More TEX

Manjusha Joshi
manjusha.joshi@gmail.com

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Outline

```
\documentclass{report}

%%preamble

\begin{document}

%%Text body

\end{document}
```

In technical type documents there are two main types:

- plane text
- mathematical terms or expressions

So does LATEX.
It understands text mode by default and to switch from text to math mode we need to write $ and again to come back one more $ is required. So in pair of $ math expressions can be written.

Also LATEX has idea of having special characters i.e. it has some special meaning for LATEX compiler.

There are 10 such special characters:

Namely,
$ & # % ~ ^ _ { } \
If you want to write E & TC. You need to use \&

Outline

```
\documentclass[twocolumn]{report}
```

Outline

```
\usepackage[colorlinks=true,linkcolor=blue]{hyperref}
```

Outline

Now let us see another environment, which aligns equations one below other. Also `\begin{eqnarray}` allows us to write more than one equations. This environment has all benefits from `\begin{equation}` and `\begin{array}{cc}` environments.

$$\begin{aligned}
\sqrt{a} \times \sqrt{a} &= a^{\frac{1}{2}} \times a^{\frac{1}{2}} && (1)\\
&= a^{\frac{1}{2}+\frac{1}{2}} && (2)\\
&= a^{1} && (3)\\
&= a && (4)
\end{aligned}$$

Now let us see another environment, which aligns equations one below other. Also \begin{eqnarray} allows us to write more than one equations. This environment has all benefits from \begin{equation} and \begin{array}{cc} environments.

$$\begin{aligned} \sqrt{a} \times \sqrt{a} &= a^{\frac{1}{2}} \times a^{\frac{1}{2}} && (1)\\ &= a^{\frac{1}{2}+\frac{1}{2}} && (2)\\ &= a^{1} && (3)\\ &= a && (4) \end{aligned}$$

```
\begin{eqnarray}
\sqrt{a} \times \sqrt{a} &=&a^{\frac{1}{2}} \times a^{\frac{1}
&=&a^{\frac{1}{2}+\frac{1}{2}}\\
&=&a^1\\
&=&a
\end{eqnarray}
```

Outline

```
\documentclass {article}
\title{Name of the projet}
\author{Amol Hinge}
  \begin{document}
\maketitle
```

```
 \documentclass {article}
 \title{Name of the projet}
 \author{Amol Hinge}
   \begin{document}
\maketitle

 \date{~}

or

\date{18.10.2012}
```

```
\chapter{Basic Idea}
\section{Introduction}
We will see what is the basic idea of the entire project
in this chapter
```

```
\chapter{Basic Idea}
\section{Introduction}
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\subsection{Motivation}
We will discussed  what is motivation behind this project.
\section{Application}
There are several areas where we can apply this idea.
```

```
\documentclass {article}
\title{Name of the projet}
\author{Amol Hinge
\thanks{This paper was presented in I
        EEE conference, in 2008.}
\and Ramesh Deshpane\thanks{Pune University, Pune}}
\begin{document}
\maketitle
```

Outline

```
\begin{abstract}
This is abstract of the report.
Preparation of abstract is easy
with this environment.
\end{abstract}
```

Outline

```
\textwidth7in
\textheight9in
\topmargin-1cm
\oddsidemargin1cm
\evensidemargin1cm
```

Outline

```
\addcontentsline{toc}{chapter}{Bibliography}
```

Outline

Here are different footnotemarks *other one is † and the next will be like this‡

```
\renewcommand{\thefootnote}{\fnsymbol{footnote}}
```

*testing
†second mark
‡third one

Outline

Caligraphic fonts: $\mathcal{A}\ \mathcal{C}\ \mathcal{N}\ \mathcal{O}\ \mathcal{P}\ \mathcal{Z}$

Caligraphic fonts: $\mathcal{A}\ \mathcal{C}\ \mathcal{N}\ \mathcal{O}\ \mathcal{P}\ \mathcal{Z}$

```
$\mathcal{A~C~N~O~P~Z}$
```

Caligraphic fonts: $\mathcal{A}\ \mathcal{C}\ \mathcal{N}\ \mathcal{O}\ \mathcal{P}\ \mathcal{Z}$

```
$\mathcal{A~C~N~O~P~Z}$
```

Black Board fonts: $\mathbb{A}\ \mathbb{C}\ \mathbb{R}\ \mathbb{Z}\ \mathbb{N}$

Caligraphic fonts: $\mathcal{A}\ \mathcal{C}\ \mathcal{N}\ \mathcal{O}\ \mathcal{P}\ \mathcal{Z}$

```
$\mathcal{A~C~N~O~P~Z}$
```

Black Board fonts: $\mathbb{A}\ \mathbb{C}\ \mathbb{R}\ \mathbb{Z}\ \mathbb{N}$

```
$\mathbb{A~C~R~Z~N}$
```

Outline

```
\newcommand{\mjemail}{manjusha.joshi@gmail.com}
\mjemail\ contact me by email.
```

manjusha.joshi@gmail.com contact me by email.

Outline

```
 \usepackage{color}
 \textcolor{red}{Here you go}
\pagecolor{yellow}
```

Here you go

Outline

```
\documentclass{article}

\begin{document}
  \input filename.tex
```

`filename.tex` can have all newcommands and new environments defined by us.

```
\documentclass{article}
\begin{document}
\input chpa1.tex
%\input chap2.tex
\input chap3.tex
\input probset3.tex
```

`\input chap2.tex` can be commented so that it will not be compiled. This is to save time of compilation.

Outline

This is multicols environment. It is availble with package multicol. You can add it in between the document and the particular paragraph can have effect of columns mentioned after multicols. It balance matter between columns.

Out side of this you can display matter as usual. No extra setting required.

Outline

```
\pagestlye{empty}
```

This will not display page number.

```
 \pagestlye{plain}
\pagestyle{headings}
\pagestyle{myheadings}
\markboth{lefthead}{righthead}
\markright{righthead}
```

Outline

table number and caption

```
\begin{table}
 \begin{tabular}{cc}
  a&b\\
c&d
 \end{tabular}
\caption{name for table}
\end{table}
```

table number and caption

```
\begin{table}
 \begin{tabular}{cc}
  a&b\\
c&d
 \end{tabular}
\caption{name for table}
\end{table}

 \listoftables
```

placement of table

```
\begin{table}[tbh]
 t-top
 b-bottom
 h-here
\end{table}
```

Scaling and rotating

```
\scalebox{.5}{
            \begin{tabular}{cc}

            \end{tabular}
            }

\rotatebox{90}{
            \begin{tabular}{cc}

            \end{tabular}
            }
```

Outline

Minipage is environment where you can add floating bodies. paragraphs where you can control width of it.

Minipage is environment where you can add floating bodies. paragraphs where you can control width of it.

```
\begin{minipage}{3cm}
Minipage is environment where you
paragraphs where you can control
\end{minipage}
```