The \texttt{ctable} package\footnote{This document corresponds to \texttt{ctable} v1.15, dated 2009/09/17.}

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Abstract

The \texttt{ctable} package provides a \texttt{ctable} command for the typesetting of table and figure floats. You will not need to type the usual nested \texttt{begin}...\texttt{end} sequences, as \texttt{ctable} is a command, not an environment. \texttt{ctable} has only 4 arguments, but the optional first one may hold many \texttt{key=value} pairs and makes \texttt{ctable} very flexible and extensible. It uses Simon Fear’s \texttt{booktabs} package for better vertical spacing around horizontal rules and it provides facilities for making table footnotes.

1 Purpose

The \texttt{ctable} package lets you easily typeset captioned table and figure floats with optional footnotes. Both caption and footnotes will normally be forced within the width of the table. If the width of the table is specified, then \texttt{tabularx} will be used to typeset it, and one or more \texttt{X} column specifiers should be specified. Otherwise \texttt{tabular} will be used.

This package defines the commands \texttt{\ctable}, \texttt{\tnote} and \texttt{\tmark}, as well as four \texttt{\tabularnewline} generating commands. The latter generate reasonable amounts of whitespace around horizontal rules and are also useful for tabulars outside this package.

Since the \texttt{ctable} package imports the \texttt{array} and \texttt{booktabs} packages, all commands from those packages are available as well.

Note that, in line with the comments that Simon Fear made describing his \texttt{booktabs} package, vertical rules for column separation can be produced with \texttt{\ctable}, but no provisions are made to have them make contact with horizontal rules.

2 Usage

\texttt{\ctable} is called with 4 parameters, of which the first is optional:

\begin{verbatim}
\ctable[options] % key=value,...
{coldefs} % for \begin{tabular}
{foottable} % zero or more \tnote commands (see below)
{table rows} % rows for the table
\end{verbatim}

Options are given as \texttt{key=value} pairs, separated by comma’s. Extra comma’s, including one behind the last pair, don’t hurt. Arguments to option should be put between braces if they contain comma’s or equals signs. Currently the following option keys have been defined:
caption={...} table caption; the braces are needed only if your caption contains a comma or an equals sign.
cap={...} for a short caption to go to the \listoftables. Without the cap option, the full caption will go into the \listoftables. If cap is given an empty value, no entry in the \listoftables will be made. This may be useful, for example, with the continued option.
continued[=...] if used, the table will be numbered the same as the previous table. If used without an argument, the caption will be suffixed with ‘ (continued)’, if used with an argument, the suffix will be the argument.
captionskip=... moves the caption relative to the table; the default is \textex, which puts captions at their default \LaTeX positions: a top caption’s baseline at 1ex above the top rule position of the table and a bottom caption’s baseline at 4ex below the bottom rule position.
mincapwidth=... sets the minimum width of the float. Without this option, the width is set to that of the tabular, and the caption and footnotes are typeset within that width. This may be a problem with very narrow tables; mincapwidth can then be used to give the float a minimum width. The tabular will be centered in it.
doinside=... command to be run inside, just before the tabular or tabularx environment. You can use this, for example, for the adjustment of the font size with \small.
pos=... float position, default: \tbp.
label=... for \label 
width=... \tabularx will be used to typeset the table at the specified width — one or more \X column specifiers must be provided.
maxwidth=... like the width option, but any \X column specifiers will be replaced with l if the resulting table width would thus stay within the specified maximum width. This is especially useful where the \LaTeX source is generated by a script.
center center the table in the available text width; this is the default.
left left align the table in the available text width.
right right align the table in the available text width.
figure produce a figure float instead of a table float.
botcap put the caption at the bottom of the float instead of on top of it.
sideways rotate table or figure by 90 degrees anticlockwise and put it on a separate page. With the twoside option for the standard \LaTeX document classes, rotation will be -90 on even pages. If you use this option, the \pos option is not allowed.
star use the starred versions of the \table and \figure environments, which place the float over two columns when the \twocolumn option or the \twocolumn command is active.
nosuper in the footnote table, typeset footnote markers on the line, instead of superscripted.
notespar typeset footnotes in a paragraph instead of in a table.
framerule=... draw a frame around the table with the given rule thickness. The default is 0pt, so that no frame will be seen.
framesep=... set the distance between the frame and the table to the given dimension. The default is 0pt.
framefg=rgb set the foreground color of the frame (the rule color) to the given triplet of rgb-values. The values should be numbers between 0 and 1. The default is 0 0 0 (black).
framebg=rgb set the background color of the frame (the color inside the frame) to the given triplet of rgb-values. The values should be numbers between 0 and 1. The default is 1 1 1 (white).
The footnotes are placed under the table, without a rule. You therefore probably will want to use the 
\texttt{\textbackslash note}[label]{footnote text} places the\footnote{footnote text} under the table. Can only be used in the \texttt{footnote text} parameter described above. The label is optional, the default label is a single $a$. For more detailed control, you can also replace this command with something like \texttt{\textbackslash labeltext&\textbackslash footnotetext}.

\texttt{\textbackslash tmark}[label] this command places the superscripted label in the table. It is equivalent with $\hat{\texttt{\textbackslash label}}$. The label is optional, the default label is a single $a$.

The newline generating commands are a combination of \texttt{\textbackslash tabularnewline} and zero or one of \texttt{booktabs} \texttt{\textbackslash toprule}, \texttt{\textbackslash midrule} or \texttt{\textbackslash bottomrule}. These combinations have been made, and short names have been defined, because source texts for complex tables often become very crowded:

\texttt{\textbackslash NN} Normal Newline, generates just a normal new line. An optional dimen parameter inserts extra vertical space under the line.

\texttt{\textbackslash FL} First Line, generates a new line and a thick rule with some extra space under it. An optional dimen parameter sets the line width; the default is 0.08em.

\texttt{\textbackslash ML} Middle Line: generates a new line and a thin rule with some extra space over and under it. An optional dimen parameter sets the line width; the default is 0.05em.

\texttt{\textbackslash LL} Last Line: generates a new line and a thick rule with some extra space over it. An optional dimen parameter sets the line width; the default is 0.08em.

These macros can be used outside \texttt{\textbackslash ctable} constructs.

Finally, for completeness, here are some of \texttt{booktabs'} commands that may be useful:

\texttt{\textbackslash toprule} \texttt{\textbackslash toprule}[<wd>] where \texttt{<wd>} is the optional thinness of the rule.

\texttt{\textbackslash midrule} \texttt{\textbackslash midrule}[<wd>].

\texttt{\textbackslash bottomrule} \texttt{\textbackslash bottomrule}[<wd>].

\texttt{\textbackslash cmidrule} \texttt{\textbackslash cmidrule}[<wd>](<trim>)\{a-b\} where \texttt{<trim>} can be \texttt{r}, \texttt{l}, or \texttt{rl} and the rule is drawn over columns \texttt{a} through \texttt{b}.

\texttt{\textbackslash morecmidrules} \texttt{\textbackslash morecmidrules} must be used to separate two successive cmidrules.

\texttt{\textbackslash addlinespace} \texttt{\textbackslash addlinespace}[<wd>] inserts extra space between rows.

\texttt{\textbackslash specialrule} \texttt{\textbackslash specialrule}[<wd>]{<abovespace>}{<belowspace>}. See the \texttt{booktabs} documentation for details.

\section{The width and maxwidth options}

When \LaTeX\-sources containing tables are generated automatically by a script, it is often not known in advance what the maximum size of an \texttt{l} column will be. A good solution for this is to use an \texttt{X} specifier, typesetting the table at the text width with the \texttt{tabularx} package. However, this will result in too much white space in cases where the column contains small texts only. This problem can be solved by using the \texttt{maxwidth} option instead of the \texttt{width} option. The \texttt{X} specifiers will then be replaced with \texttt{l} as long as the width of the resulting table stays with the specified maximum width.

\section{Examples}

Table 1 is an example taken from the related package \texttt{threeparttable} by Donald Arseneau, with an extra footnote. It was typeset with:

\begin{verbatim}
\ctable[
  cap = The Skewing Angles,
  caption = The Skewing Angles ($\beta$) for
              $\fam0 \mu(H)+X_2$ and $\fam0 \mu(H)+HX$ \textbackslash tmark,
  label = nowidth,
]{rlcc}{
  \texttt{\textbackslash note}{for the abstraction reaction,
\end{verbatim}
Table 1: The Skewing Angles ($\beta$) for $\text{Mu(H)} + X_2$ and $\text{Mu(H)} + HX$ $^a$

<table>
<thead>
<tr>
<th></th>
<th>$H(Mu) + F_2$</th>
<th>$H(Mu) + Cl_2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\beta$(H)</td>
<td>$^{80.9}_{\circ}$$^b$</td>
<td>$^{83.2}_{\circ}$</td>
</tr>
<tr>
<td>$\beta$(Mu)</td>
<td>$^{86.7}_{\circ}$</td>
<td>$^{87.7}_{\circ}$</td>
</tr>
</tbody>
</table>

$^a$ for the abstraction reaction. 
$^b$ 1 degree = $\pi/180$ radians.

Table 2 is an example with a width specification, taken from the tabularx documentation, with the vertical rules removed. By using the trimming parameters of the booktabs \cmidrule command, some of the horizontal splitting was regained. The left option left aligns the table. It was typeset with:

\begin{table}
\centering
\begin{tabular}{c>{\raggedright}Xc>{\raggedright}X}
\toprule
\multicolumn{2}{c}{Example using tabularx} \smallskip
\multicolumn{2}{c}{Multicolumn entry! THREE FOUR} \smallskip
one & The width of this column depends on the width of the table.\tmark & three & Column four will act in the same way as column two, with the same width. \\
\bottomrule
\end{tabular}
\end{table}

\footnotesize
$\\text{Mu+HX} \rightarrow \text{MuH+X}$. \footnote{1 degree$\{\pi/180$ radians.}

\footnotesize
\footnote{this is a particularly long note, showing that footnotes are set in raggedright mode as we don’t like hyphenation in table footnotes.}
Figures, even single ones, are always put in tabular cells. This is not particularly handy for single pictures, but it eases the construction of arrays of pictures, including sub-captions, delineation, and spacing. For a small example, which also shows how you can simplify the construction of figure arrays, see subsection 4.9 on page 9.

4 Option examples

In the following, small examples will be shown illustrating the effect of options. In the left column the relevant part of the source is shown, in the right column you see the result. In most cases you see a standard example on a light yellow background, followed by one or more variations on a light blue background. Where necessary, the example will show boxes to indicate the page and the text body.

4.1 center, left, right

These options align the float in the page; the default is center:

\ctable[
caption = Centered,
]{c}{\FL Table’s first row\LL}

\ctable[
caption = Left,
left
]{c}{\FL Table’s first row\LL}

\ctable[
caption = Right,
right
]{c}{\FL Table’s first row\LL}

4.2 nosuper

Footnote markers in \ctable are typeset superscripted by default. Use the \texttt{nosuper} option to place them on the base line:
### 4.3 notespar

Footnotes in \texttt{ctable} are typeset in a paragraph, instead of a table:

\begin{verbatim}
\ctable{c}
\note{First footnote}
\note{Second footnote}
\end{verbatim}

\begin{center}
\begin{tabular}{|c|c|c|}
\hline
Table’s first row with footnotes  \\
\hline
\end{tabular}
\end{center}

### 4.4 continued

The \texttt{continued} option suffixes the caption with ‘ (continued)’, and lowers the table number by one, so that it obtains the same number as the previous table. This option can be given an argument to replace the default suffix:

\begin{verbatim}
\ctable[
caption = Caption,
mincapwidth = 50mm,
continued = \textit{(contd)}
]{c}{}\
\end{verbatim}

\begin{center}
\begin{tabular}{|c|c|c|}
\hline
Table 1: Caption (contd)  \\
\hline
\end{tabular}
\end{center}
4.5 mincapwidth

c\texttt{table} forces caption and footnotes to stay within the width of the table. Sometimes, however, tables are so narrow, that this is not really what you want. In such cases, use the \texttt{mincapwidth} option to give caption and footnotes some extra room:

\begin{verbatim}
c\texttt{table}[
caption = a lengthy caption
]{c}{\FL row1\LL}
\end{verbatim}

Table 1: a lengthy caption
\hline

\begin{verbatim}
c\texttt{table}[
mincapwidth = 55mm,
caption = a lengthy caption
]{c}{\FL row1\LL}
\end{verbatim}

Table 1: a lengthy caption
\hline

You can set \texttt{mincapwidth} to a large value, say \texttt{hsize}, if you want a one-line caption. Note, however, that this may influence the horizontal positioning of the table: values larger than \texttt{hsize} will move a centered table out of the center, a value of \texttt{hsize} will prevent the \texttt{left} and \texttt{right} options to do their work, because the table is already captured between the left and right margins.

4.6 maxwidth

When \LaTeX-sources containing tables are generated automatically by a script, it is often not known in advance what the maximum size of an 1 column will be. A good solution for this is to use an \texttt{X} specifier, typesetting the table at the text width with the \texttt{tabularx} package. However, this will result in too much white space in cases where the column contains small texts only. This problem can be solved by using the \texttt{maxwidth} option instead of the \texttt{width} option. The \texttt{X} specifiers will then be replaced with 1 as long as the width of the resulting table stays with the specified maximum width.

\begin{verbatim}
c\texttt{table}[
framerule = .1pt,
maxwidth=3cm
]{lX}{}\LL
\end{verbatim}

1 first row

\begin{verbatim}
c\texttt{table}[
framerule = .1pt,
maxwidth=3cm
]{lX}{}\LL
\end{verbatim}

1 test

\hline
4.7 framerule

The following examples show the use of frames and backgrounds. Every table is typeset by `ctable` with a frame around it, but the frame is, by default, drawn with a zero width line, and is therefore invisible. You can make it visible by either changing the linewidth to a positive value or by giving it a background color, which will be used to fill the frame.

Here is a simple table without a frame, followed by one with a red, 1pt thick frame:

```
\ctable[
caption = Frame,
]{c}{}{\FL Table's first row\LL}
```

Table 1: Frame

```
\ctable[
caption = Frame, 
framerule = 2pt, 
framefg = .8 0 0
]{c}{}{\FL Table's first row\LL}
```

Table 1: Frame

As you see, the frame fits closely to the first (\FL) and last (\LL) table lines. This can be a reason to either remove those lines, or to introduce some whitespace between the frame and the table with the `framesep` option:

```
\ctable[
caption = Frame, 
framerule = 1pt, 
framefg = .8 0 0, 
framesep=10pt
]{c}{}{\FL Table's first row\LL}
```

Table 1: Frame

And finally, we could also frame the table by giving it a, say, yellow background instead of a red frame line, or even do both:

```
\ctable[
caption = Frame, 
framebg = 1 1 0, 
framesep=10pt
]{c}{}{\FL Table's first row\LL}
```

Table 1: Frame

```
\ctable[
caption = Frame, 
framerule = 2pt, 
framesep = 5pt, 
framebg = 1 1 0, 
framefg = 1 0 0, 
framesep=10pt
]{c}{}{\FL Table's first row\LL}
```

Table 1: Frame
4.8 captionskip

The distance between a top caption and the table is 2ex, but it can be varied with captionskip:

\ctable[
caption = Caption,
]{c}{\FL Table’s first row\LL}

\ctable[
caption = Caption, captionskip = 1ex,
]{c}{\FL Table’s first row\LL}

This works for bottom caption, too:

\ctable[
caption = Caption, botcap
]{c}{\FL Table’s first row\LL}

\ctable[
caption = Caption, captionskip = -2ex, botcap
]{c}{\FL Table’s first row\LL}

4.9 figure, botcap

By default, \ctable generates a table float, but with the figure option, a figure float is generated instead. The caption stays on top, so if you are accustomed to have bottom caption for your figures, you will probably also need the botcap option:

\ctable[caption = a table]{c}{\FL Table’s first row\LL}

\newcommand{\F}[1]{\includegraphics[width=.4\hsize]{#1}}
\newcolumntype{H}[1]{>{\hsize=#1\hsize}X}
\ctable[caption = a figure, figure, botcap, width=.4\hsize, ]{H{.4}H{.6}}{\FL \F{penguin} & \F{lion}\LL}

Figure 1: a figure
4.10  sideways

The *sideways* option creates a landscape table with its head pointing at the spine — when the document-class’ `twoside` option has been used, that is. The following examples show the effect of the `sideways` option, first on page one, then on page 2. Note that the `caption` option has not been used, so no caption appears:

\begin{table}
\centering
\begin{tabular}{c}
\hline
first row \\
\end{tabular}
\end{table}

\begin{table}[h]
\centering
\begin{tabular}{c}
\hline
first row \\
\end{tabular}
\end{table}

\setcounter{page}{2}
\begin{table}[h]
\centering
\begin{tabular}{c}
\hline
first row \\
\end{tabular}
\end{table}
5 Implementation

\RequirePackage{color,xkeyval,array,tabularx,booktabs,rotating}
\def\NN{\tabularnewline}
\def\FL{\toprule}
\def\ML{\NN\midrule}
\def\LL{\NN\bottomrule}
\def\@ctblfgcolor#1 #2 #3={\definecolor{@ctblframefg}{rgb}{#1,#2,#3}}
\def\@ctblbgcolor#1 #2 #3={\definecolor{@ctblframebg}{rgb}{#1,#2,#3}}
\def\@ctbltextsuperscript#1{\ifx\@ctblnosuper\empty\@textsuperscript{#1}\else{\footnotesize#1}\fi}
\def\@ctbldoinside\relax
\newdimen\@ctblframesep
\newdimen\@ctblframerule
\newdimen\@ctblwidth
\newdimen\@ctblcaptionskip
\newdimen\@ctblmaxwidth
\newdimen\@ctblmincapwidth
\newdimen\@ctblw % the final width
\newdimen\@ctblfloatwidth
\newdimen\@ctbloldsep
\newdimen\@ctbloldrule
Allocate box registers so that we can determine the widths of the tables
\newbox\ctbl@t % tabular saved and measured here
\Option setting commands from keyval. The table position (here, top, bottom, page) gets a special treat-
ment, since \LaTeX{} does not expand commands there. So instead of putting things like \texttt{tbp} in a command
like \texttt{\begin{table}} we put \texttt{\begin{table}\[tbp\]} in it.
\define@key{ctbl}{caption}{\def\@ctblcaption{#1}}
\define@key{ctbl}{cap}{\def\@ctblcap{#1}}
\define@key{ctbl}{label}{\def\@ctbllabel{#1}}
\define@key{ctbl}{continued}\[(continued)\]{\def\@ctblcontinued{#1}}
\define@key{ctbl}{pos}{\def\@ctblpos{#1}\def\@ctblbegin{\@ctblbeg[#1]}}
\define@key{ctbl}{width}{\@ctblwidth=#1}
\define@key{ctbl}{maxwidth}{\@ctblmaxwidth=#1}
\define@key{ctbl}{mincapwidth}{\@ctblmincapwidth=#1}
\define@key{ctbl}{botcap}\[\]{\def\@ctblbotcap{1}}
\define@key{ctbl}{sideways}\[\]{\def\@ctblsideways{sideways}}
\define@key{ctbl}{rotate}\[\]{\def\@ctblsideways{sideways}}
\PackageWarning{ctable}{using obsolete option 'rotate', use 'sideways' instead}
\define@key{ctbl}{figure}\[\]{\def\@ctbltaborfig{figure}}
\define@key{ctbl}{center}\[\]{\let\@ctblalign\centering}
\define@key{ctbl}{right}\[\]{\let\@ctblalign\raggedleft}
\define@key{ctbl}{left}\[\]{\let\@ctblalign\raggedright}
\define@key{ctbl}{star}\[\]{\def\@ctblstarred{\*}}
\define@key{ctbl}{framerule}{\@ctblframerule=#1}
\define@key{ctbl}{framesep}{\@ctblframesep=#1}
\define@key{ctbl}{framefg}{\@ctblfgcolor#1=}
\define@key{ctbl}{framebg}{\@ctblbgcolor#1=}
\define@key{ctbl}{captionskip}{\@ctblcaptionskip=#1}
\define@key{ctbl}{nosuper}\[\]{\def\@ctblnosuper{1}}
\define@key{ctbl}{notespar}\[\]{\def\@ctblnotespar{1}}
\define@key{ctbl}{doinside}{\def\@ctbldoinside{#1}}
A caption will only be generated if the \texttt{caption} option was used. First adapt \texttt{\@caption} so that it does
not insert empty (short) captions in the lot/lof
\define@key{ctbl\@caption}{\ifx\ctbl\@caption\undefined\let\ctbl\@caption\ctbl\@caption\fi
\ifx\ctbl\@caption\empty\else
\caption{\@ctblcap}{\ifx\ctbl\@caption\empty\else\label{\ctbl\@caption}\fi\ctbl\@caption\ \@ctbl\@caption\@ctbl\@caption}\@ctbl\@caption\@ctbl\@caption}
\fi}

Need to redefine X columntype, but the array package would generate a warning. So first set the type to
be redefined to \undefined to suppress the warning. Save the standard X type once in the new type Y
\newcolumntype{Y}{X}
\def\@ctblXcolumntype#1{%
\let\NC@find@X\undefined
\newcolumntype{X}{#1}%
}\def\@ctblframe#1#2#3{%
\@ctbloldsep\fboxsep\fboxsep\@ctblframesep%
\@ctbloldrule\fboxrule\fboxrule\@ctblframerule%
\fcolorbox{#1}{#2}\fboxsep\@ctbloldsep\fboxrule\@ctbloldrule #3%
}\newcommand{\tnote}[2][a]{%
\ifx\@ctblnotespar\empty%
\hbox{\@ctbltextsuperscript{\normalfont\textit{#1}}}&#2\NN%
\else%
\@ctbltextsuperscript{\normalfont\textit{#1}}\,#2
\fi}
\newcommand{\tmark}[1][a]{%
\hbox{\textsuperscript{\normalfont\textit{#1}}}}
\newcommand{\ctable}[4][]{%
\def\@ctbltaborfig{table}%
\let\@ctblalign\centering%
\def\@ctblsideways{}%
\def\@ctblcontinued{}%
\def\@ctblpos {}%
\def\@ctblcaption {}%
\let\@ctblcap\undefined%
\def\@ctblbeg {\begin{@ctblsideways@ctbltaborfig@ctblstarred}}%
\def\@ctblbegin {@ctblbeg}%
\def\@ctblend {\end{@ctblsideways@ctbltaborfig@ctblstarred}}%
\def\@ctblbotcap {}%
\def\@ctblstarred {}%
\def\@ctblnosuper{}%
\def\@ctblnotespar{}%
\definecolor{@ctblframefg}{rgb}{0,0,0}%
\definecolor{@ctblframebg}{rgb}{1,1,1}%
\@ctblframerule0pt%
\@ctblcaptionskip=0ex%
\@ctblframesep0pt%
\@ctblwidth=0pt%
\@ctblmaxwidth=0pt%
\@ctblmincapwidth=0pt%
\setkeys{ctbl}{#1}%
\ifdim\@ctblwidth=0pt\else%
\ifdim\@ctblmaxwidth=0pt\else%
\PackageError{ctable}{You may not use the width and maxwidth options together}{
Use either width or maxwidth}
\fi%
\fi%
\ifx\@ctblpos\empty\else%
\ifx\@ctblsideways\empty\else
\PackageError{ctable}{You may not use the pos and sideways options together}{
Rotated tables and figures are always typeset on a separate page}
\fi%
\fi
\ifx\@ctblcaption\empty

It makes no sense to use width together with maxwidth or pos together with sideways
\ifdim\@ctblwidth=0pt\else
\ifdim\@ctblmaxwidth=0pt\else
\PackageError{ctable}{You may not use the width and maxwidth options together}{
Use either width or maxwidth}
\fi
\fi
\ifx\@ctblpos\empty\else
\ifx\@ctblsideways\empty\else
\PackageError{ctable}{You may not use the pos and sideways options together}{
Rotated tables and figures are always typeset on a separate page}
\fi
\fi
\ifx\@ctblcaption\empty

It makes no sense to label a captionless table, because the label can’t be placed, leaving the user wondering why references to the table get a ??
\ifx\@ctblcaption\empty

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save the table contents in a box, so we can determine its width, initially, save the table typeset with the\t\texttt{tabular} environment:
\begin{verbatim}
\sbox\ctbl@t{\protect\@ctblXcolumntype{l}% temporarily make type X = l
\@ctbldoinside
\begin{tabular}{#2}
#4%
\end{tabular}%
}
\end{verbatim}
then look if we'll need the \texttt{tabularx} environment:
\begin{verbatim}
\newif\if@ctblusex\@ctblusexfalse
\ifdim\@ctblmaxwidth=0pt
\ifdim\@ctblwidth=0pt
\else
\@ctblusextrue
\fi
\else
\ifdim\wd\ctbl@t>\@ctblmaxwidth
\@ctblusextrue
\fi
\fi
\if@ctblusex
\sbox\ctbl@t{\protect\@ctblXcolumntype{Y}% restore X
\@ctbldoinside
\begin{tabularx}{\ifdim\@ctblwidth>0pt\@ctblwidth\else\@ctblmaxwidth\fi}{#2}
#4%
\end{tabularx}%
}
\fi
\end{verbatim}
The \texttt{ctbl@t} box now contains the table as we want to typeset it; determine its width:
\begin{verbatim}
\@ctblw=\wd\ctbl@t
\end{verbatim}
Now find the width of the float, \texttt{@ctblfloatwidth}; everything in it will be centered within that width. Normally we'll use the width of the table, \texttt{@ctblw}, but if the mincapwidth, \texttt{@ctblmincapwidth} was set wider than the table, that will be used:
\begin{verbatim}
\@ctblfloatwidth=\ifdim\@ctblmincapwidth>\@ctblw
\@ctblmincapwidth
\else
\@ctblw
\fi
\end{verbatim}
\texttt{@ctblbegin} is now defined as something like \texttt{\begin{table}[tbp].}
\begin{verbatim}
\@ctblbegin
\ifx\@ctblcontinued\empty\else\addtocounter{\@ctbltaborfig}{-1}\fi
\@ctblalign
\begin{minipage}{\@ctblfloatwidth}\parindent0pt
\ifx\@ctblbotcap\empty\@ctblCaption\vskip\@ctblcaptionskip\fi
\centering{\usebox\ctbl@t} % insert the tabular
\def\@ctblfootnotes{#3}%
\ifx#3\empty\else{\% append footnotes, if any
}\fi
\end{verbatim}
## Change History

<table>
<thead>
<tr>
<th>Version</th>
<th>Change Log</th>
</tr>
</thead>
<tbody>
<tr>
<td>v1.00</td>
<td>General: First release.</td>
</tr>
<tr>
<td>v1.01</td>
<td>General: Making use of booktabs package</td>
</tr>
<tr>
<td>v1.02</td>
<td>General: Using keyval to reduce args to 4</td>
</tr>
<tr>
<td>v1.03</td>
<td>General: Many syntactic corrections, thanks to Johannes Braams</td>
</tr>
<tr>
<td>v1.04</td>
<td>General: Caption, if empty, will not be typeset rotate option added star option added to use table* and figure* environments</td>
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<tr>
<td>v1.05</td>
<td>General: maxwidth option added</td>
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<tr>
<td>v1.06</td>
<td>General: left, right and center options added framesep,rule,fg,bg options added error in width-setting corrected</td>
</tr>
<tr>
<td>v1.06a</td>
<td>General: two errors corrected: made setting fboxsep and fboxrule only temporary removed superfluous space after tabulars</td>
</tr>
<tr>
<td>v1.06b</td>
<td>General: Added several at eol to remove superfluous whitespace occurring sometimes</td>
</tr>
<tr>
<td>v1.07</td>
<td>General: Added option sideways, option rotate now obsolete; added option captionskip</td>
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<tr>
<td>v1.08</td>
<td>General: Standardized file setup following \url{<a href="http://www.ctan.org/tex-archive/info/dxtut/dxtut.pdf%7D">http://www.ctan.org/tex-archive/info/dxtut/dxtut.pdf}</a>. mincapwidth option added Moved newdimen definition outside ctable macro</td>
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<tr>
<td>v1.09</td>
<td>General: Added option nosuper; corrected incorrect positioning when table is wider than mincapwidth</td>
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<tr>
<td>v1.10</td>
<td>General: Footnote markers now stay superscript with nosuper. Documentation: added many examples for the options. Corrected some unwanted white space in captions. Caption package included to correct booktabs errors in caption position. And for later use of its facilities. <em>Captionskip option redefined</em>: 0pt value now corresponds to \LaTeX{} defaults</td>
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<tr>
<td>v1.11</td>
<td>General: Added some percent signs at EOL to prevent whitespace. Removed xspace usage - caused overfull badness</td>
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<tr>
<td>v1.12</td>
<td>General: Option notespar added</td>
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<tr>
<td>v1.13</td>
<td>General: cap option with empty argument will not be inserted in \texttt{lot/lof} Added option continued, for continuation tables: same number as previous table, ' (continued' added to caption</td>
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<tr>
<td>v1.14</td>
<td>General: nosuper propagation to later tables prohibited added option doinside use of (obsolete) \texttt{carom.sty} for docs discontinued empty labels not created newcolumntype warnings removed caption package not needed anymore</td>
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<tr>
<td>v1.15</td>
<td>General: removed whitespace before tables, corrected marginpars in the documentation</td>
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</tbody>
</table>