Task 0 – Getting Started with Assignments

NOTE: We hope that you have installed all software/libraries. If not please do that before trying out anything we have here.

In this document, you will learn basic usage of some of the libraries that we installed earlier. Precisely speaking, you will learn to use *Jupyter Notebook*, *Python*, *NumPy*, *Pandas*, *Matplotlib* and *Sklearn*. All these libraries were installed with Anaconda, which, you know by now, is a Python distribution suited (not necessarily though) for data science tasks.

You will come across terms described in **Introduction_to_Machine_Learning.pdf** which may or may not be re-declared in **Tutorial_and_Assignments.ipynb** document. So make sure you either go through Introduction_to_Machine_Learning.pdf in ***3. Resources*** folder or refer to it when you are doing the Assignment.

The resources required for you to learn basic and moderate usage of all the above mentioned libraries are present in this Jupyter Notebook, **Tutorial_and_Assignments.ipynb**.

Along with these resources, there are three small assignments for you. This is to test and apply what you have learned.

These three assignments are:

1. **Assignment 1.1:** Write a ***sigmoid*** function in **Python**.
2. **Assignment 1.2:** Write ***forward pass*** and ***MSE loss function*** using **NumPy**.
3. **Assignment 1.3:** Predict flower name given a parameter using **Pandas** and **Sklearn**.

Important Instructions:

Just one more thing before we take leave and you start with the Assignment. You'll need to know how to open/run ***Jupyter Notebooks*** (***.ipynb***). If you try directly opening Tutorial_and_Assignments.ipynb, it would not make much sense if you try to read or understand it. This is because you need a running ***Jupyter Notebook*** server to open ***.ipynb*** files. Let's see how to do so:

1. Open **Terminal** (for **Ubuntu**) or **Anaconda Prompt** (for **Windows**) and navigate to the directory containing the target Jupyter Notebook file.
2. Activate your virtual environment using command: "**conda activate HC#9999_stage1**".
3. Run this command to start Jupyter Notebook server: "**jupyter notebook**".

4. You will see the following lines on your **Terminal** or **Anaconda Prompt**.

   [I 16:20:08.159 NotebookApp] The Jupyter Notebook is running at:

   [I 16:20:08.160 NotebookApp]
   http://localhost:8888/?token=4f6a75646de91b0c030c9abd6ec36c6bb9da2ede2a7d7052

5. The command automatically opens a web browser window. If it doesn't, you can **copy and paste** the **link** (like above) that you see in a web browser window.

6. Now just select the notebook (***.ipynb***) file you want to open.

That's it. You are good to go. Go ahead and follow the instructions above to run the Tutorial_and_Assignments.ipynb Jupyter Notebook.