The graphpap package

Leslie Lamport

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\graphpaper[(N)]((X,Y))((DX,DY)) Makes a grid with left-hand corner at
((X,Y)), extending ((DX,DY)) units in the X and Y directions, where the lines
are N units apart. Every fifth line is thick and is numbered. The default value of
N is 10. The arguments must all be integers.

First, we define three counters. The first two are defined as raw TeX counters
since multiplication and division must be performed in them.

1 (*package)
2 \newcount\@gridx% now (@tempcnta)
3 \newcount\@gridy% now (@tempcntb)
4 \newcounter{@grid}
5 \let\c@@grid\count@

Next we define the following commands to draw vertical and horizontal grids.
The “nonum” commands just draw the grids; the other commands also print
numbers. All the arguments must be integers.

VERTICAL GRIDS
\@vgrid((xpos,ypos))(\langle xincrement\rangle)
\{\langle number-of-lines\rangle\}(\langle length-of-lines\rangle)
\@nonumvgrid((xpos,ypos))(\langle xincrement\rangle)
\{\langle number-of-lines\rangle\}(\langle length-of-lines\rangle)

HORIZONTAL GRIDS
\@hgrid((xpos,ypos))(\langle yincrement\rangle)
\{\langle number-of-lines\rangle\}(\langle length-of-lines\rangle)
\@nonumhgrid same as \@hgrid but no numbers drawn

6 \def\@vgrid(#1,#2)#3#4#5{% 7 \setcounter{@grid}{#1}% 8 \multiput(#1,#2)(#3,0){#4}{\line(0,1){#5}}% 9 \multiput(#1,#2)(#3,0){#4}{\@vgridnumber{#3}}% 10 \def\@vgridnumber#1{% 11 \makebox(0,0)[t]{% 12 \shortstack{\rule{0pt}{10pt}\arabic{@grid}}}% 13 \addtocounter{@grid}{#1}}

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Finally, \texttt{\graphpaper} is defined in a straightforward way in terms of the commands above.

\begin{verbatim}
\newcommand\graphpaper[1]{\leavevmode\@grid{#1}}
\def\@grid#1(#2,#3)#4{\@grid@i{#1}{#2}{#3}(}
\def\@grid@i#1#2#3(#4,#5){\@tempcnta=#4elax\divide\@tempcnta#1elax\advance\@tempcnta1elax{\thinlines\@nonumvgrid(#2,#3){\@tempcnta}{#5}\@tempcnta#4\relax\divide\@tempcnta5\relax\divide\@tempcnta#1elax\advance\@tempcnta1elax\thicklines\@vgrid(#2,#3){\@tempcnta}{\@tempcnta}{#5}\@tempcnta#5\relax\divide\@tempcnta5\relax\divide\@tempcnta#1elax\advance\@tempcnta1elax\thicklines\@hgrid(#2,#3){\@tempcntb}{\@tempcnta}{#4}\@tempcnta#4\relax\divide\@tempcnta5\relax\divide\@tempcnta#1elax\advance\@tempcnta1elax\thicklines\@vgrid(#2,#3){\@tempcntb}{\@tempcnta}{#4}\@tempcnta#5\relax\divide\@tempcnta5\relax\divide\@tempcnta#1\relax\advance\@tempcnta1elax\thicklines\@hgrid(#2,#3){\@tempcntb}{\@tempcnta}{#4}\@tempcnta#4\relax\divide\@tempcnta5\relax\divide\@tempcnta#1\relax\advance\@tempcnta1elax\thicklines\@vgrid(#2,#3){\@tempcntb}{\@tempcnta}{#4\@tempcnta#5\relax\divide\@tempcnta5\relax\divide\@tempcnta#1\relax\advance\@tempcnta1elax\thicklines\@hgrid(#2,#3){\@tempcntb}{\@tempcnta}{#4}\ignorespaces}
\end{verbatim}