Assignment 6 - CODE

```
\documentclass{article}

\usepackage{graphicx}

\usepackage{caption}

\usepackage{subcaption}% Required for inserting images

\title{\huge\textbf{Subfigures and Subtables}}

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\date{\today}

\begin{document}

\maketitle

\listoffigures

\listoftables


\section{Subfigures}
```

When writing a project report or thesis, we may want to include some slightly more complicated figures with multiple images. We can do this using subfigure environments inside a figure environment. Before we can do this though, we need to load up the caption and subcaption packages: $\backslash$usepackage\{caption\}

and $\backslash$usepackage\{subcaption\}. Here's an example, as shown in Figure \ref{allfigs}.

```
\newpage


\begin{figure}[h]

  \centering

  \begin{subfigure}[b]{0.3\textwidth}

    \centering

    \includegraphics[width=\textwidth]{atom.png}

    \caption{Atomic model}

    \label{fig1}

  \end{subfigure}

  \begin{subfigure}[b]{0.3\textwidth}

    \centering

    \includegraphics[width=\textwidth]{overleaf.png}

    \caption{Symbol of overleaf}

    \label{fig2}
```

```
    \end{subfigure}
    \begin{subfigure}[b]{0.3\textwidth}
      \centering
      \includegraphics[width=\textwidth]{earth.png}
      \caption{Our planet earth}
      \label{fig3}
    \end{subfigure}
    \caption{Multiple subfigures inside a figure}
    \label{allfigs}
    \hfill
\end{figure}
```

\par To start with, we create a new figure, center it and then create a new sub-figure. In the subfigure command, we need to add a placement specifier and then give it a width. Because we want three images next to each other, we set a width of 0.3 times the value of $\backslash$textwidth. We need to make sure that the sum of the widths we specify for the subfigures is less than the text width if we want them all on the same line. When we add the image, we need to specify the width using width= followed by the $\backslash$textwidth command. To add some spacing between the figures, we'll use the $\backslash$hfill command.

\section{Subtables}

Just like with images, we may want to group tables into a single table environment. It can be done by using subtable environments inside a table environment. Here's an example, as shown in Table 1. Notice that in each $\backslash$begin{subtable} command, we have included a position specifier and a width. Again, we can

give each subtable a label and caption, as well as give the whole table a label

and caption.

```
\begin{table}[h]
  \begin{subtable}[h]{0.45\textwidth}
    \centering
    \begin{tabular}{| l | l | l | l |}
      \hline
      Day & Max Temp & Min Temp \\
      \hline \hline
      Mon & 20 & 13 \\
      Tue & 22 & 14 \\
      Wed & 23 & 12 \\
```

```latex
        Thu & 25 & 13 \\

        Fri & 18 & 7 \\

        Sat & 15 & 13 \\

        Sun & 20 & 13 \\

        \hline

    \end{tabular}

    \subcaption{First Week}

    \label{lab:week1}

\end{subtable}

\hfill

\begin{subtable}[h]{0.45\textwidth}

    \centering

    \begin{tabular}{| l | l | l | l |}

        \hline

        Day & Max Temp & Min Temp \\

        \hline \hline

        Mon & 17 & 11 \\

        Tue & 16 & 10 \\

        Wed & 14 & 8 \\

        Thu & 12 & 5 \\

        Fri & 15 & 7 \\

        Sat & 16 & 12 \\

        Sun & 15 & 9 \\

        \hline

    \end{tabular}

    \subcaption{Second Week}

    \label{lab:week2}

\end{subtable}

\caption{Max and Min temperatures recorded in the first two weeks of December}

\label{alltables}

\end{table}


\section{List of Figures}
```

To create a list of figures, use the $\backslash$listoffigures command. The caption of each figure will be used to generate this list.

\section{List of Tables}

To create a list of tables, use the $\backslash$listoftables command. The caption of each table will be used to generate this list.

\section{Tables and figures side by side using minispace}

\begin{table}[ht]

\begin{minipage}[b]{0.56\linewidth}

\centering

\begin{tabular}{ | l | r | r | r |}

  \hline

  Student & Hours/week & Grade \\ \hline \hline

  Ada Lovelace & 2 & A \\ \hline

  Linus Thorvalds & 8 & A \\ \hline

  Bruce Willis & 12 & F \\ \hline

  Richard Stallman & 10 & B \\ \hline

  Grace Hopper & 12 & A \\ \hline

  Alan Turing & 8 & C \\ \hline

  Bill Gates & 6 & D \\ \hline

  Steve Jobs & 4 & E \\ \hline

 \end{tabular}

 \caption{Student Database}

 \label{table:student}

\end{minipage}

\hfill

\begin{minipage}[b]{0.4\linewidth}

\centering

\includegraphics[width=43.8mm]{picture.png}

\captionof{figure}{2-D Scatter Plot}

\label{fig:image}

\end{minipage}

\end{table}

\end{document}