# CS 121: Computer Science I

Python Software Installation

This guide will walk you through the installation of all the software needed by the course, that are, Anaconda Python Toolkit and Visual Studio Code editor with Python extension.

1. Anaconda Python Toolkit

Step1: Download Anaconda Individual Edition from the given URL: https://www.anaconda.com/products/individual. Ensure to download Python version 3.8+.

Step2: Once downloaded, click through the installation process. In one of the installation steps, a dialogue will appear to ask for the PATH permissions. Ensure to check both boxes as shown below.
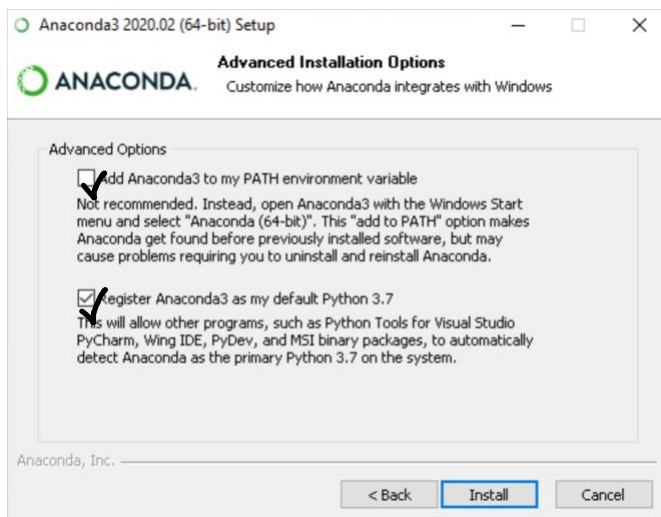
Step3: Once installation is done, open a "Windows PowerShell" or "Anaconda Prompt" (if using Windows 10); or a "Terminal" (if using MacOS and Linux). Here is a helpful video if you've never done it: https://youtu.be/Sv38GGoPcoI?t=24

Step4: To verify that you've installed Python successfully on your machine, run the following command:
- Linux/macOS: open a Terminal Window and type the following command:

$$python --version$$

- Windows: open a PowerShell prompt and run the following command:

$$python --version$$

If the installation was successful, the output window should show the version of Python that you just installed.

Step5: Invoke "Jupyter Notebook" installed by Anaconda by typing command "`jupyter notebook`" on the PowerShell/Termial. In the meanwhile, you will see the Jupyter Notebook software popping up on your default browser.

* Note *: if there is a "`command not recognized`" error, that means you have not added Anaconda to system PATH as you should from Step 2.
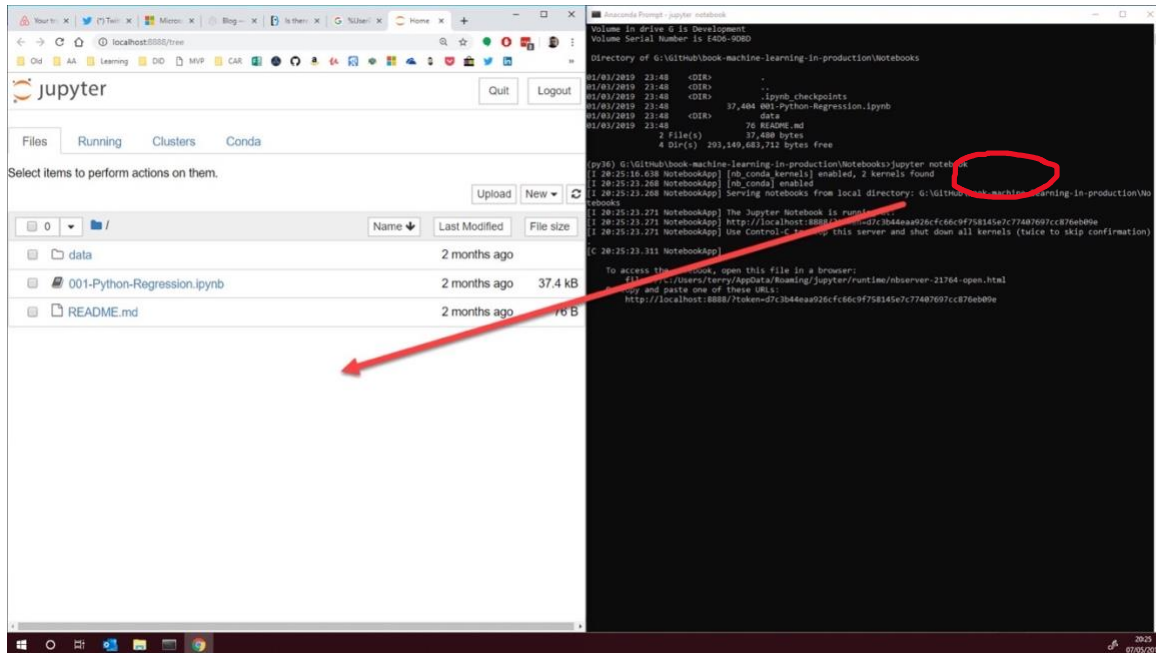

Step5: On the Jupyter Notebook software, navigate to a desired directory, for example, Documents. **Remember this file directory** as you may need to retrieve the notebook file later from your computer. Then click "New" to create a Python 3 notebook.
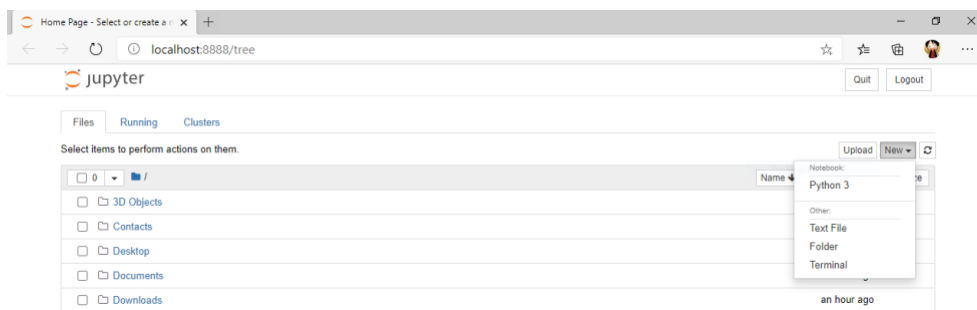

Step6: You can rename the notebook to a name of your choice when the file is opened.
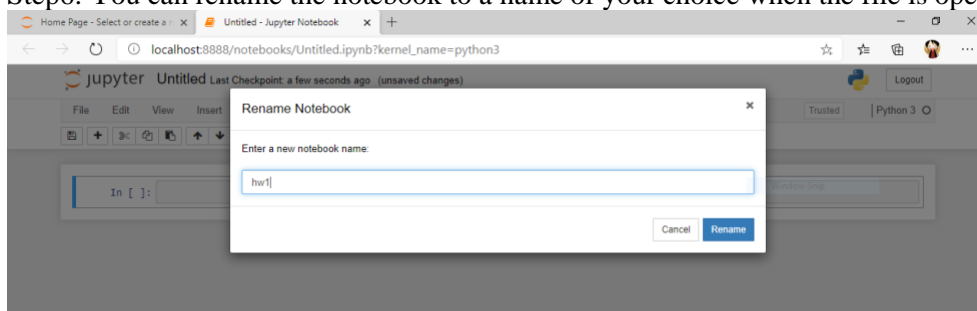
Step7: In the first cell of the notebook, switch the cell mode to "Markdown". Markdown is a very easy markup language for creating formatted text. For example, a pound sign with a space followed by some texts will be formatted as level 1 title. Type the lines as shown in the picture, and use "Shift+Enter" combo keys to execute this cell.
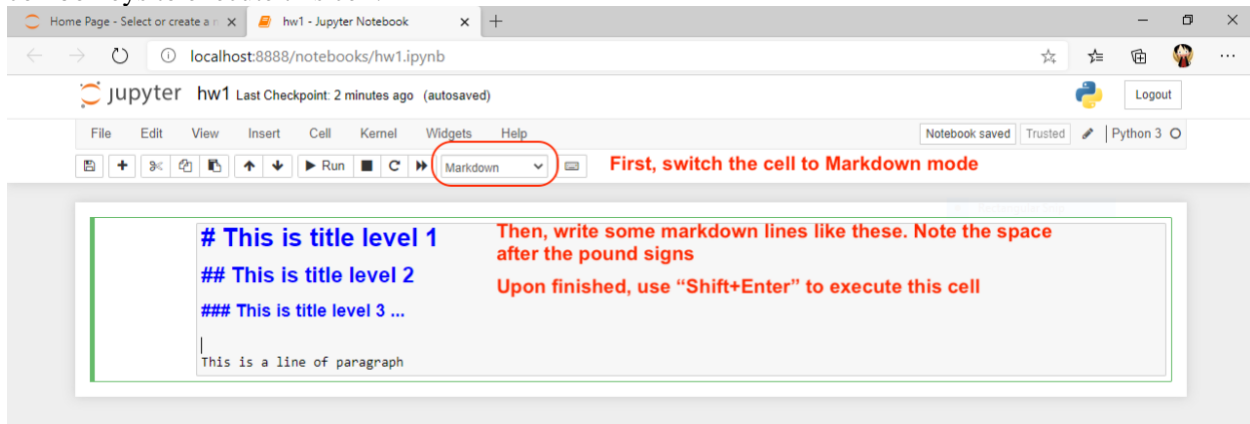
Step8: In the second cell, you will write some python programs. Ensure the cell mode is "Code" this time. Write the lines of code as shown in the picture. Then click "Shift+Enter" combo keys to execute. Don't worry if you don't know what this code is doing.
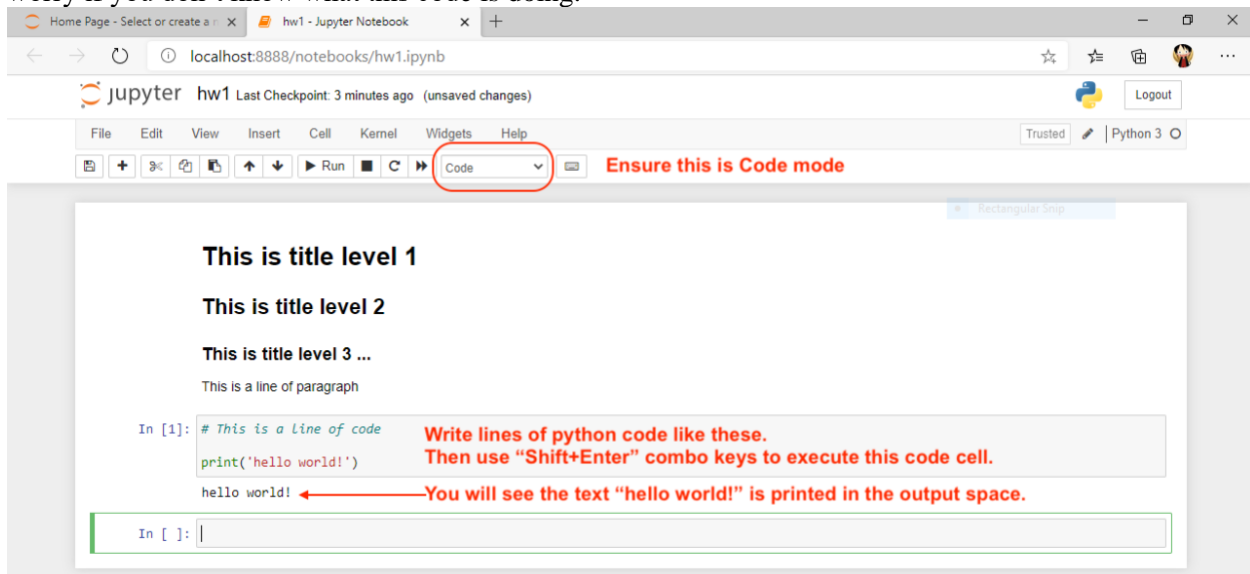

Step9: Lastly, go to File→Save and Checkpoint→Close and Halt. Then you will be brought back to the files view. On the file list, you will see the file you just created "hw1.ipynb". You can also find this file on your computer and use this file as submission if needed in the future.

[INSTALLATION GUIDE CONTINUED ON THE NEXT PAGE]

2. Visual Studio Code

Step1: Download Visual Studio Code (VS Code) from the given URL: https://code.visualstudio.com/.

Step2: Next, install the Python extension for VS Code from the Visual Studio Marketplace as shown below.
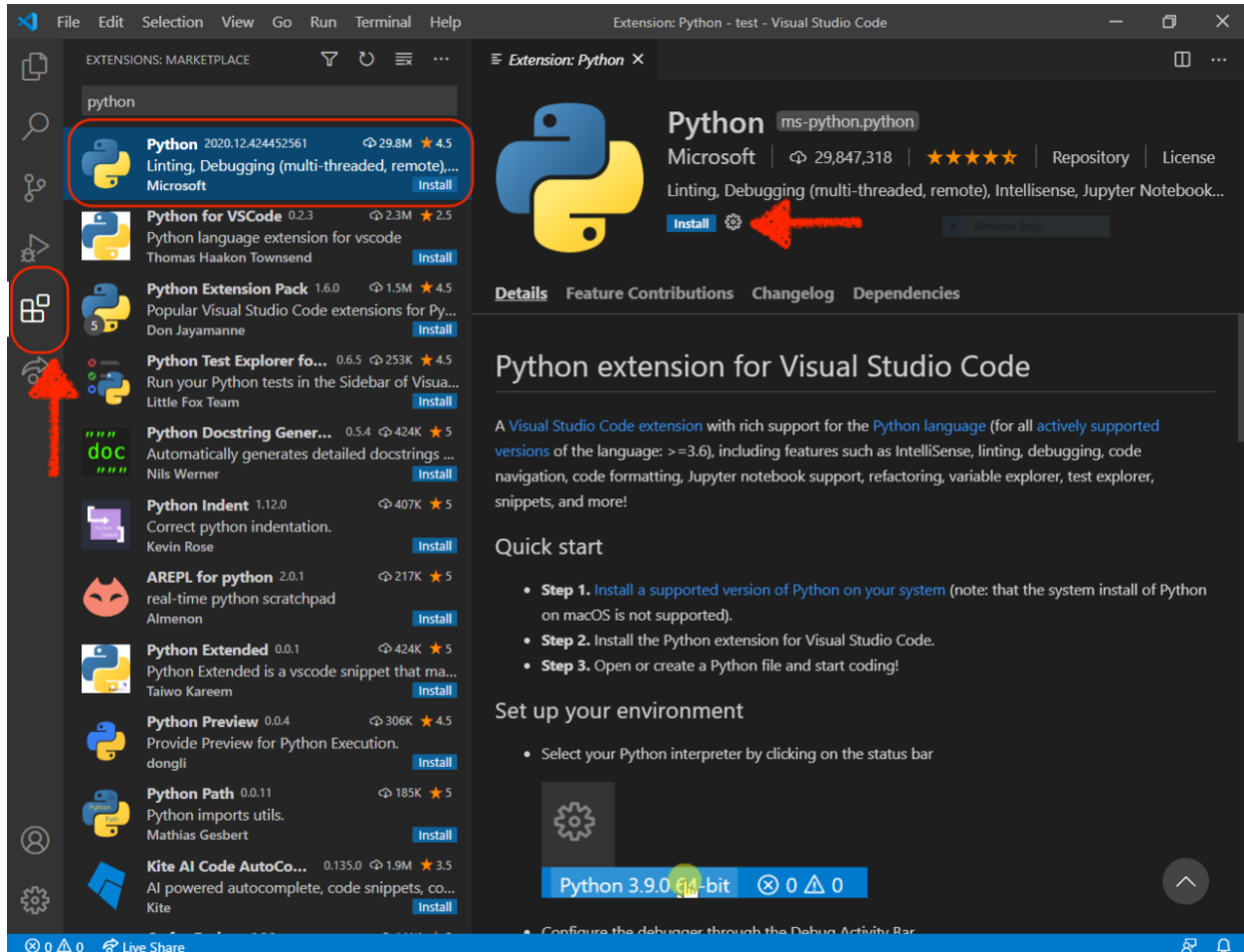

Step3: Create a new project folder on a desired location from your computer. You can name the folder, for example, "CS121". **Remember this file directory** as you may need to retrieve the python script file later from your computer. Then back on VS Code, click on File → Open… → Find the folder you just created → click ok.

Step 4: Once the project folder is opened up, go to "File" again and click "New File". A new file named "Untitled-1" will appear. Before writing anything to this file, go to "File" and click "Save As". Save this file with the name of your choice, e.g., "`test.py`".
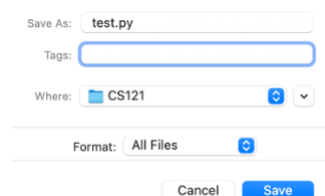
Step5: Now, write a few lines of code to the file as shown in the picture. You can then click the "Play" button to the upper right corner to execute the program. You will see the text "Hello world!" appear in the terminal as the output of the program.
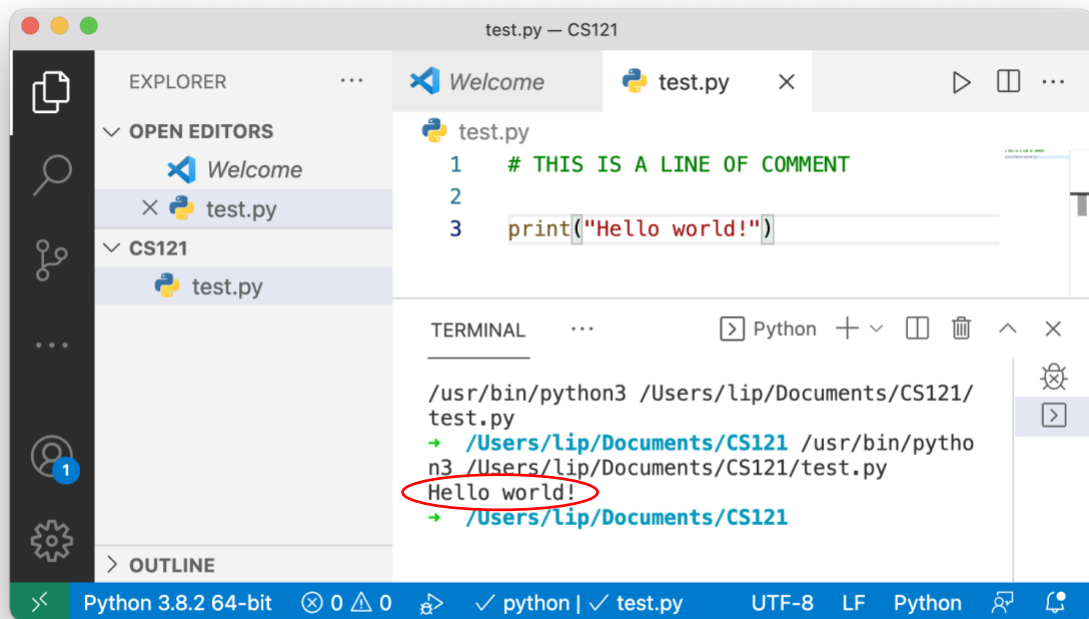
Congratulations! You just made it to install all the software you need in CS121!