

Second Week

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July 12, 2020

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1 Referencing and Table Of Contents

1.1 This is a Sub-Section

This subsection is a part of Section 1.

1.1.1 One Point One

Testing, 1,2,3.

1.1.2 One Point Two

Just for testing Purposes.

2 Page Layout

The global values are first set in the preamble itself using the "geometry" tag. To style a specific page, the "newgeometry" and "restoregeometry" tags are used. Change the values in the tags to see the difference in page alignment. The paper size, type, and orientation cannot be changed however using the newgeometry tag.

3 Headers, Footers and Footnotes

3.1 Page Styling

This is done in the preamble. It creates the fancy header and footer you see at the top/bottom of the page. The default style (plain) is no header and page-number in the center of footer. We can set commands so that certain pages are not included in the styling (such as the contents page in this document).

3.2 Footnotes

Footnotes are those small comments that are given in a document¹ at the bottom of the page² for clarification and stuff and help in not breaking the flow of the reader.

For reusing the previously used footnotes, we can use¹

We can also change the style of footnotes used like [‡] or [§]. This was done using renewcommand on "thefootnote", there are several other styles available, such as

- *arabic* Arabic numerals.
- *Roman* Roman numerals.
- *alph* Alphabetic lower case.
- *Alph* Alphabetic upper case.
- *fnsymbol* A special set of 9 characters.

¹Like this one.

²Or this one.

[‡]Like this one

[§]Or this one

4 Indices

4.1 Introduction

You’ve definitely found yourself opening the last few pages of a textbook, and you would’ve noticed a little handy something called the index . It contains a list of all the keywords found in the book, and where to find those keywords in the book. If you look at this document, written in \LaTeX , you’ll find a similar section right at the end.

4.2 Make Index

We use the package **imakeidx** for creating the index. Another package available for this is **makeidx** but it offers less customization. The index declaration is done in the preamble, using `\makeindex`. Words are added to the index by declaring a tag `\index{“word”}`. The index is then printed using `\printindex`.

4.3 Entries and Subentries

In a proper index, most entries also include subentries which denote that the subentry is preceded by the main entry at so and so page. For example, the \LaTeX keyword is nested with the word “keyword” in the index of this document which means that the keywords “ \LaTeX keyword” come at that page. Making an index section is easily done using the **imakeidx** package.

4.4 Index Formatting

Index formatting is easily done by passing optional arguments to `\makeindex`. For example, in this document, I have set “columns” (not column) argument equal to 1.

4.5 Getting index inside the TOC

By default, the index is not included inside the Table of Contents. To include it, we add another optional argument to `\makeindex` “intoc”

5 Multiple Columns

5.1 Two Column

For creating a document which separates the page into two and then writes (like a newspaper), just add `[twocolumn]` parameter to the `\documentclass{}` like, `\documentclass[twocolumn]{article}`.

5.2 Multicol

For adding multiple columns to the document, or simply for more flexibility in writing columns we can take the help of the **multicol** package. Here I've used the **lipsum** package as well to generate Lorem Ipsum placeholder text. The `multicols` is used as a separate environment.

5.2.1 Multicol sample

Whatever is placed inside the square brackets is used as a header text. The braces after `multicols` environment declaration decide the number of columns.

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5.2.2 Additional Parameters

We can set the separation between the columns, which is defined by `\columnsep`. We can set it to whatever length we want by using `\setlength{\columnsep}{1cm}` this affects all the columns present below this command.

In the default `multicols` environment the columns are balanced so each one contains the same amount of text. This default format can be changed by the starred environment **multicols***

To break the column we can use `\columnbreak`. However, when a column is broken, the remaining words are arranged in such a way to use up all the space present in that column and hence, can have unwanted effects.

5.2.3 Vertical Rulers

The columns can be separated using vertical lines. To add them, use `\setlength{\columnseprule}{1pt}` in the preamble. For changing the color, you can add `\def\columnseprulecolor{\color{blue}}` in the preamble.

My Index

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