Warnings & Limitations

\relax and Watch the Numbers

Thanks to the TeXhax participants and Mike Spivak for these ideas.

When TeX encounters a (number), it will keep parsing until it recognizes a non-number. This can lead to some unexpected situations.

Mr. Ogawa (Ogawa@SLAC. BitNet@Berkeley) thought he had a problem with the @ character:

```latex
\% UNLOCK TEST - test TeX unlock feature
\% this character can now be used
\% in macro names
\def \unlock{%
    \catcode'@=11%
}
\unlock\@oggedbottomtrue\bye
```

This yielded:

```
This is TeX, VM/CMS Version 1.0 [SLAC]
(preloaded format=plain 84.2.17)
19 APR 1984 21:07
**&PLAIN unlock.test
(unlock.test
! Undefined control sequence.
1.5 \unlock)r
    @oggedbottomtrue\bye
? [1]
Output written on unlock.dvi
   (1 page, 224 bytes).
```

A slight modification gave the result he originally expected:

```latex
\def\unlock{%
    \catcode'@=11%
    \relax
}%
\unlock\@oggedbottomtrue\bye
```

This yielded:

```
This is TeX, VM/CMS Version 1.0 [SLAC]
(preloaded format=plain 84.2.17)
19 APR 1984 21:13
**&PLAIN unlock.test
(unlock.test
No pages of output.
```

A related situation has been pointed out by Mike Spivak:

```latex
\if ...
\advance\foo by \the\fam \fi
```

Since \the\fam expands to a number, TeX will absorb the \fi looking for the end of the number, and if digits follow \fi they will be included in the value by which \foo is advanced.

For the official explanation, see The TeXbook, pages 208 and 269-270. There it is recommended that "for best results, always put a blank space after a numeric constant; this blank space tells TeX that the constant is complete, and such a space will never ‘get through’ to the output." But only one space, and note the comment on aesthetics vs. efficiency.

A final word from Arthur Keller: "You should be very careful to avoid extra spaces in macros lest they creep into the output when in horizontal mode. Using \relax to delimit parameters is consequently much safer.”

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