

# L<sup>A</sup>T<sub>E</sub>X and Friends Tables

<http://cswb.ucc.ie/~dongen/LAF/LAF.html>

M. R. C. van Dongen

ucc

# Advantages of Tables

## Tables

### Why Use Tables?

Table Taxonomy

Table Anatomy

Table Design

Aligning Numbers

The `table` Environment

Wide Tables

Multi-page Tables

Databases and Spreadsheets

Acronyms &  
Abbreviations

About this Document

- List numbers in systematic fashion.
- Tables supplement, simplify, explain, and condense information.
- Well-designed tables are easily understood.
  - Patterns and exceptions can be made to stand out.
  - They are more flexible than graphs.

# Kinds of Tables

## Tables

Why Use Tables?

Table Taxonomy

Table Anatomy

Table Design

Aligning Numbers

The `table` Environment

Wide Tables

Multi-page Tables

Databases and Spreadsheets

Acronyms &  
Abbreviations

About this Document

**demonstration tables** Organise figures to show trend.

**reference tables** Provide extra, comprehensive information.

# Kinds of Tables

## Tables

Why Use Tables?

Table Taxonomy

Table Anatomy

Table Design

Aligning Numbers

The `table` Environment

Wide Tables

Multi-page Tables

Databases and Spreadsheets

Acronyms &  
Abbreviations

About this Document

demonstration tables Organise figures to show trend.

reference tables Provide extra, comprehensive information.

# Anatomy of Tables

number and title: Labels and describes the purpose

**Table 3.1. GP and diabetic services, 2000**

Towns	Number	Number providing diabetic services	GP Practices % Providing diabetic services
Town A	40	38	95
Town B	29	27	93
Town C <sup>*</sup>	29	25	86
Town D	34	29	85
Town E	36	30	83
Town F	<u>62</u>	<u>32</u>	<u>52</u>
Total	230	181	82

Source: Health Authority annual Report, 2001

<sup>\*</sup> Two practices closed in April.

## Tables

Why Use Tables?

Table Taxonomy

Table Anatomy

Table Design

Aligning Numbers

The `table` Environment

Wide Tables

Multi-page Tables

Databases and Spreadsheets

Acronyms &  
Abbreviations

About this Document

# Anatomy of Tables

column headings: Describe the data in the columns

**Table 3.1. GP and diabetic services, 2000**

<b>Towns</b>	<b>Number</b>	<b>Number providing diabetic services</b>	<b>GP Practices % Providing diabetic services</b>
Town A	40	38	95
Town B	29	27	93
Town C <sup>*</sup>	29	25	86
Town D	34	29	85
Town E	36	30	83
Town F	<u>62</u>	<u>32</u>	<u>52</u>
Total	230	181	82

Source: Health Authority annual Report, 2001

<sup>\*</sup> Two practices closed in April.

## Tables

Why Use Tables?

Table Taxonomy

Table Anatomy

Table Design

Aligning Numbers

The `table` Environment

Wide Tables

Multi-page Tables

Databases and Spreadsheets

Acronyms &  
Abbreviations

About this Document

# Anatomy of Tables

row headings: Describes what's in the rows.

**Table 3.1. GP and diabetic services, 2000**

Towns	Number	Number providing diabetic services	GP Practices % Providing diabetic services
Town A	40	38	95
Town B	29	27	93
Town C *	29	25	86
Town D	34	29	85
Town E	36	30	83
Town F	<u>62</u>	<u>32</u>	<u>52</u>
Total	230	181	82

Source: Health Authority annual Report, 2001

\* Two practices closed in April.

## Tables

Why Use Tables?

Table Taxonomy

Table Anatomy

Table Design

Aligning Numbers

The `table` Environment

Wide Tables

Multi-page Tables

Databases and Spreadsheets

Acronyms &  
Abbreviations

About this Document

# Anatomy of Tables

body: Facts, numbers, patterns, trend, exceptions

**Table 3.1. GP and diabetic services, 2000**

Towns	Number	Number providing diabetic services	GP Practices % Providing diabetic services
Town A	40	38	95
Town B	29	27	93
Town C <sup>*</sup>	29	25	86
Town D	34	29	85
Town E	36	30	83
Town F	<u>62</u>	<u>32</u>	<u>52</u>
Total	230	181	82

Source: Health Authority annual Report, 2001

<sup>\*</sup> Two practices closed in April.

## Tables

Why Use Tables?

Table Taxonomy

Table Anatomy

Table Design

Aligning Numbers

The `table` Environment

Wide Tables

Multi-page Tables

Databases and Spreadsheets

Acronyms &  
Abbreviations

About this Document



# Anatomy of Tables

trend: Describes the general pattern

**Table 3.1. GP and diabetic services, 2000**

Towns	Number	Number providing diabetic services	GP Practices % Providing diabetic services
Town A	40	38	95
Town B	29	27	93
Town C <sup>*</sup>	29	25	86
Town D	34	29	85
Town E	36	30	83
Town F	<u>62</u>	<u>32</u>	<u>52</u>
Total	230	181	82

Source: Health Authority annual Report, 2001

\* Two practices closed in April.

## Tables

Why Use Tables?

Table Taxonomy

Table Anatomy

Table Design

Aligning Numbers

The `table` Environment

Wide Tables

Multi-page Tables

Databases and Spreadsheets

Acronyms &  
Abbreviations

About this Document

# Anatomy of Tables

**exception:** An exception of the trend

## Tables

Why Use Tables?

Table Taxonomy

Table Anatomy

Table Design

Aligning Numbers

The `table` Environment

Wide Tables

Multi-page Tables

Databases and Spreadsheets

Acronyms &  
Abbreviations

About this Document

**Table 3.1. GP and diabetic services, 2000**

Towns	Number	Number providing diabetic services	GP Practices % Providing diabetic services
Town A	40	38	95
Town B	29	27	93
Town C <sup>*</sup>	29	25	86
Town D	34	29	85
Town E	36	30	83
Town F	<u>62</u>	<u>32</u>	<u>52</u>
Total	230	181	82

Source: Health Authority annual Report, 2001

<sup>\*</sup> Two practices closed in April.

# Anatomy of Tables

source: Reference

## Tables

[Why Use Tables?](#)

[Table Taxonomy](#)

[Table Anatomy](#)

[Table Design](#)

[Aligning Numbers](#)

[The `table` Environment](#)

[Wide Tables](#)

[Multi-page Tables](#)

[Databases and Spreadsheets](#)

[Acronyms &  
Abbreviations](#)

[About this Document](#)

**Table 3.1. GP and diabetic services, 2000**

Towns	Number	Number providing diabetic services	GP Practices % Providing diabetic services
Town A	40	38	95
Town B	29	27	93
Town C <sup>*</sup>	29	25	86
Town D	34	29	85
Town E	36	30	83
Town F	<u>62</u>	<u>32</u>	<u>52</u>
Total	230	181	82

Source: Health Authority annual Report, 2001

<sup>\*</sup> Two practices closed in April.

# Anatomy of Tables

footnote: Additional information

## Tables

Why Use Tables?

Table Taxonomy

Table Anatomy

Table Design

Aligning Numbers

The `table` Environment

Wide Tables

Multi-page Tables

Databases and Spreadsheets

Acronyms &  
Abbreviations

About this Document

**Table 3.1. GP and diabetic services, 2000**

Towns	Number	Number providing diabetic services	GP Practices % Providing diabetic services
Town A	40	38	95
Town B	29	27	93
Town C *	29	25	86
Town D	34	29	85
Town E	36	30	83
Town F	<u>62</u>	<u>32</u>	<u>52</u>
Total	230	181	82

Source: Health Authority annual Report, 2001

\* Two practices closed in April.

## Tables

[Why Use Tables?](#)[Table Taxonomy](#)[Table Anatomy](#)[Table Design](#)[Aligning Numbers](#)[The `table` Environment](#)[Wide Tables](#)[Multi-page Tables](#)[Databases and Spreadsheets](#)[Acronyms &  
Abbreviations](#)[About this Document](#)

# Designing Tables: How *Not* To

Chilled Meats	Calories
Beef (4 oz/100 g)	225
Chicken (4 oz/100 g)	153
Ham (4 oz/100 g)	109
Liver sausage (1 oz/25 g)	75.023
Salami (1 oz/25 g)	125

- Dazzling gridlines.
- Poor alignment.
- Poor use of units.
- Different precision.

## Tables

[Why Use Tables?](#)[Table Taxonomy](#)[Table Anatomy](#)[Table Design](#)[Aligning Numbers](#)[The `table` Environment](#)[Wide Tables](#)[Multi-page Tables](#)[Databases and Spreadsheets](#)[Acronyms &  
Abbreviations](#)[About this Document](#)

# Designing Tables: How *Not* To

Chilled Meats	Calories
Beef (4 oz/100 g)	225
Chicken (4 oz/100 g)	153
Ham (4 oz/100 g)	109
Liver sausage (1 oz/25 g)	75.023
Salami (1 oz/25 g)	125

- ❑ Dazzling gridlines.
- ❑ **Poor alignment.**
- ❑ Poor use of units.
- ❑ Different precision.

# Designing Tables: How *Not* To

## Tables

Why Use Tables?

Table Taxonomy

Table Anatomy

Table Design

Aligning Numbers

The `table` Environment

Wide Tables

Multi-page Tables

Databases and Spreadsheets

Acronyms &  
Abbreviations

About this Document

Chilled Meats	Calories
Beef (4 oz/100 g)	225
Chicken (4 oz/100 g)	153
Ham (4 oz/100 g)	109
Liver sausage (1 oz/25 g)	75.023
Salami (1 oz/25 g)	125

- ❑ Dazzling gridlines.
- ❑ Poor alignment.
- ❑ **Poor use of units.**
- ❑ Different precision.

# Designing Tables: How *Not* To

Chilled Meats	Calories
Beef (4 oz/100 g)	225
Chicken (4 oz/100 g)	153
Ham (4 oz/100 g)	109
Liver sausage (1 oz/25 g)	75.023
Salami (1 oz/25 g)	125

- Dazzling gridlines.
- Poor alignment.
- Poor use of units.
- Different precision.

## Tables

Why Use Tables?

Table Taxonomy

Table Anatomy

Table Design

Aligning Numbers

The `table` Environment

Wide Tables

Multi-page Tables

Databases and Spreadsheets

Acronyms &  
Abbreviations

About this Document



# Designing Tables: How *Not* To

## Tables

Why Use Tables?

Table Taxonomy

Table Anatomy

Table Design

Aligning Numbers

The `table` Environment

Wide Tables

Multi-page Tables

Databases and Spreadsheets

Acronyms &  
Abbreviations

About this Document

Chilled Meats	Calories
Beef (4 oz/100 g)	225
Chicken (4 oz/100 g)	153
Ham (4 oz/100 g)	109
Liver sausage (1 oz/25 g)	75.023
Salami (1 oz/25 g)	125

- ❑ Dazzling gridlines.
- ❑ Poor alignment.
- ❑ Poor use of units.
- ❑ Different precision.
- ❑ **But, what's really wrong with this table?**

# Designing Tables: How to improve the table

- Scale all data to same unit: 100 g (4 oz).
- Reorder rows to show trend.
- Reduce the grid to a minimum.
- Present all numbers using three digits.
- Align all columns to the left.
- Align all numbers to the right.
- Make Column Headings stand out.

## Tables

Why Use Tables?

Table Taxonomy

Table Anatomy

Table Design

Aligning Numbers

The `table` Environment

Wide Tables

Multi-page Tables

Databases and Spreadsheets

Acronyms &  
Abbreviations

About this Document

# Designing Tables: How to improve the table

- Scale all data to same unit: 100 g (4 oz).
- Reorder rows to show trend.
- Reduce the grid to a minimum.
- Present all numbers using three digits.
- Align all columns to the left.
- Align all numbers to the right.
- Make Column Headings stand out.

<b>Chilled Meats</b>	<b>Calories per 100 g (4 oz)</b>
Salami	500
Liver sausage	300
Beef	225
Chicken	153
Ham	109

## Tables

Why Use Tables?

Table Taxonomy

Table Anatomy

Table Design

Aligning Numbers

The `table` Environment

Wide Tables

Multi-page Tables

Databases and Spreadsheets

Acronyms &  
Abbreviations

About this Document

## Tables

[Why Use Tables?](#)[Table Taxonomy](#)[Table Anatomy](#)[Table Design](#)[Aligning Numbers](#)[The `table` Environment](#)[Wide Tables](#)[Multi-page Tables](#)[Databases and Spreadsheets](#)[Acronyms &  
Abbreviations](#)[About this Document](#)

# Design of Tables

- Simple, uncluttered tables.
  - No vertical grid lines.
  - Other gridlines should be kept to a minimum.
- Align numbers and column headings to the right.
- Table titles:
  - what Describe subject of table. E.g., Increase in income.
  - where Describe the geographic location. E.g., Europe.
  - when Dates. E.g., 2002, 1900–1940, May, ....
  - units E.g., € per year, m/s, Pa, ....

Don't mix units.
- Align numbers so as to facilitate comparison:
  - Use monospaced typeface.
  - Align whole numbers to the right.
  - Align fractional numbers to the decimal point.
  - Use scientific notation if there's much variance:  $1.4 \cdot 10^{+4}$  and  $2.3 \cdot 10^{-3}$ .
  - Consider scaling numbers to thousands, millions, ....
- Reduce whitespace.
- Long tables: add extra linespace after each fourth or fifth line.

## Tables

[Why Use Tables?](#)[Table Taxonomy](#)[Table Anatomy](#)[Table Design](#)[Aligning Numbers](#)[The `table` Environment](#)[Wide Tables](#)[Multi-page Tables](#)[Databases and Spreadsheets](#)[Acronyms &  
Abbreviations](#)[About this Document](#)

# Design of Tables

- Simple, uncluttered tables.
  - **No vertical grid lines.**
  - Other gridlines should be kept to a minimum.
- Align numbers and column headings to the right.
- Table titles:
  - what** Describe subject of table. E.g., Increase in income.
  - where** Describe the geographic location. E.g., Europe.
  - when** Dates. E.g., 2002, 1900–1940, May, ....
  - units** E.g., € per year, m/s, Pa, ....

Don't mix units.
- Align numbers so as to facilitate comparison:
  - Use monospaced typeface.
  - Align whole numbers to the right.
  - Align fractional numbers to the decimal point.
  - Use scientific notation if there's much variance:  $1.4 \cdot 10^{+4}$  and  $2.3 \cdot 10^{-3}$ .
  - Consider scaling numbers to thousands, millions, ....
- Reduce whitespace.
- Long tables: add extra linespace after each fourth or fifth line.

## Tables

[Why Use Tables?](#)[Table Taxonomy](#)[Table Anatomy](#)[Table Design](#)[Aligning Numbers](#)[The `table` Environment](#)[Wide Tables](#)[Multi-page Tables](#)[Databases and Spreadsheets](#)[Acronyms &  
Abbreviations](#)[About this Document](#)

# Design of Tables

- Simple, uncluttered tables.
  - No vertical grid lines.
  - Other gridlines should be kept to a minimum.
- Align numbers and column headings to the right.
- Table titles:
  - what Describe subject of table. E.g., Increase in income.
  - where Describe the geographic location. E.g., Europe.
  - when Dates. E.g., 2002, 1900–1940, May, ....
  - units E.g., € per year, m/s, Pa, ....

Don't mix units.
- Align numbers so as to facilitate comparison:
  - Use monospaced typeface.
  - Align whole numbers to the right.
  - Align fractional numbers to the decimal point.
  - Use scientific notation if there's much variance:  $1.4 \cdot 10^{+4}$  and  $2.3 \cdot 10^{-3}$ .
  - Consider scaling numbers to thousands, millions, ....
- Reduce whitespace.
- Long tables: add extra linespace after each fourth or fifth line.

## Tables

[Why Use Tables?](#)[Table Taxonomy](#)[Table Anatomy](#)[Table Design](#)[Aligning Numbers](#)[The `table` Environment](#)[Wide Tables](#)[Multi-page Tables](#)[Databases and Spreadsheets](#)[Acronyms &  
Abbreviations](#)[About this Document](#)

# Design of Tables

- Simple, uncluttered tables.
  - No vertical grid lines.
  - Other gridlines should be kept to a minimum.
- **Align numbers and column headings to the right.**
- Table titles:
  - what** Describe subject of table. E.g., Increase in income.
  - where** Describe the geographic location. E.g., Europe.
  - when** Dates. E.g., 2002, 1900–1940, May, ....
  - units** E.g., € per year, m/s, Pa, ....

Don't mix units.
- Align numbers so as to facilitate comparison:
  - Use monospaced typeface.
  - Align whole numbers to the right.
  - Align fractional numbers to the decimal point.
  - Use scientific notation if there's much variance:  $1.4 \cdot 10^{+4}$  and  $2.3 \cdot 10^{-3}$ .
  - Consider scaling numbers to thousands, millions, ....
- Reduce whitespace.
- Long tables: add extra linespace after each fourth or fifth line.

## Tables

[Why Use Tables?](#)[Table Taxonomy](#)[Table Anatomy](#)[Table Design](#)[Aligning Numbers](#)[The `table` Environment](#)[Wide Tables](#)[Multi-page Tables](#)[Databases and Spreadsheets](#)[Acronyms &  
Abbreviations](#)[About this Document](#)

# Design of Tables

- Simple, uncluttered tables.
  - No vertical grid lines.
  - Other gridlines should be kept to a minimum.
- Align numbers and column headings to the right.
- **Table titles:**
  - what Describe subject of table. E.g., Increase in income.
  - where Describe the geographic location. E.g., Europe.
  - when Dates. E.g., 2002, 1900–1940, May, ....
  - units E.g., € per year, m/s, Pa, ....

**Don't mix units.**
- Align numbers so as to facilitate comparison:
  - Use monospaced typeface.
  - Align whole numbers to the right.
  - Align fractional numbers to the decimal point.
  - Use scientific notation if there's much variance:  $1.4 \cdot 10^{+4}$  and  $2.3 \cdot 10^{-3}$ .
  - Consider scaling numbers to thousands, millions, ....
- Reduce whitespace.
- Long tables: add extra linespace after each fourth or fifth line.



## Tables

[Why Use Tables?](#)[Table Taxonomy](#)[Table Anatomy](#)[Table Design](#)[Aligning Numbers](#)[The `table` Environment](#)[Wide Tables](#)[Multi-page Tables](#)[Databases and Spreadsheets](#)[Acronyms &  
Abbreviations](#)[About this Document](#)

# Design of Tables

- Simple, uncluttered tables.
  - No vertical grid lines.
  - Other gridlines should be kept to a minimum.
- Align numbers and column headings to the right.
- Table titles:
  - what Describe subject of table. E.g., Increase in income.
  - where Describe the geographic location. E.g., Europe.
  - when Dates. E.g., 2002, 1900–1940, May, ....
  - units E.g., € per year, m/s, Pa, ....

Don't mix units.
- Align numbers so as to facilitate comparison:
  - Use monospaced typeface.
  - Align whole numbers to the right.
  - Align fractional numbers to the decimal point.
  - Use scientific notation if there's much variance:  $1.4 \cdot 10^{+4}$  and  $2.3 \cdot 10^{-3}$ .
  - Consider scaling numbers to thousands, millions, ....
- Reduce whitespace.
- Long tables: add extra linespace after each fourth or fifth line.

## Tables

[Why Use Tables?](#)[Table Taxonomy](#)[Table Anatomy](#)[Table Design](#)[Aligning Numbers](#)[The `table` Environment](#)[Wide Tables](#)[Multi-page Tables](#)[Databases and Spreadsheets](#)[Acronyms &  
Abbreviations](#)[About this Document](#)

# Design of Tables

- Simple, uncluttered tables.
  - No vertical grid lines.
  - Other gridlines should be kept to a minimum.
- Align numbers and column headings to the right.
- Table titles:
  - what** Describe subject of table. E.g., Increase in income.
  - where** Describe the geographic location. E.g., Europe.
  - when** Dates. E.g., 2002, 1900–1940, May, ....
  - units** E.g., € per year, m/s, Pa, ....

Don't mix units.
- Align numbers so as to facilitate comparison:
  - Use monospaced typeface.
  - Align whole numbers to the right.
  - Align fractional numbers to the decimal point.
  - Use scientific notation if there's much variance:  $1.4 \cdot 10^{+4}$  and  $2.3 \cdot 10^{-3}$ .
  - Consider scaling numbers to thousands, millions, ....
- Reduce whitespace.
- Long tables: add extra linespace after each fourth or fifth line.

## Tables

[Why Use Tables?](#)[Table Taxonomy](#)[Table Anatomy](#)[Table Design](#)[Aligning Numbers](#)[The `table` Environment](#)[Wide Tables](#)[Multi-page Tables](#)[Databases and Spreadsheets](#)[Acronyms &  
Abbreviations](#)[About this Document](#)

# Design of Tables

- Simple, uncluttered tables.
  - No vertical grid lines.
  - Other gridlines should be kept to a minimum.
- Align numbers and column headings to the right.
- Table titles:
  - what** Describe subject of table. E.g., Increase in income.
  - where** Describe the geographic location. E.g., Europe.
  - when** **Dates.** E.g., 2002, 1900–1940, May, ....
  - units** E.g., € per year, m/s, Pa, ....

Don't mix units.
- Align numbers so as to facilitate comparison:
  - Use monospaced typeface.
  - Align whole numbers to the right.
  - Align fractional numbers to the decimal point.
  - Use scientific notation if there's much variance:  $1.4 \cdot 10^{+4}$  and  $2.3 \cdot 10^{-3}$ .
  - Consider scaling numbers to thousands, millions, ....
- Reduce whitespace.
- Long tables: add extra linespace after each fourth or fifth line.

## Tables

[Why Use Tables?](#)[Table Taxonomy](#)[Table Anatomy](#)[Table Design](#)[Aligning Numbers](#)[The `table` Environment](#)[Wide Tables](#)[Multi-page Tables](#)[Databases and Spreadsheets](#)[Acronyms &  
Abbreviations](#)[About this Document](#)

# Design of Tables

- Simple, uncluttered tables.
  - No vertical grid lines.
  - Other gridlines should be kept to a minimum.
- Align numbers and column headings to the right.
- Table titles:
  - what** Describe subject of table. E.g., Increase in income.
  - where** Describe the geographic location. E.g., Europe.
  - when** Dates. E.g., 2002, 1900–1940, May, ....
  - units** E.g., € per year, m/s, Pa, ....

**Don't mix units.**
- Align numbers so as to facilitate comparison:
  - Use monospaced typeface.
  - Align whole numbers to the right.
  - Align fractional numbers to the decimal point.
  - Use scientific notation if there's much variance:  $1.4 \cdot 10^{+4}$  and  $2.3 \cdot 10^{-3}$ .
  - Consider scaling numbers to thousands, millions, ....
- Reduce whitespace.
- Long tables: add extra linespace after each fourth or fifth line.

## Tables

[Why Use Tables?](#)[Table Taxonomy](#)[Table Anatomy](#)[Table Design](#)[Aligning Numbers](#)[The `table` Environment](#)[Wide Tables](#)[Multi-page Tables](#)[Databases and Spreadsheets](#)[Acronyms &  
Abbreviations](#)[About this Document](#)

# Design of Tables

- Simple, uncluttered tables.
  - No vertical grid lines.
  - Other gridlines should be kept to a minimum.
- Align numbers and column headings to the right.
- Table titles:
  - what** Describe subject of table. E.g., Increase in income.
  - where** Describe the geographic location. E.g., Europe.
  - when** Dates. E.g., 2002, 1900–1940, May, ....
  - units** E.g., € per year, m/s, Pa, ....

Don't mix units.
- **Align numbers so as to facilitate comparison:**
  - Use monospaced typeface.
  - Align whole numbers to the right.
  - Align fractional numbers to the decimal point.
  - Use scientific notation if there's much variance:  $1.4 \cdot 10^{+4}$  and  $2.3 \cdot 10^{-3}$ .
  - Consider scaling numbers to thousands, millions, ....
- Reduce whitespace.
- Long tables: add extra linespace after each fourth or fifth line.

Tables

Why Use Tables?

Table Taxonomy

Table Anatomy

Table Design

Aligning Numbers

The `table` Environment

Wide Tables

Multi-page Tables

Databases and Spreadsheets

Acronyms &  
Abbreviations

About this Document

# Design of Tables

- Simple, uncluttered tables.
  - No vertical grid lines.
  - Other gridlines should be kept to a minimum.
- Align numbers and column headings to the right.
- Table titles:
  - what** Describe subject of table. E.g., Increase in income.
  - where** Describe the geographic location. E.g., Europe.
  - when** Dates. E.g., 2002, 1900–1940, May, ....
  - units** E.g., € per year, m/s, Pa, ....

Don't mix units.
- Align numbers so as to facilitate comparison:
  - Use **monospaced typeface**.
  - Align whole numbers to the right.
  - Align fractional numbers to the decimal point.
  - Use scientific notation if there's much variance:  $1.4 \cdot 10^{+4}$  and  $2.3 \cdot 10^{-3}$ .
  - Consider scaling numbers to thousands, millions, ....
- Reduce whitespace.
- Long tables: add extra linespace after each fourth or fifth line.

## Tables

[Why Use Tables?](#)[Table Taxonomy](#)[Table Anatomy](#)[Table Design](#)[Aligning Numbers](#)[The `table` Environment](#)[Wide Tables](#)[Multi-page Tables](#)[Databases and Spreadsheets](#)[Acronyms &  
Abbreviations](#)[About this Document](#)

# Design of Tables

- Simple, uncluttered tables.
  - No vertical grid lines.
  - Other gridlines should be kept to a minimum.
- Align numbers and column headings to the right.
- Table titles:
  - what** Describe subject of table. E.g., Increase in income.
  - where** Describe the geographic location. E.g., Europe.
  - when** Dates. E.g., 2002, 1900–1940, May, ....
  - units** E.g., € per year, m/s, Pa, ....

Don't mix units.
- Align numbers so as to facilitate comparison:
  - Use monospaced typeface.
  - **Align whole numbers to the right.**
  - Align fractional numbers to the decimal point.
  - Use scientific notation if there's much variance:  $1.4 \cdot 10^{+4}$  and  $2.3 \cdot 10^{-3}$ .
  - Consider scaling numbers to thousands, millions, ....
- Reduce whitespace.
- Long tables: add extra linespace after each fourth or fifth line.

## Tables

[Why Use Tables?](#)[Table Taxonomy](#)[Table Anatomy](#)[Table Design](#)[Aligning Numbers](#)[The `table` Environment](#)[Wide Tables](#)[Multi-page Tables](#)[Databases and Spreadsheets](#)[Acronyms &  
Abbreviations](#)[About this Document](#)

# Design of Tables

- Simple, uncluttered tables.
  - No vertical grid lines.
  - Other gridlines should be kept to a minimum.
- Align numbers and column headings to the right.
- Table titles:
  - what** Describe subject of table. E.g., Increase in income.
  - where** Describe the geographic location. E.g., Europe.
  - when** Dates. E.g., 2002, 1900–1940, May, ....
  - units** E.g., € per year, m/s, Pa, ....

Don't mix units.
- Align numbers so as to facilitate comparison:
  - Use monospaced typeface.
  - Align whole numbers to the right.
  - **Align fractional numbers to the decimal point.**
  - Use scientific notation if there's much variance:  $1.4 \cdot 10^{+4}$  and  $2.3 \cdot 10^{-3}$ .
  - Consider scaling numbers to thousands, millions, ....
- Reduce whitespace.
- Long tables: add extra linespace after each fourth or fifth line.



## Tables

[Why Use Tables?](#)[Table Taxonomy](#)[Table Anatomy](#)[Table Design](#)[Aligning Numbers](#)[The `table` Environment](#)[Wide Tables](#)[Multi-page Tables](#)[Databases and Spreadsheets](#)[Acronyms &  
Abbreviations](#)[About this Document](#)

# Design of Tables

- Simple, uncluttered tables.
  - No vertical grid lines.
  - Other gridlines should be kept to a minimum.
- Align numbers and column headings to the right.
- Table titles:
  - what** Describe subject of table. E.g., Increase in income.
  - where** Describe the geographic location. E.g., Europe.
  - when** Dates. E.g., 2002, 1900–1940, May, ....
  - units** E.g., € per year, m/s, Pa, ....

Don't mix units.
- Align numbers so as to facilitate comparison:
  - Use monospaced typeface.
  - Align whole numbers to the right.
  - Align fractional numbers to the decimal point.
  - Use scientific notation if there's much variance:  $1.4 \cdot 10^{+4}$  and  $2.3 \cdot 10^{-3}$ .
  - Consider scaling numbers to thousands, millions, ....
- Reduce whitespace.
- Long tables: add extra linespace after each fourth or fifth line.

## Tables

[Why Use Tables?](#)[Table Taxonomy](#)[Table Anatomy](#)[Table Design](#)[Aligning Numbers](#)[The `table` Environment](#)[Wide Tables](#)[Multi-page Tables](#)[Databases and Spreadsheets](#)[Acronyms &  
Abbreviations](#)[About this Document](#)

# Design of Tables

- Simple, uncluttered tables.
  - No vertical grid lines.
  - Other gridlines should be kept to a minimum.
- Align numbers and column headings to the right.
- Table titles:
  - what** Describe subject of table. E.g., Increase in income.
  - where** Describe the geographic location. E.g., Europe.
  - when** Dates. E.g., 2002, 1900–1940, May, ....
  - units** E.g., € per year, m/s, Pa, ....

Don't mix units.
- Align numbers so as to facilitate comparison:
  - Use monospaced typeface.
  - Align whole numbers to the right.
  - Align fractional numbers to the decimal point.
  - Use scientific notation if there's much variance:  $1.4 \cdot 10^{+4}$  and  $2.3 \cdot 10^{-3}$ .
  - Consider scaling numbers to thousands, millions, ....
- Reduce whitespace.
- Long tables: add extra linespace after each fourth or fifth line.

## Tables

[Why Use Tables?](#)[Table Taxonomy](#)[Table Anatomy](#)[Table Design](#)[Aligning Numbers](#)[The `table` Environment](#)[Wide Tables](#)[Multi-page Tables](#)[Databases and Spreadsheets](#)[Acronyms &  
Abbreviations](#)[About this Document](#)

# Design of Tables

- Simple, uncluttered tables.
  - No vertical grid lines.
  - Other gridlines should be kept to a minimum.
- Align numbers and column headings to the right.
- Table titles:
  - what** Describe subject of table. E.g., Increase in income.
  - where** Describe the geographic location. E.g., Europe.
  - when** Dates. E.g., 2002, 1900–1940, May, ....
  - units** E.g., € per year, m/s, Pa, ....

Don't mix units.
- Align numbers so as to facilitate comparison:
  - Use monospaced typeface.
  - Align whole numbers to the right.
  - Align fractional numbers to the decimal point.
  - Use scientific notation if there's much variance:  $1.4 \cdot 10^{+4}$  and  $2.3 \cdot 10^{-3}$ .
  - Consider scaling numbers to thousands, millions, ....
- **Reduce whitespace.**
- Long tables: add extra linespace after each fourth or fifth line.

## Tables

[Why Use Tables?](#)[Table Taxonomy](#)[Table Anatomy](#)[Table Design](#)[Aligning Numbers](#)[The `table` Environment](#)[Wide Tables](#)[Multi-page Tables](#)[Databases and Spreadsheets](#)[Acronyms &  
Abbreviations](#)[About this Document](#)

# Design of Tables

- Simple, uncluttered tables.
  - No vertical grid lines.
  - Other gridlines should be kept to a minimum.
- Align numbers and column headings to the right.
- Table titles:
  - what** Describe subject of table. E.g., Increase in income.
  - where** Describe the geographic location. E.g., Europe.
  - when** Dates. E.g., 2002, 1900–1940, May, ....
  - units** E.g., € per year, m/s, Pa, ....

Don't mix units.
- Align numbers so as to facilitate comparison:
  - Use monospaced typeface.
  - Align whole numbers to the right.
  - Align fractional numbers to the decimal point.
  - Use scientific notation if there's much variance:  $1.4 \cdot 10^{+4}$  and  $2.3 \cdot 10^{-3}$ .
  - Consider scaling numbers to thousands, millions, ....
- Reduce whitespace.
- **Long tables: add extra linespace after each fourth or fifth line.**

# Aligning Columns by Hand

## Tables

Why Use Tables?

Table Taxonomy

Table Anatomy

Table Design

Aligning Numbers

The `table` Environment

Wide Tables

Multi-page Tables

Databases and Spreadsheets

Acronyms &  
Abbreviations

About this Document

## L<sup>A</sup>T<sub>E</sub>X Input

```
\begin{tabular}{rr}  
  \toprule  
  \textbf{Data} & \textbf{Data}  
  \\ \midrule  
  111 & 45.67  
  \\ 45 & 56.78  
  \\ \bottomrule  
\end{tabular}
```

<b>Data</b>	<b>Data</b>
111	45.67
45	56.78

## L<sup>A</sup>T<sub>E</sub>X Input

```
\begin{tabular}{rr}  
  \toprule  
  \textbf{Data} & \textbf{Data}  
  \\ \midrule  
    .2\hphantom{0} & 0.00  
  \\ 1.11 & 45.67  
  \\ 45.\hphantom{00} & 56.78  
  \\ \bottomrule  
\end{tabular}
```

<b>Data</b>	<b>Data</b>
.2	0.00
1.11	45.67
45.	56.78

### Tables

[Why Use Tables?](#)[Table Taxonomy](#)[Table Anatomy](#)[Table Design](#)[Aligning Numbers](#)[The `table` Environment](#)[Wide Tables](#)[Multi-page Tables](#)[Databases and Spreadsheets](#)[Acronyms &  
Abbreviations](#)[About this Document](#)

## L<sup>A</sup>T<sub>E</sub>X Input

```
\begin{tabular}{r@{.}lr@{.}l}  
  \toprule  
  \multicolumn{2}{r}{\textbf{Data}}  
& \multicolumn{2}{r}{\textbf{Data}}  
  \\\midrule  
    &2 & 0&00  
  \\ 1&11 & 45&67  
  \\ 45& & 56&78  
  \\\bottomrule  
\end{tabular}
```

Data	Data
.2	0.00
1.11	45.67
45.	56.78

### Tables

[Why Use Tables?](#)[Table Taxonomy](#)[Table Anatomy](#)[Table Design](#)[Aligning Numbers](#)[The `table` Environment](#)[Wide Tables](#)[Multi-page Tables](#)[Databases and Spreadsheets](#)[Acronyms &  
Abbreviations](#)[About this Document](#)

# The siunitx Package

## L<sup>A</sup>T<sub>E</sub>X Input

```
\begin{tabular}{SS}  
  123  & 23  
\ \\  45.  & 1.09  
\ \\   .1  & 678.999  
\ \\  7.7  & 1e10  
\ \\ 33.3  & 2.2e-5  
\end{tabular}
```

## L<sup>A</sup>T<sub>E</sub>X Output

123	23
45.	1.09
.1	678.999
7.7	$1 \times 10^{10}$
33.3	$2.2 \times 10^{-5}$

### Tables

Why Use Tables?

Table Taxonomy

Table Anatomy

Table Design

Aligning Numbers

The `table` Environment

Wide Tables

Multi-page Tables

Databases and Spreadsheets

Acronyms &  
Abbreviations

About this Document



# The `table` Environment

## Tables

Why Use Tables?

Table Taxonomy

Table Anatomy

Table Design

Aligning Numbers

The `table` Environment

Wide Tables

Multi-page Tables

Databases and Spreadsheets

Acronyms &  
Abbreviations

About this Document

- ❑ The `table` environment creates a *floating* table.
- ❑ Table placement is controlled with an optional argument.
- ❑ Works just as with `figure`.
- ❑ Inside the table, `\caption` defines a caption.
- ❑ Also works as with `figure`.
- ❑ `table*` for two-column documents.

# Creating a Table

## L<sup>A</sup>T<sub>E</sub>X Usage

```
\begin{table}[tbp]
  \begin{tabular}{ll}
    \toprule
      \textbf{Chilled Meats}
      & \textbf{Calories per} \\
      & \textbf{100\,g/4\,oz} \\
    \midrule
      ...
    \bottomrule
  \end{tabular}
  \caption[Calories of chilled meats]
    {Calories of chilled meats per weight. ...
    \label{tab:meat}}
\end{table}
```

### Tables

[Why Use Tables?](#)[Table Taxonomy](#)[Table Anatomy](#)[Table Design](#)[Aligning Numbers](#)[The `table` Environment](#)[Wide Tables](#)[Multi-page Tables](#)[Databases and Spreadsheets](#)[Acronyms &  
Abbreviations](#)[About this Document](#)

## Tables

[Why Use Tables?](#)[Table Taxonomy](#)[Table Anatomy](#)[Table Design](#)[Aligning Numbers](#)[The `table` Environment](#)[Wide Tables](#)[Multi-page Tables](#)[Databases and Spreadsheets](#)[Acronyms &  
Abbreviations](#)[About this Document](#)

# More Commands

```
\cmidrule(<trim>){<first column>-<second column>}
```

Rule from start of `<first column>` to end of `<second column>`.

□ `<trim>` is optional.

l Trims left part of rule with default length.

r Trims right part of rule with default length.

l{<length>} Trims `<length>` from left part.

r{<length>} Trims `<length>` from left part.

```
\addlinespace{<length>}
```

Adds extra linespace.

□ You should use this immediately after `\\`.

Tables

Why Use Tables?

Table Taxonomy

Table Anatomy

Table Design

Aligning Numbers

The `table` Environment

Wide Tables

Multi-page Tables

Databases and Spreadsheets

Acronyms &  
Abbreviations

About this Document

# Exercise: Typeset the Following Table

Item		
Animal	Description	Price (€)
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.50
Emu	stuffed	33.33
Armadillo	frozen	8.99

- Sometimes tables are too wide for the current page.
- In this case, you may consider using the `rotating` package.

## L<sup>A</sup>T<sub>E</sub>X Usage

```
\begin{sidewaystable}  
  <stuff>  
\end{sidewaystable}
```

- Inside `<stuff>`, the command `\caption` works as usual.

### Tables

Why Use Tables?

Table Taxonomy

Table Anatomy

Table Design

Aligning Numbers

The `table` Environment

Wide Tables

Multi-page Tables

Databases and Spreadsheets

Acronyms &  
Abbreviations

About this Document

# Multi-page Tables: `longtable`

## Tables

Why Use Tables?

Table Taxonomy

Table Anatomy

Table Design

Aligning Numbers

The `table` Environment

Wide Tables

Multi-page Tables

Databases and Spreadsheets

Acronyms &  
Abbreviations

About this Document

- The `longtable` environment is for multi-page tables.
- May require multiple L<sup>A</sup>T<sub>E</sub>X runs.
- Inside the `longtable` `\caption` works as usual.

# Multi-page Tables

## Tables

Why Use Tables?

Table Taxonomy

Table Anatomy

Table Design

Aligning Numbers

The `table` Environment

Wide Tables

Multi-page Tables

Databases and Spreadsheets

Acronyms &  
Abbreviations

About this Document

`\endfirsthead`

Specifies end of first column headings.

`\endhead`

Specifies end of remaining column headings.

`\endfoot`

Specifies end of the first foots.

`\endlastfoot`

Specifies end of the last foot.

```

\begin{longtable}{lr}
  \toprule
  \textbf{Meats}
  & \multicolumn{1}{l}{\textbf{Calories per 100\,g}}
  \\ \midrule
\endfirsthead
  \toprule
  \multicolumn{2}{c}{\textbf{\tablename~\thetable\ Continued}}
  \\ \midrule
  \textbf{Meats}
  & \multicolumn{1}{l}{\textbf{Calories per 100\,g}}
  \\ \midrule
\endhead
  \midrule
  \multicolumn{2}{l}{\textbf{Continued on next page}}
  \\ \bottomrule
\endfoot
  \\ \bottomrule
\endlastfoot
  Salami & 500
  \\ \Liver sausage & 300
  \\
  \vdots
  \\
\end{longtable}

```

## Tables

[Why Use Tables?](#)

[Table Taxonomy](#)

[Table Anatomy](#)

[Table Design](#)

[Aligning Numbers](#)

[The `table` Environment](#)

[Wide Tables](#)

[Multi-page Tables](#)

[Databases and Spreadsheets](#)

[Acronyms &  
Abbreviations](#)

[About this Document](#)



## Tables

Why Use Tables?

Table Taxonomy

Table Anatomy

Table Design

Aligning Numbers

The `table` Environment

Wide Tables

Multi-page Tables

Databases and Spreadsheets

Acronyms &  
Abbreviations

About this Document

`datatool` Very comprehensive:

- Creation and manipulation of databases.
- Create bar and pie charts.

`pgfplotstable` Read in tab-separated data and typeset as `tabular`.

`calctab` Commands for defining rows. Provides result queries.

`spreadtab` Spreadsheet like `tabular` environment.

# The datatool Package

StudentScores.csv

```
FirstName,SurName,StudentNo,Score
John,"Smith, Jr",102689,68
Jane,Brown,102647,75
Andy,Brown,103569,42
Zöe,Adams,105987,52
Roger,Brady,106872,58
Clare,Verdon,104356,45
```

## Tables

[Why Use Tables?](#)

[Table Taxonomy](#)

[Table Anatomy](#)

[Table Design](#)

[Aligning Numbers](#)

[The `table` Environment](#)

[Wide Tables](#)

[Multi-page Tables](#)

[Databases and Spreadsheets](#)

[Acronyms &  
Abbreviations](#)

[About this Document](#)

## L<sup>A</sup>T<sub>E</sub>X Output

Table : Student scores

First Name	Surname	Score (%)
John	Smith, Jr	68
Jane	Brown	75
Andy	Brown	42
Zöe	Adams	52
Roger	Brady	58
Clare	Verdon	45

### Tables

Why Use Tables?

Table Taxonomy

Table Anatomy

Table Design

Aligning Numbers

The `table` Environment

Wide Tables

Multi-page Tables

Databases and Spreadsheets

Acronyms &  
Abbreviations

About this Document

# The datatool Package

## L<sup>A</sup>T<sub>E</sub>X Input

```
\DTLloaddb{scores}
  {StudentScores.csv}
\begin{table}[tbp]
  \caption[Student scores]
  \centering
  \begin{tabular}{llr}
    \toprule
    \bfseries First Name &
    \bfseries Surname &
    \bfseries Score (\%)
    \DTLforeach{scores}
      {\firstname=FirstName,
       \surname=Surname,
       \score=Score}
      {\ifthenelse{\value{DTLrowi}=1}
        {\midrule}
        {\}}
        \firstname & \surname & \score}
    \bottomrule
  \end{tabular}
\end{table}
```

### Tables

Why Use Tables?

Table Taxonomy

Table Anatomy

Table Design

Aligning Numbers

The `table` Environment

Wide Tables

Multi-page Tables

Databases and Spreadsheets

Acronyms &  
Abbreviations

About this Document

# Bibliography

## Tables

Why Use Tables?

Table Taxonomy

Table Anatomy

Table Design

Aligning Numbers

The `table` Environment

Wide Tables

Multi-page Tables

Databases and Spreadsheets

Acronyms &  
Abbreviations

About this Document

# Acronyms and Abbreviations

AMS	American Mathematical Society
API	Application Programming Interface
APL	A Programming Language
CTAN	Comprehensive T <sub>E</sub> X Archive Network
CD	Compact Disk
FAQ	Frequently Asked Question
GUI	Graphical User Interface
IDE	Integrated Development Environment
ISBN	International Standard Book Number
OS	Operating System
SI	Système International d'Unités/International System of Units
TUG	T <sub>E</sub> X Users Group
URL	Uniform Resource Locator
WYSIWYG	What You See Is What You Get

# About this Document

- This document was created with `pdflatex`.
- The L<sup>A</sup>T<sub>E</sub>X document class is `beamer`.