

The `suffix` Package

Version 1.5a

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1 Basics

The `suffix` package has the purpose of making it easy to define and maintain command variants like `\macro*` and even `\macro\` or similar. It requires eTeX version 2 for its work. The suffixes are fetched with `\futurelet`, so things like `\bgroup` and `{` can't be distinguished. In addition, the efficiency depends on the complexity of the suffix' definition, so you should preferably use characters or short commands as a suffix. A suffixed command itself counts as short for this purpose. How does a suffix definition look like?

`\WithSuffix`

The general form is

```
\WithSuffix<prefixed definition><macro><suffix>...
```

where *<prefixed definition>* is something like `\xdef`, `\global\let` or similar. Recognised prefixes are `\global`, `\long`, `\protected` (the latter is rarely useful, as the original definition already is robust), and `\expandafter` (with its 'natural' meaning), specially recognized commands are `\gdef` and `\xdef`. Other commands can be used as long as they are suitable as an undelimited macro argument. This means they must either be a single token like `\newcommand` or brace-enclosed like `{\newcommand*}`. *<macro>* can be a macro or an active character. It should be a single token suitable for assignment with `\let`. *<suffix>* can be something like a single letter such as `*` or `[`.

For example, assume that a command `\snarf` already exists and we want to define a variant `\snarf[<optarg>]`. Then we can do this with

```
\WithSuffix\long\def\snarf[#1]{<Definition using #1>}
```

That's pretty much it. Oh, only when a command is recognised as having a prefix `\global` or being `\xdef` or `\gdef` will the corresponding redefinitions be done globally. This is rarely a concern.

`\SuffixName`

In case you need to refer to the control sequence name used to refer to the suffixed macro, you can access it as

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```
\csname\SuffixName<macro>\<suffix>\endcsname
```

`\NoSuffixName` and if you need to refer to the original unsuffixed macro, you can access it as

```
\csname\NoSuffixName<macro>\endcsname
```

2 The driver file for the documentation

Installation is done by `bigfoot.ins`, so look there for more information for that. Here comes the documentation driver.

```
1 <*driver>
2 \documentclass{ltxdoc}
3 \usepackage{hyperref}
4 \usepackage{suffix}
5 \begin{document}
6 \OnlyDescription
7 <driver> \AlsoImplementation
8 \DocInput{suffix.dtx}
9 \end{document}
10 </driver>
```

3 Implementation

First we announce the package and check for eTeX 2.

```
11 <*style>
12 \ProvidesPackage{suffix}[2006/07/15 1.5a Variant command support]
13 \ifcase\ifx\TeXversion\@undefined \one\fi
14 \ifnum\TeXversion<\tw@ \one\fi\z@
15 \else
16 \PackageError{suffix}{This package requires eTeX version 2}%
17 {You might try to use the ‘elatex’ command.}%
18 \fi
```

`\WithSuffix` Then we define the `\WithSuffix` command. We use `\@temptokena` to collect prefixes and let `\WSF@global` to `\global` for global definitions.

```
19 \def\WithSuffix{\@temptokena{}\let\WSF@global\relax
20 \WSF@sfx}
```

`\WSF@sfx` After checking all prefixes and stuff (we’ll fill in this missing link later), we add
`\WSF@append` the defining command itself to the token list, place `<macro>` into `\reserved@a` and
`\WSF@gobblenext` fetch `<suffix>` into `\reserved@b`.

```
21 \long\def\WSF@sfx#1#2{\WSF@append{#1}\def\reserved@a{#2}%
22 \afterassignment\WSF@decsuff \WSF@gobblenext}
23
24 \def\WSF@append#1{\@temptokena\expandafter{\the\@temptokena#1}}
25
26 \def\WSF@gobblenext{\let\reserved@b= }
```

`\SuffixName` While we are at it, let us define the macro names to use for suffixed and unsuffixed
`\NoSuffixName` $\langle macro \rangle$.
27 `\long\def\SuffixName#1{WSF:\string#1 \meaning}`
28 `\def\NoSuffixName{WSF:\string}`

`\WSF@decsuff` We first check whether the macro has already been suffixed. If it hasn't, we save a copy of it and redefine it in terms of `\WSF@suffixcheck`.

```
29 \def\WSF@decsuff{\ifcsname
30   \expandafter\NoSuffixName\reserved@a\endcsname
31   \else
32     \WSF@global\expandafter\let\csname
33       \expandafter\NoSuffixName\reserved@a
34       \expandafter\endcsname \reserved@a
35   \long\def\reserved@c##1{\WSF@global\protected\def
36     ##1{\WSF@suffixcheck##1}}%
37   \expandafter\reserved@c\reserved@a
38   \fi
```

Once we have done that, we are ready for calling the definition command on the suffixed $\langle macro \rangle$.

```
39   \WSF@global
40   \the\expandafter\@temptokena\csname
41   \expandafter \SuffixName
42   \reserved@a\reserved@b\endcsname}
```

`\WSF@suffixcheck` We now do the runtime code. This is executed in a group of its own in order not to interfere with any other macros.

```
43 \def\WSF@suffixcheck#1{\begingroup\def\reserved@a{#1}%
44   \futurelet\reserved@b\WSF@suffixcheckii}
```

`\WSF@suffixcheckii` After assigning the $\langle suffix \rangle$ to `\reserved@b`, we split into the case of known and unknown suffix. We don't code this inline, since `\reserved@` in a false conditional might confuse \TeX if it happens to be something like `\iffalse` itself.

```
45 \def\WSF@suffixcheckii{\ifcsname \expandafter\SuffixName
46   \reserved@a\reserved@b\endcsname
47   \expandafter
48   \WSF@suffixcheckiii
49   \else
50   \expandafter
51   \WSF@suffixcheckiv
52   \fi}
```

`\WSF@suffixcheckiii` Calling the macros is reasonably straightforward, we just have to take care not to
`\WSF@suffixcheckiv` close the group at the wrong time.

```
53 \def\WSF@suffixcheckiii{%
54   \afterassignment\endgroup
55   \expandafter\aftergroup
56   \csname \expandafter \SuffixName\reserved@a\reserved@b\endcsname
57   \WSF@gobblenext}
```

```

58
59 \def\WSF@suffixcheckiv{%
60     \expandafter\endgroup
61     \csname \expandafter\NoSuffixName\reserved@a\endcsname}

\WSF@sfx Now we just augment \SF@sfx to recognize all prefixes and global commands:
62 \WithSuffix\def\WSF@sfx\long{\WSF@append\long\WSF@sfx}
63 \WithSuffix\def\WSF@sfx\global{\let\WSF@global\global\WSF@sfx}
64 \WithSuffix\def\WSF@sfx\protected{\WSF@append\protected\WSF@sfx}
65 \WithSuffix\def\WSF@sfx\expandafter{\expandafter\WSF@sfx\expandafter}
66 \WithSuffix\edef\WSF@sfx\gdef{\let\WSF@global\global
67     \expandafter\noexpand\csname\NoSuffixName\WSF@sfx\endcsname\def}
68 \WithSuffix\edef\WSF@sfx\xdef{\let\WSF@global\global
69     \expandafter\noexpand\csname\NoSuffixName\WSF@sfx\endcsname\edef}
70 \end{style}

```