TOOL

The Structure of a Notebook

Each body of text or code in a Jupyter Notebook is called a cell. A cell has three possible types:

1. **Code**
2. **Markdown**
3. **Raw NBConvert**

Heading is also listed, but has been deprecated in favor of Markdown

To add a cell — Simply select an existing cell (new notebooks are initialized with one), and press the A key to add a new cell above, or the B key to add a new cell below the selected cell.

Alternatively — Select **Insert** in the top menu, and choose "Insert Cell Below" or "Insert Cell Above."

Running Code

At any given time, one cell is active and awaiting input. The cell that is currently awaiting input is highlighted by a surrounding box and colored bar on the left edge. To execute Python in a cell, the cell type must be set to code. You can execute the cell by either pressing shift-enter or selecting **Run** in the menu bar.

Do **not** use the **Validate** button.

Upon executing the cell, the output of the code, if any, will appear below the cell containing the code. You should execute code cells from top to bottom in that order, so that the Notebook reads like an annotated program. Prolonged inactivity or navigating to a different page will cause the Notebook session to timeout. To resume your work where you left off, be sure to re-run all of the Notebook cells in order, starting again at the very beginning.

Note: If you accidentally enter into a markdown cell's editing view, pressing shift-enter or selecting **Run** in the menu bar will return the cell to the rendered markdown view.

Resetting Code

To clear the output, in the menu bar click **Kernel** and select **Restart & Clear Output**. This not only clears all output from executed code, but also restarts the kernel, so any set variables or any other persistent action from previously executed code will be lost.

Graded Assignments

Some code cells will be graded. These graded cells will be labeled accordingly. These cellswill contain the line # YOUR CODE HERE, and some may contain the line raise NotImplementedError(). Remove these lines and replace them with your code. Some of these code cells will be followed by self-check cells that will allow you to test your code before submitting your work for facilitator review. You can run these self-checks as many times as is necessary. Do not write any code in these cells.

Submitting Code

Once you have completed your work on this Notebook, you will submit your code for facilitator review. Follow these steps:

1	**Save your Notebook**	Save your work by selecting the "Save and Checkpoint" entry from the "File" menu at the top of the Notebook.
2	**Mark as Completed**	In the blue menu bar along the top of this code exercise window, you will see a menu item called **Education**. In the **Education** menu, click **Mark as Completed** to submit your code for facilitator review.
3	**Repeat, if necessary**	The Jupyter Notebook will always remain accessible in the first tabbed window of the exercise. To reattempt the work before it has been reviewed, you will first need to click **Mark as Uncompleted** in the **Education** menu and then proceed to make edits to the Notebook. Once you are ready to resubmit, follow steps one through three.

Please note: Some notebooks will not contain graded exercises. Therefore, these notebooks will not contain a **Mark as Completed** option.

Downloading Your Jupyter Notebook

If you would like to download a copy of your completed Jupyter Notebook, select **File->Download as** from the menu at the top of the Notebook, and then select your preferred file format. Note: not all formats are supported.

If you choose to download your Notebook in **.ipynb** format, you will notice that once downloaded, your Notebook might have a filename extension **.ipynb.json.** If that is the case, you should change the file extension to **.ipynb** in order to properly open your Notebook using Jupyter on your local machine.

If you would like to produce a static version of the Notebook rendered in HTML, which you might want to share with someone who can view it in a web browser, selection **File->Download as->HTML (.html).**