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**PROBLEMS FROM THE TUG MEETING**

*Framed Slides*

At the July TUG meeting, Don Knuth conducted a Macro Wizards Roundtable. One problem raised was to define an output routine (to be used in constructing slides) that puts a rectangle around the completed page, with a variable-sized label appearing in a break in the bottom rule. Don's solution is:

```
\newdimen\fullsize
\fullsize = 7in
\output{\shipout\vbox{\hrule
                    \midpart
                    \nointerlineskip
                    \botline{macro for slides}}}}

\def\sleaders{\leaders\hrule height 2.4pt depth -2pt\hfil}
\def\botline#1{\setbox0=\hbox{\tenrm #1}\ht0 = 0pt
               \hbox to \fullsize{\sleaders\ \box0\ \sleaders}}
\def\midpart{\hbox to \fullsize
             {\vrule
              \hfil
              \innerbox
              \hfil
              \vrule }
             }
\def\innerbox{\vbox{\kern 10pt
                   \hbox to \hsize{\box 255}
                   \kern 10pt }
             }
```

Note that the font for the label is explicitly specified. Without the call to `\tenrm` in the `\botline` macro, a label would be printed in whatever font happened to be current when the page break occurred. Also note that the reference to `\box 255` in `\innerbox` is forced to `\hsize`; or one could use a definition from Plain, `\pagecontents`. Either variation would protect against the rare possibility of a generated page whose width is not the current `\hsize`.

*Multiple Marks*

Another question dealt with a need for multiple marks. Consider, for example, a glossary in which entries are numbered. It might be useful to place guide words in the heading on each page and "guide numbers" in the footing. T<sub>E</sub>X's mark feature was specifically designed to save such labels, but only one mark can be specified at a time. While it is clear that the mark construct can be used for either guide words or guide numbers it is not obvious how to use it for both. Don suggested using T<sub>E</sub>X82's `\ifcase` construct. For example, the macro that starts a new entry might expand to include an instruction such as

```
\mark{Dachshund\or 20}
```

if "dachshund" is the twentieth word entered. The output routine could use the construct

```
\ifcase\expandafter 0\topmark
```

to find the guide word in effect at the top of the page and

```
\ifcase\expandafter 1\topmark
```

to find the guide number.

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**TUGBOAT MACRO INDEX**

The following list catalogues macros that have appeared in TUGboat. Entries are listed by volume, number, and page as well as author's name. Items that could not be categorized by an obvious headword have been listed under "miscellaneous". Many items refer to parts of large macro packages; users of other packages may find them valuable models for macros of their own.

Readers' comments on the format as well as the contents of this index are welcome.

ACM style . . . . .	II:1 61, 82-83	A. Keller
Addresses . . . . .	II:1 54	B. Beeton
	II:2 A-35	M. Díaz
Appendices . . . . .	II:2 A-21	M. Díaz
Array operations . . . . .	III:2 34-36	L. Lamport
Baseline, set to top of box . . . . .	II:1 60, 77	A. Keller
Bibliography . . . . .	II:2 A-25	M. Díaz
Boxes . . . . .	II:1 59, 73	A. Keller
Box numbers, automatic allocation	III:1 33	M. Plass
Branching, <i>see</i> If		
Capital letters		
dropped initial . . . . .	IV:2 81	Problems column
first line of paragraph . . . . .	IV:2 80	Problems column
large ~ at beginning of paragraph	II:1 60, 78	A. Keller
. . . . .	II:3 62	T <sub>E</sub> Xarcana Class
. . . . .	II:2 A-16	M. Díaz
. . . . .	IV:2 81	Problems column
Roman numerals . . . . .	II:1 120-121	P. Milligan, L. Price

Centering a sequence of lines . . . . .	II:2 A-13	M. Díaz
Chapters and Sections . . . . .	II:1 60-61, 79-81	A. Keller
. . . . .	II:1 111-118	L. Price
. . . . .	II:2 A-8-9, 20-22	M. Díaz
Character width determination	IV:1 38	R. McClure
Characters, macros to produce		
special . . . . .	II:1 57, 67-70	A. Keller
Chemical notation . . . . .	II:3 57-58	M. Nichols, B. Beeton
Columns		
balanced . . . . .	II:3 58-59	L. Price
multiple . . . . .	II:2 A-38-40	M. Díaz
. . . . .	II:3 24-25	B. Beeton
. . . . .	III:2 33	B. Beeton
Comparison of integral values . . . . .	II:1 119-120	P. Milligan, L. Price
Counters		
automatic allocation . . . . .	III:1 33	M. Plass
pseudo . . . . .	II:1 60, 77	A. Keller
. . . . .	II:1 120	P. Milligan, L. Price
. . . . .	III:2 30	B. Beeton
Cross references . . . . .	II:3 24	B. Beeton
Deferred output . . . . .	II:1 60, 86-86	A. Keller
Division . . . . .	II:2 47	B. McKay
Equality of integral values . . . . .	II:1 119-120	P. Milligan, L. Price
<code>\expandafter</code> . . . . .	IV:2 79	July '83 TUG meeting
Figures . . . . .	II:2 A-25-27	M. Díaz
Font		
character width determination	IV:1 38	R. McClure
declaring families of a particular		
point size . . . . .	II:1 56-57, 65-66	A. Keller
. . . . .	II:2 A-11	M. Díaz
definition . . . . .	II:1 119	P. Milligan, L. Price
. . . . .	II:2 44-45	P. Milligan
display in table form . . . . .	III:1 35	R. Beeman
Fontcodes . . . . .	III:2 26	C. Jackson
Footnotes . . . . .	II:1 58, 71-72	A. Keller
. . . . .	II:2 A-24-25	M. Díaz
French . . . . .	II:2 A-12	M. Díaz
Graphics . . . . .	II:2 48-49	B. McKay
. . . . .	II:3 63	T <sub>E</sub> Xarcana Class
Hashsize . . . . .	IV:1 36	B. Beeton
Headings, page . . . . .	II:2 A-23-24	M. Díaz
Hidden Text . . . . .	II:3 61	T <sub>E</sub> Xarcana Class
If		
comparison of integral values	II:1 119-120	P. Milligan, L. Price
groupless <code>\if</code> . . . . .	II:2 46	B. McKay
null string, <i>see</i> Null string		
testing math-style (display, script or		
scriptscript) . . . . .	II:2 46	B. McKay
<code>\ifcase</code> . . . . .	IV:2 79	July '83 TUG meeting
Index production . . . . .	I:1 Appendix A	T. Winograd,
. . . . .		W. Paxton
. . . . .	II:2 A-28	M. Díaz
Justification		
of reviewer's names . . . . .	II:3 62	T <sub>E</sub> Xarcana Class
right ~ . . . . .	II:3 63	T <sub>E</sub> Xarcana Class
Layout macros . . . . .	IV:1 37	A. Mohr
Letters . . . . .	II:2 A-32-35	M. Díaz
Letterhead . . . . .	II:2 A-33	M. Díaz
Line numbering . . . . .	III:1 43	T <sub>E</sub> Xarcana Class
Lists . . . . .	II:1 59, 72-72	A. Keller
. . . . .	II:1 98-110	L. Price
. . . . .	II:2 A-15	M. Díaz
Margins . . . . .	II:2 A-19	M. Díaz
<code>\mark</code> . . . . .	IV:2 79	July '83 TUG meeting