

# Mathematical Typesetting Using $\text{\LaTeX}$

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# Overview

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- It is **not** a word processor.

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- Control over large documents containing sectioning, cross-references, tables and figures.
- Typesetting of complex mathematical formulas.
- Automatic generation of bibliographies and indexes.



# What is the Structure of a $\text{\LaTeX}$ file?

## Sample $\text{\LaTeX}$ File

```
\documentclass[11pt,letterpaper]{article} % preamble
\usepackage[margin=1in]{geometry} % preamble

\begin{document}
  Hello, World! % the body
\end{document}
```

# What is the Preamble?

```
\documentclass[11pt,letterpaper]{article} % preamble  
\usepackage[margin=1in]{geometry} % preamble
```

It is a collection of commands that specify the global processing parameters, such as paper format, height and width of the text, automatic page heads and footlines.

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- Examples:

```
\documentclass[twocolumn]{book}  
\documentclass[12pt, twoside]{article}  
\documentclass[11pt, twoside, twocolumn]{report}  
\documentclass[17pt]{beamer}
```

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- Examples:

```
\usepackage[utf8]{inputenc}
\usepackage[T1]{fontenc}
\usepackage{graphicx}
\usepackage[margin=1in, letterpaper]{geometry}
```

# What is the Body?

```
\begin{document}  
  Hello, World! % the body  
\end{document}
```

It provides the document's visible content.

# Thank you!

# Online Sources

<https://www.latex-project.org/about/>

<http://www.personal.ceu.hu/tex/latex.htm>