Macros

The bag of tricks

Victor Eijkhout

Hello everyone.

Here is the second installment of the bag of tricks, ready-to-use macros without the bother of needing to understand them. (And contributions from the TUGboat readership for this column are still welcome.)

When you start fiddling around with boxes, pretty soon you run into the fact that a \vbox is almost immediately as wide as the whole page, even if there is only a single character in it: \vbox(a). Attempts such as \vbox(a \par) are not much of an improvement. But suppose you want a box to be as wide 'as it really is', for instance

a \par b a
d c

\par

gives d as output, then something else is needed. The input for this example was (I have set \parindent first to zero):

\snugbox{\begin{verbatim}a \par b c \par d\end{verbatim}}

\begin{verbatim}a \par b c \par d\end{verbatim}

as output.

Here is the source for the \snugbox macro, to be placed between \catcode`@=11 (or \makeatletter) and \catcode`\@=12 (or \makeatother):

\def\snugbox{%
\hbox{%
\setbox\z@=\vbox{%
\leftskip\z@% 
\rightskip\z@% 
\everymath{}% 
\aftergroup\@make@snug}%
\let\next=}%
\hbox{%$
\def\@make@snug{%
\par% \count@=2
\@ifnextchar\par
\@make@snug%$
\box\z@%$}
\hbox{%
\count@=2
\@ifnextchar\par
\@make@snug%$
\box\z@%$
\ifvoid\z@
\nointerlineskip
\else
\sn@gify\fi$
\hbox{%
\unskip
\hbox{%

This macro is not completely fool-proof, but it works in a lot of cases, for instance it contains a \snugbox to contain several paragraphs.

The example used above did not look very pretty. Wouldn't it be better if the input and output were centered vertically with respect to 'gives' and 'in the output'? Using \vcenter this would look like

\$\vcenter{\snugbox{ ... }}\$\quad gives \$\vcenter{ ... }$

But typing all these dollars is a bit tiresome. Also you may know that you cannot write

\setbox\mybox=\vcenter{...}

Both of these points are remedied by the following macro:

\def\textvcenter{%
\hbox{\everymath{}
\aftergroup\@make@snug%}
\vcenter{}}

And now you write

\textvcenter{\snugbox{\begin{verbatim}a \par b c \par d\end{verbatim}}}

\begin{verbatim}a \par b c \par d\end{verbatim}

gives ...

for

\textvcenter{\snugbox{\begin{verbatim}a \par b\end{verbatim}}}

\begin{verbatim}a \par b\end{verbatim}

gives ...

d
Simple, isn't it?

See you next time, and keep those braces balanced!

* Victor Eijkhout
Department of Computer Science
University of Tennessee
104 Ayres Hall
Knoxville, Tennessee 37996, USA
eijkhout@cs.utk.edu