

The etexcmds package

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2011/02/16 v1.5

Abstract

New primitive commands are introduced in ε -TeX. Sometimes the names collide with existing macros. This package solves this name clashes by adding a prefix to ε -TeX's commands. For example, ε -TeX's `\unexpanded` is provided as `\etex@unexpanded`.

Contents

1	Documentation	2
1.1	<code>\unexpanded</code>	2
1.2	<code>\expanded</code>	2
2	Implementation	2
2.1	Reload check and package identification	2
2.2	Catcodes	3
2.3	Provide <code>\newif</code>	4
2.4	Load package <code>infwarerr</code>	5
2.5	<code>\unexpanded</code>	5
2.6	<code>\expanded</code>	6
3	Test	7
3.1	Catcode checks for loading	7
3.2	Macro tests	9
4	Installation	10
4.1	Download	10
4.2	Bundle installation	10
4.3	Package installation	10
4.4	Refresh file name databases	11
4.5	Some details for the interested	11
5	Catalogue	11
6	History	12
	[2007/05/06 v1.0]	12
	[2007/09/09 v1.1]	12
	[2007/12/12 v1.2]	12
	[2010/01/28 v1.3]	12
	[2011/01/30 v1.4]	12
	[2011/02/16 v1.5]	12

1 Documentation

1.1 `\unexpanded`

`\etex@unexpanded`

New primitive commands are introduced in ε -TeX. Unhappily `\unexpanded` collides with a macro in ConTeXt with the same name. This also affects the LaTeX world. For example, package `m-ch-de` loads `base/syst-gen.tex` that redefines `\unexpanded`. Thus this package defines `\etex@unexpanded` to get rid of the name clash.

`\ifetex@unexpanded`

Package `etexcmds` can be loaded even if ε -TeX is not present or `\unexpanded` cannot be found. The switch `\ifetex@unexpanded` tells whether it is safe to use `\etex@unexpanded`. The switch is true (`\iftrue`) only if the primitive `\unexpanded` has been found and `\etex@unexpanded` is available.

1.2 `\expanded`

Probably `\expanded` will be added in pdfTeX 1.50 and LuaTeX. Again ConTeXt defines this as macro. Therefore version 1.2 of this packages also provides `\etex@expanded` and `\ifetex@unexpanded`.

2 Implementation

1 `\package`

2.1 Reload check and package identification

Reload check, especially if the package is not used with LaTeX.

```

2 \begingroup\catcode61\catcode48\catcode32=10\relax%
3   \catcode13=5 % ^~M
4   \endlinechar=13 %
5   \catcode35=6 % #
6   \catcode39=12 % '
7   \catcode44=12 % ,
8   \catcode45=12 % -
9   \catcode46=12 % .
10  \catcode58=12 % :
11  \catcode64=11 % @
12  \catcode123=1 % {
13  \catcode125=2 % }
14  \expandafter\let\expandafter\x\csname ver@etexcmds.sty\endcsname
15  \ifx\x\relax % plain-TeX, first loading
16  \else
17    \def\empty{}%
18    \ifx\x\empty % LaTeX, first loading,
19      % variable is initialized, but \ProvidesPackage not yet seen
20    \else
21      \expandafter\ifx\csname PackageInfo\endcsname\relax

```

```

22     \def\x#1#2{%
23         \immediate\write-1{Package #1 Info: #2.}%
24     }%
25     \else
26         \def\x#1#2{\PackageInfo{#1}{#2, stopped}}%
27     \fi
28     \x{etexcmds}{The package is already loaded}%
29     \aftergroup\endinput
30 \fi
31 \fi
32 \endgroup%
Package identification:
33 \begingroup\catcode61\catcode48\catcode32=10\relax%
34     \catcode13=5 % ^^M
35     \endlinechar=13 %
36     \catcode35=6 % #
37     \catcode39=12 % '
38     \catcode40=12 % (
39     \catcode41=12 % )
40     \catcode44=12 % ,
41     \catcode45=12 % -
42     \catcode46=12 % .
43     \catcode47=12 % /
44     \catcode58=12 % :
45     \catcode64=11 % @
46     \catcode91=12 % [
47     \catcode93=12 % ]
48     \catcode123=1 % {
49     \catcode125=2 % }
50     \expandafter\ifx\csname ProvidesPackage\endcsname\relax
51         \def\x#1#2#3[#4]{\endgroup
52             \immediate\write-1{Package: #3 #4}%
53             \xdef#1{#4}%
54         }%
55     \else
56         \def\x#1#2[#3]{\endgroup
57             #2[#3]}%
58             \ifx#1\@undefined
59                 \xdef#1{#3}%
60             \fi
61             \ifx#1\relax
62                 \xdef#1{#3}%
63             \fi
64         }%
65     \fi
66 \expandafter\x\csname ver@etexcmds.sty\endcsname
67 \ProvidesPackage{etexcmds}%
68 [2011/02/16 v1.5 Avoid name clashes with e-TeX commands (HO)]%

```

2.2 Catcodes

```

69 \begingroup\catcode61\catcode48\catcode32=10\relax%
70     \catcode13=5 % ^^M
71     \endlinechar=13 %
72     \catcode123=1 % {
73     \catcode125=2 % }
74     \catcode64=11 % @
75     \def\x{\endgroup

```

```

76 \expandafter\edef\csname etexcmds@AtEnd\endcsname{%
77 \endlinechar=\the\endlinechar\relax
78 \catcode13=\the\catcode13\relax
79 \catcode32=\the\catcode32\relax
80 \catcode35=\the\catcode35\relax
81 \catcode61=\the\catcode61\relax
82 \catcode64=\the\catcode64\relax
83 \catcode123=\the\catcode123\relax
84 \catcode125=\the\catcode125\relax
85 }%
86 }%
87 \x\catcode61\catcode48\catcode32=10\relax%
88 \catcode13=5 % ^M
89 \endlinechar=13 %
90 \catcode35=6 % #
91 \catcode64=11 % @
92 \catcode123=1 % {
93 \catcode125=2 % }
94 \def\TMP@EnsureCode#1#2{%
95 \edef\etexcmds@AtEnd{%
96 \etexcmds@AtEnd
97 \catcode#1=\the\catcode#1\relax
98 }%
99 \catcode#1=#2\relax
100 }
101 \TMP@EnsureCode{39}{12}% '
102 \TMP@EnsureCode{40}{12}% (
103 \TMP@EnsureCode{41}{12}% )
104 \TMP@EnsureCode{44}{12}% ,
105 \TMP@EnsureCode{45}{12}% -
106 \TMP@EnsureCode{46}{12}% .
107 \TMP@EnsureCode{47}{12}% /
108 \TMP@EnsureCode{60}{12}% <
109 \TMP@EnsureCode{91}{12}% [
110 \TMP@EnsureCode{93}{12}% ]
111 \edef\etexcmds@AtEnd{%
112 \etexcmds@AtEnd
113 \escapechar\the\escapechar\relax
114 \noexpand\endinput
115 }
116 \escapechar=92 % backslash

```

2.3 Provide \newif

\etexcmds@newif

```

117 \def\etexcmds@newif#1{%
118 \expandafter\edef\csname etex@#1false\endcsname{%
119 \let
120 \expandafter\noexpand\csname ifetex@#1\endcsname
121 \noexpand\iffalse
122 }%
123 \expandafter\edef\csname etex@#1true\endcsname{%
124 \let
125 \expandafter\noexpand\csname ifetex@#1\endcsname
126 \noexpand\iftrue
127 }%
128 \csname etex@#1false\endcsname
129 }

```

2.4 Load package infwarerr

```
130 \begingroup\expandafter\expandafter\expandafter\endgroup
131 \expandafter\ifx\csname RequirePackage\endcsname\relax
132   \def\TMP@RequirePackage#1[#2]{%
133     \begingroup\expandafter\expandafter\expandafter\endgroup
134     \expandafter\ifx\csname ver@#1.sty\endcsname\relax
135       \input #1.sty\relax
136     \fi
137   }%
138   \TMP@RequirePackage{infwarerr}[2007/09/09]%
139   \TMP@RequirePackage{ifluatex}[2010/03/01]%
140 \else
141   \RequirePackage{infwarerr}[2007/09/09]%
142   \RequirePackage{ifluatex}[2010/03/01]%
143 \fi
```

2.5 \unexpanded

\ifetex@unexpanded

```
144 \etexcmds@newif{unexpanded}
```

\etex@unexpanded

```
145 \begingroup
146 \edef\x{\string\unexpanded}%
147 \edef\y{\meaning\unexpanded}%
148 \ifx\x\y
149   \endgroup
150   \let\etex@unexpanded\unexpanded
151   \etex@unexpandedtrue
152 \else
153   \edef\y{\meaning\normalunexpanded}%
154   \ifx\x\y
155     \endgroup
156     \let\etex@unexpanded\normalunexpanded
157     \etex@unexpandedtrue
158   \else
159     \edef\y{\meaning\@@unexpanded}%
160     \ifx\x\y
161       \endgroup
162       \let\etex@unexpanded\@@unexpanded
163       \etex@unexpandedtrue
164     \else
165       \ifluatex
166         \ifnum\luatexversion<36 %
167         \else
168           \begingroup
169             \directlua{%
170               tex.enableprimitives('etex@',{unexpanded'})}%
171             }%
172             \global\let\etex@unexpanded\etex@unexpanded
173           \endgroup
174         \fi
175       \fi
176       \edef\y{\meaning\etex@unexpanded}%
177       \ifx\x\y
178         \endgroup
179         \etex@unexpandedtrue
180       \else
```

```

181     \endgroup
182     \@PackageInfoNoLine{etexcmds}{%
183       Could not find \string\unexpanded.\MessageBreak
184       That can mean that you are not using e-TeX or%
185       \MessageBreak
186       that some package has redefined \string\unexpanded.%
187       \MessageBreak
188       In the latter case, load this package earlier%
189     }%
190     \etex@unexpandedfalse
191   \fi
192 \fi
193 \fi
194 \fi

```

2.6 \expanded

\ifetex@expanded

```

195 \etexcmds@newif{expanded}

```

\etex@expanded

```

196 \begingroup
197 \edef\x{\string\expanded}%
198 \edef\y{\meaning\expanded}%
199 \ifx\x\y
200   \endgroup
201   \let\etex@expanded\expanded
202   \etex@expandedtrue
203 \else
204   \edef\y{\meaning\normalexpanded}%
205   \ifx\x\y
206     \endgroup
207     \let\etex@expanded\normalexpanded
208     \etex@expandedtrue
209   \else
210     \edef\y{\meaning\@@expanded}%
211     \ifx\x\y
212       \endgroup
213       \let\etex@expanded\@@expanded
214       \etex@expandedtrue
215     \else
216       \ifluatex
217         \ifnum\luatexversion<36 %
218           \else
219             \begingroup
220             \directlua{%
221               tex.enableprimitives('etex@',{expanded'})%
222             }%
223             \global\let\etex@expanded\etex@expanded
224           \endgroup
225         \fi
226       \fi
227       \edef\y{\meaning\etex@expanded}%
228       \ifx\x\y
229         \endgroup
230         \etex@expandedtrue
231       \else
232         \endgroup

```

```

233     \@PackageInfoNoLine{etexcmds}{%
234         Could not find \string\expanded.\MessageBreak
235         That can mean that you are not using pdfTeX 1.50 or%
236         \MessageBreak
237         that some package has redefined \string\expanded.%
238         \MessageBreak
239         In the latter case, load this package earlier%
240     }%
241     \etex@expandedfalse
242 \fi
243 \fi
244 \fi
245 \fi

246 \etexcmds@AtEnd%
247 \</package>

```

3 Test

3.1 Catcode checks for loading

```

248 \<test1>

249 \catcode'\{=1 %
250 \catcode'\}=2 %
251 \catcode'\#=6 %
252 \catcode'\@=11 %
253 \expandafter\ifx\csname count\endcsname\relax
254     \countdef\count@=255 %
255 \fi
256 \expandafter\ifx\csname @gobble\endcsname\relax
257     \long\def\@gobble#1{%
258 \fi
259 \expandafter\ifx\csname @firstofone\endcsname\relax
260     \long\def\@firstofone#1{#1}%
261 \fi
262 \expandafter\ifx\csname loop\endcsname\relax
263     \expandafter\@firstofone
264 \else
265     \expandafter\@gobble
266 \fi
267 {%
268     \def\loop#1\repeat{%
269         \def\body{#1}%
270         \iterate
271     }%
272     \def\iterate{%
273         \body
274         \let\next\iterate
275     \else
276         \let\next\relax
277     \fi
278     \next
279 }%
280 \let\repeat=\fi
281 }%
282 \def\RestoreCatcodes{}
283 \count@=0 %

```

```

284 \loop
285   \edef\RestoreCatcodes{%
286     \RestoreCatcodes
287     \catcode\the\count@=\the\catcode\count@\relax
288   }%
289 \ifnum\count@<255 %
290   \advance\count@ 1 %
291 \repeat
292
293 \def\RangeCatcodeInvalid#1#2{%
294   \count@=#1\relax
295   \loop
296     \catcode\count@=15 %
297   \ifnum\count@<#2\relax
298     \advance\count@ 1 %
299   \repeat
300 }
301 \def\RangeCatcodeCheck#1#2#3{%
302   \count@=#1\relax
303   \loop
304     \ifnum#3=\catcode\count@
305   \else
306     \errmessage{%
307       Character \the\count@\space
308       with wrong catcode \the\catcode\count@\space
309       instead of \number#3%
310     }%
311   \fi
312   \ifnum\count@<#2\relax
313     \advance\count@ 1 %
314   \repeat
315 }
316 \def\space{ }
317 \expandafter\ifx\csname LoadCommand\endcsname\relax
318   \def\LoadCommand{\input etexcmds.sty\relax}%
319 \fi
320 \def\Test{%
321   \RangeCatcodeInvalid{0}{47}%
322   \RangeCatcodeInvalid{58}{64}%
323   \RangeCatcodeInvalid{91}{96}%
324   \RangeCatcodeInvalid{123}{255}%
325   \catcode'\@=12 %
326   \catcode'\|=0 %
327   \catcode'\%=14 %
328   \LoadCommand
329   \RangeCatcodeCheck{0}{36}{15}%
330   \RangeCatcodeCheck{37}{37}{14}%
331   \RangeCatcodeCheck{38}{47}{15}%
332   \RangeCatcodeCheck{48}{57}{12}%
333   \RangeCatcodeCheck{58}{63}{15}%
334   \RangeCatcodeCheck{64}{64}{12}%
335   \RangeCatcodeCheck{65}{90}{11}%
336   \RangeCatcodeCheck{91}{91}{15}%
337   \RangeCatcodeCheck{92}{92}{0}%
338   \RangeCatcodeCheck{93}{96}{15}%
339   \RangeCatcodeCheck{97}{122}{11}%
340   \RangeCatcodeCheck{123}{255}{15}%
341   \RestoreCatcodes

```



```

342 }
343 \Test
344 \csname @@end\endcsname
345 \end
346 </test1>

```

3.2 Macro tests

```

347 <*test2>
348 \immediate\write16{etexcmds-test2.tex: test file for plainTeX}
349 \input etexcmds.sty\relax
350 \catcode'\@=11 %
351 \edef\x{\string\unexpanded}
352 \edef\y{\meaning\etex@unexpanded}
353 \ifx\x\y
354 \else
355   \@PackageError{etexcmds-test2}{Test failed}\@ehc
356 \fi
357 \end
358 </test2>

359 <*test3>
360 \NeedsTeXFormat{LaTeX2e}
361 \ProvidesFile{etexcmds-test3.tex}[2011/02/16 v1.5 Test file for LaTeX]
362 \RequirePackage{etexcmds}
363 \makeatletter
364 \edef\x{\string\unexpanded}
365 \edef\y{\meaning\etex@unexpanded}
366 \ifx\x\y
367 \else
368   \@PackageError{etexcmds-test3}{Test failed}\@ehc
369 \fi
370 \stop
371 </test3>

372 <*test4>
373 \NeedsTeXFormat{LaTeX2e}
374 \ProvidesFile{etexcmds-test4.tex}[2011/02/16 v1.5 Test file for LaTeX]
375 \documentclass{article}
376 \usepackage{m-pictex}
377 \def\normalwritestatus#1#2{%
378   \typeout{EMERGENCY HACK \string\normalwritestatus}%
379   \typeout{#1: #2}%
380 }
381 \usepackage{m-ch-de}
382 \usepackage{etexcmds}
383 \makeatletter
384 \ifetex@unexpanded
385   \edef\x{\string\unexpanded}%
386   \edef\y{\meaning\etex@unexpanded}%
387   \ifx\x\y
388   \else
389     \@PackageWarningNoLine{etexcmds-test4}{Test failed}%
390   \fi
391 \else
392   \@PackageWarningNoLine{etexcmds-test4}{%
393     Test failed because of ConTeXt%
394   }%
395 \fi
396 \stop

```

4 Installation

4.1 Download

Package. This package is available on CTAN¹:

`CTAN:macros/latex/contrib/oberdiek/etexcmds.dtx` The source file.

`CTAN:macros/latex/contrib/oberdiek/etexcmds.pdf` Documentation.

Bundle. All the packages of the bundle ‘oberdiek’ are also available in a TDS compliant ZIP archive. There the packages are already unpacked and the documentation files are generated. The files and directories obey the TDS standard.

`CTAN:install/macros/latex/contrib/oberdiek.tds.zip`

TDS refers to the standard “A Directory Structure for \TeX Files” (`CTAN:tds/tds.pdf`). Directories with `texmf` in their name are usually organized this way.

4.2 Bundle installation

Unpacking. Unpack the `oberdiek.tds.zip` in the TDS tree (also known as `texmf` tree) of your choice. Example (linux):

```
unzip oberdiek.tds.zip -d ~/texmf
```

Script installation. Check the directory `TDS:scripts/oberdiek/` for scripts that need further installation steps. Package `attachfile2` comes with the Perl script `pdfatfi.pl` that should be installed in such a way that it can be called as `pdfatfi`. Example (linux):

```
chmod +x scripts/oberdiek/pdfatfi.pl
cp scripts/oberdiek/pdfatfi.pl /usr/local/bin/
```

4.3 Package installation

Unpacking. The `.dtx` file is a self-extracting `docstrip` archive. The files are extracted by running the `.dtx` through plain \TeX :

```
tex etexcmds.dtx
```

TDS. Now the different files must be moved into the different directories in your installation TDS tree (also known as `texmf` tree):

```
etexcmds.sty      → tex/generic/oberdiek/etexcmds.sty
etexcmds.pdf      → doc/latex/oberdiek/etexcmds.pdf
test/etexcmds-test1.tex → doc/latex/oberdiek/test/etexcmds-test1.tex
test/etexcmds-test2.tex → doc/latex/oberdiek/test/etexcmds-test2.tex
test/etexcmds-test3.tex → doc/latex/oberdiek/test/etexcmds-test3.tex
test/etexcmds-test4.tex → doc/latex/oberdiek/test/etexcmds-test4.tex
etexcmds.dtx      → source/latex/oberdiek/etexcmds.dtx
```

If you have a `docstrip.cfg` that configures and enables `docstrip`’s TDS installing feature, then some files can already be in the right place, see the documentation of `docstrip`.

¹[ftp://ftp.ctan.org/tex-archive/](http://ftp.ctan.org/tex-archive/)

4.4 Refresh file name databases

If your $\text{T}_{\text{E}}\text{X}$ distribution ($\text{t}_{\text{e}}\text{T}_{\text{E}}\text{X}$, $\text{m}_{\text{i}}\text{k}_{\text{T}}\text{E}_{\text{X}}$, ...) relies on file name databases, you must refresh these. For example, $\text{t}_{\text{e}}\text{T}_{\text{E}}\text{X}$ users run `texhash` or `mktextlsr`.

4.5 Some details for the interested

Attached source. The PDF documentation on CTAN also includes the `.dtx` source file. It can be extracted by AcrobatReader 6 or higher. Another option is `pdftk`, e.g. unpack the file into the current directory:

```
pdftk etexcmds.pdf unpack_files output .
```

Unpacking with $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$. The `.dtx` chooses its action depending on the format:

plain $\text{T}_{\text{E}}\text{X}$: Run `docstrip` and extract the files.

$\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$: Generate the documentation.

If you insist on using $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ for `docstrip` (really, `docstrip` does not need $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$), then inform the autodetect routine about your intention:

```
latex \let\install=y\input{etexcmds.dtx}
```

Do not forget to quote the argument according to the demands of your shell.

Generating the documentation. You can use both the `.dtx` or the `.drv` to generate the documentation. The process can be configured by the configuration file `ltxdoc.cfg`. For instance, put this line into this file, if you want to have A4 as paper format:

```
\PassOptionsToClass{a4paper}{article}
```

An example follows how to generate the documentation with `pdf $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$` :

```
pdflatex etexcmds.dtx
makeindex -s gind.ist etexcmds.idx
pdflatex etexcmds.dtx
makeindex -s gind.ist etexcmds.idx
pdflatex etexcmds.dtx
```

5 Catalogue

The following XML file can be used as source for the [\$\text{T}_{\text{E}}\text{X}\$ Catalogue](#). The elements `caption` and `description` are imported from the original XML file from the Catalogue. The name of the XML file in the Catalogue is `etexcmds.xml`.

```
398 (*catalogue)
399 <?xml version='1.0' encoding='us-ascii'?>
400 <!DOCTYPE entry SYSTEM 'catalogue.dtd'>
401 <entry datestamp='$Date$' modifier='$Author$' id='etexcmds'>
402   <name>etexcmds</name>
403   <caption>Avoid name clashes with e-TeX commands.</caption>
404   <authorref id='auth:oberdiek'>
405     <copyright owner='Heiko Oberdiek' year='2007,2010,2011'>
406       <license type='lppl1.3'>
407         <version number='1.5'>
408           <description>
409             New primitive commands are introduced in e-TeX; sometimes the
```

```

410     names collide with existing macros. This package solves the
411     name clashes by adding a prefix to e-TeX's commands. For
412     example, eTeX's \unexpanded is provided as
413     \etex@unexpanded.
414
415     <p/>
416     The package is part of the <xref refid='oberdiek'>oberdiek</xref>
417     bundle.
418 </description>
419 <documentation details='Package documentation'
420     href='ctan:/macros/latex/contrib/oberdiek/etexcmds.pdf' />
421 <ctan file='true' path='/macros/latex/contrib/oberdiek/etexcmds.dtx' />
422 <miktex location='oberdiek' />
423 <texlive location='oberdiek' />
424 <install path='/macros/latex/contrib/oberdiek/oberdiek.tds.zip' />
425 </entry>
426 </catalogue>

```

6 History

[2007/05/06 v1.0]

- First version.

[2007/09/09 v1.1]

- Documentation for `\ifetex@unexpanded` added.
- Catcode section rewritten.

[2007/12/12 v1.2]

- `\etex@expanded` added.

[2010/01/28 v1.3]

- Compatibility to `iniTeX` added.

[2011/01/30 v1.4]

- Already loaded package files are not input in plain `TeX`.

[2011/02/16 v1.5]

- Using `LuaTeX`'s `tex.enableprimitives` if available.

7 Index

Numbers written in *italic* refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; plain numbers refer to the code lines where the entry is used.

Symbols		<code>\@</code>	252, 325, 350
<code>\#</code>	251	<code>\@@expanded</code>	210, 213
<code>\%</code>	327	<code>\@@unexpanded</code>	159, 162

\@PackageError	355, 368		
\@PackageInfoNoLine	182, 233		
\@PackageWarningNoLine	389, 392		
\@ehc	355, 368		
\@firstofone	260, 263		
\@gobble	257, 265		
\@undefined	58		
\\	326		
\{	249		
\}	250		
A			
\advance	290, 298, 313		
\aftergroup	29		
B			
\body	269, 273		
C			
\catcode	2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 33, 34, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 69, 70, 72, 73, 74, 78, 79, 80, 81, 82, 83, 84, 87, 88, 90, 91, 92, 93, 97, 99, 249, 250, 251, 252, 287, 296, 304, 308, 325, 326, 327, 350		
\count@	254, 283, 287, 289, 290, 294, 296, 297, 298, 302, 304, 307, 308, 312, 313		
\countdef	254		
\csname	14, 21, 50, 66, 76, 118, 120, 123, 125, 128, 131, 134, 253, 256, 259, 262, 317, 344		
D			
\directlua	169, 220		
\documentclass	375		
E			
\empty	17, 18		
\end	345, 357		
\endcsname	14, 21, 50, 66, 76, 118, 120, 123, 125, 128, 131, 134, 253, 256, 259, 262, 317, 344		
\endinput	29, 114		
\endlinechar	4, 35, 71, 77, 89		
\errmessage	306		
\escapechar	113, 116		
\etex@expanded	196		
\etex@expandedfalse	241		
\etex@expandedtrue	202, 208, 214, 230		
\etex@unexpanded			
	2, 145, 352, 365, 386, 413		
\etex@unexpandedfalse	190		
\etex@unexpandedtrue	151, 157, 163, 179		
\etexcmds@AtEnd	95, 96, 111, 112, 246		
\etexcmds@newif	117, 144, 195		
\expanded	197, 198, 201, 234, 237		
I			
\ifetex@expanded	195		
\ifetex@unexpanded	2, 144, 384		
\iffalse	121		
\ifluatex	165, 216		
\ifnum	166, 217, 289, 297, 304, 312		
\iftrue	126		
\ifx	15, 18, 21, 50, 58, 61, 131, 134, 148, 154, 160, 177, 199, 205, 211, 228, 253, 256, 259, 262, 317, 353, 366, 387		
\immediate	23, 52, 348		
\input	135, 318, 349		
\iterate	270, 272, 274		
L			
\LoadCommand	318, 328		
\loop	268, 284, 295, 303		
\luatexversion	166, 217		
M			
\makeatletter	363, 383		
\meaning	147, 153, 159, 176, 198, 204, 210, 227, 352, 365, 386		
\MessageBreak			
	183, 185, 187, 234, 236, 238		
N			
\NeedsTeXFormat	360, 373		
\next	274, 276, 278		
\normalexpanded	204, 207		
\normalunexpanded	153, 156		
\normalwritestatus	377, 378		
\number	309		
P			
\PackageInfo	26		
\ProvidesFile	361, 374		
\ProvidesPackage	19, 67		
R			
\RangeCatcodeCheck			
	301, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340		
\RangeCatcodeInvalid			
	293, 321, 322, 323, 324		
\repeat	268, 280, 291, 299, 314		
\RequirePackage	141, 142, 362		
\RestoreCatcodes	282, 285, 286, 341		
S			
\space	307, 308, 316		
\stop	370, 396		
T			
\Test	320, 343		
\the	77, 78, 79, 80, 81, 82, 83, 84, 97, 113, 287, 307, 308		

		X	
<code>\TMP@EnsureCode</code>	. 94, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110	<code>\x</code> 14, 15, 18, 22, 26, 28, 51, 56, 66, 75, 87, 146, 148, 154,
<code>\TMP@RequirePackage</code>	... 132, 138, 139		160, 177, 197, 199, 205, 211,
<code>\typeout</code> 378, 379		228, 351, 353, 364, 366, 385, 387
U			
<code>\unexpanded</code> 146, 147, 150, 183, 186, 351, 364, 385, 412	Y	
<code>\usepackage</code> 376, 381, 382	<code>\y</code> 147, 148, 153, 154, 159, 160, 176, 177, 198, 199, 204, 205, 210, 211, 227,
W			
<code>\write</code> 23, 52, 348		228, 352, 353, 365, 366, 386, 387