AL2001 – Programming for AI Lab

Lab # 01

Intr. to PFAI Lab

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1. What is Programming:

At a basic level, a computer program is a recipe of instructions that tells your computer what to do. When you write a program, you create a step by step recipe of what needs to be done to complete a task and when your computer executes the program it reads what you wrote and follows your instructions to the letter. Programming languages are actually similar to humans spoken languages since they have a syntax and semantics.

So what's the difference between a script and a program? The line between the two can be a bit blurry.

Script: a script is a program that is short, simple, and can be written very quickly.

In this lab, we'll concentrate on the scripting language known as Python, which we'll use to understand the fundamentals of programming and automation utilizing Python's AI.

2. Introduction to Python:

Python was released almost 30 years ago and has a rich history. You can read more about it on the History of Python.

IDE/Tools:

a) VS code
b) Anaconda
c) Google Colab

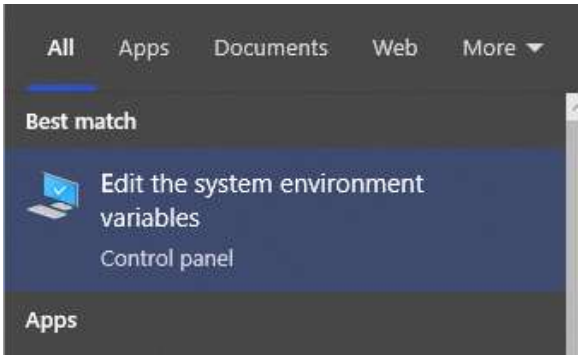
All of these tools provide an interactive computing environment called Jupyter notebook. That allows you to create and share documents containing live code, equation, visualization, and narrative text.

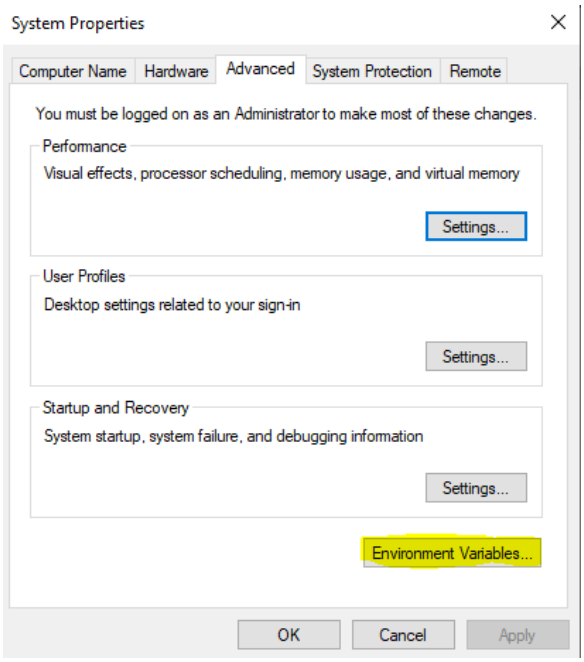
In order to work with python, a python package is downloaded and installed from here: https://www.python.org/downloads/

For windows user add the python path to the environment variables as shown in the figure.

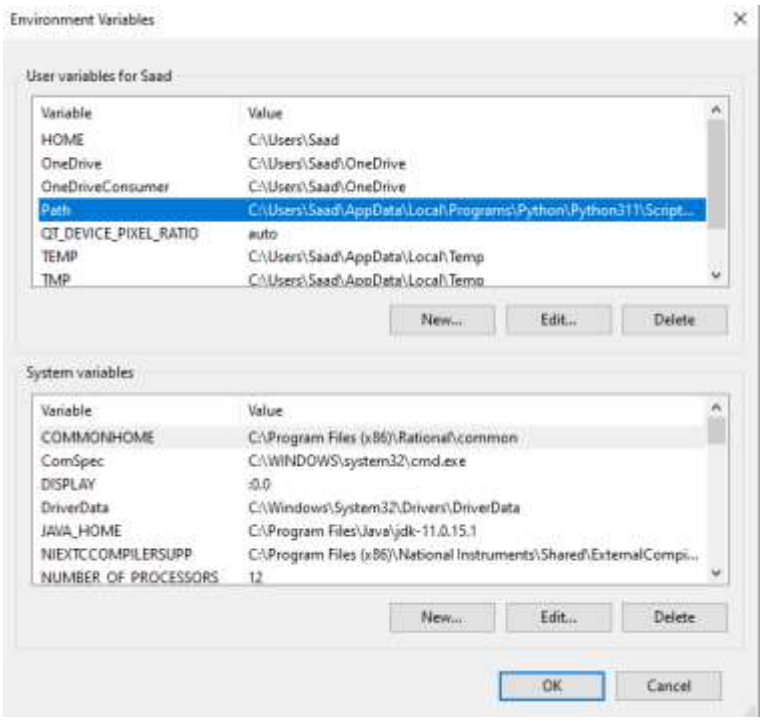
Check the box “Add python.exe to PATH” and click Install Now. Once the installation is done environment variables must configured

It should look like this:

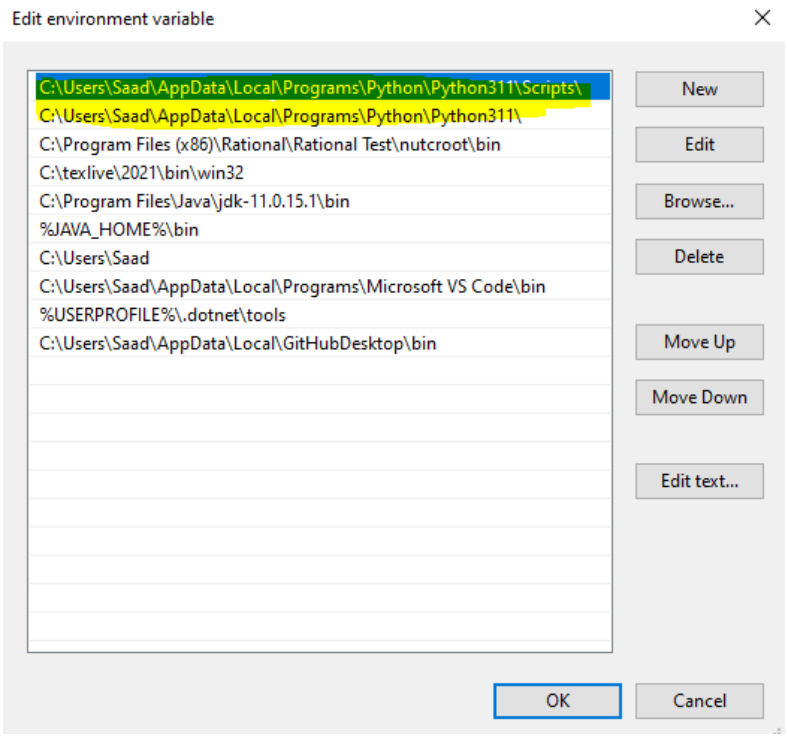




Double click on path



You will see these to paths added to the path variable



In this lab we will work mostly on VS code IDE. After the VScode installation is done make sure to install the jupyter note book extension from the extensions panel in Vscode. Its Installation is simple and easy and can be done using the following link. **https://code.visualstudio.com/docs/datascience/jupyter-notebooks**

If the Installation and adding jupyter extension doesn't work make sure to Install the python extension from VScode or download and install the python package

Mac/Linux user:

https://kinsta.com/knowledgebase/install-python/

Once you have properly followed the steps you can now work with jupyter notebook using VScode