

The supertabular environment*

Johannes Braams and Theo Jurriens

2004/02/20

1 Introduction

The package `supertabular` offers a new environment, the `supertabular` environment. As the name indicates it is an extension of the normal `tabular` environment.

With the original `tabular` environment a `tabular` must always fit on *one* page. If the `tabular` becomes too large the text overwrites the page's bottom margin and you get an `Overfull vbox` message.

The `supertabular` environment uses the `tabular` environment internally, but it evaluates the used space every time it gets a `\\` command. If the `tabular` reaches the `textheight`, it automatically inserts an optional `tabletail`, an `\end{tabular}` command, starts a new page, a new `tabular` environment and inserts the optional `tablehead` on the new page continuing the `tabular`.

2 User interface

The package `supertabular` has three options, they control the amount of information that is written to the `.log` file.

1. The option `errorshow` (the default) doesn't write any extra information.
2. The option `pageshow` writes information about when and why `supertabular` decides to break the `tabular` environment in order to produce a new page.
3. The option `debugshow` also adds information about each line that is added to the `tabular`.

Below is a description of the new commands and environments that this package provides.

<code>\tablefirsthead</code>	The command <code>\tablefirsthead</code> takes one argument, it defines the contents of the first occurrence of the <code>tabular</code> head. The use of this command is optional. Don't forget to close the head by a <code>\\</code> .
<code>\tablehead</code>	The command <code>\tablehead</code> takes one argument, it defines the contents of all subsequent occurrences of the <code>tabular</code> head. Don't forget to close the head by a <code>\\</code>
<code>\tabletail</code>	The command <code>\tabletail</code> takes one argument, it defines something which should be inserted before each <code>\end{tabular}</code> , except the last.
<code>\tablelasttail</code>	The command <code>\tablelasttail</code> takes one argument, it defines something

*This file has version number v4.1e, last revised 2004/02/20.

which should be inserted before the last `\end{tabular}`.

The use of this command is optional.

<code>\topcaption</code>	These commands all take the same arguments as LaTeX's standard <code>\caption</code>
<code>\bottomcaption</code>	command. They provide a caption for the super-table, either at the top or at the
<code>\tablecaption</code>	bottom of the table. When <code>\tablecaption</code> is used the caption will be placed at
	the default location, which is at the top.
<code>supertabular</code>	The environments <code>supertabular</code> and <code>supertabular*</code> can be used much like the
<code>supertabular*</code>	standard LaTeX environments <code>tabular</code> and <code>tabular*</code> .
<code>mpsupertabular</code>	The environments <code>mpsupertabular</code> and <code>mpsupertabular*</code> work like the su-
<code>mpsupertabular*</code>	pertabular and <code>supertabular*</code> environments but put each page into a minipage
	first. Thus it is possible to have footnotes inside a <code>mpsupertabular</code> . The footnote-
	text is printed at the end of each page.
<code>\shrinkheight</code>	The allowed maximum height of a part of the <code>supertabular</code> on a page can be
	adjusted using the command <code>\shrinkheight</code> . It takes one argument, the length
	with which to shrink (positive value) or grow (negative value) the allowed height.

3 Weak points

- When the material of a normal entry (not a p-arg) becomes larger than the estimated `\ST@lineht`, overfull `\vboxes` will be produced at all.
- When the last p-arg on a page gets more than 4 lines (probably even more than 3 lines) it will result in an overfull `\vbox`. Also some combinations of `\baselinestretch` `\arraystretch` and a large font may lead to one line too much.
- if accidentally the last line of the `tabular` produces a newpage, on the next page the `tabletail` will be written immediately after the `tablehead`. Depending on the contents this may result in an error message regarding misplaced `\noalign`.

A quick but not very elegant solution: shrink the allowed height of the table with the command `\shrinkheight{...pt}` after the first `\\` of the `supertabular`.

- The `mpsupertabular` environment sometimes has problems with page-breaks when footnotes appear in the lower part of the `tabular`.

4 Examples

Here is an example of a `supertabular`. You will find the definitions after the table.

Number	Number ²	Number ⁴	Number!
1	1	1	1
2	4	16	2
3	9	81	6
4	16	256	24
<i>continued on next page</i>			

<i>continued from previous page</i>			
Number	Number ²	Number ⁴	Number!
5	25	625	120
6	36	1296	720
7	49	2401	5040
8	64	4096	40320
9	81	6561	362880
10	100	10000	3628800
11	121	14641	39916800
12	144	20736	479001600
13	169	28561	6.22702080E+9
14	196	38416	8.71782912E+10
15	225	50625	1.30767437E+12
16	256	65536	2.09227899E+13
17	289	83521	3.55687428E+14
18	324	104976	6.40237370E+15
19	361	130321	1.21645100E+17
20	400	160000	2.43290200E+18

Table 1: This table is split across pages

And here is (part of) the user input for the table above:

```

\begin{center}
\tablefirsthead{%
  \hline
  \multicolumn{1}{|c|}{\tbsp Number} &
  \multicolumn{1}{c|}{Number$^2$} &
  Number$^4$ &
  \multicolumn{1}{c|}{Number!} \\
  \hline
\tablehead{%
  \hline
  \multicolumn{4}{|l|}{\small\sl continued from previous page}\\
  \hline
  \multicolumn{1}{|c|}{\tbsp Number} &
  \multicolumn{1}{c|}{Number$^2$} &
  Number$^4$ &
  \multicolumn{1}{c|}{Number!} \\
  \hline
\tabletail{%
  \hline
  \multicolumn{4}{|r|}{\small\sl continued on next page}\\
  \hline
\tablelasttail{\hline}
\bottomcaption{This table is split across pages}

\begin{supertabular}{|r@{\hspace{6.5mm}}|r@{\hspace{5.5mm}}|r|r|}

```

```

1 & 1 & 1 & 1 \\
2 & 4 & 16 & 2 \\
3 & 9 & 81 & 6 \\
4 & 16 & 256 & 24 \\[5mm]
...
19 & 361 & 130321 & 1.21645100E+17\\
20 & 400 & 160000 & 2.43290200E+18\\
\end{supertabular}
\end{center}

```

Here is another example with a p column-definition. The tablehead is the same as above. The tabletail is a double `\hline`; `\arraystretch` is set to 1.5 and the font size is `\small`.

Table 2: This table should also be split across pages.

Number	Number ²	Number ⁴	Number!
1	1	1	here is a relative short entry
2	1	1	and here is a long entry, where line breaks and line breaks and line breaks have to occur
3	1	1	and here is a long entry, where line breaks and line breaks and line breaks have to occur
4	1	1	and here is a long entry, where line breaks and line breaks and line breaks have to occur
5	1	1	here is a relative short entry
6	1	1	and here is a long entry, where line breaks and line breaks and line breaks have to occur
7	1	1	and here is a long entry, where line breaks and line breaks and line breaks have to occur
8	1	1	and here is a long entry, where line breaks and line breaks and line breaks have to occur
9	1	1	and here is a long entry, where line breaks and line breaks and line breaks have to occur
10	1	1	and here is a long entry, where line breaks and line breaks and line breaks have to occur
<i>continued on next page</i>			

<i>continued from previous page</i>			
Number	Number ²	Number ⁴	Number!
11	1	1	and here is a long entry, where line breaks and line breaks and line breaks have to occur
12	1	1	here is a relative short entry
13	1	1	and here is a long entry, where line breaks and line breaks and line breaks have to occur
14	1	1	and here is a long entry, where line breaks and line breaks and line breaks have to occur
15	1	1	and here is a long entry, where line breaks and line breaks and line breaks have to occur
16	1	1	and here is a long entry, where line breaks and line breaks and line breaks have to occur
17	1	1	and here is a long entry, where line breaks and line breaks and line breaks have to occur
18	1	1	and here is a long entry, where line breaks and line breaks and line breaks have to occur

Here is the same table again, but this time using the supertabular* environment and stretching the table to the full width of the text.

Table 3: This table should also be split accross pages.

Number	Number ²	Number ⁴	Number!
1	1	1	here is a relative short entry
2	1	1	and here is a long entry, where line breaks and line breaks and line breaks have to occur
3	1	1	and here is a long entry, where line breaks and line breaks and line breaks have to occur
4	1	1	and here is a long entry, where line breaks and line breaks and line breaks have to occur
<i>continued on next page</i>			

<i>continued from previous page</i>			
Number	Number ²	Number ⁴	Number!
5	1	1	1 here is a relative short entry
6	1	1	1 and here is a long entry, where line breaks and line breaks and line breaks have to occur
7	1	1	1 and here is a long entry, where line breaks and line breaks and line breaks have to occur
8	1	1	1 and here is a long entry, where line breaks and line breaks and line breaks have to occur
9	1	1	1 and here is a long entry, where line breaks and line breaks and line breaks have to occur
10	1	1	1 and here is a long entry, where line breaks and line breaks and line breaks have to occur
11	1	1	1 and here is a long entry, where line breaks and line breaks and line breaks have to occur
12	1	1	1 here is a relative short entry
13	1	1	1 and here is a long entry, where line breaks and line breaks and line breaks have to occur
14	1	1	1 and here is a long entry, where line breaks and line breaks and line breaks have to occur
15	1	1	1 and here is a long entry, where line breaks and line breaks and line breaks have to occur
16	1	1	1 and here is a long entry, where line breaks and line breaks and line breaks have to occur
17	1	1	1 and here is a long entry, where line breaks and line breaks and line breaks have to occur
18	1	1	1 and here is a long entry, where line breaks and line breaks and line breaks have to occur

5 Known problems

- When a float occurs on the same page as the start of a supertabular you can expect unexpected results.

When the float was defined on the same page you might end up with the

first part of the supertabular on a page by its own.

- You should not use the supertabular *inside* a floating-environment such as `table` as this will result in TeX trying to put the whole supertabular on *one* page.
- In some instances you might still end up with overfull `\vbox` messages.
- Sometimes the last page of the supertabular contains just an empty head and tail.