In class today, a student asked a question about Python IDE to use for ML HWs. You won't need an IDE for HW1 because HW1 is all math based, but for HW2 onward, you will need a Python IDE or text editor to edit your Jupyter Notebooks and your Python code files. In this post, I'll talk about how to setup VS Code to help you do the HWs productively.

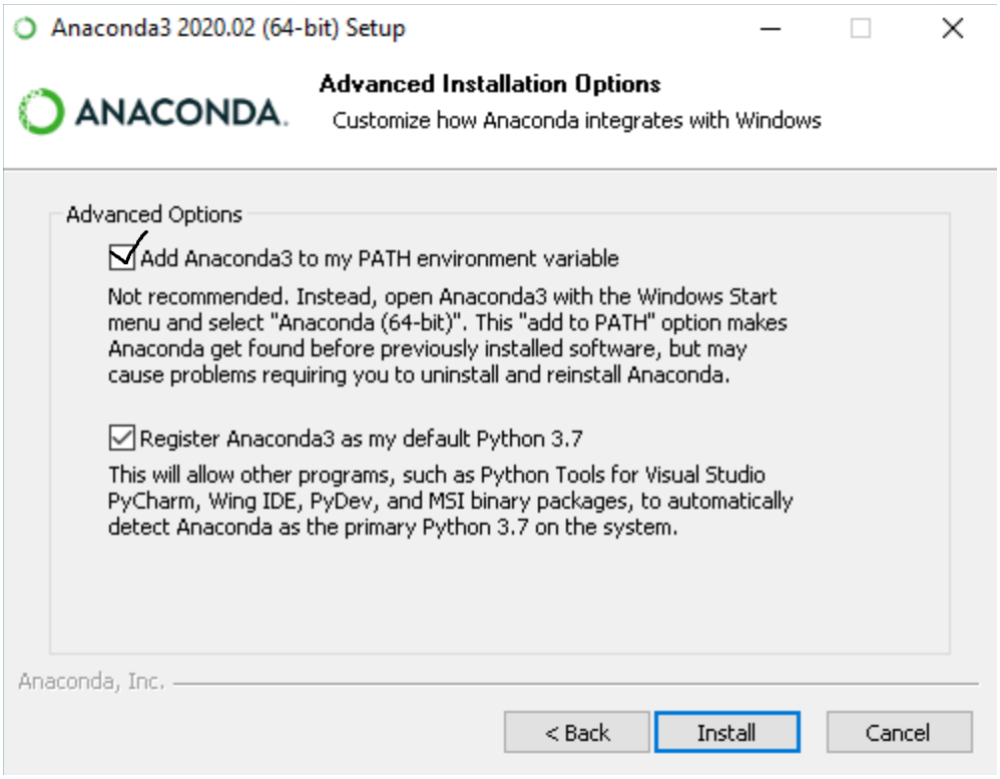
Anaconda Installation

Before we get started with VS Code, we first need to install Python on our system. We could just do it the simple way with this link, but it won't install the Python libraries we use in class such as *numpy*. Instead, there is a better way to install Python, and that way is by installing Anaconda, which is a platform made for data science. We'll be using the Individual Edition, which is the free, open-source version, which installs software like Jupyter Notebook, and other python libraries that we will need in this class.

Here's the link to install Anaconda: Installation — Anaconda documentation

That link above contains all the steps for Windows, Mac, and Linux. There is an extra step for Windows that I will talk about below

For students using Windows:



While installing Anaconda, Anaconda recommends to not add Anaconda to my PATH Environment Variable. However, I would personally recommend to add it to your PATH Environment variable anyways. The reason why I say that is because if you add it to your PATH Environment variable, you can run Anaconda commands through your command prompt without having through Anaconda Prompt.

VS Code Installation and Opening HW Folder

Installing Anaconda also install Jupyter Notebook, which is an interactive python file that allows you to break your code and your text into cells. We use Jupyter Notebook to explain HW questions and have code cells to run test cases. Let's take a look at how to install VS Code.

Here's the link to install VS Code: [Visual Studio Code - Code Editing, Redefined]

Once you've installed VS Code, we need to open the HW folder so we can start editing the Python files. There's two ways to do this.

Normal Way to open HW folder:

Open VS Code, and go to "File --> Open Folder" and select the folder you would like to open

Cool Way to open HW Folder:

In command prompt, navigate to the directory from which you want to open your folder. Type `code .` in the command prompt, hit enter, and VS Code will open that folder.

Note: Entering `start .` will also open your file explorer with that same directory.

VS Code Python Extension

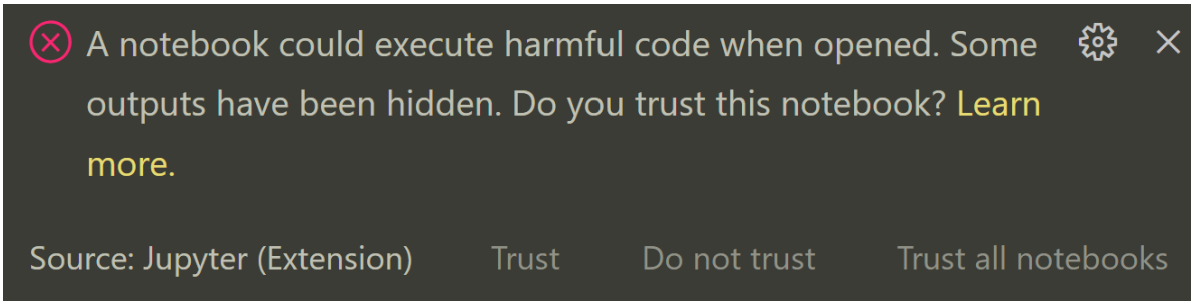
In VS Code, you'll see this strip running on the left-hand side of your screen.

The last icon (the one with the 4 squares where one of the squares is further away from the others) is the **Extensions** tab. Click it and in the search bar, type "Python"

You will see a result like this

For me, it shows "Uninstall" since I already have it installed, but make sure to install this extension. The Python extension allows VS Code to open Jupyter Notebooks, lint Python files (linting is where another program runs and tells you issues in your Python syntax before running your code), and do more cool stuff. The great thing about VS Code is that you enable/disable all these features if you want.

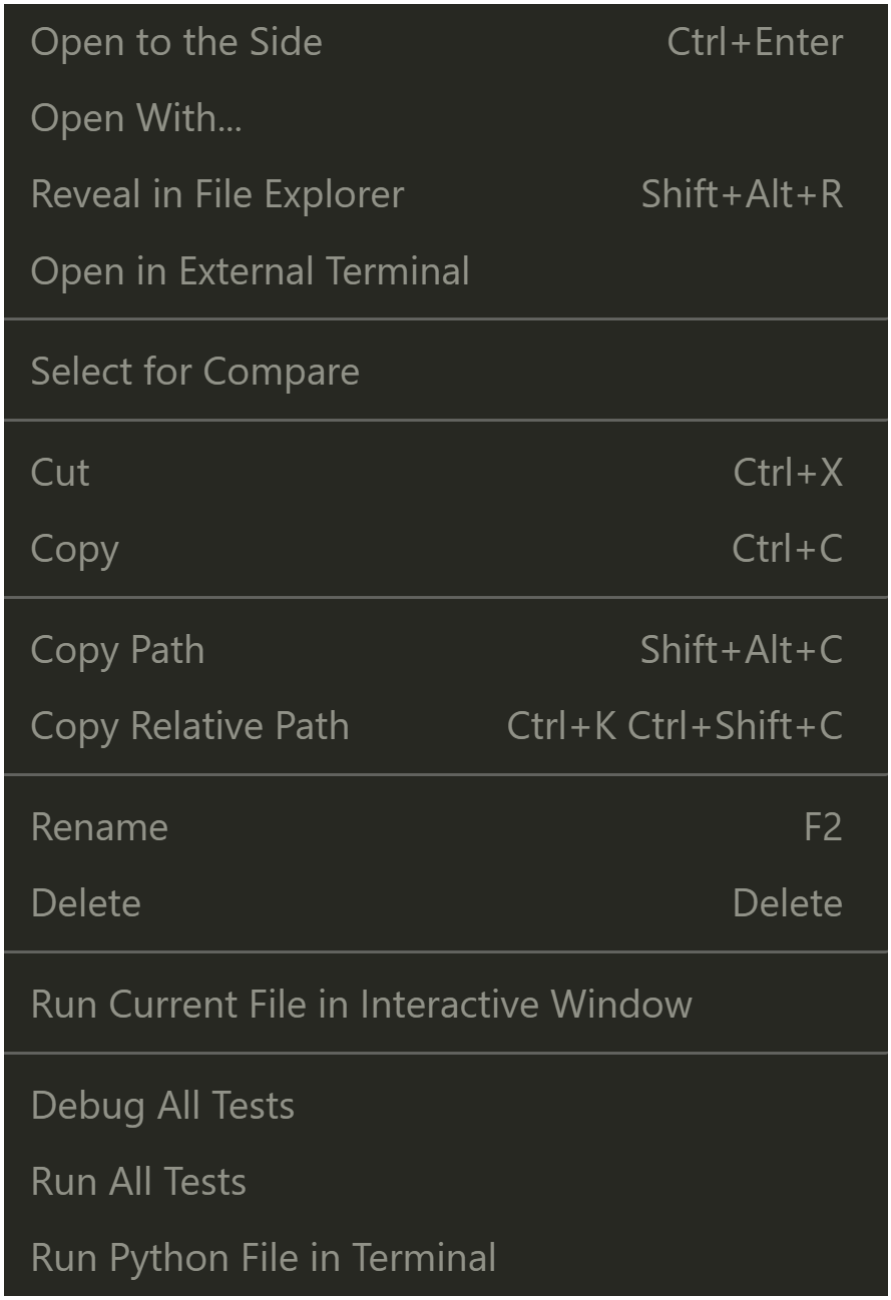
After installing it, you should be able to open Jupyter Notebook files. It might take 5-10 seconds for it to open, and make sure you click "Trust" so VS Code will open the Jupyter Notebook.



This is what the top of your Jupyter Notebook would look like

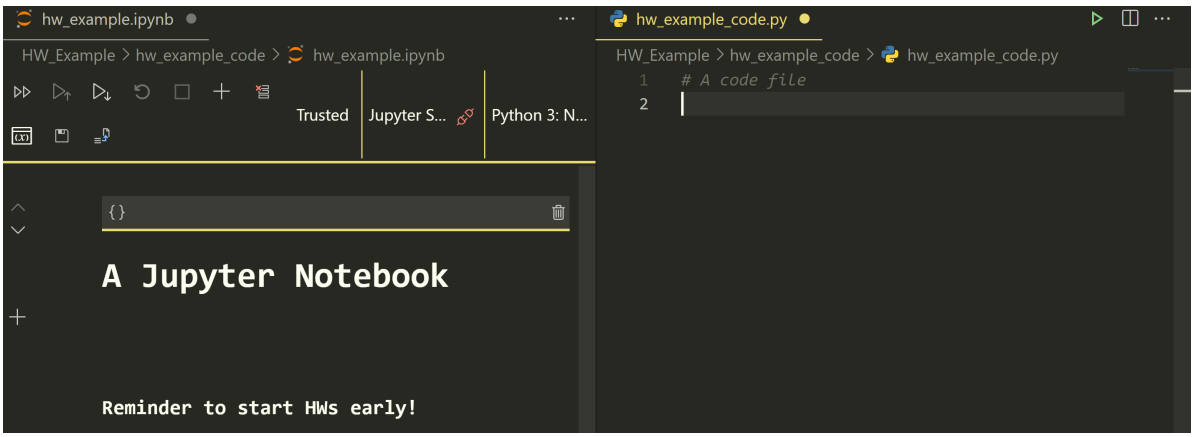
If you double click on the python files in the same directory as the Jupyter Notebook, you will be able to have your Jupyter Notebook and your Python file on different tabs, which looks like this:

You can also right click the Python file, and this will pop up:



At the top, you will see a button that says "Open to the Side"

This is what happens when you click it:



This allows you to view both the Jupyter Notebook and the Python code files at the same time.

That's pretty much it for this basic setup for how to use VS Code. Thanks Mahdi for giving me the idea to make this!