

Environments

Tables

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This Presentation

- Tabular Environment
- Vertical and Horizontal Lines
- Multiple Columns

Tabular Environment

- Making tables in \LaTeX is done using the `tabular` environment.
- Many aspects of tables is similar to making matrices under math environments.
- It is helpful to know the dimensions of the table (rows x columns) before we start typing the table.
- Recall that columns are vertical while rows are horizontal.

Tabular Environment (con't)

- To begin a table we use
`\begin{tabular}[position]{alignment}`
- In *position* we use either `t`, `c`, or `b` to place the table at the top, center, or bottom relative to the surrounding text—this argument is optional.
- *alignment* tells how the text should be aligned for each column.
- In *alignment* we place `l`, `c`, and/or `r` for each column of text.
- For each column, we have to specify the alignment for each column.

Tabular Environment (con't)

- For each column, we have to specify the alignment for each column.
- For instance, `\begin{tabular}{l r c l}` tells us we have four columns, the first and last column's text is left-aligned text, while the middle two are right- and centered-aligned text.
- We can place a `|` between *adjustment* arguments to tell \LaTeX to place a line between columns.
- `\begin{tabular}{|l r c l|}` is the same as above, but we want a line on the left and right side of the table.

Tabular Environment (con't)

- After beginning the table we type the text we want in our cell from left to right.
- When we're done with one cell, then we use `&` to jump to the next cell in the row.
- After a row, we use `\\` to jump to the next row.
- If we have a table with four columns, we need three `&` at the end of each cell and `\\` to end the row.
- Even if we have blank cells, we still need to put `&`.

Tabular Environment Example

```
\begin{tabular}{|l r c|}  
Cell 1 & Cell 2 & Cell 3 \\  
Cell 4 & & Cell 5 \\  
Cell 6 & Cell 7 & Cell 8  
\end{tabular}
```

Tabular Environment Example (con't)

| | | |
|--------|--------|--------|
| Cell 1 | Cell 2 | Cell 3 |
| Cell 4 | | Cell 5 |
| Cell 6 | Cell 7 | Cell 8 |

Horizontal Lines

- In the previous example we created vertical lines between columns using `|`.
- To make horizontal lines separating rows we insert `\hline` where we want a horizontal line.

```
\begin{tabular}{|l|r|c|}  
\hline  
Cell 1 & Cell 2 & Cell 3 \\  
\hline  
Cell 4 & & Cell 5 \\  
\hline  
\end{tabular}
```

Horizontal Lines Example

| | | |
|--------|--------|--------|
| Cell 1 | Cell 2 | Cell 3 |
| Cell 4 | | Cell 5 |

Multicolumn

- To span a cell across multiple columns we use `\multicolumn{number}{alignment}{value}`
- In *number* we specify how many columns we want to span,
- *alignment* is where we specify how the text will be aligned in the multicolumn cell with `l`, `c`, and `r` for left, center, and right.
- *value* is the text we want to place in the cell.

Multicolumn Example

```
\begin{tabular}{|1|1|} \hline
\multicolumn{2}{c}{18 and over} \hline \hline
C. Anderson & 20 pts \\
\hline
D. Smith & 15 pts \\
\hline
A. Britten & 15 pts \\
\hline
\multicolumn{2}{c}{16 to 17}
\hline
B. Simpson & 13 pts \\
\hline
C. Griffen & 9 pts \\
\hline
\end{tabular}
```

Multicolumn Example (con't)

| | |
|-------------|--------|
| 18 and over | |
| C. Anderson | 20 pts |
| D. Smith | 15 pts |
| A. Britten | 15 pts |
| 16 to 17 | |
| B. Simpson | 13 pts |
| C. Griffen | 9 pts |

Table Review

- The tabular environment has several arguments:
`\begin{tabular}[position]{alignment}`
- Putting `|` in the alignment will insert vertical lines.
- Inserting `\hline` between rows will insert an horizontal line.
- `\multicolumn` will span the cell across the specified columns.