

DoX – Doc, only eXtended

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Abstract

The `doc` package provides L^AT_EX developers with means to describe the usage and the definition of new macros and environments. However, there is no simple way to extend this functionality to other items (options or counters for instance). The `dox` package is designed to circumvent this limitation.

1 Usage

Note: we assume that you know about `doc`'s `\DescribeMacro`, `\DescribeEnv` and all other associated commands and environments.

`\doxitem` `{\langle funcname \rangle}{\langle singular \rangle}{\langle plural \rangle}`

The DoX style provides a single user-level command to create new items with functionalities equivalent to what `doc` provides for macros and environments. Perhaps the simplest way to describe how it works is to give an example. Suppose you would like to describe package options. Here is what you need to do:

```
\usepackage{dox}
\doxitem{Option}{option}{options}
```

DoX then creates the following API for you:

- `\DescribeOption`
- the `option` environment
- `\PrintDescribeOption`
- `\PrintOptionName`
- `\SpecialMainOptionIndex`
- `\SpecialOptionIndex`

That's about it.

2 Implementation

2.1 Preamble

```

1 <dox>\NeedsTeXFormat{LaTeX2e}
2 <*header>
3 \ProvidesPackage{dox}[2009/09/11 v1.0 Extensions to the doc package]
4
5 </header>

```

2.2 Real job execution

`\doxm@cro@` $\{\langle item \rangle\}\{\langle contents \rangle\}$

In `doc.sty`, the macro and environment environments go through the `\m@cro@` command which implements specific parts by testing a boolean condition as its first argument. This mechanism is not extensible, so I have to hack away a more generic version that would work for any new `dox` item, only which looks pretty much like the original one:

```

6 <*dox>
7 \long\def\doxm@cro@#1#2{%
8   \endgroup%
9   \topsep\MacroTopsep\trivlist
10  \def\makelabel##1{\llap{##1}}%
11  \if@inlabel
12    \let\@tempa\@empty
13    \count@\macro@cnt
14    \loop\ifnum\count@>\z@
15      \edef\@tempa{\@tempa\hbox{\strut}}\advance\count@\m@ne%
16    \repeat
17    \edef\makelabel##1{%
18      \llap{\vtop to\baselineskip
19 {\@tempa\hbox{##1}\vss}}}%
20    \advance\macro@cnt\@ne
21  \else
22    \macro@cnt\@ne
23  \fi
24  \edef\@tempa{%
25    \noexpand\item[%

```

That's the first modification:

```

26    \expandafter\noexpand\csname Print#1Name\endcsname{\string#2}}}%
27  \@tempa
28  \global\advance\c@CodelineNo\@ne

```

And that's the second one:

```

29  \@nameuse{SpecialMain#1Index}{#2}\nobreak
30  \global\advance\c@CodelineNo\m@ne
31  \ignorespaces}
32

```

2.3 API creation

`\doxitem` $\{\langle funcname \rangle\}\{\langle singular \rangle\}\{\langle plural \rangle\}$

```

33 \newcommand\doxitem[3]{%

```

The `\Print` $\langle item \rangle$ Name macro:

```
34 \ifundefined{Print#1Name}{%
35   \expandafter\def\csname Print#1Name\endcsname##1{%
36     \strut\MacroFont\string##1\ }{}}
```

The `\SpecialMain` $\langle item \rangle$ Index macro:

```
37 \expandafter\def\csname SpecialMain#1Index\endcsname##1{%
38   \@bsphack%
39   \special@index{%
40     ##1\actualchar{\string\ttfamily\space##1} (#2)\encapchar main}%
41   \special@index{%
42     #3:\levelchar##1\actualchar%
43     {\string\ttfamily\space##1}\encapchar main}%
44   \@esphack}
```

The `\PrintDescribe` $\langle item \rangle$ macro:

```
45 \ifundefined{PrintDescribe#1}{%
46   \expandafter\def\csname PrintDescribe#1\endcsname##1{%
47     \strut\MacroFont##1\ }{}}
```

The `\Special` $\langle item \rangle$ Index macro:

```
48 \expandafter\def\csname Special#1Index\endcsname##1{\@bsphack
49   \index{##1\actualchar{\protect\ttfamily##1}
50     (#2)\encapchar usage}%
51   \index{#3:\levelchar##1\actualchar{\protect\ttfamily##1}\encapchar
52     usage}\@esphack}
```

The `\Describe@` $\langle item \rangle$ macro:

```
53 \expandafter\def\csname Describe@#1\endcsname##1{%
54   \endgroup
55   \marginpar{\raggedleft\@nameuse{PrintDescribe#1}{##1}}%
56   \@nameuse{Special#1Index}{##1}\@esphack\ignorespaces}
```

The `\Describe` $\langle item \rangle$ macro:

```
57 \expandafter\def\csname Describe#1\endcsname{%
58   \leavevmode\@bsphack\beginingroup\MakePrivateLetters
59   \@nameuse{Describe@#1}}
```

The $\langle item \rangle$ environment:

```
60 \expandafter\def\csname #2\endcsname{%
61   \begingroup
62     \catcode'\12
63     \MakePrivateLetters\doxm@cro@{#1}}
64 \expandafter\let\csname end#2\endcsname\endtrivlist}
65
66 \dox
```