Getting Started

We will be using Python 3.6 and Jupyter Notebook throughout the semester for labs. You can work on your machine to do the labs or you can alternatively work on Google Colab. Here, you will learn how to get started on both.

Working on your machine:

We will use Anaconda for installing Python libraries and managing environments.

How to install Anaconda:

Windows OS:

Please follow the link: https://docs.anaconda.com/anaconda/install/windows/

Mac OS:

Please follow the link: https://docs.anaconda.com/anaconda/install/mac-os/

Linux OS:

Please follow the link: https://docs.anaconda.com/anaconda/install/linux/

Installing and managing packages:

Now you have installed Anaconda. Let's start by creating an environment where we will install packages inside it. To create an environment, you can write the following line in the command line interface (Anaconda Prompt on Windows, and terminal on macOS and Linux.).

```
conda create --name $ENVIRONMENT_NAME
```

Let's say we call our environment "ml_env" then we can create the environment by typing

```
conda create --name ml_env
```

After creating the environment, we activate it by the following command

```
conda activate ml_env
```

Inside this environment we can install any python package by the following command

```
conda install $PACKAGE_NAME
```

Or you can also use “pip” to install packages inside the enviroment

```
pip install $PACKAGE_NAME
```

Now, let’s install python=3.6 and Jupyter Notebook by the following command:

```
conda install python=3.6
```

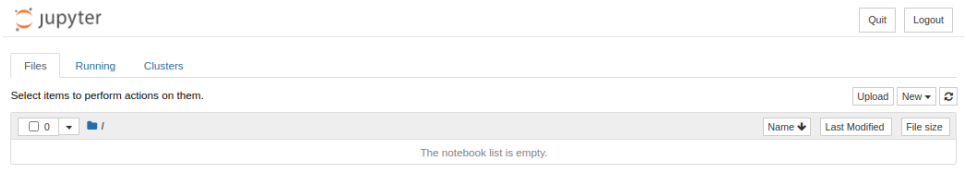
```
pip install jupyter
```

Jupyter Notebook:

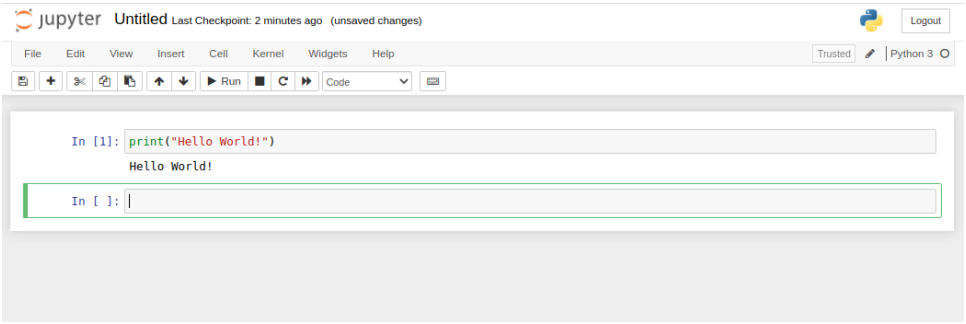
It's an interactive computational environment, in which you can combine code execution, rich text, mathematics, plots and rich media. It allows you to execute codes on your browser. We can start the Jupyter Notebook by running the following in the command line interface:

```
jupyter notebook
```

Your browser will open a new tab automatically and you will see something like this:



You can start a new notebook by clicking on the new button and choose python 3. Then you can type your code in the code cell and execute the cell by clicking the run button. See the example below:



To learn more about Jupyter Notebook, you can read this tutorial on its website:

https://jupyter-notebook.readthedocs.io/en/stable/notebook.html

Google Colaboratory (Colab):

Google Colab notebooks are like Jupyter notebooks, but you can run them remotely on Google servers. Colab allows you to write and execute Python in your browser, with zero configuration required and free access to GPUs. To access the Google Colab website and get started, go to the following page: https://colab.research.google.com/notebooks/intro.ipynb.

You can watch the introduction to Colab to learn more. To install Python packages in Google Colab, you can write"!" followed by the install command in the code cell. See the example below: