GPDI 542 Exercises

- Introduction to LaTeX: a document preparation system

Exercise #1 (PPT slide #22)

1. Try removing a command and recompile to see what happens. For example, try to remove `\maketitle`
2. Write a couple of paragraphs of text and compile

Exercise #2 (PPT slide #23)

1. Add one of more sections to your text by looking at how the Introduction section was added.

You can organize your document with

```
\section{}
\subsection{}
\subsubsection{}
\paragraph{}
\subparagraph{}
```

Exercise #3 (PPT slide #24)

Try out some of these commands, and see what they do:

- `\LaTeX`
- `\ldots` and compare to …

Exercise #4 (PPT slide #28)

1. Try out a simple fraction.
2. Try out a simple equation using a square root
3. Enter the following equation in between `$` and in between `\begin{equation}` and `\end{equation}` and compare how it looks.

```
\int_0^{\infty} e^{-x^2} dx=\frac{\sqrt{\pi}}{2}
```

Exercise #5 (PPT slide #31)

Go to tablesgenerator.com

1. At the top right click on "Show an example table"
2. Then in the middle right click on "Copy to clipboard"
3. Paste the example table into your file in Overleaf and recompile.

Exercise #6 (PPT slide #33)

1. Go to https://github.com/j-date/GPDI542- and download the pdf picture called space_rocket.pdf
2. Add the image to your document by using the upload button (upper left above your figures folder).
3. To include a figure use command: `\includegraphics{space_rocket.pdf}`
4. You can also include the image in a figure frame by creating a figure environment:

```
\begin{figure}
```

```
\includegraphics{space_rocket.pdf}
\end{figure}
```

Exercise #7 (PPT slide #34)

Play with the size, caption and centering of the figure

1. Specify the location of a figure:

```
\begin{figure}[h]
\begin{figure}[H] needs \usepackage{float}
```

2. The size can be modified:

```
\includegraphics[width=150pt]{space_rocket.pdf}
```

3. For relative sizes use: \textwidth and \paperwidth

```
\includegraphics[width=0.5\paperwidth]{space_rocket.pdf}
```

4. You can also add a caption to your figure

```
\caption{Caption}
```

5. You can also center the figure:

```
\centering
```

Exercise #8 (PPT slide #36)

Reference a figure:

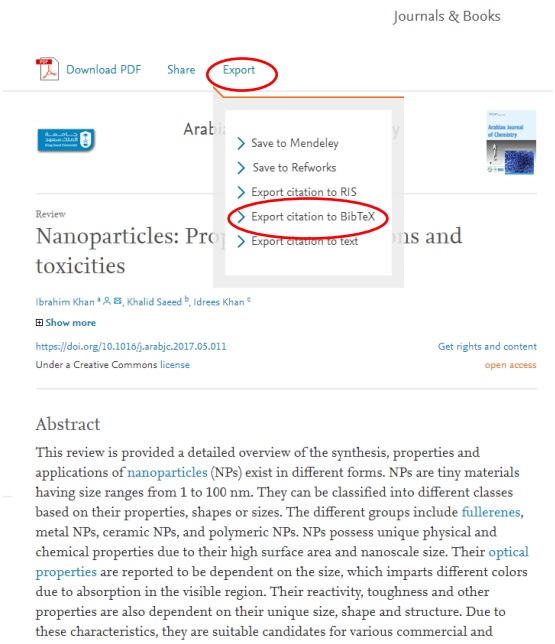
```
\begin{figure}
  \includegraphics{space_rocket.pdf}
  \caption{Figure of a rocket} \label{fig:rocket}
\end{figure}
```

And later on,

```
As we can see in Figure \ref{fig:rocket}, one of the illustrations is a
rocket.
```

Exercise #9 (PPT slide #41)

1. Go to www.sciencedirect.com and search for an article.
2. Get the bibliography reference by clicking Export and choosing bibtex option (see figure below).
3. Copy and paste the entry in your bibliography file
4. Cite this file in your text.



Exercise #10 (PPT slide #41)

1. Download Elsevier sample manuscript from here.

Usage: The Elsevier document class `elsarticle.cls` should be loaded with the command:

```
\documentclass[<options>]{elsarticle}
```

2. Upload `.zip` file to new project.
3. Change the document class `<options>`
    a. **Try** `\documentclass[3p]{elsarticle}`
    b. **Then try** `\documentclass[3p, twocolumn]{elsarticle}`
4. **Change the font to Times**

```
\documentclass[3p, twocolumn,times]{elsarticle}
```

5. **Add** `\biboptions{longnamefirst, angle, semicolon}`
    a. **After** `\bibliographystyle{elsarticle-num}`
    b. See how the references in the text have changed