

\LaTeX User Manual Analysis

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2.1 What are classes and packages?

The main difference between L^AT_EX 2.09 and L^AT_EX 2_ε is in the commands before `\begin{document}`.

In L^AT_EX 2.09, documents had *styles*, such as `article` or `book`, and *options*, such as `twoside` or `epsfig`. These were indicated by the `\documentstyle` command:

```
\documentstyle[⟨options⟩]{⟨style⟩}
```

For example, to specify a two-sided article with encapsulated PostScript figures, you said:

```
\documentstyle[twoside,epsfig]{article}
```

However, there were two different types of document style option: *built-in options* such as `twoside`; and *packages* such as `epsfig.sty`. These were very different, since any L^AT_EX document style could use the `epsfig` package but only document styles which declared the `twoside` option could use that option.

To avoid this confusion, L^AT_EX 2_ε differentiates between built-in options and packages. These are given by the new `\documentclass` and `\usepackage` commands:

```
\documentclass[⟨options⟩]{⟨class⟩}  
\usepackage[⟨options⟩]{⟨packages⟩}
```

- Purpose: This manual gives “a brief introduction to the new facilities and is intended for authors who are already familiar with the old version of \LaTeX .”
- Audience: The manual assumes the reader has both a general knowledge of code and a background with \LaTeX itself.
- Tone and Style: The language is very technical. It is only appropriate for its intended audience.
- Design and Visuals: The manual has an interactive table of contents which is very useful for someone who is already knowledgeable about \LaTeX and only needs to search for a specific topic. Without the appropriate background, this layout just adds to the intimidation a beginner would have to overcome.
- Clarity and Usability: The steps and explanations would only be clear for its intended audience.

New Audience: You

Sure! Let me explain the "classes and packages" section from the LaTeX user manual in a way that's friendly for someone with no background in LaTeX.

What Are "Classes" and "Packages" in LaTeX?

Imagine you're writing a document like a report, an article, or a book. You want it to *look* a certain way—maybe with specific margins, headings, or fonts. In LaTeX, this is where **classes** and **packages** come in. Think of them like pre-made templates and add-ons for your document.

New Audience: You

Document Classes (Templates)

A **document class** is like the *overall layout and style* of your document. You pick a class at the very beginning of your file. For example:

```
latex
```

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```
\documentclass{article}
```

This line tells LaTeX: "I want to write an article. Please style everything accordingly."

Other common classes include:

- `report` – for longer documents, like theses
- `book` – for books
- `letter` – for letters

Each class sets defaults like font size, spacing, section headings, and so on.

New Audience: You

Packages (Add-ons)

Packages are like *plug-ins* or *extensions* that add extra features to your document.

Let's say you want to:

- Use fancy math symbols
- Add color
- Include clickable links

You can load packages that give you those tools. You load them in the "preamble" (the part before

`\begin{document}`), like this:

latex

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```
\usepackage{amsmath}    % For advanced math
\usepackage{graphicx}   % To add images
\usepackage{hyperref}   % To make links clickable
```

Packages make LaTeX much more powerful, kind of like apps on your phone.

New Audience: You

Summary for Beginners

- **Classes** = the main *template* for your document.
- **Packages** = optional *tools* or features you can add.

You start every LaTeX document by picking a class, and you can load as many packages as you need to get the features you want.

Key Changes (Tone, Structure, Language)

- ChatGPT gives an explanation of a line of code in the manner you would speak to someone who has no background in coding: *This line tells LaTeX: "I want to write an article. Please style everything accordingly."*
- ChatGPT informally explains what classes and package are from the headings, *Classes (Templates)* and *Packages (Add-ons)*, and then also gives another informal definition if the title did not make sense.
- When giving examples, ChatGPT says, *Let's say you want to:*
- ChatGPT makes a comparison phone apps to summarize its point.

- The official user manual is basically unreadable for anyone without the specific background knowledge assumed by the manual.
- The ChatGPT version aimed at a general audience would be understandable for anyone.
- Limits: Even with the version aimed at a general audience, the technical nature of the material will still make it intimidating to any potential users.