A not so short introduction to LaTeX2e
\begin{document}. . .

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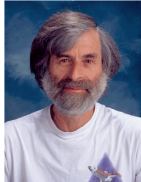
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Developers

Donald Knuth, 1977, T_EX Version 3.141592

Hermann Zapf
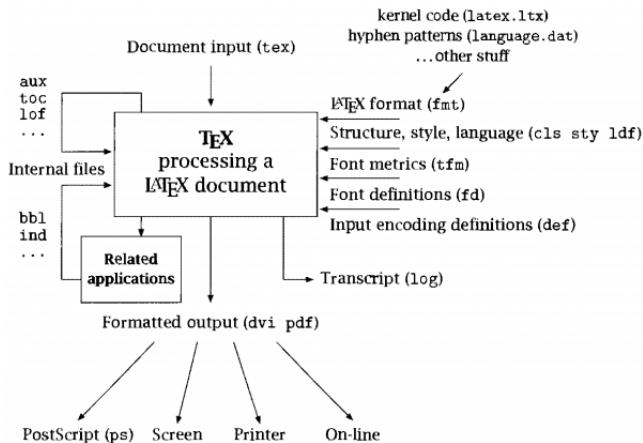

Leslie Lamport, LaTeX2e

Figure 1.1: Data flow in the LaTeX system

\documentclass{}

article	articles in scientific journals, presentations, short reports, program documentation, invitations, . . .
IEEEtran	IEEE Transactions format.
proc	A class for proceedings based on the article class.
minimal	Is as small as it can get. It only sets a page size and a base font. It is mainly used for debugging purposes.
report	For longer reports containing several chapters, small books, thesis, . . .
book	For real books.
slides	For slides. The class uses big sans serif letters.
memoir	For changing sensibly the output of the document. It is based on the book class, but you can create any kind of document with it
letter	For writing letters.
beamer	For writing presentations

Article, Report and Book

Article		report	
section	**numbering**	**section**	**numbering**
\part	0	\part	-1
\chapter	0	\section	1
\section	1	\subsection	2
\subsection	2	\subsubsection	3
\subsubsection	3	\paragraph	4
\paragraph	4	\subparagraph	5
\subparagraph	5		

\documentclass[**options**]{}

Xpt	Sets the size of the main font in the document. Default: 10pt.
a4paper, letterpaper	Defines the paper size. Default: letter/A4.
fleqn	displays formulas left-aligned instead of centered.
leqno	Places the numbering of formulas on the left hand side instead of the right.
titlepage, notitlepage	Specifies whether a new page should be started after the document title or not. The article class does not start a new page by default, while report and book do.
onecolumn, twocolumn	Instructs LaTeX to typeset the document in one column or two columns.

\documentclass[**options**]{} cont . . .

twoside, oneside	double or single sided output. Article and report are single sided and the book is double sided by default.
landscape	Changes the layout of the document to print in landscape mode.
openright, openany	Makes chapters begin either only on right hand pages or on the next page available. This does not work with the article class, as it does not know about chapters.
draft	Draft - no images.

Restricted Characters

Character	How to type in LaTeX
#	\\#
&	\\&
$	\\$
%	\\%
\\	$\backslash$
_	_
{	\\{
}	\\}

Fonts

- \tiny
- \scriptsize
- \footnotesize
- \small
- \normalsize
- \large
- \Large
- \LARGE
- \huge
- \Huge

fire flower fjörd

Figure : MS Word

fire flower fjörd

Figure : LATEX

D.Taraborelli (2008), The Beauty of LATEX

Table Environment

Option	Description
l	left-justified column
c	centered column
r	right-justified column
p{'width'}	paragraph column with text vertically aligned at the top
m{'width'}	paragraph column with text vertically aligned in the middle
b{'width'}	paragraph column with text vertically aligned at the bottom
|	vertical line
||	double vertical line
&	column separator
\\	start new row (additional space may be specified after \\ using square brackets,such as \\[6pt])
\hline	horizontal line
\newline	start a new line within a cell (in a paragraph column)
\cline{i-j}	partial horizontal line beginning in column i and ending in column j

Table

Table : Table without borders

1	2	3
4	5	6
7	8	9

Table : Table with borders

1	2	3
4	5	6
7	8	9

Without specifying width for last column:

Day	Min Temp	Max Temp	Summary
Monday	11C	22C	A clear day with lots of sunshine. Howe
Tuesday	9C	19C	Cloudy with rain, across many norther
Wednesday	10C	21C	Rain will still linger for the morning. Co

Table

Without specifying width for last column: With width specified:

Day	Min Temp	Max Temp	Summary
Monday	11C	22C	A clear day with lots of sunshine. However, the strong breeze will bring down the temperatures.
Tuesday	9C	19C	Cloudy with rain, across many northern regions. Clear spells across most of Scotland and Northern Ireland, but rain reaching the far northwest.
Wednesday	10C	21C	Rain will still linger for the morning. Conditions will improve by early afternoon and continue throughout the evening.

Multiple Columns

Team	P	W	D	L	F	A	Pts
Manchester United	6	4	0	2	10	5	12
Celtic	6	3	0	3	8	9	9
Benfica	6	2	1	3	7	8	7
FC Copenhagen	6	2	1	3	5	8	7

Multi-Column

Team sheet	
GK	Paul Robinson
LB	Lucus Radebe
DC	Michael Duberry
DC	Dominic Matteo
RB	Dider Domi
MC	David Batty
MC	Eirik Bakke
MC	Jody Morris
FW	Jamie McMaster
ST	Alan Smith
ST	Mark Viduka

Multi-Row

Team sheet		
Goalkeeper	GK	Paul Robinson
Defenders	LB	Lucus Radebe
	DC	Michael Duberry
	DC	Dominic Matteo
	RB	Didier Domi
Midfielders	MC	David Batty
	MC	Eirik Bakke
	MC	Jody Morris
Forward	FW	Jamie McMaster
Strikers	ST	Alan Smith
	ST	Mark Viduka

Useful Tips

- LyX – WYSIWYG LaTeX editor (please don't kill me!)
- Libre Office / OpenOffice – Word to LaTeX conversion
- RTF2LaTeX to convert doc to LaTeXfiles
- Tired of finding the symbol name try
  http://detexify.kirelabs.org/classify.html
- BibTex for Word - http://www.ee.ic.ac.uk/hp/staff/dmb/perl/index.html
- Tex Formula Addin for Powerpoint –
  http://www.ee.ic.ac.uk/hp/staff/dmb/perl/index.html

Acknowlegements

This LaTeX for Beginners course is loosely based on and examples from:

- WikiBook on LaTeX: https://en.wikibooks.org/wiki/LaTeX
- CUED Textprocessing: http://www.eng.cam.ac.uk/help/tpl/textprocessing/
- UCS Course on LaTeX 2_ε:
  http://www.ucs.cam.ac.uk/docs/course-notes/unix-courses/earlier/latex