THIS IS A TEMPLATE

NAME (AND SSID OR OTHER INFO) CAN GO IN THE AUTHOR FIELD

You can delete all of this text and just start typing, but I am going to include a few examples. Paragraphs are separated by a single blank line. If you type some words they are arranged on the page in a paragraph form.

Mostly, if you want to do something that you haven't done before in LaTeX, then you can easily find how to do this in Google. Just ask a question such as '*how do I insert a picture in latex?*' or '**what is the command for the symbol theta in latex?**' or 'how do I make a list in latex?'

Here is a good reference for the answer to the last question

`https://www.overleaf.com/learn/latex/Lists`

The website [1] has a number of good LaTeX tutorials.

An equation surrounded by a \$ on either side such as `$\frac{n(n+1)}{2}$` produces the equation $\frac{n(n+1)}{2}$ as part of the text (this is called an 'in-line equation'). If you want an equation of the text or a formula on a separate line like

$$\sqrt{\sqrt{2} + \frac{\sqrt{3}\sqrt{5}}{2}}$$

then you need to surround it by a double dollar sign. If you want to say that you learned about this formula from the text [2] then you should add the book to your bibliography and give it a unique label name (I gave mine the label `BB`). Next refer to the entry with the command `\cite{BB}`.

But beware. Just because the formula looks pretty does not mean that it is correct. If you would like to number your equations you can wrap your equation in a `\begin{equation}` and `\end{equation}` and a command `\label{myequationname}` doesn't cause the equation to be labeled, it just makes LaTeX remember what the equation number is.

$$1^3 + 2^3 + 3^3 + \cdots + n^3 = \frac{n(n+1)^2(n+2)}{12} \tag{1}$$

That way if you want to refer to the equation later you just write `\eqref{myequationname}` and then you can point out that when $n = 2$ the left hand side of equation (1) is equal to 9 while the right hand side of equation (1) is equal to 6 (and hence it is not true in general).

Instead the equation should read

$$1^3 + 2^3 + 3^3 + \cdots + n^3 = \frac{n^2(n+1)^2}{4} \ . \tag{2}$$

Just make sure you give a different name to each equation. At least for $n = 2$ the right hand side of equation (2) is also equal to 9.

References

[1] website, `https://www.overleaf.com/`
[2] T.S. Eliot, *How to prove stuff*, Acme Press Inc., 2021.
[3] I consulted with the following classmates: A. Management, J. B. Good.