

# The docext Package<sup>\*</sup>

Mingyu Xia<sup>†</sup>

Released 2026-07-01 v0.2C

## Abstract

The docext package is an extension for documenting the L<sup>A</sup>T<sub>E</sub>X source files. It is based on the doc package and works smoothly under the l<sub>3</sub>doc, ltxdoc, and article classes.

## 1 Loading & Configuring the Package

Write the line in the preamble

```
\usepackage[options]{docext}
```

while the package  $\langle options \rangle$  accepts the following keys

`color` =  $\langle 13color | HTML \rangle$ : The color of keys (Default: black).

`font` =  $\langle font macros \rangle$ : Font of the keys.

`delimiter` =  $\langle string \rangle$ : Delimiter between the keys.

`ratio` =  $\langle fp num \rangle$ : Ratio of the boxes' widths in codemo environment (Default: 0.625).

Apart from configuring the package with the package options, users can also use the `\docextset` function within the preamble and the context.

---

|                         |   |
|-------------------------|---|
| <code>\docextset</code> | <code>\docextset {\langle options \rangle}</code> |
|-------------------------|---|

---

|                              |   |
|------------------------------|---|
| <code>New: 2026-06-07</code> | The functions used in this package <i>after</i> <code>\docextset</code> will be influenced.<br>The $\langle options \rangle$ accepts the same keys above. |
|------------------------------|---|

---

<sup>\*</sup><https://ctan.org/pkg/docext>, <https://github.com/myhsia/docext>

<sup>†</sup>[xiamingyu@westlake.edu.cn](mailto:xiamingyu@westlake.edu.cn)

## 2 User's Interfaces

---

`\keys` `\keys [<options>] {<comma list>}`

---

New: 2026-06-07 Typeset the keys with specific format. The `<options>` accepts the `delimiter`, `font`,  
Updated: 2026-06-27 `color` keys referred in [section 1](#) and another `emph` key to assign # of the key will be emphasised.

The initial value of the `delimiter` key is `,\,\allowbreak` in this function.

|  |  |
|--|--|
| <pre>\keys [font = \sl] {keya, keyb, keyc}\\ \keys [emph = 2, delimiter = \textbar] {true, false, not given}</pre> | <pre>keya, keyb, keyc true false not given</pre> |
|--|--|

---

`\val` `\val [<options>] {<comma list>}`

---

New: 2026-06-13 Typeset the value with specific format and surround with `\meta`. The `<options>` accepts the `delimiter`, `font`, `color` keys referred in [section 1](#).

The initial value of the `delimiter` key is `\textbar` in this function.

---

`\TF` Shortcut for typeset Boolean-choice value.

---

New: 2026-06-07

|                               |  |
|-------------------------------|--|
| <code>\TF, \TTF, \TFF.</code> | <code>true false, true false, true false.</code> |
|-------------------------------|--|

---

`\ttwd` `\hspace \<fontsize>ttwd`

---

New: 2026-06-13 Output the dimension of the width of one typewriter letter. The `<fontsize>` prefix can be chosen as `tiny`, `scriptsize`, `footnotesize`, `small`, `normalsize`, `large`, `Large`, `LARGE`, `huge`, `Huge`.

`codemo`, `codemo* (env)` Typeset the code on the left hand side and then execute the code in the right hand side, while the star version will put the code above the demo.

```
\begin{codemo(*)}
Code needs to be typeset in verbatim and demoed
\end{codemo(*)}
```

`keyval (env)` The effect is the same as the demos in the introductions of the functions above. Itemize-type environment for typesetting the keys.

```
\begin{keyval}
\item [\keys{keya, keyb, keyc}]\meta{foo}
\end{keyval}
```

The effect is the same as the package options introduction of [section 1](#) in this manual.

## A The source code

Using codedoc as the namespace.

```
1 <@@=codedoc>
    Start the optionlist package for l3docstrip.
2 <*package>
```

### A.1 Variables

`\l__codedoc_keys_typeset_tl` Variables for storing the output of `\__codedoc_keys_aux:nnnnn`.

```
\l__codedoc_keys_typeset_box
3 \tl_new:N \l__codedoc_keys_typeset_tl
4 \box_new:N \l__codedoc_keys_typeset_box
```

*(End of definition for \l\_\_codedoc\_keys\_typeset\_tl and \l\_\_codedoc\_keys\_typeset\_box.)*

`\g__codedoc_true_tl` Constant variables used in `\__codedoc_keys_TF_aux:n`.

```
\g__codedoc_false_tl
5 \tl_const:Nn \g__codedoc_true_tl { true }
\g__codedoc_vbar_tl
6 \tl_const:Nn \g__codedoc_false_tl { false }
7 \tl_const:Nn \g__codedoc_vbar_tl
8 { \sys_if_engine_opentype:TF { \textbar } { | } }
```

*(End of definition for \g\_\_codedoc\_true\_tl, \g\_\_codedoc\_false\_tl, and \g\_\_codedoc\_vbar\_tl.)*

`\l__codedoc_codemo_iow` Variables used in `\__codedoc_codemo_start:` and `\__codedoc_codemo_end:Nn`.

```
\l__codedoc_codemo_ior
9 \iow_new:N \l__codedoc_codemo_iow
\l__codedoc_codemo_int
10 \ior_new:N \l__codedoc_codemo_ior
11 \int_new:N \l__codedoc_codemo_int
\l__codedoc_codemo_name_tl
12 \tl_const:Nn \l__codedoc_codemo_name_tl {\jobname.codemo.vrb}
```

*(End of definition for \l\_\_codedoc\_codemo\_iow and others.)*

`\l__codedoc_ttwd_box` Box for saving one typewriter letter temporally.

```
13 \box_new:N \l__codedoc_ttwd_box
```

*(End of definition for \l\_\_codedoc\_ttwd\_box.)*

### A.2 Messages

Raise when the width of the keys is wider than `1.2\marginparwidth`.

```
14 \msg_new:nnn { docext } { Overfull ~ \string \keys }
15 {
16     Keys ~ wider ~ than ~ 1.2 \string \marginparwidth \iow_newline:
17     \space\space Exceed ~ the ~ ability ~ of ~ scaling
18 }
```

### A.3 Options and configuration

`__color_named_docolor_prop` Key-value definitions of the package options, separate the keys into two groups. The first one, `@@ / pkgopt / keys`, is also used in `\keys`.

```

19 \keys_define:nn { __codedoc / pkgopt / keys }
20 {
21   color      .code:n      =
22   {
23     \color_if_exist:nTF {#1}
24     { \color_set:nn { docolor } {#1} }
25     { \color_set:nnn { docolor } { HTML } {#1} }
26   },
27   color      .initial:n = { black },
28   font       .tl_set:N   = \g__codedoc_keys_font_tl,
29   delimiter  .tl_set:N   = \g__codedoc_keys_delimiter_tl,
30 }
31 \keys_define:nn { __codedoc / pkgopt / codemo }
32 {
33   ratio      .fp_set:N   = \g__codedoc_codemo_ratio_fp,
34   ratio      .initial:n = { .625 },
35 }

```

*(End of definition for `\l__color_named_docolor_prop` and others.)*

`\l__codedoc_keys_emph_int` Key-value definitions special for the `\keys` macro.

```

36 \keys_define:nn { __codedoc / keys }
37 { emph      .int_set:N = \l__codedoc_keys_emph_int }

```

*(End of definition for `\l__codedoc_keys_emph_int`.)*

Process the class options.

```

38 \ProcessKeyOptions [ __codedoc / pkgopt / keys,
39                   __codedoc / pkgopt / codemo ]

```

**`\docextset`** To control the variables.

```

40 \DeclareDocumentCommand \docextset { m }
41 {
42   \keys_set_known:nn { __codedoc / pkgopt / keys } {#1}
43   \keys_set_known:nn { __codedoc / pkgopt / codemo } {#1}
44 }

```

*(End of definition for `\docextset`. This function is documented on page 1.)*

## A.4 Class and package loading / tweaks

Load the dependencies.

```
45 \RequirePackage { xcolor, enumitem, verbatim }
```

Overwrite `\prepare@family@series@update` again under `pLaTeX` and `upLaTeX` to resolve the error raised by `\settowidth \MacroIndent` in the `doc` package.

```
46 \bool_lazy_or:nnT { \sys_if_engine_ptex_p: } { \sys_if_engine_uptex_p: }
47 {
48   \def\prepare@family@series@update#1#2{%
49     \def\@currentmetafamily{#1}%
50     \if@forced@series
51       \fontfamily#2%
52     \else
53       \expand@font@defaults
54       \let\@target@series@value\@empty
55       \expandafter\edef\csname ??def@ult\endcsname{\f@family}%
56       \let\@elt@update@series@target@value
57         \@meta@family@list
58         \@elt{??}%
59       \let\@elt@relax
60       \fontfamily#2%
61       \ifx\@target@series@value\@empty
62       \else
63         \ifx \f@series\@target@series@value
64         \else
65           \maybe@load@fontshape
66           \series@maybe@drop@one@m\@target@series@value\f@series
67         \fi
68       \fi
69     \fi
70   }
71 }
```

Patch the font of the macrocode environment.

```
72 \hook_gput_code:nnn { cmd / macro@font / after } { . } { \ttfamily }
```

Patch the macro `\meta` in the `l3doc` class and the `doc` package. Since the `l3doc` package has already loaded the `doc` package, a branch is required.

```
73 \cs_if_exist:cTF { ver@l3doc.cls }
```

Under the `l3doc` class, surround `\hbox:n` to the argument of the kernel function `\__codedoc_meta_original:n` of the `\meta` macro. Suppress the warning raised by `l3doc` (checking `l3syntax`), and reset the counter: section at the beginning of the documentation environment.

```
74 {
```

```

75 \cs_set_eq:NN \__codedoc_meta_patch:n \__codedoc_meta_original:n
76 \cs_set_protected:Npn \__codedoc_meta_original:n #1
77   { \__codedoc_meta_patch:n { \hbox:n {#1} } }
78 \msg_redirect_module:nnn { l3doc } { warning } { none }
79 \hook_gput_code:nnn { env / documentation / before } { . }
80   { \setcounter { section } { 0 } }
81 }

```

Under other classes, load the doc package then take the same trick as in the l3doc class.

```

82 {
83   \RequirePackage { doc }
84   \cs_set_eq:NN \__codedoc_meta_patch:n \meta
85   \DeclareDocumentCommand \meta { m }
86     { \__codedoc_meta_patch:n { \hbox:n {#1} } }
87 }

```

## A.5 User's interfaces

**\keys**  $\LaTeX$  2 $\epsilon$  user's interface for input keys quickly.

```

88 \DeclareDocumentCommand \keys { 0 {} m }
89 {
90   \group_begin:
91     \keys_set_known:nn { __codedoc / pkgopt / keys }
92     { delimiter = { ,\,\allowbreak }, #1 }
93     \keys_set_known:nn { __codedoc / keys } { #1 }
94     \tl_set:Nn \l__codedoc_keys_typeset_tl
95       {
96         \__codedoc_keys_aux:nnnnn {#2}
97         { \l__codedoc_keys_emph_int }
98         { \textup \g__codedoc_keys_delimiter_tl }
99         { \g__codedoc_keys_font_tl \ttfamily }
100        { docolor }
101      }
102     \hbox_set:Nn \l__codedoc_keys_typeset_box { \l__codedoc_keys_typeset_tl }
103     \tl_if_eq:NnTF \@currenvir { keyval }
104     {
105       \dim_compare:nNnT
106         { \box_wd:N \l__codedoc_keys_typeset_box } > { \marginparwidth }
107         {
108           \dim_compare:nNnT
109             { \box_wd:N \l__codedoc_keys_typeset_box } > { 1.2 \marginparwidth }
110             { \msg_warning:nn { docext } { Overfull ~ \string \keys } }
111           \box_scale:Nnn \l__codedoc_keys_typeset_box { 5 / 6 } { 1 }
112         }

```



```

145         \exp_args:No \color_select:n {#5} ##1
146     \color_group_end:
147 }
148 #4 \seq_use:Nn \l_tmpb_seq {#3}
149 \group_end:
150 }
151 \cs_new_protected_nopar:Npn \__codedoc_keys_emph:n #1
152 {
153     \group_begin:
154     \upshape \bfseries \exp_args:No \color_select:n { red } #1
155     \group_end:
156 }

```

(End of definition for `\__codedoc_keys_aux:nnnnn` and `\__codedoc_keys_emph:n`.)

**\TF**  $\text{\LaTeX}$  2 $\varepsilon$  user's interface for input Boolean-choice value quickly.

```

\TTF 157 \DeclareDocumentCommand \TF {} { \__codedoc_keys_TF_aux:n { 0 } }
\TTF 158 \DeclareDocumentCommand \TTF {} { \__codedoc_keys_TF_aux:n { 1 } }
\TTF 159 \DeclareDocumentCommand \TFF {} { \__codedoc_keys_TF_aux:n { 2 } }

```

(End of definition for `\TF`, `\TTF`, and `\TFF`. These functions are documented on page 2.)

`\__codedoc_keys_TF_aux:n` Auxiliary commands of the `\TF`, `\TTF`, `\TFF` macros.

```

160 \cs_new_protected_nopar:Npn \__codedoc_keys_TF_aux:n #1
161 {
162     \__codedoc_keys_aux:nnnnn
163     { \g__codedoc_true_tl, \g__codedoc_false_tl } {#1}
164     { \textup \g__codedoc_vbar_tl } { \ttfamily } { docolor }
165 }

```

(End of definition for `\__codedoc_keys_TF_aux:n`.)

**keyval** (*env.*) Itemize-type environment for typesetting the keys. Using the interfaces provided by the `enumitem` package.

```

166 \newlist{keyval}{itemize}{10}
167 \setlist[keyval]{leftmargin = 0pt, labelsep = 0pt}

```

**codemo**, **codemo\*** (*env.*) Environment for typesetting the code within a verbatim and a demo environment at the same time.

```

168 \DeclareDocumentEnvironment { codemo } { } { \__codedoc_codemo_start: }
169 {
170     \__codedoc_codemo_end:Nn \c_false_bool
171     { \g__codedoc_codemo_ratio_fp }
172 }
173 \DeclareDocumentEnvironment { codemo* } { } { \__codedoc_codemo_start: }
174 {

```



```

175     \__codedoc_codemo_end:Nn \c_true_bool
176     { \g__codedoc_codemo_ratio_fp }
177 }

```

\\_\_codedoc\_codemo\_start: Auxiliary commands of the codemo environment.

```

\__codedoc_codemo_end:Nn 178 \cs_new_protected:Npn \__codedoc_codemo_start:
179 {

```

The I/O streams part<sup>1</sup>.

```

180 \group_begin:
181 \@bsphack
182 \iow_open:Nn \l__codedoc_codemo_iow { \l__codedoc_codemo_name_tl }
183 \let \do \char_set_catcode_other:N
184 \dospecials \char_set_catcode_active:N \^~M
185 \cs_set:Npn \verbatim@processline
186 {
187     \exp_args:NNo \iow_now:Nn
188     \l__codedoc_codemo_iow { \int_use:N \verbatim@line }
189 }
190 \verbatim@start
191 }
192 \cs_new_protected:Npn \__codedoc_codemo_end:Nn #1#2
193 {
194     \iow_close:N \l__codedoc_codemo_iow
195     \@esphack
196 \group_end:
197 \char_set_catcode_comment:N \%
198 \ior_open:Nn \l__codedoc_codemo_ior { \l__codedoc_codemo_name_tl }
199 \int_zero:N \l__codedoc_codemo_int
200 \ior_map_inline:Nn \l__codedoc_codemo_ior
201 { \int_incr:N \l__codedoc_codemo_int }

```

The typeset part.

```

202 \par \smallskip
203 \group_begin:
204 \dim_set:Nn \parindent { \c_zero_skip }
205 \fbox
206 {
207     \bool_if:NT #1 { \null \skip_horizontal:n { 2\ttwd } }
208     \parbox [ c ] [ \l__codedoc_codemo_int \baselineskip + .48ex ]
209     {
210         \fp_eval:n { \bool_if:NTF #1 { 1 } {#2} * .96 }
211         \linewidth \bool_if:NT #1 { -.8pt }
212     } { \small \verbatiminput \l__codedoc_codemo_name_tl }

```

---

<sup>1</sup>By modifying @AlphaZTX's [phy2docdef.tex](#) magically using LaTeX3.

```

213     }
214     \bool_if:NTF #1
215     { \par \skip_vertical:n { -1.5pt } } { \hfill }
216     \fbox
217     {
218         \null \skip_horizontal:n { 2\ttwd }
219         \parbox [ c ] [ \l__codedoc_codemo_int \baselineskip + .48ex ]
220         {
221             \fp_eval:n { \bool_if:NTF #1 { 1 } { (1 - #2) } * .96 }
222             \linewidth \bool_if:NTF #1 { -.8pt } { - 2\ttwd }
223         } { \file_input:n { \l__codedoc_codemo_name_tl } }
224     }
225     \par \smallskip
226     \group_end:
227     \char_set_catcode_ignore:N \%
228 }

```

(End of definition for \\_\_codedoc\_codemo\_start: and \\_\_codedoc\_codemo\_end:Nn.)

**\ttwd** Dimensions of the width of one typewriter letter under different fontsizes.

```

229 \clist_map_inline:nn
230 {
231     tiny, scriptsize, footnotesize, small, \@empty,
232     large, Large, LARGE, huge, Huge
233 }
234 {
235     \dim_new:c { #1 ttwd }
236     \cs_new_protected_nopar:cpn { update#1ttwd }
237     {
238         \hbox_set:Nn \l__codedoc_ttwd_box { \use:c {#1} \ttfamily x }
239         \dim_gset:cn { #1 ttwd } { \box_wd:N \l__codedoc_ttwd_box }
240     }
241     \hook_gput_code:nnn { begindocument / before } { . }
242     { \use:c { update#1ttwd } }
243 }

```

(End of definition for \ttwd. This function is documented on page 2.)

End the optionlist package for l3docstrip.

244 </package>

Restore the namespace.

245 <@@=>

# Index

The italic numbers denote the pages where the corresponding entry is described, numbers underlined point to the definition, all others indicate the places where it is used.

| Symbols                       |                              |
|-------------------------------|------------------------------|
| \%                            | ..... 197, 227               |
| \,                            | ..... 92, 114                |
| \^                            | ..... 184                    |
| A                             |                              |
| \allowbreak                   | ..... 92, 122                |
| B                             |                              |
| \baselineskip                 | ..... 208, 219               |
| \bfseries                     | ..... 154                    |
| bool commands:                |                              |
| \bool_if:NTF                  | 207, 210, 211, 214, 221, 222 |
| \bool_lazy_or:nnTF            | ..... 46                     |
| \c_false_bool                 | ..... 170                    |
| \c_true_bool                  | ..... 175                    |
| box commands:                 |                              |
| \box_new:N                    | ..... 4, 13                  |
| \box_scale:Nnn                | ..... 111                    |
| \box_use_drop:N               | ..... 113                    |
| \box_wd:N                     | ..... 106, 109, 239          |
| C                             |                              |
| char commands:                |                              |
| \char_set_catcode_active:N    | .. 184                       |
| \char_set_catcode_comment:N   | .. 197                       |
| \char_set_catcode_ignore:N    | .. 227                       |
| \char_set_catcode_other:N     | ... 183                      |
| clist commands:               |                              |
| \clist_item:nn                | ..... 140                    |
| \clist_map_inline:nn          | ..... 229                    |
| codedoc internal commands:    |                              |
| \__codedoc_codemo_end:Nn      | ....                         |
| .....                         | 3, 170, 175, 178, 192        |
| \l__codedoc_codemo_int        | ....                         |
| .....                         | 9, 199, 201, 208, 219        |
| \l__codedoc_codemo_ior        | 9, 198, 200                  |
| \l__codedoc_codemo_iow        | ....                         |
| .....                         | 9, 182, 188, 194             |
| \l__codedoc_codemo_name_tl    | ..                           |
| .....                         | 9, 182, 198, 212, 223        |
| \g__codedoc_codemo_ratio_fp   | ..                           |
| .....                         | 19, 171, 176                 |
| \__codedoc_codemo_start:....  |                              |
| .....                         | 3, 168, 173, 178, 178        |
| \g__codedoc_false_tl          | .... 5, 163                  |
| \__codedoc_keys_aux:nnnnn     | ...                          |
| .....                         | 3, 96, 125, 133, 133, 162    |
| \g__codedoc_keys_delimiter_tl | .....                        |
| .....                         | 19, 98, 127                  |
| \__codedoc_keys_emph:n        | 133, 140, 151                |
| \l__codedoc_keys_emph_int     | .. 36, 97                    |
| \g__codedoc_keys_font_tl      | ....                         |
| .....                         | 19, 99, 114, 128             |
| \__codedoc_keys_TF_aux:n      | ....                         |
| .....                         | 3, 157, 158, 159, 160, 160   |
| \l__codedoc_keys_typeset_box  | .....                        |
| .....                         | 3, 102, 106, 109, 111, 113   |
| \l__codedoc_keys_typeset_tl   | ..                           |
| .....                         | 3, 94, 102, 115              |
| \__codedoc_meta_original:n    | ..                           |
| .....                         | 5, 75, 76                    |
| \__codedoc_meta_patch:n       | ....                         |
| .....                         | 75, 77, 84, 86               |
| \g__codedoc_true_tl           | ..... 5, 163                 |
| \l__codedoc_ttwd_box          | .. 13, 238, 239              |
| \g__codedoc_vbar_tl           | ... 5, 122, 164              |
| codemo, codemo* (env.)        | ..... 2, 8                   |
| color commands:               |                              |
| \color_group_begin:           | ..... 144                    |
| \color_group_end:             | ..... 146                    |
| \color_if_exist:nTF           | ..... 23                     |
| \color_select:n               | ..... 145, 154               |
| \color_set:nn                 | ..... 24                     |
| \color_set:nnn                | ..... 25                     |
| color internal commands:      |                              |
| \l__color_named_docolour_prop | .. 19                        |

|                                   |                                |
|-----------------------------------|--------------------------------|
| cs commands:                      |                                |
| \cs_if_exist:NTF . . . . .        | 73                             |
| \cs_new_protected:Npn . . .       | 178, 192                       |
| \cs_new_protected_nopar:Npn .     |                                |
| . . . . .                         | 133, 151, 160, 236             |
| \cs_set:Npn . . . . .             | 185                            |
| \cs_set_eq:NN . . . . .           | 75, 84                         |
| \cs_set_protected:Npn . . . . .   | 76                             |
| \csname . . . . .                 | 55                             |
| <b>D</b>                          |                                |
| \DeclareDocumentCommand . . . . . |                                |
| . . . . .                         | 40, 85, 88, 118, 157, 158, 159 |
| \DeclareDocumentEnvironment .     | 168, 173                       |
| \def . . . . .                    | 48, 49                         |
| dim commands:                     |                                |
| \dim_compare:nNnTF . . . . .      | 105, 108                       |
| \dim_gset:Nn . . . . .            | 239                            |
| \dim_new:N . . . . .              | 235                            |
| \dim_set:Nn . . . . .             | 204                            |
| \do . . . . .                     | 183                            |
| \docextset . . . . .              | 1, 40                          |
| \dospecials . . . . .             | 184                            |
| <b>E</b>                          |                                |
| \edef . . . . .                   | 55                             |
| \else . . . . .                   | 52, 62, 64                     |
| \endcsname . . . . .              | 55                             |
| environments:                     |                                |
| codemo, codemo* . . . . .         | 2, 8                           |
| keyval . . . . .                  | 2, 8                           |
| exp commands:                     |                                |
| \exp_args:NNo . . . . .           | 187                            |
| \exp_args:No . . . . .            | 145, 154                       |
| \expandafter . . . . .            | 55                             |
| <b>F</b>                          |                                |
| \fbox . . . . .                   | 205, 216                       |
| \fi . . . . .                     | 67, 68, 69                     |
| file commands:                    |                                |
| \file_input:n . . . . .           | 223                            |
| \fontfamily . . . . .             | 51, 60                         |
| fp commands:                      |                                |
| \fp_eval:n . . . . .              | 210, 221                       |
| <b>G</b>                          |                                |
| group commands:                   |                                |
| \group_begin: . . . . .           | 90, 120, 135, 153, 180, 203    |
| \group_end: . . . . .             | 116, 131, 149, 155, 196, 226   |
| <b>H</b>                          |                                |
| hbox commands:                    |                                |
| \hbox:n . . . . .                 | 5, 77, 86                      |
| \hbox_set:Nn . . . . .            | 102, 238                       |
| \hfill . . . . .                  | 215                            |
| hook commands:                    |                                |
| \hook_gput_code:nnn . . . .       | 72, 79, 241                    |
| <b>I</b>                          |                                |
| \ifx . . . . .                    | 61, 63                         |
| int commands:                     |                                |
| \int_if_zero:nTF . . . . .        | 137                            |
| \int_incr:N . . . . .             | 201                            |
| \int_new:N . . . . .              | 11                             |
| \int_use:N . . . . .              | 188                            |
| \int_zero:N . . . . .             | 199                            |
| ior commands:                     |                                |
| \ior_map_inline:Nn . . . . .      | 200                            |
| \ior_new:N . . . . .              | 10                             |
| \ior_open:Nn . . . . .            | 198                            |
| iow commands:                     |                                |
| \iow_close:N . . . . .            | 194                            |
| \iow_new:N . . . . .              | 9                              |
| \iow_newline: . . . . .           | 16                             |
| \iow_now:Nn . . . . .             | 187                            |
| \iow_open:Nn . . . . .            | 182                            |
| <b>J</b>                          |                                |
| \jobname . . . . .                | 12                             |
| <b>K</b>                          |                                |
| \keys . . . . .                   | 2, 14, 88                      |
| keys commands:                    |                                |
| \keys_define:nn . . . . .         | 19, 31, 36                     |
| \keys_set_known:nn . . . . .      | 42, 43, 91, 93, 121            |
| keyval (env.) . . . . .           | 2, 8                           |
| <b>L</b>                          |                                |
| \let . . . . .                    | 54, 56, 59, 183                |
| \linewidth . . . . .              | 211, 222                       |

| M                                       |               | T  |                            |
|---|---------------|--|----------------------------|
| <code>\marginparwidth</code>            | 16, 106, 109  | TeX and L <sup>A</sup> T <sub>E</sub> X 2 <sub>ε</sub> commands: |                            |
| <code>\meta</code>                      | 84, 85, 123   | <code>\@bsphack</code>   | 181                        |
| msg commands:                           |               | <code>\@currentmetafamily</code>                                 | 49                         |
| <code>\msg_new:nnn</code>               | 14            | <code>\@currenvir</code>   | 103                        |
| <code>\msg_redirect_module:nnn</code>   | 78            | <code>\@elt</code>   | 56, 58, 59                 |
| <code>\msg_warning:nn</code>            | 110           | <code>\@empty</code>   | 54, 61, 231                |
| N                                       |               | <code>\@esphack</code>   | 195                        |
| <code>\newlist</code>                   | 166           | <code>\@meta@family@list</code>                                  | 57                         |
| <code>\null</code>                      | 207, 218      | <code>\&lt;{fontsize}ttwd</code>                                 | 2                          |
| P                                       |               | <code>\docextset</code>  | 1                          |
| <code>\par</code>                       | 202, 215, 225 | <code>\expand@font@defaults</code>                               | 53                         |
| <code>\parbox</code>                    | 208, 219      | <code>\f@family</code>   | 55                         |
| <code>\parindent</code>                 | 204           | <code>\f@series</code>   | 63, 66                     |
| <code>\ProcessKeyOptions</code>         | 38            | <code>\hspace</code>   | 2                          |
| R                                       |               | <code>\if@forced@series</code>                                   | 50                         |
| <code>\relax</code>                     | 59            | <code>\keys</code>   | 2, 4, 7                    |
| <code>\RequirePackage</code>            | 45, 83        | <code>\marginparwidth</code>                                     | 3                          |
| S                                       |               | <code>\maybe@load@fontshape</code>                               | 65                         |
| seq commands:                           |               | <code>\meta</code>   | 2, 5                       |
| <code>\seq_gset_item:Nnn</code>         | 139           | <code>\prepare@family@series@update</code>                       | 5, 48                      |
| <code>\seq_set_from_clist:Nn</code>     | 136           | <code>\series@maybe@drop@one@m</code>                            | 66                         |
| <code>\seq_set_map:NNn</code>           | 142           | <code>\target@series@value</code>                                | 54, 61, 63, 66             |
| <code>\seq_use:Nn</code>                | 148           | <code>\textbar</code>  | 2                          |
| <code>\l_tmpa_seq</code>                | 136, 139, 142 | <code>\TF</code>   | 8                          |
| <code>\l_tmpb_seq</code>                | 142, 148      | <code>\TFF</code>  | 8                          |
| <code>\setcounter</code>                | 80            | <code>\TTF</code>  | 8                          |
| <code>\setlist</code>                   | 167           | <code>\update@series@target@value</code>                         | 56                         |
| skip commands:                          |               | <code>\val</code>  | 2                          |
| <code>\skip_horizontal:n</code>         | 207, 218      | <code>\verbatim@line</code>                                      | 188                        |
| <code>\skip_vertical:n</code>           | 215           | <code>\verbatim@processline</code>                               | 185                        |
| <code>\c_zero_skip</code>               | 204           | <code>\verbatim@start</code>                                     | 190                        |
| <code>\small</code>                     | 212           | <code>\textbar</code>  | 8                          |
| <code>\smallskip</code>                 | 202, 225      | <code>\textup</code>   | 98, 127, 164               |
| <code>\space</code>                     | 17            | <code>\TF</code>   | 2, 157                     |
| <code>\string</code>                    | 14, 16, 110   | <code>\TFF</code>  | 157                        |
| sys commands:                           |               | tl commands:   |                            |
| <code>\sys_if_engine_opentype:TF</code> | 8             | <code>\tl_const:Nn</code>  | 5, 6, 7, 12                |
| <code>\sys_if_engine_ptex_p:</code>     | 46            | <code>\tl_if_eq:NnTF</code>                                      | 103                        |
| <code>\sys_if_engine_uptex_p:</code>    | 46            | <code>\tl_new:N</code>   | 3                          |
|   |               | <code>\tl_set:Nn</code>  | 94                         |
|   |               | <code>\TTF</code>  | 157                        |
|   |               | <code>\ttfamily</code>   | 72, 99, 114, 128, 164, 238 |

|                             |                              |                                       |
|-----------------------------|------------------------------|---------------------------------------|
| <code>\ttwd</code> .....    | 2, 207, 218, 222, <u>229</u> | <b>V</b>                              |
| <b>U</b>                    |                              |                                       |
| <code>\upshape</code> ..... | 154                          | <code>\val</code> ..... 2, <u>118</u> |
| use commands:               |                              | <code>\verbatiminput</code> ..... 212 |
| <code>\use:N</code> .....   | 238, 242                     |                                       |