The `supertabular` environment*

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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) doens'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.

`\tablefirsthead` The command `\tablefirsthead` takes one argument, it defines the contents of the first occurence of the tabular head.
The use of this command is optional. Don't forget to close the head by a `\\`.

`\tablehead` The command `\tablehead` takes one argument, it defines the contents of all subsequent ocurrences of the tabular head.
Don't forget to close the head by a `\\`

`\tabletail` The command `\tabletail` takes one argument, it defines something which should be inserted before each `\end{tabular}`, except the last.

`\tablelasttail` The command `\tablelasttail` takes one argument, it defines something

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which should be inserted before the last `\end{tabular}`.
The use of this command is optional.

`\topcaption` `\bottomcaption` `\tablecaption` These commands all take the same arguments as LaTeX's standard `\caption` command. They provide a caption for the super-table, either at the top or at the bottom of the table. When `\tablecaption` is used the caption will be placed at the default location, which is at the top.

`supertabular` `supertabular*` The environments `supertabular` and `supertabular*` can be used much like the standard LaTeX environments `tabular` and `tabular*`.

`\shrinkheight` The allowed maximimum height of a part of the supertabular on a page can be adjusted using the command `\shrinkheight`. 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 `\vbox`es 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.

4 Examples

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

Number	Number^2	Number^4	Number!
1	1	1	1
2	4	16	2
3	9	81	6
4	16	256	24
5	25	625	120
6	36	1296	720
7	49	2401	5040
8	64	4096	40320
9	81	6561	362880
			continued on next page

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Number	Number^2	Number^4	Number!
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 whith 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 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
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
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

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Number	Number^2	Number^4	Number!
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
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
			continued on next page

continued from previous page

Number	Number^2	Number^4	Number!
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
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

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 an tail.