1.3 Python Environment Setup

Python Environment Setup

There are different versions of python: 2.7 and 3.X. Codes in this tutorial are written in python 2.7.

In this tutorial we are going to explore and learn SciPy , one of best tools available in python for mathematics, science, and engineering names. SciPy involves the following core packages.

Package Name	Use
NumPy (http://www.numpy.org/)	It is the fundamental package for numerical computation. It defines the numerical array and matrix types and basic operations on them
Matplotlib (http://matplotlib.org/)	Used for Data Visualization
pandas (http://pandas.pydata.org/)	For data Analysis and modeling
SymPy (http://www.sympy.org/)	symbolic mathematics and computer algebra

Source: **https://www.scipy.org/** (https://www.scipy.org/)

We are going to learn how to use first three packages in this course. We will also use **scikit-learn** (http://scikit-learn.org/stable/) which is another popular machine learning tool in python.

Thus, in order to set up python on our local machine, we are going to install anaconda. Why anaconda? Because anacondas are bigger than pythons! (pun intended). Anaconda 4.0.0 includes an easy installation of Python (2.7.11, 3.4.4, and/or 3.5.1) and updates of over 150 pre-built and tested scientific and analytic Python packages that include NumPy, Pandas, SciPy, Matplotlib, and IPython, with over 250 more packages. (Source: **https://docs.continuum.io/anaconda/pkgdocs** (https://docs.continuum.io/anaconda/pkgdocs))

You can download Anaconda from following link **https://www.continuum.io/downloads** (https://www.continuum.io/downloads)

Once the executable file is downloaded, click on the .exe file and follow the instructions to install the full version of anaconda on your C drive. For more help, visit: **https://docs.continuum.io/anaconda/install** (https://docs.continuum.io/anaconda/install)

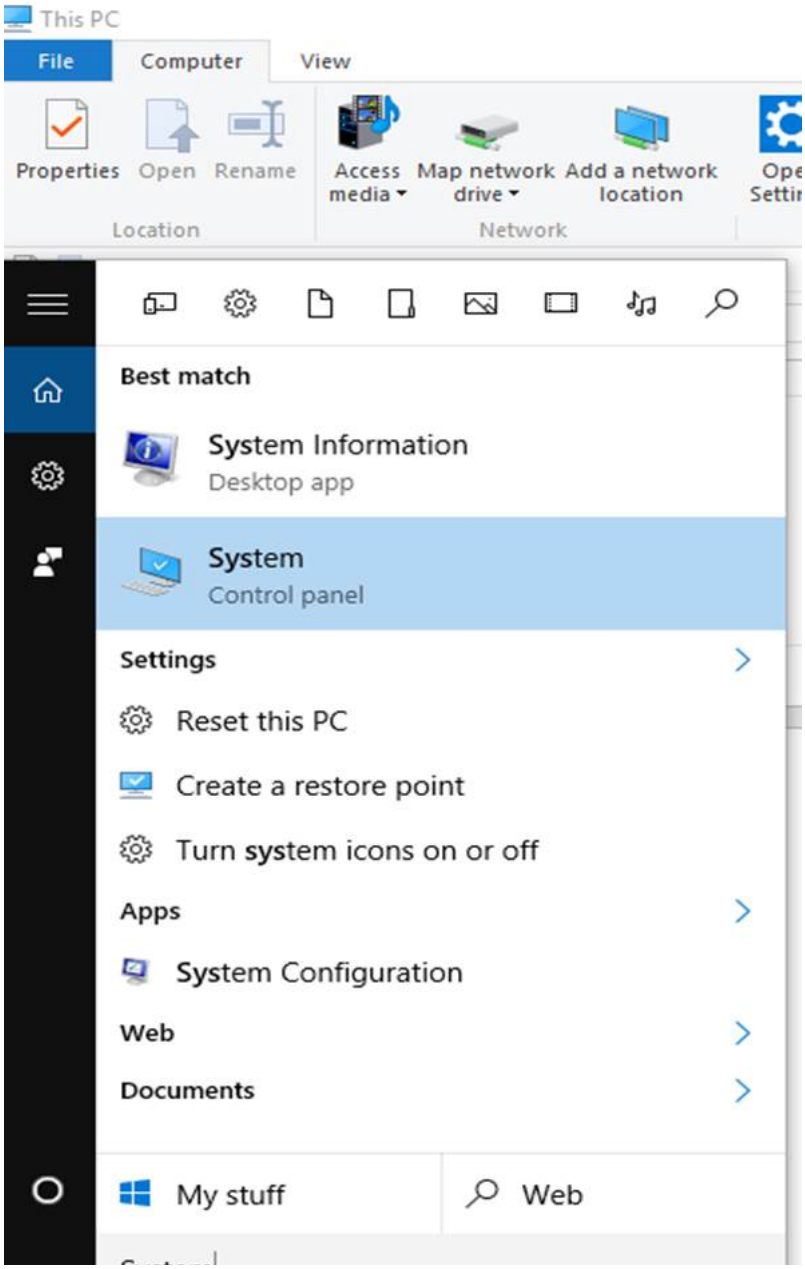
After installing Anaconda open command prompt and type python and then press enter, you should get a

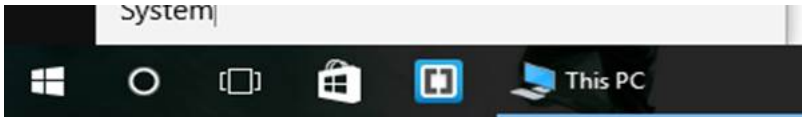
message similar to the below message and a python command prompt will appear.

> “Python 2.7.11 |Anaconda 4.0.0 (64-bit)| (default, Feb 16 2016, 09:58:36) [MSC v.1500 64 bit (AMD64)] on win32 Type "help", "copyright", "credits" or "license" for more information. Anaconda is brought to you by Continuum Analytics.”

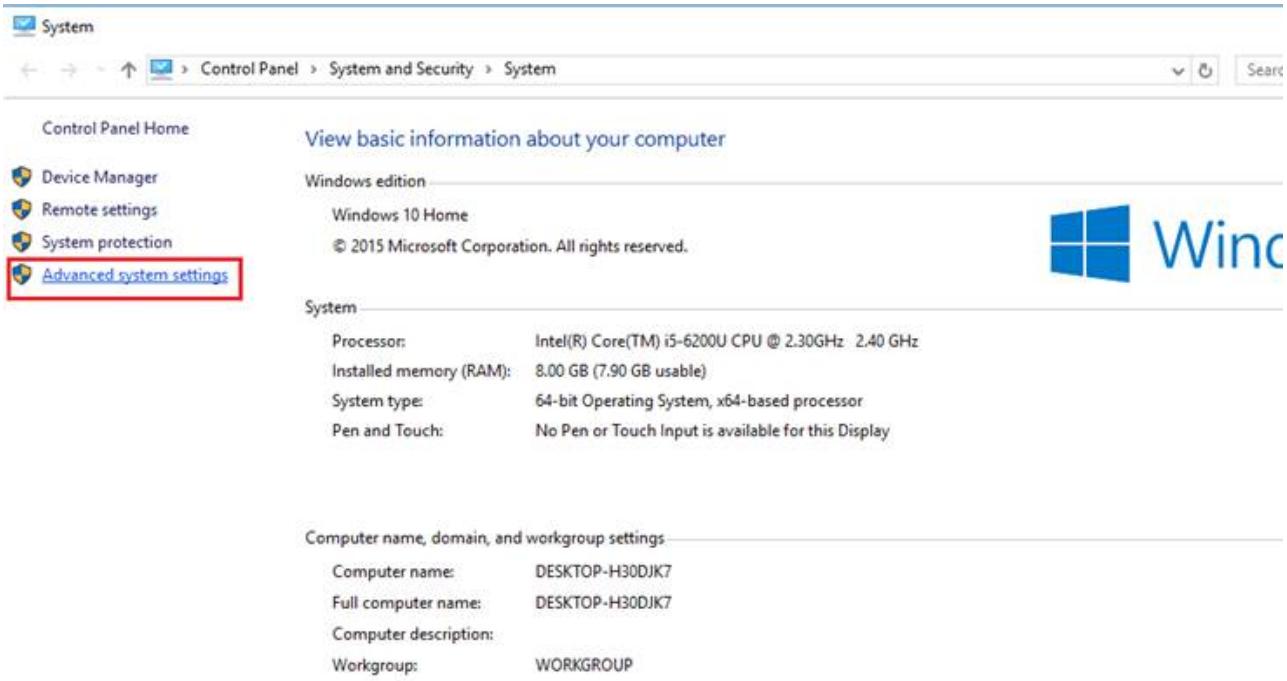
If you get some error message like “'python' is not recognized as an internal or external command, operable program or batch file.” Then you need to make an entry in “Path” environment variable. This can be done by following below-given steps.

1. Go to search icon present at the bottom left corner adjacent to windows icon.
2. Type “System” and then from the search result click on system.

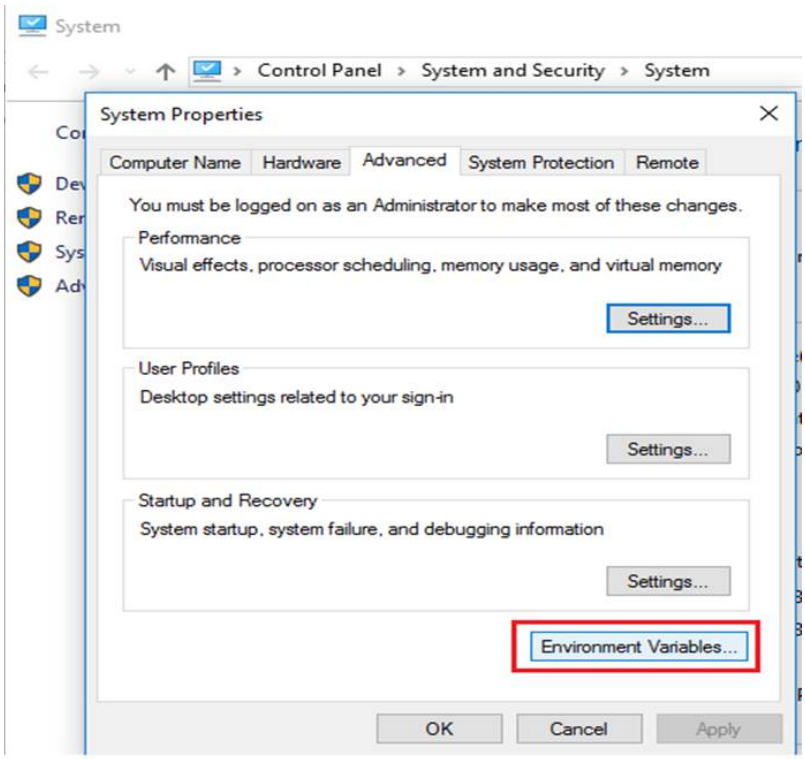




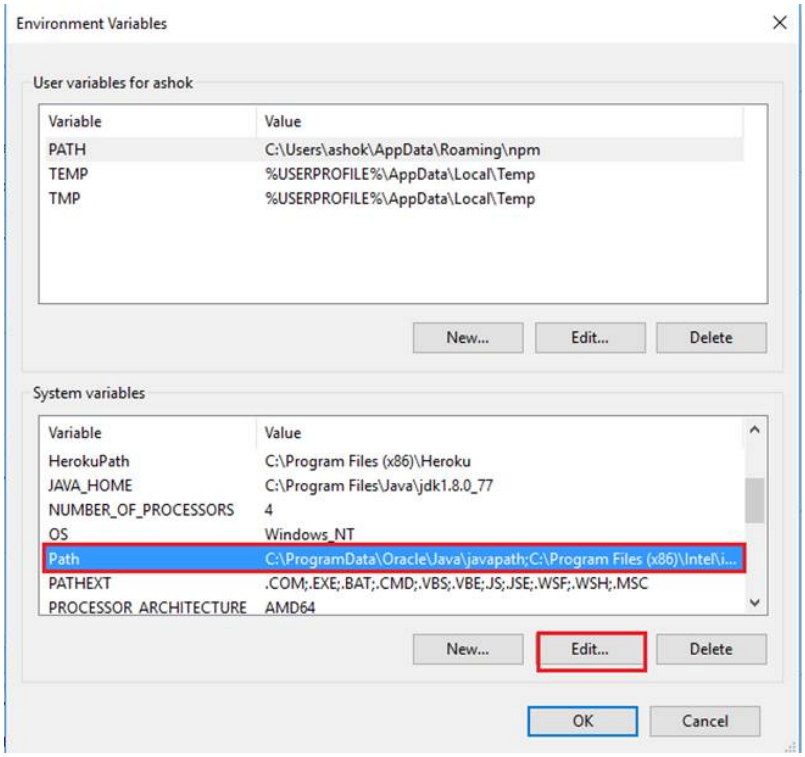
3. This will open a new window from there select advanced systems property



4. Then select environment variable.



5. From systems variable select path then click on edit



6. This will open another windows. This windows contains a list of all the paths associated with environment variable. Please make sure that you have following path in the list C:\Anaconda2. If it is not there, then click on the new button and then add this path.