Using Jupyter Notebok

Jupyter Notebooks are a web application which allows you to create and share documents that contain code, graphs, visualisations and narrative text which makes it a perfect medium for presenting analysis descriptions for data analysis.
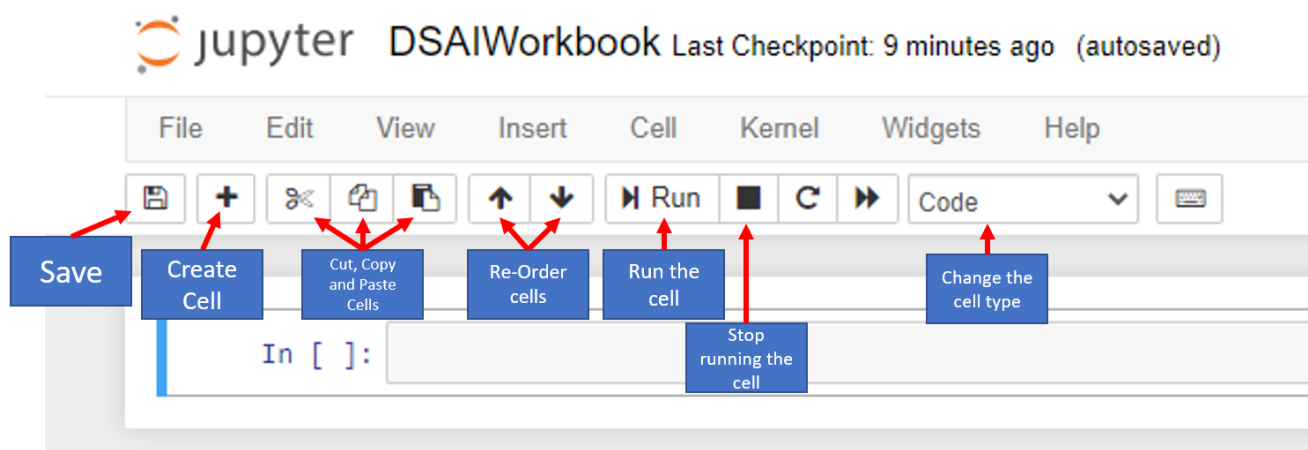
The Dashboard and toolbar

When you first open Jupyter notebook, it will open in your default browser and present you with **The Dashboard**. The dashboard gives you a visual user interface in which you can create, open and navigate to notebooks.

Creating a Jupyter Notebook

1. Navigate to the folder that you wish to create the Python notebook in.
2. Select the **New button**/menu (far right-hand side)
3. Select **Python 3**. This will give a new blank Jupyter Notebook.

The Toolbar

You will be using the toolbar a lot when creating your program, particularly 'create cell' and 'run cell'. The image below outlines the function of each button on the toolbar.
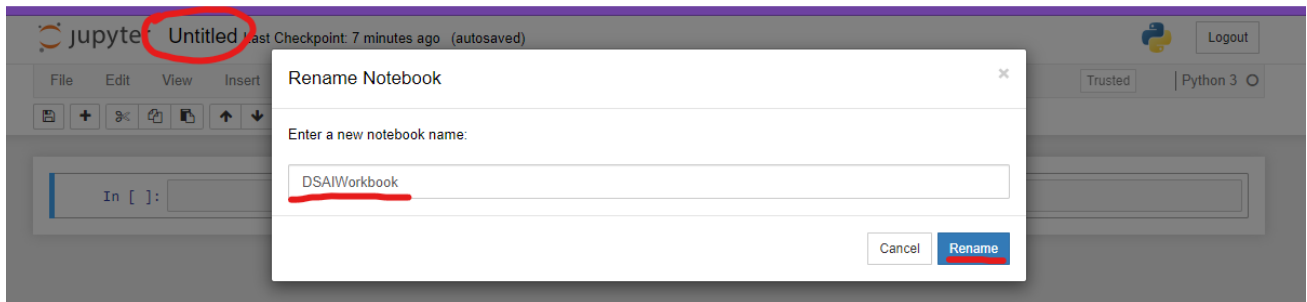
Giving the Notebook a title

Initially the notebook will be called 'Untitled' so you need to rename it.

1. Select the file name 'Untitled' at the top left
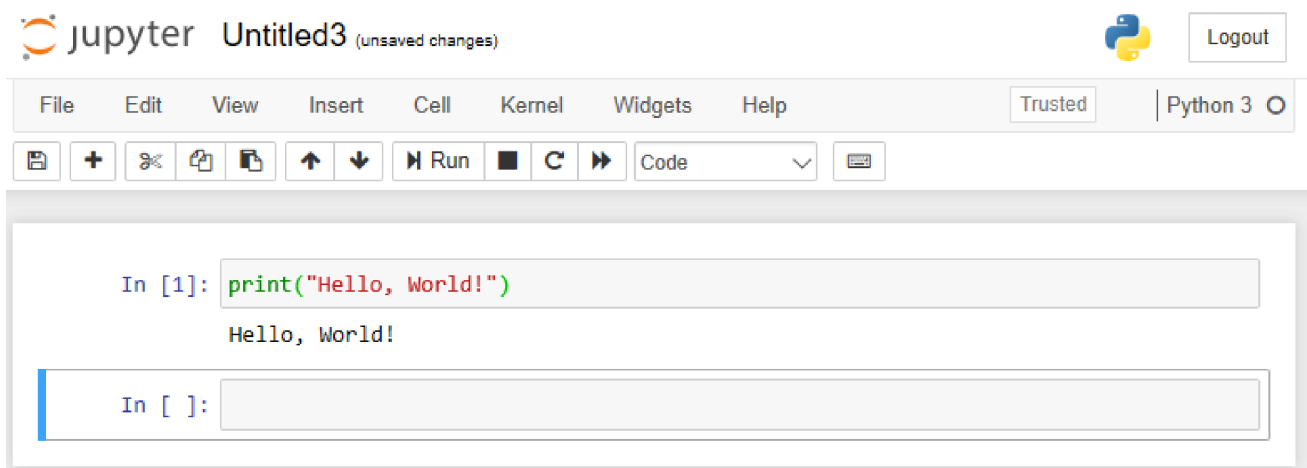2. Enter a new title

Cells

Notebooks are made up of two different types of cells - **Code Cells and Markdown Cells**.

Code Cells

Code cells are used to run Python code, they are made up of an Input and an Output block. The Input block is where we input our code. The Output block is where the result, if any, of our code cell will be shown.

We can identify code cells by text on the left-hand side **In [ ]:** Alternatively, if we select a cell, the Toolbar will tell us what cell type we have selected.

Note: The Output block of the cell only appears once you've run the code.

In the above image we've only run one line of code but you can run multiple.

```
In [2]: print("Hello DSAI!")
        print("Now we're programming!")

        Hello DSAI!
        Now we're programming!
```

Markdown Cells

Markdown Cells contain narrative text which helps explain code. You can change a cell type to Markdown using the dropdown field on the toolbar, edit their contents by double clicking on them and save by selecting Ctrl+Enter on your keyboard.

Text can be formatted using different symbols such as Hashtags to define #Headers and Asterisks to make text **bold** or *italic*, as shown in the image on the left. When run, it then appears as shown in the image on the right.

Opening a Jupyter Notebook

Opening a notebook that we have downloaded is very easy. You just need to go back to your dashboard, navigate to the folder where you saved it, then select it. This will open the notebook, but you still need to run the code cells, cell by cell, in order to see the outputs.