

Macros

The bag of tricks

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Hello everyone.

Using \TeX , you inevitably gather a collection of useful little macros. Most of them are probably of use only to you, but maybe you have something that you're willing to share with the rest of the TUG audience. In that case, here's an outlet.

Starting this issue, I will present in this corner one or more handy little macros, without too much explanation, but otherwise ready for use. If you have something that you think is appropriate, send it to me or to TUGboat, and you may see it printed here, with due acknowledgements of course.

Here's this issue's gadget: saving and restoring category codes.

The plain format, the \LaTeX format, and the \LaTeX document styles contain lots of commands with the 'at' character (@) in them, in order to hide such commands from the user. Now, if you write some macros, you may want to do the same for the internal macros that should not be accessible to the user. You write at the start of the file containing these macros

```
\catcode'\@=11
```

(or maybe you use another character than @), and at the end you reset

```
\catcode'\@=12
```

But wait a second! Who told you that in the environment from which your file is \input the character @ has category 12?

The following macros allow you to write

```
\savecat @
```

```
...
```

```
\restorecat @
```

or, if you suspect that the character may have a strange category code such as 9, 14, or 15,

```
\savecat\@
```

```
...
```

```
\restorecat\@
```

The two forms can also be mixed.

Here are the macros.

```
\newcount\tempcount
```

```
\def\csarg#1#2{\expandafter#1%
\csname#2\endcsname}
```

```
\def\storecat#1{%
```

```
\tempcount=\escapechar
```

```
\escapechar=-1\relax
```

```
\csarg\edef\restorecat\string#1}%
```

```
{\catcode'\string#1=
```

```
\the\catcode\expandafter'\string#1}%
```

```
\catcode\expandafter'\string#1=12\relax
```

```
\escapechar=\tempcount}
```

```
\def\restorecat#1{%
```

```
\tempcount=\escapechar
```

```
\escapechar=-1\relax
```

```
\csname restorecat\string#1\endcsname
```

```
\escapechar=\tempcount}
```

Note that the \storecat macro sets the category of its argument initially to 12.

And here is some input to test the macros on:

```
\nonstopmode
```

```
\showthe\catcode'\%
```

```
\storecat\%
```

```
\catcode'\%=13
```

```
\showthe\catcode'\%
```

```
\restorecat%
```

```
\showthe\catcode'\%
```

```
\showthe\catcode'\~
```

```
\storecat~
```

```
\catcode'\~=2
```

```
\showthe\catcode'\~
```

```
\restorecat\~
```

```
\showthe\catcode'\~
```

Share and enjoy!

Note. Macros similar to the above appear in the macros `tugboat.com`. The editors of *TUGboat* have found such macros to be vital for maintaining their sanity in dealing with the incredible inventiveness of *TUGboat* authors.