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## Warnings &amp; Limitations

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**Disappearing Digits; Undisciplined Uppercase**

If a macro definition ends with any control sequence taking a `<number>` as a final argument, care must be taken to isolate the `<number>`, either by following it with a space (as in the definition of `\%` on page 151 of the `TEX` manual) or by burying the control sequence in a set of braces (the `\mix` definitions, page 167). For example,

```
\def\addr{ ... \penalty 1000}
... write to \addr 201 Charles St. ...
yields
```

```
... write to ... Charles St.
```

with no street address. The secret is in `TEX`'s interpretation of `<number>`, as described on page 34: `<number>` is a string of digits of any length.

In a similar-looking situation, Mike Spivak reports: "Complete havoc was wreaked on one of my macros when I typed

```
\chcode'046=12\newcontrolsequence
instead of
```

```
\chcode'046=12 \newcontrolsequence
Caveat chcoder!"
```

The following control sequences take `<number>` or integer arguments: `\char`, `\chcode`, `\chpar`, `\hangindent` (for and after options), `\penalty`, `\setcount` and `\spacefactor`.

`\uppercase` nicely ignores control sequences in its (token list), but not dimensions, so an `\hskip .5em` becomes `\hskip .5EM`, which `TEX` finds to be an ! Illegal unit of measure. One way of circumventing this problem is to anticipate it:

```
\uppercase{... \lowercase{\hskip .5em}...}
(\lowercase may not be interposed between the
skip and its (dimen).)
```

Barbara Beeton

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## Macros

\* \* \* \* \*

```
\title HOW TO PREPARE A FILE\cr
FOR PUBLICATION IN TUGboat\cr
```

```
\\Barbara Beeton\cr
American Mathematical Society\cr\end
```

An author writing an article for publication in `TUGboat` is encouraged to create it on a computer file and submit it on magnetic tape. Most of

`TUGboat` is composed by `TEX`, and makes use of the `AMS-TEX` macro package. `TUGboat` is thus a prototype of the journal-of-the-future as described by `TUG`'s Chairman, Dick Palais, in his message to readers of `TUGboat` #1.

Like any specialized journal, `TUGboat` has its own particular style, and a set of formatting macros has grown up to accommodate its needs. These can be used by an author to make his job (and that of the `TUGboat` production staff) easier. Depending on the author's local computer resource, he may or may not actually be able to `TEX` his file. Even if he can't, appropriately identifying material in his file by using these macros will serve to identify his intentions to the `TUGboat` staff `TEX`'er, with (we hope) salutary effect.

The first instruction is a simple one. A blank line or the control sequence `\par` indicates the beginning of a paragraph. This author prefers the blank line, since she finds densely packed and interminable text nearly impossible to read on either a terminal screen or a page of line-printer output.

Most `TUGboat` articles so far have consisted mainly of text, with occasional section headings, lists, addresses, and similar constructions. It is these that the `TUGboat` formatting macros try to cope with, not complicated tables or macro listings and other display material—these latter constructions will most likely be submitted by authors who have relatively great experience in scouting `TEX`'s byways, and any workable `TEX` coding will be acceptable for this kind of material. The present article is aimed mainly at the itinerant author who simply wishes to share his experiences with others in the `TEX` community.

Where practical, the macros will be illustrated rather than described. For example, the title of this article looks strange on purpose: the input format for a title is `\title (title)\(author, etc.)\end`, with the end of each line (as it is to be printed) marked by the instruction `\cr`. (Don't forget the space after a control sequence.)

```
\subtitle Subtitles\end
```

are also (rarely) desired. The "Disappearing Digits" article (page 53) is headed by a subtitle rather than a full title.

```
\lparhead SECTION HEADINGS,\lbrk
WHICH MAY BE MORE THAN\lbrk
ONE LINE LONG\end
```

and

```
\lparheadb Bold section headings\end
```

will look like the headings on pages 5 and 49.

`\parhead` RUN-IN HEADINGS, WHICH MAY OCCASIONALLY OCCUPY MORE THAN ONE LINE IF THE AUTHOR GETS CARRIED AWAY\end There is also a bold version, obtained with `\parheadb ... \end`.

`\parsub` Short, run-in subheadings.\end These also come in several flavors.

`\parsubp` (a) With parenthesized tags.\end The input for this automatically places parentheses around whatever precedes the first space in the argument string. `\parsubpr ... \end` differs only in that the text is roman. And if parentheses aren't wanted, but even spacing is desired between the tag and whatever follows, `\parsubr ... \end` will accomplish that, as in the numbered paragraphs on page 9.

`\hparhead` PARAGRAPH HEADINGS WITH HANGING INDENTS.\end are used only rarely, and may also come in boldface: `\hparheadb ... \end`. A more conventional use for hanging indent is

`\hparsubr`

- to list things (page 11) or\end

`\hparsubr`

2. to make a bibliography. In any case,\end

`\hparsubr`

\*\* `\hparsubr` \*\* is the ... \end is the input command which must delimit every tagged line at both ends.\end

`\endhpar` terminates a body of hanging indented material, and restores normal paragraphing.

An address can be set off from text for easy reference. Here's where you write if you wish to submit a TUGboat article on tape and have some questions that can't be answered by this article or by your local T<sub>E</sub>Xpert:

`\textaddr{`

Barbara Beeton\lbrk  
American Mathematical Society\lbrk  
P.O. Box 6248\lbrk  
Providence, R.I. 02940}

For people whose fingers get tired of typing the same thing over and over, a bunch of control sequences have been defined which just produce logos or strings of text:

<code>\TEX</code>	T <sub>E</sub> X
<code>\TUG</code>	T <sub>E</sub> X Users Group
<code>\tug</code>	TUG
<code>\TUB</code>	TUGboat
<code>\AMS</code>	American Mathematical Society
<code>\ams</code>	AMS
<code>\AMSTEX</code>	AMS-T <sub>E</sub> X
<code>\MF</code>	METAFONT
<code>\Pas</code>	Pascal
<code>\TIP</code>	T <sub>E</sub> X-in-Pascal
<code>\PT</code>	Pascal T <sub>E</sub> X

Remember that a space after a control sequence is gobbled up, to allow such constructions as "T<sub>E</sub>Xpert", and a control space `\_` should be used to make the space appear in the output. Authors are welcome to create control sequences for terms and phrases that they use frequently; anything of general usefulness may be cribbed by the TUGboat staff, and added to the list above.

When creating a file, it is usually a good idea to limit lines to the width of a terminal screen (usually 80 characters), even though your computer may allow much longer lines. This means, when you approach the right-hand end of the screen, hit the carriage return. (Also remember to insert a carriage return at the end of your file.) T<sub>E</sub>X arbitrarily assumes that no line should exceed 150 characters, and if one does, T<sub>E</sub>X dissects it after 150 characters, shoving the remainder onto the next (inserted) line. If a word is split at character 150, T<sub>E</sub>X recovers gracefully, but if a control sequence is split, results are unpredictable, and invariably incorrect. So for this reason, and also to make the processing of tapes routine, we ask you to limit lines to 80 characters, including the carriage return.

Finally, a word on magnetic tapes. TUGboat is produced at the AMS on a DEC 2060, which can read 9-channel magnetic tapes written at 800 or 1600 bpi, in a number of different, but well-defined, formats. To save time and avoid problems, tapes should be created by someone who has had experience in doing this. Most universities have a user service staff who can answer questions or even get the job done. If your local computer is a DEC10, the BACKUP program should be used to write the tape; if it's a DEC20, use DUMPER. Otherwise, the records written onto the tape should be 80 characters, blocked 10, and the ASCII character set should be used. A detailed list should accompany the tape, stating exactly what files are present. A form for submitting tapes to TUGboat is included with this issue; a copy of this form, with all the requested information filled in, should accompany each tape submitted. If you request it, your tape will be returned to you.

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Editor's note: The response to our request for information on macro packages and related software for publication in TUGboat has been encouraging. Our thanks to all.

This is your column. Your contributions and comments are needed. Deadline for the next issue is June 15, 1981.