The **blocktable** package*

Ján Jockusch
`jan.jockusch@perfact.de`

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1 Introduction

The package **blocktable** uses an unusual approach to table layouts, specifically designed for:

- Tables spanning several pages.

- Tables using a previously specified, fixed layout.

- Tables using multirow arrangements with page breaks inside a multirow.

- Tables requiring special action on page breaks, like inserting additional material conditionally.

These scenarios can only be covered incompletely in either **longtable** or **supertabular**. If you start out with one of these packages and run into overly obtuse programming, then this package might be for you.

But beware, this package operates with lower-level commands that the other table building packages, and demands that you specify all layout details yourself. So the learning curve is a little steeper.

For instance, the package does not support automatic stretching and shrinking of table cells. It does not calculate a global line length. It is much easier to produce jagged layouts than to produce straight ones, because you have to do the math of making each line the same size. You have been warned.

The mechanics of typesetting in **blocktable** are very simple:

- Lines added to the block layout with `\blockline` are accumulated in an unbreakable vertical box. Each of these lines always span the complete available horizontal space.

- Only when the user expressly allows a page break by issuing `\blockcr`, the engine calculates if the accumulated material will fit on the page and either puts the material on the page directly, or replaces it with `\blockfooter`,

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*This document corresponds to **blocktable** v1.0, dated 2017/11/22.

followed by a page break and `\blockheader` followed by the collected material.

Because this is so simple, it allows for low-level tweaking that is very hard to replicate in table environments based on TeX's alignment engine, e.g. making a table cell wider or narrower in individual lines. In `longtable`, you have to do weird `\multicolumn` trickery to get that, here you just use differently sized horizontal boxes in one line.

2 Usage

The package gives you an environment, `blocktable`, with no parameters. Before starting the environment, you prepare by defining headers and footers, and marks behaviour.

2.1 Headers and Footers

blocksetfirstheader
blocksetheader

Use `\blocksetfirstheader{⟨commands⟩}` and `\blocksetheader{⟨commands⟩}` to define commands which will evaluate at the very beginning of the environment and after each page break respectively. The ⟨commands⟩ should push vertical material on the display stack by using `\blockline`.

The commands are used to set the global macros `\blockfirstheader` and `\blockheader`, which may afterwards be used at will. One common use is to use `\blockfirstheader` in `\blockheader`, adding "continued from" information.

blocksetfooter
blocksetlastfooter

In the same way, define footers by using `\blocksetfooter{⟨commands⟩}` and `\blocksetlastfooter{⟨commands⟩}` containing `\blockline` commands which put vertical material on the display stack.

These commands define `\blockfooter` and `\blocklastfooter` as macros which will evaluate before each page break and at the very end of the environment respectively.

2.2 Layouting the Table

blocktable

After defining these settings, the environment may be started. At the start of the environment, the first header is immediately put on the display stack, so at least `\blocksetfirstheader` should be done before starting the environment. If you define it after beginning the environment, you must also manually add it before starting the tabular proper.

blockline

In the environment you layout the material in vertical boxes, which must be pushed into the internal stack, usually by calling `\blockline{⟨commands⟩}`.

Inside each `\blockline` arbitrary hboxes may be added. Because the lines are `\hsize` wide, by default `\hfils` are added to the left and right of your input to center the output if it is narrower. Add `\hfill` left and/or right of the material to justify right or left.

blockpar

Several helpers are available to build the horizontal material in each line. Use

`\blockpar{`⟨*width*⟩`}{`⟨*material*⟩`}` to generate a parbox of width ⟨*width*⟩ and typeset ⟨*material*⟩ in it. Because it is a parbox, you can use `\\` to break lines. The paragraphs are typeset ragged right. Please observe that a trailing `\\` will produce ugly additional space.

block   To just typeset numbers or other material which will be all in one line, use `\block{`⟨*width*⟩`}{`⟨*material*⟩`}`. The material will be aligned to the left by default. Prepend `\hfill` for right alignment or `\hss` for centered alignment.

     If the material is too large to fit, it will overlap the next column, because there's an `\hss` inside the `\block` macro. If you want that overlap to be taped over, add

blockwhitestrip   a `\blockwhitestrip` after the `\block`. This adds a long white box which extends to the right.

2.3 Using Rules to Draw Lines

blockrul   A simple horizontal rule can be produced with `\blockrul{`⟨*width*⟩`}`. This is centered by default.

     If you need different rules you can build them out of horizontal rule and kern segments.

     When working with headers and footers, you will find that often each header should end with a horizontal line and that the footer should start with a horizontal line. This leads to at least some lines appearing twice as thick.

blockspace   To compensate for this, it is advised to add negative space of 0.4 pt at the end of the header, and this is what `\blockspace{`⟨*dimen*⟩`}` is for.

blocklln   If you want to keep track of the width of your line and you choose to use the
blockmln   metric system, the macros `\blocklln`, `\blockrln`, and `\blockmln` yield a vertical
blockrln   line flush left in a millimeter of space, a right-flushed line and a centered line in a two-millimeter space respectively.

2.4 Basic Example

Using the macros described above, we can construct a simple one-line table (we do not define any footers or headers yet) as follows:

```
\begin{blocktable}

\blockrul{104mm}
\blockline{
  \blocklln
  \block{80mm}{The contents of a field}
  \blockmln
  \block{20mm}{Another field}
  \blockrln
}

\blockrul{104mm}
\blockspace{-0.4pt}
```

```
\end{blocktable}
```

This code produces this output:

The contents of a field	Another field

2.5 Controlling Page Breaks

The most important thing about page breaks in blocktable is that by default, no breaking is allowed at all. Each \blockline that you add is appended to an unbreakable vbox.

blockcr   If you want to allow a page break after a block, you must remember to use \blockcr. This macro measures the material collected so far and compares it with the remaining space left (taking into account the footer height). If the material will not fit, a page break is added, along with a footer for the finished page and a header for the new one.

Because of this, please remember that you should not put a \blockcr just before the end of the environment, because this could lead to a silly page break resulting in just a header and the last footer appearing on the last page.

2.6 Dynamic Marks in Headers and Footers

For some tables, you will wish to keep a counter or an intermediate sum, which you can use in the footer and header as "continued" hints.

blockcrhook   To allow this, use the macro \blockcrhook{⟨commands⟩}, which contains commands to execute immediately before each \blockcr. Because this is called immediately before the possible rendering of \blockfooter and \blockheader, the variables set there will be used in the next page break, if it happens.

3 Examples

The following examples double as tests of the basic functionality. Please refer to the code to see how the different behaviours were obtained.

The debugging output shows the TeX internal variables \pagetotal and \pagegoal, along with the height of the previous accumulated vbox.

3.1 Basic Single Lines

This is a simple table which might be spread out to several pages. We allow breaks after each line.

No.	Page Total	Page Goal	Previous Height
1	17.39844 cm	19.33029 cm	0.4988 cm
2	18.30998 cm	19.33029 cm	0.8764 cm
Continued on next page at 3			

4

No.	Page Total	Page Goal	Previous Height
Continued from previous page at 2			
3	18.80878 cm	19.33029 cm	0.37761 cm
4	1.36113 cm	19.33029 cm	1.36113 cm
5	1.85992 cm	19.33029 cm	0.37761 cm
6	2.3587 cm	19.33029 cm	0.37761 cm
7	2.8575 cm	19.33029 cm	0.37761 cm
8	3.3563 cm	19.33029 cm	0.37761 cm
9	3.85509 cm	19.33029 cm	0.37761 cm
10	4.35387 cm	19.33029 cm	0.37761 cm
11	4.85266 cm	19.33029 cm	0.37761 cm
12	5.35146 cm	19.33029 cm	0.37761 cm
13	5.85025 cm	19.33029 cm	0.37761 cm
14	6.34903 cm	19.33029 cm	0.37761 cm
15	6.84782 cm	19.33029 cm	0.37761 cm
16	7.34662 cm	19.33029 cm	0.37761 cm
17	7.8454 cm	19.33029 cm	0.37761 cm
18	8.3442 cm	19.33029 cm	0.37761 cm
19	8.84299 cm	19.33029 cm	0.37761 cm
20	9.34178 cm	19.33029 cm	0.37761 cm
21	9.84056 cm	19.33029 cm	0.37761 cm
22	10.33936 cm	19.33029 cm	0.37761 cm
23	10.83815 cm	19.33029 cm	0.37761 cm
24	11.33694 cm	19.33029 cm	0.37761 cm
25	11.83572 cm	19.33029 cm	0.37761 cm
26	12.33452 cm	19.33029 cm	0.37761 cm
27	12.83331 cm	19.33029 cm	0.37761 cm
28	13.33209 cm	19.33029 cm	0.37761 cm
29	13.83089 cm	19.33029 cm	0.37761 cm
30	14.32968 cm	19.33029 cm	0.37761 cm
31	14.82848 cm	19.33029 cm	0.37761 cm
32	15.32726 cm	19.33029 cm	0.37761 cm
33	15.82605 cm	19.33029 cm	0.37761 cm
34	16.32484 cm	19.33029 cm	0.37761 cm
35	16.82364 cm	19.33029 cm	0.37761 cm
36	17.32242 cm	19.33029 cm	0.37761 cm
37	17.82121 cm	19.33029 cm	0.37761 cm
Continued on next page at 38			

No.	Page Total	Page Goal	Previous Height
Continued from previous page at 37			
38	18.32 cm	19.33029 cm	0.37761 cm
39	1.36113 cm	19.33029 cm	1.36113 cm
40	1.85992 cm	19.33029 cm	0.37761 cm
41	2.3587 cm	19.33029 cm	0.37761 cm
42	2.8575 cm	19.33029 cm	0.37761 cm
43	3.3563 cm	19.33029 cm	0.37761 cm
44	3.85509 cm	19.33029 cm	0.37761 cm
45	4.35387 cm	19.33029 cm	0.37761 cm
46	4.85266 cm	19.33029 cm	0.37761 cm
47	5.35146 cm	19.33029 cm	0.37761 cm
48	5.85025 cm	19.33029 cm	0.37761 cm
49	6.34903 cm	19.33029 cm	0.37761 cm
50	6.84782 cm	19.33029 cm	0.37761 cm
51	7.34662 cm	19.33029 cm	0.37761 cm
52	7.8454 cm	19.33029 cm	0.37761 cm
53	8.3442 cm	19.33029 cm	0.37761 cm

Larger Blocks

This table does not allow a break after each line, but asks for blocks of five lines to stay together.

No.	Page Total	Page Goal	Previous Height
1	11.5457 cm	19.33029 cm	0.51285 cm
1	11.5457 cm	19.33029 cm	0.51285 cm
1	11.5457 cm	19.33029 cm	0.51285 cm
1	11.5457 cm	19.33029 cm	0.51285 cm
1	11.5457 cm	19.33029 cm	0.51285 cm
2	14.39616 cm	19.33029 cm	2.81532 cm
2	14.39616 cm	19.33029 cm	2.81532 cm
2	14.39616 cm	19.33029 cm	2.81532 cm
2	14.39616 cm	19.33029 cm	2.81532 cm
2	14.39616 cm	19.33029 cm	2.81532 cm
Continued on next page at 3			

No.	Page Total	Page Goal	Previous Height
Continued from previous page at 2			
3	16.8339 cm	19.33029 cm	2.31654 cm
3	16.8339 cm	19.33029 cm	2.31654 cm
3	16.8339 cm	19.33029 cm	2.31654 cm
3	16.8339 cm	19.33029 cm	2.31654 cm
3	16.8339 cm	19.33029 cm	2.31654 cm
4	3.30006 cm	19.33029 cm	3.30006 cm
4	3.30006 cm	19.33029 cm	3.30006 cm
4	3.30006 cm	19.33029 cm	3.30006 cm
4	3.30006 cm	19.33029 cm	3.30006 cm
4	3.30006 cm	19.33029 cm	3.30006 cm
5	5.73778 cm	19.33029 cm	2.31654 cm
5	5.73778 cm	19.33029 cm	2.31654 cm
5	5.73778 cm	19.33029 cm	2.31654 cm
5	5.73778 cm	19.33029 cm	2.31654 cm
5	5.73778 cm	19.33029 cm	2.31654 cm
6	8.17549 cm	19.33029 cm	2.31654 cm
6	8.17549 cm	19.33029 cm	2.31654 cm
6	8.17549 cm	19.33029 cm	2.31654 cm
6	8.17549 cm	19.33029 cm	2.31654 cm
6	8.17549 cm	19.33029 cm	2.31654 cm
7	10.61322 cm	19.33029 cm	2.31654 cm
7	10.61322 cm	19.33029 cm	2.31654 cm
7	10.61322 cm	19.33029 cm	2.31654 cm
7	10.61322 cm	19.33029 cm	2.31654 cm
7	10.61322 cm	19.33029 cm	2.31654 cm
8	13.05093 cm	19.33029 cm	2.31654 cm
8	13.05093 cm	19.33029 cm	2.31654 cm
8	13.05093 cm	19.33029 cm	2.31654 cm
8	13.05093 cm	19.33029 cm	2.31654 cm
8	13.05093 cm	19.33029 cm	2.31654 cm
9	15.48866 cm	19.33029 cm	2.31654 cm
9	15.48866 cm	19.33029 cm	2.31654 cm
9	15.48866 cm	19.33029 cm	2.31654 cm
9	15.48866 cm	19.33029 cm	2.31654 cm
9	15.48866 cm	19.33029 cm	2.31654 cm
Continued on next page at 10			

No.	Page Total	Page Goal	Previous Height
Continued from previous page at 9			
10	17.92638 cm	19.33029 cm	2.31654 cm
10	17.92638 cm	19.33029 cm	2.31654 cm
10	17.92638 cm	19.33029 cm	2.31654 cm
10	17.92638 cm	19.33029 cm	2.31654 cm
10	17.92638 cm	19.33029 cm	2.31654 cm
11	3.30006 cm	19.33029 cm	3.30006 cm
11	3.30006 cm	19.33029 cm	3.30006 cm
11	3.30006 cm	19.33029 cm	3.30006 cm
11	3.30006 cm	19.33029 cm	3.30006 cm
11	3.30006 cm	19.33029 cm	3.30006 cm
12	5.73778 cm	19.33029 cm	2.31654 cm
12	5.73778 cm	19.33029 cm	2.31654 cm
12	5.73778 cm	19.33029 cm	2.31654 cm
12	5.73778 cm	19.33029 cm	2.31654 cm
12	5.73778 cm	19.33029 cm	2.31654 cm

Fat Header

This table still uses large blocks, and adds a fat header, but only on follow-up pages.

No.	Page Total	Page Goal	Previous Height
1	10.8782 cm	19.33029 cm	2.45178 cm
1	10.8782 cm	19.33029 cm	2.45178 cm
1	10.8782 cm	19.33029 cm	2.45178 cm
1	10.8782 cm	19.33029 cm	2.45178 cm
1	10.8782 cm	19.33029 cm	2.45178 cm
2	13.72868 cm	19.33029 cm	2.81532 cm
2	13.72868 cm	19.33029 cm	2.81532 cm
2	13.72868 cm	19.33029 cm	2.81532 cm
2	13.72868 cm	19.33029 cm	2.81532 cm
2	13.72868 cm	19.33029 cm	2.81532 cm
3	16.1664 cm	19.33029 cm	2.31654 cm
3	16.1664 cm	19.33029 cm	2.31654 cm
3	16.1664 cm	19.33029 cm	2.31654 cm
3	16.1664 cm	19.33029 cm	2.31654 cm
3	16.1664 cm	19.33029 cm	2.31654 cm
Continued on next page at 4			

No.	Page Total	Page Goal	Previous Height continued from count 3
4	18.60413 cm	19.33029 cm	2.31654 cm
4	18.60413 cm	19.33029 cm	2.31654 cm
4	18.60413 cm	19.33029 cm	2.31654 cm
4	18.60413 cm	19.33029 cm	2.31654 cm
4	18.60413 cm	19.33029 cm	2.31654 cm
5	3.95883 cm	19.33029 cm	3.95883 cm
5	3.95883 cm	19.33029 cm	3.95883 cm
5	3.95883 cm	19.33029 cm	3.95883 cm
5	3.95883 cm	19.33029 cm	3.95883 cm
5	3.95883 cm	19.33029 cm	3.95883 cm
6	6.39655 cm	19.33029 cm	2.31654 cm
6	6.39655 cm	19.33029 cm	2.31654 cm
6	6.39655 cm	19.33029 cm	2.31654 cm
6	6.39655 cm	19.33029 cm	2.31654 cm
6	6.39655 cm	19.33029 cm	2.31654 cm
7	8.83427 cm	19.33029 cm	2.31654 cm
7	8.83427 cm	19.33029 cm	2.31654 cm
7	8.83427 cm	19.33029 cm	2.31654 cm
7	8.83427 cm	19.33029 cm	2.31654 cm
7	8.83427 cm	19.33029 cm	2.31654 cm
8	11.27199 cm	19.33029 cm	2.31654 cm
8	11.27199 cm	19.33029 cm	2.31654 cm
8	11.27199 cm	19.33029 cm	2.31654 cm
8	11.27199 cm	19.33029 cm	2.31654 cm
8	11.27199 cm	19.33029 cm	2.31654 cm
9	13.7097 cm	19.33029 cm	2.31654 cm
9	13.7097 cm	19.33029 cm	2.31654 cm
9	13.7097 cm	19.33029 cm	2.31654 cm
9	13.7097 cm	19.33029 cm	2.31654 cm
9	13.7097 cm	19.33029 cm	2.31654 cm
10	16.14743 cm	19.33029 cm	2.31654 cm
10	16.14743 cm	19.33029 cm	2.31654 cm
10	16.14743 cm	19.33029 cm	2.31654 cm
10	16.14743 cm	19.33029 cm	2.31654 cm
10	16.14743 cm	19.33029 cm	2.31654 cm

No.	Page Total	Page Goal	Previous Height
			continued from count 10
11	18.58514 cm	19.33029 cm	2.31654 cm
11	18.58514 cm	19.33029 cm	2.31654 cm
11	18.58514 cm	19.33029 cm	2.31654 cm
11	18.58514 cm	19.33029 cm	2.31654 cm
11	18.58514 cm	19.33029 cm	2.31654 cm
12	3.95883 cm	19.33029 cm	3.95883 cm
12	3.95883 cm	19.33029 cm	3.95883 cm
12	3.95883 cm	19.33029 cm	3.95883 cm
12	3.95883 cm	19.33029 cm	3.95883 cm
12	3.95883 cm	19.33029 cm	3.95883 cm

Fat Header And Footer

We add an enourmous footer and an even more terrible last footer. Even though the last entry would comfortably fit on the last but one page, a page break is done to have at least one entry before the abominable footer.

No.	Page Total	Page Goal	Previous Height
1	9.5237 cm	19.33029 cm	2.45178 cm
1	9.5237 cm	19.33029 cm	2.45178 cm
1	9.5237 cm	19.33029 cm	2.45178 cm
1	9.5237 cm	19.33029 cm	2.45178 cm
1	9.5237 cm	19.33029 cm	2.45178 cm
2	12.37418 cm	19.33029 cm	2.81532 cm
2	12.37418 cm	19.33029 cm	2.81532 cm
2	12.37418 cm	19.33029 cm	2.81532 cm
2	12.37418 cm	19.33029 cm	2.81532 cm
2	12.37418 cm	19.33029 cm	2.81532 cm
3	14.81189 cm	19.33029 cm	2.31654 cm
3	14.81189 cm	19.33029 cm	2.31654 cm
3	14.81189 cm	19.33029 cm	2.31654 cm
3	14.81189 cm	19.33029 cm	2.31654 cm
3	14.81189 cm	19.33029 cm	2.31654 cm
No.	Page Total	Page Goal	Previous Height
			continued at 4 on the next page

No.	Page Total	Page Goal	Previous Height
			continued from count 3
4	17.2496 cm	19.33029 cm	2.31654 cm
4	17.2496 cm	19.33029 cm	2.31654 cm
4	17.2496 cm	19.33029 cm	2.31654 cm
4	17.2496 cm	19.33029 cm	2.31654 cm
4	17.2496 cm	19.33029 cm	2.31654 cm
5	3.95883 cm	19.33029 cm	3.95883 cm
5	3.95883 cm	19.33029 cm	3.95883 cm
5	3.95883 cm	19.33029 cm	3.95883 cm
5	3.95883 cm	19.33029 cm	3.95883 cm
5	3.95883 cm	19.33029 cm	3.95883 cm
6	6.39655 cm	19.33029 cm	2.31654 cm
6	6.39655 cm	19.33029 cm	2.31654 cm
6	6.39655 cm	19.33029 cm	2.31654 cm
6	6.39655 cm	19.33029 cm	2.31654 cm
6	6.39655 cm	19.33029 cm	2.31654 cm
7	8.83427 cm	19.33029 cm	2.31654 cm
7	8.83427 cm	19.33029 cm	2.31654 cm
7	8.83427 cm	19.33029 cm	2.31654 cm
7	8.83427 cm	19.33029 cm	2.31654 cm
7	8.83427 cm	19.33029 cm	2.31654 cm
8	11.27199 cm	19.33029 cm	2.31654 cm
8	11.27199 cm	19.33029 cm	2.31654 cm
8	11.27199 cm	19.33029 cm	2.31654 cm
8	11.27199 cm	19.33029 cm	2.31654 cm
8	11.27199 cm	19.33029 cm	2.31654 cm
No.	Page Total	Page Goal	Previous Height
			continued at 9 on the next page

No.	Page Total	Page Goal	Previous Height
			continued from count 8
9	13.7097 cm	19.33029 cm	2.31654 cm
9	13.7097 cm	19.33029 cm	2.31654 cm
9	13.7097 cm	19.33029 cm	2.31654 cm
9	13.7097 cm	19.33029 cm	2.31654 cm
9	13.7097 cm	19.33029 cm	2.31654 cm
No.	Page Total	Page Goal	Previous Height
			too much information here really, too much information here really, too much information here

4 Implementation

The package starts out be defining `\convertto`, `\tocm`, and `\texttocm` for easier debugging.

TODO: The names of these macros may clash with definitions outside the package, which is not good.

```
1 \def\convertto#1#2{\strip@pt\dimexpr #2*65536/\number\dimexpr 1#1}
2 \def\tocm#1{\convertto{cm}{#1}\,cm}
3 \def\texttocm#1{\convertto{cm}{#1}cm}
```

With `\blocktrace` we can enable tracing messages to be output during the TeX run. The switch to enable tracing is `\blocktracingtrue`.

```
4 \newif\ifblocktracing
5 \blocktracingfalse
6 \def\blocktrace#1{%
7   \ifblocktracing%
8     \GenericWarning
9       {blocktable}
10      {BT #1 at pagetotal=\texttocm{\the\pagetotal},
11               pagegoal=\texttocm{\the\pagegoal}.}%
```

```
12   \fi}
```

We define several registers to store the estimated footer height, the accumulated vertical material, the height of the previously made vbox.

```
13 \newdimen\blockfooterht
14 \newbox\blockvbox
15 \newdimen\blockprevht
```

Define a temporary storage for the accumulated material, a temporary register for height calculations, and an internal boolean which tells \blockcr not to begin the table with a page break.

```
16 \newbox\blocktmpbox
17 \newdimen\blocktmpdim
18 \newif\ifblockstarted
```

Helpers for internal use: \blockclearbox clears the vertical accumulator, \blockaddtobox adds to the accumulator.

```
19 \def\blockclearbox{\global\setbox\blockvbox\vbox{\kern0pt\relax}}
20 \def\blockaddtobox#1{\global\setbox\blockvbox\vbox{%
21   \box\blockvbox\nointerlineskip{#1}}}
```

The macro \blockspace is externally used mostly to make the effective height of horizontal lines zero.

```
22 \def\blockspace#1{\blockaddtobox{\kern#1\relax}}
```

Better raggedright taken from Knuth's plain TeX. This is generally useful, so we make it global.
TODO: But again, this does not conform to the namespace regulations.

```
23 \def\softraggedright{\rightskip0pt plus2em\spaceskip.3333em%
24   \xspaceskip.5em\relax}
```

Here are the internal macro storage spaces for headers and footers.

```
25 \def\blockheader{}
26 \def\blockfooter{}
27 \def\blockfirstheader{}
28 \def\blocklastfooter{}
```

This is the exposed API of the headers and footers mechanics, which is also in the documentation above.

```
29 \def\blocksetheader#1{\gdef\blockheader{#1}}
30 \def\blocksetfooter#1{\gdef\blockfooter{#1}%
31   \setbox\blocktmpbox\box\blockvbox%
32   \blockclearbox\blockfooter%
33   \global\blockfooterht=\ht\blockvbox%
34   \global\advance\blockfooterht\dp\blockvbox%
35   \blockaddtobox{\box\blocktmpbox}%
36 }
37 \def\blocksetfirstheader#1{\gdef\blockfirstheader{#1}}
38 \def\blocksetlastfooter#1{\gdef\blocklastfooter{#1}}
```

Here are the definitions of `\blockline` and `\blocklineto`, the essential layouting API.

```
39 \def\blockline#1{\blockaddtobox{\hbox to \hsize{%
40     \hfil{\ignorespaces #1}\hfil}\nointerlineskip}}
41 \def\blocklineto#1#2{\blockline{\hbox to #1{#2}}}
```

The `\blockwhitestrip` patch for cutting off material that's too long is here, as well as the `\blocktext` macro used in `\blockpar`.

```
42 \def\blockwhitestrip{\hbox to 0pt{%
43     \color{white}%
44     \rule[-.6ex]{\textwidth}{2.9ex}%
45     \hss}}
46 \def\blockfirststrut{\rule{0pt}{2.4ex}}
47 \def\blocklaststrut{\rule[-0.8ex]{0pt}{1ex}}
48 \def\blocktext#1{\blockfirststrut\ignorespaces #1\blocklaststrut}
```

Layouting parboxes in blocktable is ragged-right by default and adds some struts to ensure good spacing.

```
49 \def\blockpar#1#2{% width, material
50   \parbox[t]{#1}{%
51     \softraggedright%
52     \blocktext{\ignorespaces #2}}%
53   \ignorespaces}
```

The `\block` macro produces an hbox of defined width and enforces that width by adding `\hss` at the end. Because of this, prepending `\hfill` in front of the input results in right alignment, and prepending `\hss` results in centering.

```
54 \def\block#1#2{% width, material
55   \hbox to #1{%
56     \blocktext{#2}\hss}%
57   \ignorespaces}
```

A vertical line on the left of a millimeter of space, a vertical line in the middle of a two-millimeter space, and a vertical line on the right of a millimeter of space.

```
58 \def\blocklln{%
59   \vline\kern-0.4pt\kern1mm}
60 \def\blockmln{%
61   \kern1mm\kern-0.2pt\vline\kern-0.2pt\kern1mm}
62 \def\blockrln{%
63   \kern1mm\kern-0.4pt\vline}
64 \def\blockrul#1{%
65   \blockline{%
66     \rule{#1}{0.4pt}%
67   }%
68 }
```

Hints for multicolumn typesetting: `\vrulekern` is a kern which compensates for a missing rule, `\negvrulekern` is a kern which backtracks the width of a rule.

```
69 \def\vrulekern{\kern0.4pt\relax}
70 \def\negvrulekern{\kern-0.4pt\relax}
```

The hook `\blockcrhook` is initialized before defining `\blockcr`, where it is used to perform tasks which should be done immediately before typesetting the page break.

```
71 \def\blockcrhook{}
72 \def\blockcr{%
73   \blockcrhook%
```

The space needed for the box and the footer are added to the current position on the page to determine whether everything will still fit.

```
74   \global\blocktmpdim=\ht\blockvbox%
75   \global\advance\blocktmpdim\dp\blockvbox%
76   \global\advance\blocktmpdim\blockfooterht%
77   \global\advance\blocktmpdim\pagetotal%
78   \ifdim\blocktmpdim>\pagegoal{%
79     \blocktrace{break}%
```

To perform the page break, we first store the contents of the vbox, then we set the footer (but not at the very beginning of the table), prepend a page break (the penalty), then add a header (but again not at the very beginning). Then, we can add the collected material an push everything out to the page.

```
80     \setbox\blocktmpbox\box\blockvbox%
81     \ifblockstarted\blockfooter\fi%
82     \box\blockvbox\nointerlineskip%
83     \penalty-10000%
84     \ifblockstarted\blockheader\fi%
85     \blockaddtobox{\box\blocktmpbox}%
86     \global\blockprevht=\ht\blockvbox%
87     \box\blockvbox\nointerlineskip%
88   }\else{%
89     \blocktrace{flow}%
```

If the box fits (along with a possible footer), we just push it out onto the page.

```
90     \global\blockprevht=\ht\blockvbox%
91     \box\blockvbox\nointerlineskip%
92   }\fi%
93   \global\blockstartedtrue%
94 }
```

The environment and its helper functions. At the beginning typeset the first header. At the ending typeset the last footer and perform one last page break.

```
95 \def\blockbegin{%
96   \blocktrace{begin}%
97   \blockclearbox\blockfirstheader%
98   \blockstartedfalse%
99 }
100 \def\blockend{%
101   \blocktrace{end}
102   \blocklastfooter%
103   \blockcr%
```

```
104    \box\blockvbox\nointerlineskip%
105 }
106 \newenvironment{blocktable}{\blockbegin}{\blockend}
107 \endinput
```

And that is the whole package. Enjoy!

Change History

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Numbers written in italic refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; numbers in roman refer to the code lines where the entry is used.