1 Formatting text

```
\documentclass[a4paper]{article}

\usepackage{color}
\usepackage{amsmath}

\begin{document}

\title{My first LaTeX Document}
\author{You \and Me}
\date{\today}
\maketitle

We can do all kinds of things with text. You can make text \textbf{bold},
\emph{italicized}, and \textcolor{blue}{coloured}. In addition it is also
useful to know how to superscript text A${}^{\text{stuff}}$ or subscript
B${}_{\text{stuff}}$.

\end{document}
```

2 Making lists

```
There are two main ways to create lists in LaTeX, enumerate (for numbered lists)
and itemize. Here is an example using enumerate

%As always we have to start the environment
\begin{enumerate}
%Add items to the list via \item
\item This is a thing
\item This is another thing
\end{enumerate}

The lists don't have to be numbered. Using itemize will give you bullet points
(but you can change what they are).
\begin{itemize}
%Again we add items to the list with \item
\item Stuff
\item More stuff
\end{itemize}
```

3 Math mode

```
\usepackage{amsmath}

\begin{document}

\title{Using math mode}
\author{You \and Me}
\date{\today}
\maketitle

One of the primary reasons you will use \LaTeX \ is for writing equations.

\begin{equation}
F_{net}=ma
\end{equation}

Equations don't have to be numbered. You can disable the numbering by putting
an asterisk in the begin and end statements
\begin{equation*}
E=mc^{2}
\end{equation*}
It is also very convenient to write multiple lines in an equation using
the align environment:
\begin{align*}
2x - 5y &=  8 \\
3x + 9y &=  -12
\end{align*}
You can write all sorts of fancy symbols (which can be found on the cheatsheet!)
\begin{equation*}
i\hbar \frac{\partial | \Psi \rangle}{ \partial t}=\hat{H}|\Psi \rangle
\end{equation*}

Math mode can be used inline with text (e.g. $e^{-\lambda x}$) which is very
convenient. All you need to do is wrap your equation (or whatever you are using)
in dollar signs.

\end{document}
```

4 Chemistry

```
\usepackage{mchem}
```

```
\begin{document}

\title{For all your chemistry needs}
\author{You \and Me}
\date{\today}
\maketitle

Writing a simple chemical compounds: \ce{H2O}, \ce{CO2}

Or slightly more complicated things: \ce{SO4^2-}, \ce{^{227}_{90}Th+}

You can also make equations: \ce{CO2 + C -> 2CO}
```

5 Adding Figures

```
%Use the graphics package
\usepackage{xcolor,graphicx}

\begin{document}

\title{Adding Pretty Pictures }
\author{You \and Me}
\date{\today}
\maketitle

%As always we have to start the environment
\begin{figure}[h]
%This is how we can center the figure
\begin{center}
%You can resize the figure using the scale option
%There are options to clip the figure as well
\includegraphics[scale=0.5]{figure_example.png}
\end{center}
%Add your caption here
\caption{We can add captions to our figures as well}
%Close the environment
\end{figure}

\end{document}
```

6 Making tables

```
\usepackage{booktabs}

\begin{document}

\title{Oh how the tables have turned}
\author{You \and Me}
\date{\today}
\maketitle

Here we will create tables which can be a nice way of presenting data.

%Begin the tabular environment
\begin{center}
%The c's indicate center justified text
%Vertical lines will put vertical lines between columns
\begin{tabular} { c  c  c }
\toprule
Fruit & Quantity & Price \\ \midrule
Apple & 2 & \$2.00 \\ \midrule
Banana & 5 & \$3.50 \\ \midrule
Orange & 8 & \$4.00 \\
\bottomrule

\end{tabular}
\end{center}

\end{document}
```

7 Table of contents

```
\begin{document}

\tableofcontents

\section{Title of the First Section}
... text ...
\subsection{Title of the First Subsection}
... text ...
\subsubsection{Title of the First Subsubsection}
... text ...
\subsubsection*{Title of the Second Subsubsection}
\addcontentsline{toc}{subsubsection}{Something Else}
```

```
\end{document}
```

8 Citing using bibtex

```
\begin{document}

\title{My first LaTeX Document}
\author{You \and Me}
\date{\today}
\maketitle

This is a citation \cite{greenwade93}. You will probably need to compile
twice to get the reference to show up.

\bibliographystyle{plain}
\bibliography{example_bib}


\end{document}
```

9 Bib file

```
@article{greenwade93,
    author  = "George D. Greenwade",
    title   = "The {C}omprehensive {T}ex {A}rchive
    {N}etwork ({CTAN})",
    year    = "1993",
    journal = "TUGBoat",
    volume  = "14",
    number  = "3",
    pages   = "342--351"
 }
```