipa)
\% U+02AF LATIN SMALL LETTER TURNED H WITH FISHHOOK AND TAIL;
\% \textvibyy (tipa)
\% U+02B0 MODIFIER LETTER REversed COMMA; commareversedmod, afii64937; \textrevapostrophe (tipa)
\% U+02C0 MODIFIER LETTER GLOTTAL STOP; glottalstopmod;
\% \textextraiseglotstop (tipa)
\% U+02C2 MODIFIER LETTER LEFT ARROWHEAD; arrowheadleftmod;
\% \textlptr (tipa)
\% U+02C3 MODIFIER LETTER RIGHT ARROWHEAD; arrowheadrightmod;
\% \textrptr (tipa)
\% U+02C7 CARON; caron
\% \textasciicaron (tipa)
\% U+02C8 MODIFIER LETTER LOW VERTICAL LINE; verticallinemod;
\% \textsecstress (tipa)
17179 \DeclareTextCommand{\textlengthmark}{PU}{\82\320}% U+02D0
17180 % U+02D1 MODIFIER LETTER HALF TRIANGULAR COLON; colontriangularhalfmod;
17181 % \texthalflength (tipa)
17182 \DeclareTextCommand{\texthalflength}{PU}{\82\321}% U+02D1
17183 % U+02D8 BREVE, breve
17184 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8
17185 % U+02D9 DOT ABOVE; dotaccent
17186 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9
17187 % U+02DA RING ABOVE; ring
17188 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA
17189 % U+02DB OGONEK; ogonek
17190 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB
17191 % U+02DC SMALL TILDE; ilde, *tilde
17192 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC
17193 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
17194 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD
17195 % U+02F3 MODIFIER LETTER LOW RING
17196 \DeclareTextCommand{\textringlow}{PU}{\82\363}% U+02F3
17197 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT
17198 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5
17199 % U+02F7 MODIFIER LETTER LOW TILDE
17200 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7
17201 % U+0300 to U+036F
17202 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
17203 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F
17204 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
17205 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311
17206 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
17207 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323
17208 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
17209 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331
17210 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
17211 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361
17212 % U+0370 to U+03FF
17213 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek
17214 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374
17215 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek
17216 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375
17217 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphatonos
17218 \DeclareTextCompositeCommand{\textAlpha}{\83\206}% U+0386
17219 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos
17220 \DeclareTextCompositeCommand{\textEpsilon}{\83\210}% U+0388
17221 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos
17222 \DeclareTextCompositeCommand{\textEta}{\83\211}% U+0389
17223 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos
17224 \DeclareTextCompositeCommand{\textIota}{\83\212}% U+038A
17225 % U+038C GREEK CAPITAL LETTEROMICRON WITH TONOS; Omicrontonos
17226
51.2.8 Combining Diacritical Marks: U+0300 to U+036F
51.2.9 Greek and Coptic: U+0370 to U+03FF
\DeclareTextCommand{\texttau}{PU}{\83\304}% U+03C4
\% U+03C5 GREEK SMALL LETTER UPSILON; upsilon; \upsilon (LaTeX)
\DeclareTextCommand{\textupsilon}{PU}{\83\305}% U+03C5
\% U+03C6 GREEK SMALL LETTER PHI; phi; \phi (LaTeX)
\DeclareTextCommand{\textphi}{PU}{\83\306}% U+03C6
\% U+03C7 GREEK SMALL LETTER CHI; chi; \chi (LaTeX)
\DeclareTextCommand{\textchi}{PU}{\83\307}% U+03C7
\% U+03C8 GREEK SMALL LETTER PSI; psi; \psi (LaTeX)
\DeclareTextCommand{\textpsi}{PU}{\83\310}% U+03C8
\% U+03C9 GREEK SMALL LETTER OMEGA; omega; \omega (LaTeX)
\DeclareTextCommand{\textomega}{PU}{\83\311}% U+03C9
\% U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis
\DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA
\% U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; upsilondieresis
\DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB
\% U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos
\DeclareTextCompositeCommand{\'}{PU}{\textomicron}{\83\314}% U+03CC
\% U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos
\DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD
\%* \textupsilonacute -> \digamma (AmS)
\% U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos
\DeclareTextCompositeCommand{\'}{PU}{\textomega}{\83\316}% U+03CE
\% U+03DA GREEK LETTER STIGMA; Stigmagreek
\DeclareTextCommand{\textStigmagreek}{PU}{\83\317}% U+03DA
\% U+03DB GREEK SMALL LETTER STIGMA
\DeclareTextCommand{\textstigmagreek}{PU}{\83\318}% U+03DB
\% U+03DC GREEK LETTER DIGAMMA; Digammagreek
\DeclareTextCommand{\textDigammagreek}{PU}{\83\319}% U+03DC
\% U+03DD GREEK SMALL LETTER DIGAMMA
\DeclareTextCommand{\textdigammagreek}{PU}{\83\320}% U+03DD
\%* \textdigammagreek -> \digamma (AmS)
\% U+03DE GREEK LETTER KOPPA; Koppagreek
\DeclareTextCommand{\textKoppagreek}{PU}{\83\321}% U+03DE
\% U+03DF GREEK SMALL LETTER KOPPA
\DeclareTextCommand{\textkoppagreek}{PU}{\83\322}% U+03DF
\% U+03E0 GREEK SMALL LETTER SAMPI; Sampigreek
\DeclareTextCommand{\textSampigreek}{PU}{\83\323}% U+03E0
\% U+03E1 GREEK SMALL LETTER SAMPI
\DeclareTextCommand{\textsampigreek}{PU}{\83\324}% U+03E1
\% U+03F6 GREEK REVERSED LUNATE EPSILON SYMBOL;
\% \backepsilon (AmS)
\\backepsilon
\% U+03F6 GREEK SMALL LETTER SAMPI
\\backepsilon
\% U+0400 to U+04FF
51.2.10 Cyrillic: U+0400 to U+04FF

Thanks to Vladimir Volovich (vvv@vvv.vsu.ru) for the help with the Cyrillic glyph
names.
\% U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
\% U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
\% U+0401 CYRILLIC CAPITAL LETTER IO; iocyrillic, *afi10023
\% U+0401 CYRILLIC CAPITAL LETTER IO; iocyrillic, *afi10023
\%* U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, *afi10051
\% U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, *afi10051
\% U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, *afi10052
\% U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, *afi10052
\% U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Eyecyrillic, *afi10053
\% U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Eyecyrillic, *afi10053
51.2.11 Hebrew: U+0590 to U+05FF

Macro names are taken from he8enc.def.
51.2.12 Thai: \textbaht \hspace{1em} U+0E00 to U+0E7F
51.2.13 Phonetic Extensions: U+1D00 to U+1D7F
% U+1D67 GREEK SUBSCRIPT SMALL LETTER GAMMA
\DeclareTextCommand{\textgammainferior}{PU}{\9035\147} %* U+1D67
% U+1D68 GREEK SUBSCRIPT SMALL LETTER RHO
\DeclareTextCommand{\textrhoinferior}{PU}{\9035\150} %* U+1D68
% U+1D69 GREEK SUBSCRIPT SMALL LETTER PHI
\DeclareTextCommand{\textphiinferior}{PU}{\9035\151} %* U+1D69
% U+1D6A GREEK SUBSCRIPT SMALL LETTER CHI
\DeclareTextCommand{\textchiinferior}{PU}{\9035\152} %* U+1D6A
% U+1D7B LATIN SMALL CAPITAL LETTER I WITH STROKE; \barsci (wsuipa)
\DeclareTextCommand{\textbarsci}{PU}{\9035\173} %* U+1D7B
% U+1D7D LATIN SMALL LETTER P WITH STROKE; \barp (wsuipa)
\DeclareTextCommand{\textbarp}{PU}{\9035\175} %* U+1D7D
% U+1D7E LATIN SMALL CAPITAL LETTER U WITH STROKE;
% \barscu (wsuipa)
\DeclareTextCommand{\textbarscu}{PU}{\9035\176} %* U+1D7E
51.2.14 Phonetic Extensions Supplement: U+1D80 to U+1DBF
% U+1D8F LATIN SMALL LETTER A WITH RETROFLEX HOOK; \textrhooka (tipx)
\DeclareTextCommand{\textPUrhooka}{PU}{\9035\217} % U+1D8F
% U+1D91 LATIN SMALL LETTER D WITH HOOK AND TAIL; \textxhrtaild (tipx)
\DeclareTextCommand{\textxhrtaild}{PU}{\9035\221} %* U+1D91
% U+1D92 LATIN SMALL LETTER E WITH RETROFLEX HOOK; \textrhookoe (tipx)
\DeclareTextCommand{\textPUrhookoe}{PU}{\9035\222} %* U+1D92
% U+1D93 LATIN SMALL LETTER OPEN E WITH RETROFLEX HOOK;
% \textxhrhookoe (tipx)
\DeclareTextCommand{\textxhrhookoe}{PU}{\9035\223} %* U+1D93
% U+1D97 LATIN SMALL LETTER OPEN O WITH RETROFLEX HOOK;
% \textxhrhookopeno (tipx)
\DeclareTextCommand{\textxhrhookopeno}{PU}{\9035\227} %* U+1D97
51.2.15 Latin Extended Additional: U+1E00 to U+1EFF
% U+1E00 LATIN CAPITAL LETTER A WITH RING BELOW; Aringbelow
\DeclareTextCompositeCommand{\textsubring}{PU}{A}\9036\000 % U+1E00
% U+1E01 LATIN SMALL LETTER A WITH RING BELOW; aringbelow
\DeclareTextCompositeCommand{\textsubring}{PU}{a}\9036\001 % U+1E01
% U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent
\DeclareTextCompositeCommand{\textsubring}{PU}{B}\9036\002 % U+1E02
% U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent
\DeclareTextCompositeCommand{\textsubring}{PU}{b}\9036\003 % U+1E03
% U+1E04 LATIN CAPITAL LETTER B WITH DOT BELOW; Bdotbelow
\DeclareTextCompositeCommand{\textsubring}{PU}{B}\9036\004 % U+1E04
% U+1E05 LATIN SMALL LETTER B WITH DOT BELOW; bdotbelow
\DeclareTextCompositeCommand{\textsubring}{PU}{b}\9036\005 % U+1E05
% U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow
\DeclareTextCompositeCommand{\textsubring}{PU}{B}\9036\006 % U+1E06
% U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow
\DeclareTextCompositeCommand{\textsubring}{PU}{b}\9036\007 % U+1E07
% U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent
\DeclareTextCompositeCommand{\textsubring}{PU}{D}\9036\012 % U+1E0A
\texttt{\textbackslash DeclareTextCompositeCommand\{(d)\{PU\}\{h\}\{9036\045\}\% U+1E25}
\texttt{\textsubstitute% U+1E26 LATIN CAPITAL LETTER H WITH DIACRISIS; Hdiacritical}
\texttt{\textsubstitute% U+1E27 LATIN SMALL LETTER H WITH DIACRISIS; hdiacritical}
\texttt{\textsubstitute% U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla}
\texttt{\textsubstitute% U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla}
\texttt{\textsubstitute% U+1E2A LATIN CAPITAL LETTER H WITH BREVE BELOW; Hbrevebelow}
\texttt{\textsubstitute% U+1E2B LATIN SMALL LETTER H WITH BREVE BELOW; hbrevebelow}
\texttt{\textsubstitute% U+1E2C LATIN CAPITAL LETTER I WITH TILDE BELOW; Itildebelow}
\texttt{\textsubstitute% U+1E2D LATIN SMALL LETTER I WITH TILDE BELOW; itildebelow}
\texttt{\textsubstitute% U+1E2E LATIN CAPITAL LETTER K WITH ACUTE; Kacute}
\texttt{\textsubstitute% U+1E2F LATIN SMALL LETTER K WITH ACUTE; kacute}
\texttt{\textsubstitute% U+1E30 LATIN CAPITAL LETTER L WITH DOT BELOW; Ldotbelow}
\texttt{\textsubstitute% U+1E31 LATIN SMALL LETTER L WITH DOT BELOW; ldotbelow}
\texttt{\textsubstitute% U+1E32 LATIN CAPITAL LETTER L WITH CIRCUMFLEX BELOW; Lcircumflexbelow}
\texttt{\textsubstitute% U+1E33 LATIN SMALL LETTER L WITH CIRCUMFLEX BELOW; lcircumflexbelow}
% U+1E88 LATIN CAPITAL LETTER W WITH DOT BELOW; wdotbelow
\DeclareTextCompositeCommand{\d}{PU}{W}{\9036\210}\% U+1E88
% U+1E89 LATIN SMALL LETTER W WITH DOT BELOW; wdotbelow
\DeclareTextCompositeCommand{\d}{PU}{w}{\9036\211}\% U+1E89
% U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; xdotaccent
\DeclareTextCompositeCommand{\d}{PU}{X}{\9036\212}\% U+1E8A
% U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent
\DeclareTextCompositeCommand{\d}{PU}{x}{\9036\213}\% U+1E8B
% U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis
\DeclareTextCompositeCommand{"}{PU}{X}{\9036\214}\% U+1E8C
% U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis
\DeclareTextCompositeCommand{"}{PU}{x}{\9036\215}\% U+1E8D
% U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; ydotaccent
\DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\216}\% U+1E8E
% U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent
\DeclareTextCompositeCommand{\d}{PU}{y}{\9036\217}\% U+1E8F
% U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; zcircumflex
\DeclareTextCompositeCommand{"}{PU}{Z}{\9036\220}\% U+1E90
% U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex
\DeclareTextCompositeCommand{\d}{PU}{z}{\9036\221}\% U+1E91
% U+1E92 LATIN CAPITAL LETTER Z WITH DOT BELOW; zdotbelow
\DeclareTextCompositeCommand{\d}{PU}{Z}{\9036\222}\% U+1E92
% U+1E93 LATIN SMALL LETTER Z WITH DOT BELOW; zdotbelow
\DeclareTextCompositeCommand{\d}{PU}{z}{\9036\223}\% U+1E93
% U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow
\DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}\% U+1E94
% U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; Zlinebelow
\DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}\% U+1E95
% U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow
\DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}\% U+1E96
% U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis
\DeclareTextCompositeCommand{"}{PU}{t}{\9036\227}\% U+1E97
% U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring
\DeclareTextCompositeCommand{\r}{PU}{w}{\9036\228}\% U+1E98
% U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring
\DeclareTextCompositeCommand{\r}{PU}{y}{\9036\229}\% U+1E99
% U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdotaccent
\DeclareTextCompositeCommand{\d}{PU}{\textlongs}{\9036\233}\% U+1E9B
% U+1E9A0 LATIN CAPITAL LETTER A WITH DOT BELOW; Adotbelow
\DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}\% U+1E9A0
% U+1E9A1 LATIN SMALL LETTER A WITH DOT BELOW; adotbelow
\DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}\% U+1E9A1
% U+1E88 LATIN CAPITAL LETTER E WITH DOT BELOW; Edotbelow
\DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}\% U+1E88
% U+1E89 LATIN SMALL LETTER E WITH DOT BELOW; edotbelow
\DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}\% U+1E89
% U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde
\DeclareTextCompositeCommand{\d}{PU}{\texttilde}{\9036\274}\% U+1EBC
% U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde
\DeclareTextCompositeCommand{\d}{PU}{\texttilde}{\9036\275}\% U+1EBD
% U+1ECA LATIN CAPITAL LETTER I WITH DOT BELOW; Idotbelow
\DeclareTextCompositeCommand{\d}{PU}{i}{\9036\312}\% U+1ECA
% U+1ECA LATIN SMALL LETTER I WITH DOT BELOW; idotbelow
\DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}\% U+1ECA
% U+1ECC LATIN CAPITAL LETTER O WITH DOT BELOW; Odotbelow
\DeclareTextCompositeCommand{\d}{PU}{\textdotbelow}{\9036\314}\% U+1ECC
51.2.16 General Punctuation: U+2000 to U+206F

<table>
<thead>
<tr>
<th>Unicode</th>
<th>Name</th>
<th>Command</th>
</tr>
</thead>
<tbody>
<tr>
<td>U+200C</td>
<td>Zero Width Non-Joiner</td>
<td>\textcompwordmark{}</td>
</tr>
<tr>
<td>U+2013</td>
<td>En Dash</td>
<td>\textendash{}</td>
</tr>
<tr>
<td>U+2014</td>
<td>Em Dash</td>
<td>\textemdash{}</td>
</tr>
<tr>
<td>U+2016</td>
<td>Double Vertical Line</td>
<td>\textbardbl{}</td>
</tr>
<tr>
<td>U+2018</td>
<td>Right Single Quotation Mark</td>
<td>\textquoteleft{}</td>
</tr>
<tr>
<td>U+2019</td>
<td>Left Single Quotation Mark</td>
<td>\textquoteright{}</td>
</tr>
<tr>
<td>U+201A</td>
<td>Single Low-9 Quotation Mark</td>
<td>\textquotesingle{}</td>
</tr>
<tr>
<td>U+201C</td>
<td>Left Double Quotation Mark</td>
<td>\textquotedblleft{}</td>
</tr>
<tr>
<td>U+201D</td>
<td>Right Double Quotation Mark</td>
<td>\textquotedblright{}</td>
</tr>
<tr>
<td>U+201E</td>
<td>Double Low-9 Quotation Mark</td>
<td>\textdoublequote{}</td>
</tr>
<tr>
<td>U+2020</td>
<td>Dagger</td>
<td>\textdagger{}</td>
</tr>
<tr>
<td>U+2021</td>
<td>Double Dagger</td>
<td>\textdaggerdbl{}</td>
</tr>
<tr>
<td>U+2022</td>
<td>Bullet</td>
<td>\textbullet{}</td>
</tr>
<tr>
<td>U+2025</td>
<td>Two Dot Leader</td>
<td>\textdtr{}</td>
</tr>
<tr>
<td>U+2026</td>
<td>Horizontal Ellipsis</td>
<td>\textellipsis{}</td>
</tr>
<tr>
<td>U+2027</td>
<td>Math Ellipsis</td>
<td>\textmathellipsis{}</td>
</tr>
<tr>
<td>U+2030</td>
<td>Per Mille Sign</td>
<td>\textperthousand{}</td>
</tr>
</tbody>
</table>

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18374 % U+2031 PER TEN THOUSAND SIGN
18375 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061} % U+2031
18376 % U+2032 PRIME; minute; \prime (MnSymbol)
18377 \DeclareTextCommand{\textprime}{PU}{\9040\062} %* U+2032
18378 % U+2033 DOUBLE PRIME; \second (mathabx)
18379 \DeclareTextCommand{\textsecond}{PU}{\9040\063} %* U+2033
18380 % U+2034 TRIPLE PRIME; \third (mathabx)
18381 \DeclareTextCommand{\textthird}{PU}{\9040\064} %* U+2034
18382 % U+2035 REVERSED PRIME; \backprime (AmS)
18383 \DeclareTextCommand{\textbackprime}{PU}{\9040\065} %* U+2035
18384 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guillemotleft
18385 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071} % U+2039
18386 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guillemotright
18387 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072} % U+203A
18388 % U+203B REFERENCE MARK; referencemark
18389 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073} % U+203B
18390 % U+203D INTERROBANG
18391 \DeclareTextCommand{\textinterrobang}{PU}{\9040\126} %* U+203D
18392 % U+2052 COMMERCIAL MINUS SIGN
18393 \DeclareTextCommand{\textdiscount}{PU}{\9040\122} % U+2052
18394 % U+2056 THREE DOT PUNCTUATION; \lefttherefore (MnSymbol)
18395 \DeclareTextCommand{\textlefttherefore}{PU}{\9040\126} %* U+2056
18396 % U+2057 QUADRUPLE PRIME; \fourth (mathabx)
18397 \DeclareTextCommand{\textfourth}{PU}{\9040\127} %* U+2057
18398 % U+2058 FOUR DOT PUNCTUATION; \diamonddots (MnSymbol)
18399 \DeclareTextCommand{\textdiamonddots}{PU}{\9040\130} %* U+2058
18400 \section*{51.2.17 Superscripts and Subscripts: U+2070 to U+209F}
18401 % U+2070 SUPERSCRIPT ZERO; zerosuperior
18402 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160} %* U+2070
18403 % U+2071 SUPERSCRIPT LATIN SMALL LETTER I
18404 \DeclareTextCommand{\textisuperior}{PU}{\9040\161} %* U+2071
18405 % U+2074 SUPERSCRIPT FOUR; foursuperior
18406 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164} %* U+2074
18407 % U+2075 SUPERSCRIPT FIVE; fivesuperior
18408 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165} %* U+2075
18409 % U+2076 SUPERSCRIPT SIX; sixsuperior
18410 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166} %* U+2076
18411 % U+2077 SUPERSCRIPT SEVEN; sevensuperior
18412 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167} %* U+2077
18413 % U+2078 SUPERSCRIPT EIGHT; eightsuperior
18414 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170} %* U+2078
18415 % U+2079 SUPERSCRIPT NINE; ninsuperior
18416 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171} %* U+2079
18417 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior
18418 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172} %* U+207A
18419 % U+207B SUPERSCRIPT MINUS
18420 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173} %* U+207B
18421 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior

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51.2.18 Currency Symbols: U+20A0 to U+20CF

% U+20A1 COLON SIGN; *colonmonetary, colonsign
\DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}

% U+20A4 LIRA SIGN; afii08941, *lira
\DeclareTextCommand{\textlira}{PU}{\9040\244}

% U+20A6 NAIRA SIGN
\DeclareTextCommand{\textnaira}{PU}{\9040\246}

% U+20A7 PESETA SIGN; peseta
\DeclareTextCommand{\textpeseta}{PU}{\9040\247}

% U+20A9 WON SIGN; won
\DeclareTextCommand{\textwon}{PU}{\9040\251}

% U+20AB DONG SIGN; dong
\DeclareTextCommand{\textdong}{PU}{\9040\253}

% U+20AC EURO SIGN; *Euro, euro
\DeclareTextCommand{\texteuro}{PU}{\9040\254}

%* \texteuro -> \EurDig (marvosym)
%* \texteuro -> \EURdig (marvosym)
%* \texteuro -> \EurHv (marvosym)
%* \texteuro -> \EURhv (marvosym)
%* \texteuro -> \EurCr (marvosym)
%* \texteuro -> \EURcr (marvosym)
%* \texteuro -> \EurTm (marvosym)
%* \texteuro -> \EURtm (marvosym)
%* \texteuro -> \Eur (marvosym)

% U+20B0 GERMAN PENNY SIGN; \Deleatur (marvosym)
\DeclareTextCommand{\textDeleatur}{PU}{\9040\260}

%* \textDeleatur -> \Denarius (marvosym)
% U+20B1 PESO SIGN
\DeclareTextCommand{\textpeso}{PU}{\9040\261}

% U+20B2 GUARANI SIGN
\DeclareTextCommand{\textguarani}{PU}{\9040\262}

51.2.19 Letterlike Symbols: U+2100 to U+214F

% U+2103 DEGREE CELSIUS; centigrade
\DeclareTextCommand{\textcelsius}{PU}{\9041\003}

% U+210F PLANCK CONSTANT OVER TWO PI; \hslash (AmS)
\DeclareTextCommand{\texthslash}{PU}{\9041\017}

% U+2111 BLACK-LETTER CAPITAL I (=imaginary part); Ifraktur; \Im (LaTeX)
\DeclareTextCommand{\textIm}{PU}{\9041\021}

% U+211C BLACK-LETTER CAPITAL R (=real part); Rfraktur; \Re (LaTeX)
\DeclareTextCommand{\textRe}{PU}{\9041\030}

% U+211E SCRIPT SMALL L (=ell, liter); afii61289, lsquare; \ell (LaTeX)
\DeclareTextCommand{\textell}{PU}{\9041\023}

% U+211F NUMERO SIGN; *afii61352, numero
\DeclareTextCommand{\textnumero}{PU}{\9041\026}

% U+2121 SOUND RECORDING COPYRIGHT
\DeclareTextCommand{\textcircledP}{PU}{\9041\027}

% U+2126 SCRIPT CAPITAL P (=Weierstrass elliptic function);
weierstrass; \wp (LaTeX)
\DeclareTextCommand{\textwp}{PU}{\9041\028}

% U+2129 SCRIPT SMALL P (=ell, liter); afii61352, numero
\DeclareTextCommand{\textell}{PU}{\9041\032}

% U+2132 SCRIPT SMALL S (=ell, liter); afii61352, numero
\DeclareTextCommand{\textell}{PU}{\9041\033}

% U+2135 SCRIPT SMALL T (=ell, liter); afii61352, numero
\DeclareTextCommand{\textell}{PU}{\9041\034}

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51.2.21 Arrows: U+2190 to U+21FF

51.2.21.1 Arrows: U+2190 to U+2199

51.2.21.2 Arrows: U+219A to U+219E

51.2.21.3 Arrows: U+219F to U+21FF
\DeclareTextCommand{\texttwoheadrightarrow}{PU}{\9041\240}%* U+21A0 
\ntwoheadrightarrow (txfonts/pxfonts)
\DeclareTextCommand{\textntwoheadrightarrow}{PU}{\9041\240\83\070}%*U+21A0U+0338
\U+21A1 DOWNWARDS TWO HEADED ARROW; \twoheaddownarrow (MnSymbol)
\DeclareTextCommand{\texttwoheaddownarrow}{PU}{\9041\241}%* U+21A1
\U+21A2 LEFTWARDS ARROW WITH TAIL; \leftarrowtail (AmS)
\DeclareTextCommand{\textrightarrowtail}{PU}{\9041\243}%* U+21A3
\U+21A6 RIGHTWARDS ARROW FROM BAR; \mapsto (LaTeX)
\DeclareTextCommand{\textmapsto}{PU}{\9041\246}%* U+21A6
\U+21A9 LEFTWARDS ARROW WITH HOOK; \hookleftarrow (LaTeX)
\DeclareTextCommand{\texthookleftarrow}{PU}{\9041\251}%* U+21A9
\U+21AA RIGHTWARDS ARROW WITH HOOK; \hookrightarrow (LaTeX)
\DeclareTextCommand{\texthookrightarrow}{PU}{\9041\252}%* U+21AA
\U+21AB LEFTWARDS ARROW WITH LOOP; \looparrowleft (AmS)
\DeclareTextCommand{\textlooparrowleft}{PU}{\9041\253}%* U+21AB
\U+21AC RIGHTWARDS ARROW WITH LOOP; \looparrowright (AmS)
\DeclareTextCommand{\textlooparrowright}{PU}{\9041\254}%* U+21AC
\U+21AE LEFT RIGHT ARROW WITH STROKE; \nleftrightarrow (AmS)
\DeclareTextCommand{\textnleftrightarrow}{PU}{\9041\256}%* U+21AE
\U+21AF DOWNWARDS ZIGZAG ARROW; \lightning (stmaryrd)
\DeclareTextCommand{\textlightning}{PU}{\9041\257}%* U+21AF
\U+21B0 \textlightning -> \Lightning (marvosym)
\U+21B5 DOWNWARDS ARROW WITH CORNER LEFTWARDS;
\dlsh (mathabx)
\DeclareTextCommand{\textdlsh}{PU}{\9041\265}%* U+21B5
\U+21B6 ANTICLOCKWISE TOP SEMICIRCLE ARROW;
\curvearrowleft (AmS)
\DeclareTextCommand{\textcurvearrowleft}{PU}{\9041\266}%* U+21B6
\U+21B7 CLOCKWISE TOP SEMICIRCLE ARROW; \curvearrowright (AmS)
\DeclareTextCommand{\textcurvearrowright}{PU}{\9041\267}%* U+21B7
\U+21BC LEFTWARDS HARPOON WITH BARB UPWARDS; harpoonleft-
barbup;
\DeclareTextCommand{\textleftharpoonup}{PU}{\9041\274}%* U+21BC
\U+21BD LEFTWARDS HARPOON WITH BARB DOWNWARDS;
\leftharpoondown (LaTeX)
\DeclareTextCommand{\textleftharpoondown}{PU}{\9041\275}%* U+21BD
\U+21BE UPWARDS HARPOON WITH BARB RIGHTWARDS;
\upharpoonright (AmS)
\DeclareTextCommand{\textupharpoonright}{PU}{\9041\276}%* U+21BE
\U+21BF UPWARDS HARPOON WITH BARB LEFTWARDS;
\upharpoonleft (AmS)
\DeclareTextCommand{\textupharpoonleft}{PU}{\9041\277}%* U+21BF
\U+21C0 RIGHTWARDS HARPOON WITH BARB UPWARDS; harpoonright-
barbup
\rightleftharpoons (LaTeX)
\DeclareTextCommand{\textleftharpoonup}{PU}{\9041\300}%* U+21C0
\U+21C1 RIGHTWARDS HARPOON WITH BARB DOWNWARDS;
\leftharpoondown (LaTeX)
\DeclareTextCommand{\textleftharpoondown}{PU}{\9041\301}%* U+21C1
\U+21C2 DOWNWARDS HARPOON WITH BARB RIGHTWARDS;
\downharpoonright (AmS)
\DeclareTextCommand{\textdownharpoonright}{PU}{\9041\302}%* U+21C2
\U+21C3 DOWNWARDS HARPOON WITH BARB LEFTWARDS;
% U+21D6 NORTH EAST DOUBLE ARROW; \Nwarrow (MnSymbol)
% U+21D7 SOUTH EAST DOUBLE ARROW; \Nwarrow (MnSymbol)
% U+21D8 SOUTH WEST DOUBLE ARROW; \Nwarrow (MnSymbol)
% U+21D9 NORTH WEST DOUBLE ARROW; \Nwarrow (MnSymbol)
% U+21DA LEFTWARDS TRIPLE ARROW; \Lleftarrow (AmS)
% U+21DB RIGHTWARDS TRIPLE ARROW; \Rrightarrow (MnSymbol)
% U+21DC LEFTWARDS SQUIGGLE ARROW; \leftsquigarrow (mathabx)
% U+21DD RIGHTWARDS SQUIGGLE ARROW; \rightsquigarrow (mathabx)
% U+21E0 LEFTWARDS DASHED ARROW; arrowdashleft;
%* \textdashleftarrow (MnSymbol)
% U+21E1 UPWARDS DASHED ARROW; arrowdashup; \dasheduparrow (MnSymbol)
% U+21E2 RIGHTWARDS DASHED ARROW; arrowdashright; \dashrightarrow (AmS)
% U+21E3 DOWNWARDS DASHED ARROW; arrowdashdown; \dasheddownarrow (MnSymbol)
% U+21E8 RIGHTWARDS WHITE ARROW; \pointer (wasymsym)
% U+21F5 DOWNWARDS ARROW LEFTWARDS OF UPWARDS ARROW; \downuparrows (MnSymbol)
% U+21FF LEFT RIGHT OPEN-HEADED ARROW; \leftrightarrowtriangle (stmaryrd)
51.2.22 Mathematical Operators: U+2200 to U+22FF
% U+2200 FOR ALL; forall; \forall (LaTeX)
% U+2201 COMPLEMENT; \complement (AmS)
% U+2202 PARTIAL DIFFERENTIAL; partialdiff; \partial (LaTeX)
% U+2203 THERE EXISTS; existential; \exists (LaTeX)
% U+2204 THERE DOES NOT EXIST; \nexists (AmS)
% U+2205 EMPTY SET; emptyset, \emptyset (LaTeX), \varnothing (AmS)
% U+2206 INCREMENT; increment, Delta, \triangle (LaTeX)
18971 % U+2250 APPROACHES THE LIMIT; approaches; \doteq (LaTeX)
18972 DeclareTextCommand(\textdoteq){\{\9042\120\}%* U+2250
18973 % \ndoteq (MnSymbol)
18974 DeclareTextCommand(\textndoteq){\{\9042\120\83\070\}%* U+2250
18976 % \Doteq (MnSymbol)
18977 DeclareTextCommand(\textDoteq){\{\9042\121\}%* U+2251
18978 % \textDoteq -> \Doteq (MnSymbol)
18979 % \textnDoteq (MnSymbol)
18980 DeclareTextCommand(\textnDoteq){\{\9042\121\83\070\}%* U+2251
18981 % U+2252 APPROXIMATELY EQUAL TO OR THE IMAGE OF; approximag;
18982 % \fallingdoteq (AmS)
18983 DeclareTextCommand(\textfallingdoteq){\{\9042\122\}%* U+2252
18984 % \textfallingdoteq -> \fallingdoteq (MnSymbol)
18985 % \textnfallingdoteq (MnSymbol)
18986 % U+2253 IMAGE OF OR APPROXIMATELY EQUAL TO; imageorapproximately;
18987 % \textcirc (AmS)
18988 DeclareTextCommand(\textcirc){\{\9042\126\}%* U+2253
18989 % \textneq (MnSymbol)
18990 DeclareTextCommand(\textneq){\{\9042\126\83\070\}%* U+2253
18991 % U+2254 COLON EQUALS; \eqcirc (AmS)
18992 DeclareTextCommand(\texteqcirc){\{\9042\126\}%* U+2254
18993 % \textneq (MnSymbol)
18994 DeclareTextCommand(\textneq){\{\9042\126\83\070\}%* U+2254
18995 % U+2255 EQUIVALENT TO; \eqcirc (AmS)
18996 % \eqcirc (AmS)
18997 % % U+2256 RING IN EQUAL TO; \circ (AmS)
18998 % \textcirc (MnSymbol)
18999 DeclareTextCommand(\textcirc){\{\9042\127\}%* U+2256
19000 % \textcirc (MnSymbol)
19001 DeclareTextCommand(\textcirc){\{\9042\127\83\070\}%* U+2256
19002 % U+2259 ESTIMATES; \hateq (MnSymbol)
19003 DeclareTextCommand(\texthateq){\{\9042\131\}%* U+2259
19004 % \texthateq (MnSymbol)
19005 DeclareTextCommand(\texthateq){\{\9042\131\83\070\}%* U+2259
19006 % \texthateq (MnSymbol)
19007 DeclareTextCommand(\texthateq){\{\9042\131\83\070\}%* U+2259
19009 % U+225A NOT LESS-THAN OR EQUAL TO; \leq (LaTeX)
19010 DeclareTextCommand(\textleq){\{\9042\141\}%* U+225A
19011 % \textleq (MnSymbol)
19012 DeclareTextCommand(\textleq){\{\9042\141\83\070\}%* U+225A
19013 % \textleq (MnSymbol)
19014 % U+225B IDENTICAL TO; equivalence; \equiv (LaTeX)
19016 DeclareTextCommand(\textequiv){\{\9042\141\}%* U+225B
19017 % \textequiv (MnSymbol)
19018 DeclareTextCommand(\textequiv){\{\9042\141\83\070\}%* U+225B
19019 % U+225C NOT LESS-THAN OR EQUAL TO; \leq (LaTeX)
19020 DeclareTextCommand(\textleq){\{\9042\141\}%* U+225C
19021 % \textleq (MnSymbol)
19022 DeclareTextCommand(\textleq){\{\9042\141\83\070\}%* U+225C
395
\text\n\% U+2279 NEITHER GREATER-THEAN NOR LESS-THEAN; \\textnlessgtr (tx-fonts/pxfonts)
\% U+227A PRECEDES; \\textprec (LaTeX)
\% U+227B SUCCEEDS; \\textsucc (LaTeX)
\% U+227C PRECEDES OR EQUAL TO; \\textpreccurlyeq (AmS)
\% U+227D SUCCEEDS OR EQUAL TO; \\textsucccurlyeq (AmS)
\% U+227E PRECEDES OR EQUIVALENT TO; \\textprecsim (AmS)
\% U+227F SUCCEEDS OR EQUIVALENT TO; \\textsuccsim (AmS)
\% U+2280 DOES NOT PRECEDE; notprecedes; \\textnprec (AmS)
\% U+2281 DOES NOT SUCCEED; notsucceeds; \\textnsucc (AmS)
\% U+2282 SUBSET OF; propersubset; \\textsubset (LaTeX)
\% U+2283 SUPERSET OF; propersuperset; \\textsupset (LaTeX)
\% U+2284 NOT A SUBSET OF; notsubset; \\textnsubset (mathabx)
\% U+2285 NOT A SUPERSET OF; notsuperset; \\textnsupset (mathabx)
\% U+2286 SUBSET OF OR EQUAL TO; reflexsubset; \\textsubseteq (LaTeX)
\% U+2287 SUPERSET OF OR EQUAL TO; reflexsuperset; \\textsupseteq (LaTeX)
\% U+2288 NEITHER A SUBSET OF NOR EQUAL TO; \\textnsubseteq (AmS)
\% U+2289 NEITHER A SUPERSET OF NOR EQUAL TO; \\textnsupseteq (AmS)
\% U+228A SUBSET OF WITH NOT EQUAL TO; subsetnoteq; \\textsubsetneq (AmS)
\% U+228B SUPERSET OF WITH NOT EQUAL TO; supersetnoteq; \\textsupsetneq (AmS)
\% U+228C MULTISET MULTIPLICATION; \\textcupdot (MnSymbol)
\% U+228D MULTISET UNION; \\textcupplus (MnSymbol)
\% U+228F SQUARE IMAGE OF; \\textsqsubset (latexsym, ...)
\% U+2290 SQUARE ORIGINAL OF; \\textsqsupset (latexsym, ...)
\% U+2291 SQUARE IMAGE OF OR EQUAL TO; \\textsqsubseteq (latexsym, ...)
\% U+2292 SQUARE ORIGINAL OF OR EQUAL TO; \\textsqsupseteq (latexsym, ...)
\% U+2293 SQUARE IMAGE OF OR NOT EQUAL TO; \\textnsqsubset (txfonts/pxfonts)
\% U+2294 SQUARE ORIGINAL OF OR NOT EQUAL TO; \\textnsqsupset (txfonts/pxfonts)
\DeclareTextCommand{\textlesseqgtr}{PU}{\9042\332}%* U+22DA
\% U+22DB GREATER-THAN EQUAL TO OR LESS-THAN; greaterequalorless;
\% \gtrless (AmS)
\DeclareTextCommand{\textgtrless}{PU}{\9042\333}%* U+22DB
\% U+22DE EQUAL TO OR PRECEDES; \curlyeqprec (MnSymbol)
\DeclareTextCommand{\textcurlyeqprec}{PU}{\9042\336}%* U+22DE
\% \ncurlyeqprec (mathabx)
\DeclareTextCommand{\textncurlyeqprec}{PU}{\9042\336\83\070}%*U+22DEU+0338
\% U+22DF EQUAL TO OR SUCCEEDS; \curlyeqsucc (MnSymbol)
\DeclareTextCommand{\textcurlyeqsucc}{PU}{\9042\337}%* U+22DF
\% \ncurlyeqsucc (mathabx)
\DeclareTextCommand{\textncurlyeqsucc}{PU}{\9042\337\83\070}%*U+22DFU+0338
\% U+22E0 DOES NOT PRECEDE OR EQUAL; \npreccurlyeq (txfonts/pffonts)
\DeclareTextCommand{\textnpreccurlyeq}{PU}{\9042\340}%* U+22E0
\% U+22E1 DOES NOT SUCCEED OR EQUAL; \nsucccurlyeq (txfonts/pffonts)
\DeclareTextCommand{\textnsucccurlyeq}{PU}{\9042\341}%* U+22E1
\% U+22E2 NOT SQUARE IMAGE OF OR EQUAL TO; \nsqsubseteq (txfonts/pffonts)
\DeclareTextCommand{\textnqsubseteq}{PU}{\9042\342}%* U+22E2
\% U+22E3 NOT SQUARE ORIGINAL OF OR EQUAL TO; \nsqsupseteq (txfonts/pffonts)
\DeclareTextCommand{\textnqsupseteq}{PU}{\9042\343}%* U+22E3
\% U+22E4 SQUARE IMAGE OF OR NOT EQUAL TO; \nsqsubsetneq (txfonts/pffonts)
\DeclareTextCommand{\textnsqsubsetneq}{PU}{\9042\344}%* U+22E4
\% \textnsqsubsetneq -> \varsqsubsetneq (mathabx)
\% U+22E5 SQUARE ORIGINAL OF OR NOT EQUAL TO; \nsqsupsetneq (mathabx)
\DeclareTextCommand{\textnsqsupsetneq}{PU}{\9042\345}%* U+22E5
\% \textnsqsupsetneq -> \varsqsupsetneq (mathabx)
\% U+22E6 LESS-THAN BUT NOT EQUIVALENT TO; \lnsim (AmS)
\DeclareTextCommand{\textlnsim}{PU}{\9042\346}%* U+22E6
\% U+22E7 GREATER-THAN BUT NOT EQUIVALENT TO; \gnsim (AmS)
\DeclareTextCommand{\textgnsim}{PU}{\9042\347}%* U+22E7
\% U+22E8 PRECEDES BUT NOT EQUIVALENT TO; \precnsim (AmS)
\DeclareTextCommand{\textprecnsim}{PU}{\9042\348}%* U+22E8
\% U+22E9 SUCCEEDS BUT NOT EQUIVALENT TO; \succnsim (AmS)
\DeclareTextCommand{\textsuccnsim}{PU}{\9042\349}%* U+22E9
\% U+22EA NOT NORMAL SUBGROUP OF; \ntriangleleft (AmS)
\DeclareTextCommand{\textntriangleleft}{PU}{\9042\350}%* U+22EA
\% U+22EB DOES NOT CONTAIN AS NORMAL SUBGROUP; \ntriangleright (AmS)
\DeclareTextCommand{\textntriangleright}{PU}{\9042\351}%* U+22EB
\% \textntriangleright -> \ntrianglelefteq (MnSymbol)
\% U+22EC NOT NORMAL SUBGROUP OF OR EQUAL TO;
\% \ntrianglerighteq (AmS)
\DeclareTextCommand{\textntrianglerighteq}{PU}{\9042\352}%* U+22EC
\% U+22ED DOES NOT CONTAIN AS NORMAL SUBGROUP OR EQUAL;
\% \ntrianglerighteq (AmS)
\DeclareTextCommand{\textntrianglerighteq}{PU}{\9042\353}%* U+22ED
\% \textntrianglerighteq -> \textngtrclosed (MnSymbol)
\% U+22EC NOT NORMAL SUBGROUP OF OR EQUAL TO;
\% \ntrianglerighteq (AmS)
\% U+22ED DOES NOT CONTAIN AS NORMAL SUBGROUP OR EQUAL;
\% \ntrianglerighteq (AmS)
\% U+22EE VERTICAL ELLIPSIS; ellipsisvertical; \ldots (LaTeX)
\% U+22EF MIDLINE HORIZONTAL ELLIPSIS; \cdots (LaTeX)
\% U+22F0 UP RIGHT DIAGONAL ELLIPSIS; \udots (MnSymbol)
51.2.23 Miscellaneous Technical: U+2300 to U+23FF

% U+2300 DIAMETER SIGN; \diameter (mathabx,wasysym)
\DeclareTextCommand{\textdiameter}{PU}{\9043\000}%* U+2300
% U+2310 REVERSED NOT SIGN; \backneg (MnSymbol)
\DeclareTextCommand{\textbackneg}{PU}{\9043\020}% U+2310
% U+2311 SQUARE LOZENGE; \wasylozenge (wasysym)
\DeclareTextCommand{\textwasylozenge}{PU}{\9043\021}% U+2311
% U+2319 TURNED NOT SIGN; \invbackneg (MnSymbol)
\DeclareTextCommand{\textinvbackneg}{PU}{\9043\031}% U+2319
% U+231A WATCH; \clock (wasysym)
\DeclareTextCommand{\textclock}{PU}{\9043\032}% U+231A
%* \textclock -> \Clocklogo (marvosym)
%* \textclock -> \ClockLogo (marvosym)
% U+231C TOP LEFT CORNER; \ulcorner (AmS)
\DeclareTextCommand{\textulcorner}{PU}{\9043\034}% U+231C
% U+231D TOP RIGHT CORNER; \urcorner (AmS)
\DeclareTextCommand{\texturcorner}{PU}{\9043\035}% U+231D
% U+231E BOTTOM LEFT CORNER; \llcorner (AmS)
\DeclareTextCommand{\textllcorner}{PU}{\9043\036}% U+231E
% U+231F BOTTOM RIGHT CORNER; \lrcorner (AmS)
\DeclareTextCommand{\textlrcorner}{PU}{\9043\037}% U+231F
% U+2322 FROWN; \frown (LaTeX)
\DeclareTextCommand{\textfrown}{PU}{\9043\042}% U+2322
% U+2323 SMILE; \smile (LaTeX)
\DeclareTextCommand{\textsmile}{PU}{\9043\043}% U+2323
% U+2328 KEYBOARD; \Keyboard (marvosym)
\DeclareTextCommand{\textKeyboard}{PU}{\9043\050}% U+2328
% U+2329 LEFT-POINTING ANGLE BRACKET; angleleft; \langle (LaTeX)
\DeclareTextCommand{\textlangle}{PU}{\9043\051}% U+2329
% U+232A RIGHT-POINTING ANGLE BRACKET; angleright; \rangle (LaTeX)
\DeclareTextCommand{\textrangle}{PU}{\9043\052}% U+232A
% U+2339 APL FUNCTIONAL SYMBOL QUAD DIVIDE; \APLinv (wasysym)
\DeclareTextCommand{\textAPLinv}{PU}{\9043\071}% U+2339
% U+233C APL FUNCTIONAL SYMBOL QUAD CIRCLE; \Tumbler (marvosym)
\DeclareTextCommand{\textTumbler}{PU}{\9043\074}% U+233C
% U+233D APL FUNCTIONAL SYMBOL CIRCLE STILE; \baro (stmaryrd)
\DeclareTextCommand{\textstmaryrdbaro}{PU}{\9043\075}% U+233D
% U+233F APL FUNCTIONAL SYMBOL SLASH BAR; \notslash (wasysym)
\DeclareTextCommand{\textnotslash}{PU}{\9043\077}% U+233F
% U+2340 APL FUNCTIONAL SYMBOL BACKSLASH BAR; \notbackslash (wasysym)
\DeclareTextCommand{\textnotbackslash}{PU}{\9043\100}% U+2340
% U+2342 APL FUNCTIONAL SYMBOL QUAD BACKSLASH; \boxbackslash (mathabx)
\DeclareTextCommand{\textboxbackslash}{PU}{\9043\102}% U+2342
% U+2347 APL FUNCTIONAL SYMBOL QUAD LEFTWARDS ARROW; \APLleftarrowbox (wasysym)
\DeclareTextCommand{\textAPLleftarrowbox}{PU}{\9043\107}% U+2347
% U+2348 APL FUNCTIONAL SYMBOL QUAD RIGHTWARDS ARROW; \APLrightarrowbox (wasysym)
\DeclareTextCommand{\textAPLrightarrowbox}{PU}{\9043\108}% U+2348

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51.2.24 Control Pictures: U+2400 to U+243F

51.2.25 Optical Character Recognition: U+2440 to U+245F

51.2.26 Enclosed Alphanumerics: U+2460 to U+24FF
\DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}\textcircled{P} \textcircled{p} \textcircled{q} \textcircled{r} \textcircled{s} \textcircled{t} \textcircled{u} \textcircled{v} \textcircled{w} \textcircled{x} \textcircled{y} \textcircled{z} \textcircled{0}

\DeclareTextCommand{\textCuttingLine}{PU}{\9045\004}\textCuttingLine \textCutLine \textCutline

\DeclareTextCommand{\textUParrow}{PU}{\9045\262}\textUParrow \textuparrow \textbigtriangleup \textbiguparrow \textforward \texttriangleright \textrhd \textdownarrow \textdownarrow \textbigdownarrow \textbigdownarrow \textbiguparrow \textbiguparrow

\DeclareTextCommand{\textbigtriangleup}{PU}{\9045\263}\textbigtriangleup \textaplup \textbleech \textbiguparrow \textbiguparrow

\DeclareTextCommand{\textDownarrow}{PU}{\9045\274}\textdownarrow \textdownarrow \textbigdownarrow \textbigdownarrow \textbiguparrow \textbiguparrow

\DeclareTextCommand{\textbigdownarrow}{PU}{\9045\352}\textbigdownarrow \textbigdownarrow \textbiguparrow \textbiguparrow

51.2.27 Box Drawing: U+2500 to 257F

\DeclareTextCommand{\textCuttingLine}{PU}{\9045\004}\textCuttingLine \textCutLine \textCutline

\DeclareTextCommand{\textUParrow}{PU}{\9045\262}\textUParrow \textuparrow \textbigtriangleup \textbiguparrow \textforward \texttriangleright \textrhd \textdownarrow \textdownarrow \textbigdownarrow \textbigdownarrow \textbiguparrow \textbiguparrow

\DeclareTextCommand{\textbigtriangleup}{PU}{\9045\263}\textbigtriangleup \textaplup \textbleech \textbiguparrow \textbiguparrow

\DeclareTextCommand{\textDownarrow}{PU}{\9045\274}\textdownarrow \textdownarrow \textbigdownarrow \textbigdownarrow \textbiguparrow \textbiguparrow

\DeclareTextCommand{\textbigdownarrow}{PU}{\9045\352}\textbigdownarrow \textbigdownarrow \textbiguparrow \textbiguparrow

51.2.28 Geometric Shapes: U+25A0 to U+25FF

\DeclareTextCommand{\textUParrow}{PU}{\9045\262}\textUParrow \textuparrow \textbigtriangleup \textbiguparrow \textforward \texttriangleright \textrhd \textdownarrow \textdownarrow \textbigdownarrow \textbigdownarrow \textbiguparrow \textbiguparrow

\DeclareTextCommand{\textbigtriangleup}{PU}{\9045\263}\textbigtriangleup \textaplup \textbleech \textbiguparrow \textbiguparrow

\DeclareTextCommand{\textDownarrow}{PU}{\9045\274}\textdownarrow \textdownarrow \textbigdownarrow \textbigdownarrow \textbiguparrow \textbiguparrow

\DeclareTextCommand{\textbigdownarrow}{PU}{\9045\352}\textbigdownarrow \textbigdownarrow \textbiguparrow \textbiguparrow

\DeclareTextCommand{\textbigtriangleup}{PU}{\9045\352}\textbigdownarrow \textbigdownarrow \textbiguparrow \textbiguparrow

\DeclareTextCommand{\textbiguparrow}{PU}{\9045\352}\textbigdownarrow \textbigdownarrow \textbiguparrow \textbiguparrow

\DeclareTextCommand{\textdownarrow}{PU}{\9045\352}\textbigdownarrow \textbigdownarrow \textbiguparrow \textbiguparrow

\DeclareTextCommand{\textbigdownarrow}{PU}{\9045\352}\textbigdownarrow \textbigdownarrow \textbiguparrow \textbiguparrow

\DeclareTextCommand{\textbiguparrow}{PU}{\9045\352}\textbigdownarrow \textbigdownarrow \textbiguparrow \textbiguparrow
51.2.29 Miscellaneous Symbols: U+2600 to U+26FF

\DeclareTextCommand{\textbigtriangledown}{PU}{\9045\275}%* U+25BD
\%* \textbigtriangledown -> \APLdown (wasysym)
\%* U+25C0 BLACK LEFT-POINTING TRIANGLE; \Rewind (marvosym)
\ DeclareTextCommand{\textRewind}{PU}{\9045\300}%* U+25C0
\%* U+25C1 WHITE RIGHT-POINTING TRIANGLE (= z notation domain restriction);
\% whiteleftpointingtriangle; \triangleleft (LaTeX)
\ DeclareTextCommand{\texttriangleleft}{PU}{\9045\301}%* U+25C1
\%* \texttriangleleft -> \Diamond (wasysym)
\% U+25C4 BLACK LEFT-POINTING POINTER; \LHD (wasysym)
\ DeclareTextCommand{\textLHD}{PU}{\9045\304}%* U+25C4
\% U+25C7 WHITE DIAMOND; whitediamond; \diamond (LaTeX)
\ DeclareTextCommand{\textdiamond}{PU}{\9045\307}%* U+25C7
\%* \textdiamond -> \Diamond (wasysym)
\% U+25CA LOZENGE; lozenge; \lozenge (AmS)
\ DeclareTextCommand{\textlozenge}{PU}{\9045\312}%* U+25CA
\% U+25D6 LEFT HALF BLACK CIRCLE; \LEFTCIRCLE (wasysym)
\ DeclareTextCommand{\textLEFTCIRCLE}{PU}{\9045\326}%* U+25D6
\% U+25D7 RIGHT HALF BLACK CIRCLE; \RIGHTCIRCLE (wasysym)
\ DeclareTextCommand{\textRIGHTCIRCLE}{PU}{\9045\327}%* U+25D7
\%* U+25E6 WHITE BULLET; *openbullet, whitebullet
\ DeclareTextCommand{\textboxbar}{PU}{\9045\353}%* U+25E6
\%* \textboxbar -> \Box (stmaryrd)
\% U+2601 CLOUD; \Cloud (ifsym)
\ DeclareTextCommand{\textCloud}{PU}{\9046\001}%* U+2601
\% U+2605 BLACK STAR; \FiveStar (bbding)
\ DeclareTextCommand{\textFiveStar}{PU}{\9046\005}%* U+2605
\% U+2606 WHITE STAR; \FiveStarOpen (bbding)
\ DeclareTextCommand{\textFiveStarOpen}{PU}{\9046\021}%* U+2606
\%* \textFiveStarOpen -> \CheckedBox (marvosym)
\% U+2611 HOT BEVERAGE; \Coffeecup (marvosym)
\ DeclareTextCommand{\textCoffeecup}{PU}{\9046\025}%* U+2611
\%* \textCoffeecup -> \HandCuffLeft (bbding)
\% U+2615 BEVERAGE; \Coffee (marvosym)
\ DeclareTextCommand{\textCoffee}{PU}{\9046\025}%* U+2615
\%* \textCoffee -> \HandCuffLeft (bbding)
\% U+2618 BLACK LEFT POINTING INDEX; \HandCuffLeft (bbding)
\%* \textHandCuffLeft -> \HandCuffLeft (bbding)
\% U+261B BLACK RIGHT POINTING INDEX; \HandCuffRight (bbding)
\%* \textHandCuffRight -> \HandCuffRight (bbding)
\% U+261C WHITE LEFT POINTING INDEX; \HandLeft (bbding)
\%* \textHandLeft -> \HandLeft (bbding)
\19730 \% U+2645 URANUS; \uranus (wasysym)
\19731 \DeclareTextCommand\{\texturanus\}\{\9046\105\}%* U+2645
\19732 \%* \texturanus \rightarrow \Uranus (marvosym)
\19733 \% U+2646 NEPTUNE; \neptune (wasysym)
\19734 \DeclareTextCommand\{\textneptune\}\{\9046\106\}%* U+2646
\19735 \%* \textneptune \rightarrow \Neptune (marvosym)
\19736 \% U+2647 PLUTO; \pluto (wasysym)
\19737 \DeclareTextCommand\{\textpluto\}\{\9046\107\}%* U+2647
\19738 \%* \textpluto \rightarrow \Pluto (marvosym)
\19739 \% U+2648 ARIES; \aries (wasysym)
\19740 \DeclareTextCommand\{\textaries\}\{\9046\110\}%* U+2648
\19741 \%* \textaries \rightarrow \Aries (marvosym)
\19742 \% U+2649 TAURUS; \taurus (wasysym)
\19743 \DeclareTextCommand\{\texttaurus\}\{\9046\111\}%* U+2649
\19744 \%* \texttaurus \rightarrow \Taurus (marvosym)
\19745 \% U+264A GEMINI; \gemini (wasysym)
\19746 \DeclareTextCommand\{\textgemini\}\{\9046\112\}%* U+264A
\19747 \%* \textgemini \rightarrow \Gemini (marvosym)
\19748 \% U+264B CANCER; \cancer (wasysym)
\19749 \DeclareTextCommand\{\textcancer\}\{\9046\113\}%* U+264B
\19750 \%* \textcancer \rightarrow \Cancer (marvosym)
\19751 \% U+264C LEO; \leo (wasysym)
\19752 \DeclareTextCommand\{\textleo\}\{\9046\114\}%* U+264C
\19753 \%* \textleo \rightarrow \Leo (marvosym)
\19754 \% U+264D VIRGO; \virgo (wasysym)
\19755 \DeclareTextCommand\{\textvirgo\}\{\9046\115\}%* U+264D
\19756 \%* \textvirgo \rightarrow \Virgo (marvosym)
\19757 \% U+264E LIBRA; \libra (wasysym)
\19758 \DeclareTextCommand\{\textlibra\}\{\9046\116\}%* U+264E
\19759 \%* \textlibra \rightarrow \Libra (marvosym)
\19760 \% U+264F SCORPIO; \scorpio (wasysym)
\19761 \DeclareTextCommand\{\textsagittarius\}\{\9046\117\}%* U+264F
\19762 \%* \textsagittarius \rightarrow \Scorpio (marvosym)
\19763 \% U+2650 SAGITTARIUS; \sagittarius (wasysym)
\19764 \DeclareTextCommand\{\textcapricornus\}\{\9046\120\}%* U+2650
\19765 \%* \textcapricornus \rightarrow \Capricorn (marvosym)
\19766 \% U+2651 CAPRICORN; \capricornus (wasysym)
\19767 \DeclareTextCommand\{\textpisces\}\{\9046\121\}%* U+2651
\19768 \%* \textpisces \rightarrow \Pisces (marvosym)
\19769 \% U+2660 BLACK SPADE SUIT; spade, spadesuitblack; \spadesuit (LaTeX)
\19770 \DeclareTextCommand\{\textspadesuitblack\}\{\9046\140\}%* U+2660
\19771 \%* \textspadesuitblack \rightarrow \spadesuit (MnSymbol)
\19772 \% U+2661 WHITE HEART SUIT; heartsuitwhite; \heartsuit (LaTeX)
\19773 \DeclareTextCommand\{\textheartsuitwhite\}\{\9046\141\}%* U+2661
\19774 \%* \textheartsuitwhite \rightarrow \Heart (marvosym)
\19775 \% U+2662 WHITE DIAMOND SUIT; diamondsuitwhite; \diamondsuit (LaTeX)
\19776 \DeclareTextCommand\{\textdiamondsuitwhite\}\{\9046\142\}%* U+2662
\19777 \%* \textdiamondsuitwhite \rightarrow \diamondsuit (MnSymbol)
\19778 \% U+2663 BLACK CLUB SUIT; club, clubsuitblack; \clubsuit (LaTeX)
\19779 \DeclareTextCommand\{\textclubsuitblack\}\{\9046\143\}%* U+2663
\19780 \%* \textclubsuitblack \rightarrow \clubsuit (MnSymbol)
vosym)
19843 \DeclareTextCommand{\textFemaleMale}{PU}{\9046\244}%* U+26A4
19844 % U+26A5 MALE AND FEMALE SIGN; \Hermaphrodite (marvosym)
19845 \DeclareTextCommand{\textHermaphrodite}{PU}{\9046\245}%* U+26A5
19846 % U+26AA MEDIUM WHITE CIRCLE; \Neutral (marvosym)
19847 \DeclareTextCommand{\textNeutral}{PU}{\9046\252}%* U+26AA
19848 % U+26AD MARRIAGE SYMBOL
19849 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD
19850 % U+26AE DIVORCE SYMBOL
19851 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE
19852 % U+26B2 NEUTER; \textPUuncrfemale (tipx)
19853 \DeclareTextCommand{\textPUuncrfemale}{PU}{\9046\262}%* \textPUuncrfemale -> \textuncrfemale (tipx)
19854 % U+26B9 SEXTILE; \texthexstar (wasysym)
19855 \DeclareTextCommand{\texthexstar}{PU}{\9046\271}%* U+26B9
19856 % U+26BD SOCCER BALL; \Football (marvosym)
19857 \DeclareTextCommand{\textSoccerBall}{PU}{\9046\275}%* \textSoccerBall -> \Football (marvosym)
19858 % U+26C5 SUN BEHIND CLOUD; \SunCloud (ifsym)
19859 \DeclareTextCommand{\textSunCloud}{PU}{\9046\305}%* U+26C5
19860 % U+26C6 RAIN; \Rain (ifsym)
19861 \DeclareTextCommand{\textRain}{PU}{\9046\306}%* U+26C6
19862 % U+26D4 NO ENTRY; \noway (fourier)
19863 \DeclareTextCommand{\textnoway}{PU}{\9046\324}%* U+26D4
19864 % U+26F0 MOUNTAIN; \Mountain (ifsym)
19865 \DeclareTextCommand{\textMountain}{PU}{\9046\360}%* U+26F0
19866 % U+26FA TENT; \Tent (ifsym)
19867 \DeclareTextCommand{\textTent}{PU}{\9046\372}%* U+26FA
19868 51.2.30 Dingbats: U+2700 to U+27BF
19870 % U+2701 UPPER BLADE SCISSORS; \ScissorRightBrokenBottom (bbding)
19871 \DeclareTextCommand{\textScissorRightBrokenBottom}{PU}{\9047\001}%* U+2701
19872 %* \textScissorRightBrokenBottom -> \CutLeft (marvosym)
19873 %* \textScissorRightBrokenBottom -> \Cutright (marvosym)
19874 % U+2702 BLACK SCISSORS; \ScissorRight (bbding)
19875 \DeclareTextCommand{\textScissorRight}{PU}{\9047\002}%* U+2702
19876 %* \textScissorRight -> \Rightscissors (marvosym)
19877 %* \textScissorRight -> \Leftscissors (marvosym)
19878 % U+2703 LOWER BLADE SCISSORS; \ScissorRightBrokenTop (bbding)
19879 \DeclareTextCommand{\textScissorRightBrokenTop}{PU}{\9047\003}%* U+2703
19880 % U+2704 WHITE SCISSORS; \ScissorHollowRight (bbding)
19881 \DeclareTextCommand{\textScissorHollowRight}{PU}{\9047\004}%* U+2704
19882 % U+2706 TELEPHONE LOCATION SIGN; \PhoneHandset (bbding)
19883 \DeclareTextCommand{\textPhoneHandset}{PU}{\9047\006}%* U+2706
19884 % U+2707 TAPE DRIVE; \Tape (bbding)
19885 \DeclareTextCommand{\textTape}{PU}{\9047\007}%* U+2707
19886 % U+2708 AIRPLANE; \Plane (bbding)
19887 \DeclareTextCommand{\textPlane}{PU}{\9047\010}%* U+2708
19888 % U+2709 ENVELOPE; \Envelope (bbding),
19889 \DeclareTextCommand{\textEnvelope}{PU}{\9047\011}%* U+2709
19890 %* \textEnvelope -> \Letter (marvosym)
19891 % U+270C VICTORY HAND; \Peace (bbding)
19892 \DeclareTextCommand{\textPeace}{PU}{\9047\014}%* U+270C
19893 % U+270D WRITING HAND; \WritingHand (marvosym)
19894 \DeclareTextCommand{\textWritingHand}{PU}{\9047\015}%* U+270D
19895 %* \textWritingHand -> \Writinghand (marvosym)
19896 % U+270E LOWER RIGHT PENCIL; \PencilRightDown (bbding)
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\DeclareTextCommand{\textPencilRightDown}{PU}{\9047\016}%* U+270E
\DeclareTextCommand{\textPencilRight}{PU}{\9047\017}%* U+270F
\DeclareTextCommand{\textPencilRightUp}{PU}{\9047\020}%* U+2710
\DeclareTextCommand{\textNibRight}{PU}{\9047\021}%* U+2711
\DeclareTextCommand{\textNibSolidRight}{PU}{\9047\022}%* U+2712
\DeclareTextCommand{\textCheckmark}{PU}{\9047\023}%* \textCheckmark -> \checkmark (MnSymbol)
\DeclareTextCommand{\textCheckmarkBold}{PU}{\9047\024}%* U+2714
\DeclareTextCommand{\textXSolid}{PU}{\9047\025}%* U+2715
\DeclareTextCommand{\textXSolidBold}{PU}{\9047\026}%* U+2716
\DeclareTextCommand{\textPlusOutline}{PU}{\9047\031}%* U+2717
\DeclareTextCommand{\textPlus}{PU}{\9047\032}%* U+2718
\DeclareTextCommand{\textPlusThinCenterOpen}{PU}{\9047\033}%* U+2719
\DeclareTextCommand{\textPlusCenterOpen}{PU}{\9047\034}%* U+271A
\DeclareTextCommand{\textCross}{PU}{\9047\035}%* U+271B
\DeclareTextCommand{\textCrossOpenShadow}{PU}{\9047\036}%* U+271C
\DeclareTextCommand{\textCrossOutline}{PU}{\9047\037}%* U+271D
\DeclareTextCommand{\textCrossMaltese}{PU}{\9047\040}%* U+271E
\DeclareTextCommand{\textFourAsterisk}{PU}{\9047\042}%* U+271F
\DeclareTextCommand{\textJackStar}{PU}{\9047\043}%* U+2720
\DeclareTextCommand{\textDavidStar}{PU}{\9047\044}%* U+2721
\DeclareTextCommand{\textClubStar}{PU}{\9047\045}%* U+2722
\DeclareTextCommand{\textFourAsterisk}{PU}{\9047\046}%* U+2723
\DeclareTextCommand{\textJackStar}{PU}{\9047\047}%* U+2724
\DeclareTextCommand{\textFourAsterisk}{PU}{\9047\048}%* U+2725
\DeclareTextCommand{\textJackStar}{PU}{\9047\049}%* U+2726
\DeclareTextCommand{\textFourAsterisk}{PU}{\9047\050}%* U+2727
\DeclareTextCommand{\textJackStar}{PU}{\9047\051}%* U+2728
\DeclareTextCommand{\textFourAsterisk}{PU}{\9047\052}%* U+2729
\DeclareTextCommand{\textJackStar}{PU}{\9047\053}%* U+272A
\DeclareTextCommand{\textFiveStarOpenCircled}{PU}{\9047\054}%* U+272B
\DeclareTextCommand{\textFiveStarOpenCircled}{PU}{\9047\055}%* U+272C
51.2.31 Miscellaneous Mathematical Symbols—A: U+27C0 to U+27EF

51.2.32 Supplemental Arrows—A: U+27F0 to U+27FF
51.2.33 Supplemental Arrows-B: U+2900 to U+297F

51.2.33.1 U+2900 to U+291F

51.2.33.2 U+2920 to U+293F

51.2.33.3 U+2940 to U+295F

51.2.33.4 U+2960 to U+297F
51.2.34 Miscellaneous Mathematical Symbols-B: U+2980 to U+29FF

51.2.35 Supplemental Mathematical Operators: U+2A00 to U+2AFF

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\textlessapprox \textnlessapprox \gtrapprox \ngtrapprox \lneq \gneq \lnapprox \gnapprox \lesseqqgtr \gtreqqless \eqslantless \eqslantgtr \leftslice \rightslice \preceq \nsucceq \precneq \succneq \preceqq \succeqq \precneqq
\lesseqqgr \gtreqqless \preceq \nsucceq \text{MnSymbol} \preceq \text{mathabx} \text{mathabx} \text{MnSymbol} \text{mathabx} \text{MnSymbol}
\DeclareTextCommand{\textprecneqq}{PU}{\9052\265}%* U+2AB5
\DeclareTextCommand{\textsuccneqq}{PU}{\9052\266}%* U+2AB6
\DeclareTextCommand{\textprecapprox}{PU}{\9052\267}%* U+2AB7
\DeclareTextCommand{\textnprecapprox}{PU}{\9052\267\83\070}%*U+2AB7U+0338
\DeclareTextCommand{\textsuccapprox}{PU}{\9052\270}%* U+2AB8
\DeclareTextCommand{\textnsuccapprox}{PU}{\9052\270\83\070}%*U+2AB8U+0338
\DeclareTextCommand{\textprecnapprox}{PU}{\9052\271}%* U+2AB9
\DeclareTextCommand{\textsuccnapprox}{PU}{\9052\272}%* U+2AB9
\DeclareTextCommand{\textsubseteqq}{PU}{\9052\305}%* U+2AC5
\DeclareTextCommand{\textnsubseteqq}{PU}{\9052\305\83\070}%*U+2AC5U+0338
\DeclareTextCommand{\textsupseteqq}{PU}{\9052\306}%* U+2AC6
\DeclareTextCommand{\textnsupseteqq}{PU}{\9052\306\83\070}%*U+2AC6U+0338
\DeclareTextCommand{\textdashV}{PU}{\9052\343}%* U+2AE3
\DeclareTextCommand{\textndashV}{PU}{\9052\343\83\070}%*U+2AE3U+0338
\DeclareTextCommand{\textDashv}{PU}{\9052\344}%* U+2AE4
\DeclareTextCommand{\textnDashv}{PU}{\9052\344\83\070}%*U+2AE4U+0338
\DeclareTextCommand{\textdownmodels}{PU}{\9052\352}%* U+2AEF
\DeclareTextCommand{\textupmodels}{PU}{\9052\353}%* U+2AEF
\DeclareTextCommand{\textdownmodels}{PU}{\9052\354}%* U+2AF0
\DeclareTextCommand{\textupmodels}{PU}{\9052\355}%* U+2AF1
\DeclareTextCommand{\textinterleave}{PU}{\9052\364}%* U+2AF2
51.2.36 Miscellaneous Symbols and Arrows: U+2B00 to U+2BFF

51.2.37 Latin Extended-C: U+2C60 to U+2C7F

51.2.38 Supplemental Punctuation: U+2E00 to U+2E7F

51.2.39 Modifier Tone Letters: U+A700 to U+A71F

51.2.40 Latin Extended-D: U+A720 to U+A7FF

51.2.41 Alphabetic Presentation Forms: U+FB00 to U+FB4F

51.2.42 Musical Symbols: U+1D100 to U+1D1FF
51.2.43 Miscellaneous Symbols and Pictographs: U+1F300 to U+1F5FF

- U+1F30D EARTH GLOBE EUROPE-AFRICA; \Mundus (marvosym)
- U+1F6B2 BICYCLE; \Bicycle (marvosym)
- U+204D BICYCLE; \Bicycle (textcomp)
- U+1F468 MAN; \ManFace (marvosym)
- U+1F469 WOMAN; \WomanFace (marvosym)

51.2.44 Transport and Map Symbols: U+1F680 to U+1F6FF

- U+1F6B2 BICYCLE; \Bicycle (marvosym)
- U+1F6B9 MENS SYMBOL; \Gentsroom (marvosym)
- U+1F6BA WOMENS SYMBOL; \Ladiesroom (marvosym)

51.2.45 Miscellaneous

- U+1F468 MAN; \ManFace (marvosym)
51.2.46 Aliases

Aliases (german.sty)

\DeclareTextCommand{\textglqq}{PU}{\quotedblbase}%
\DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}%
\DeclareTextCommand{\textglq}{PU}{\quotesinglbase}%
\DeclareTextCommand{\textgrq}{PU}{\textquoteleft}%
\DeclareTextCommand{\textflqq}{PU}{\guillemotleft}%
\DeclareTextCommand{\textfrqq}{PU}{\guillemotright}%
\DeclareTextCommand{\textflq}{PU}{\guilsinglleft}%
\DeclareTextCommand{\textfrq}{PU}{\guilsinglright}%

51.3 PU encoding, additions for \texttt{VnT\TeX}

This file is provided by Han The Thanh.
51.4 PU encoding, additions for Arabic

This file is provided and maintained by Youssef Jabri.
\let\APLuparrowbox\textAPLuparrowbox
\let\APLdownarrowbox\textAPLdownarrowbox
\let\APLinput\textAPLinput
\let\Request\textRequest
\let\Beam\textBeam
\let\hexagon\texthexagon
\let\APLbox\textAPLbox
\let\ForwardToIndex\textForwardToIndex
\let\RewindToIndex\textRewindToIndex
\let\bbslash\textbbslash
\let\CircledA\textCircledA
\let\CleaningF\textCleaningF
\let\CleaningFF\textCleaningFF
\let\CleaningP\textCleaningP
\let\CleaningPP\textCleaningPP
\let\CuttingLine\textCuttingLine
\let\UParrow\textUParrow
\let\bigtriangleup\textbigtriangleup
\let\Forward\textForward
\let\triangleright\texttriangleright
\let\RHD\textRHD
\let\DOWNarrow\textDOWNarrow
\let\bigtriangledown\textbigtriangledown
\let\Rewind\textRewind
\let\triangleleft\texttriangleleft
\let\LHD\textLHD
\let\diamond\textdiamond
\let\lozenge\textlozenge
\let\LEFTCIRCLE\textLEFTCIRCLE
\let\RIGHTCIRCLE\textRIGHTCIRCLE
\let\openbullet\textopenbullet
\let\boxbar\textboxbar
\let\bigcircle\textbigcircle
\let\Cloud\textCloud
\let\FiveStar\textFiveStar
\let\FiveStarOpen\textFiveStarOpen
\let\Phone\textPhone
\let\boxempty\textboxempty
\let\Checkedbox\textCheckedbox
\let\Crossedbox\textCrossedbox
\let\Coffee\textCoffee
\let\HandCuffLeft\textHandCuffLeft
\let\HandCuffRight\textHandCuffRight
\let\HandLeft\textHandLeft
\let\HandRight\textHandRight
\let\Radioactivity\textRadioactivity
\let\Biohazard\textBiohazard
\let\Ankh\textAnkh
\let\YinYang\textYinYang
\let\frownie\textfrownie
\let\smiley\textsmiley
\let\blacksmiley\textblacksmiley
\let\sun\textsun
\let\leftmoon\textrightmoon
\let\mercury\textmercury
\let\earth\textearth
\let\Fire\textFire
\let\Bicycle\textBicycle
\let\Gentsroom\textGentsroom
\let\Ladiesroom\textLadiesroom
\let\ccnc\textccnc
\let\ccsa\textccsa
\let\Info\textInfo
\let\CESign\textCESign
\let\neg\textneg
\let\times\texttimes
\let\div\textdiv
\let\pm\textpm
\let\cdot\textcdot
\psdmapshortnames
\newcommand*{\psdaliasnames}{%}
\let\epsdice\HyPsd@DieFace
\let\fcdice\HyPsd@DieFace
\let\MoonPha\HyPsd@MoonPha
\let\mathdollar\textdollar
\let\EyesDollar\textdollar
\let\binampersand\textampersand
\let\with\textampersand
\let\mathunderscore\textunderscore
\let\textvertline\textbar
\let\mathsterling\textsterling
\let\pounds\textsterling
\let\brokenvert\textbrokenbar
\let\mathsection\textsection
\let\S\textsection
\let\mathparagraph\textparagraph
\let\MultiplicationDot\textperiodcentered
\let\Squaredot\textperiodcentered
\let\vartimes\textmultiply
\let\MVMultiplication\textmultiply
\let\eth\dh
\let\crossd\textcrd
\let\textbard\textcrd
\let\bard\textcrd
\let\textcrb\textcrd
\let\crossh\textbar
\let\planck\textbar
\let\eng\texteng
\let\crossnilambda\textcrlambda
\let\barlambda\textcrlambda
\let\lambdabar\textcrlambda
\let\lambdaslash\textcrlambda
\let\textnrleg\textPUnrleg
\let\textpipevar\textpipe
\let\textdoublepipevar\textdoublepipe
\let\textdoublebarpipevar\textdoublebarpipe
52 End of file hycheck.tex

52 End of file hycheck.tex
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to the code line of the definition; numbers in roman refer to the code lines where the entry is used.
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