Initial Setup

1. Download and install [Python 3.12]
    a. be sure to check the box in front of the option *Add python.exe to PATH*

2. Check that Python has been installed properly:
    a. open command prompt
        i. from the taskbar, enter *command prompt* into the search bar
        ii. click on the *command prompt* icon in search results
    b. type *python* and hit enter
        i. if Python has been installed properly you will see a few lines of text starting with *Python 3.12.1* and the Python prompt >>>

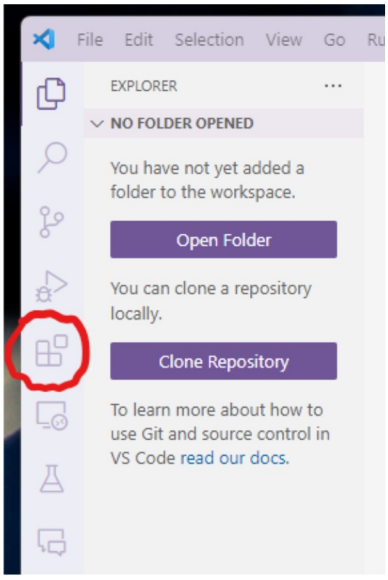
```
C:\Users\penta>python
Python 3.12.1 (tags/v3.12.1:2305ca5, Dec  7 2023, 22:03:25) [MSC v.1937 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>>
```

        ii. type *quit()* and hit Enter to exit Python
    c. type *exit* and hit enter to close the command prompt window

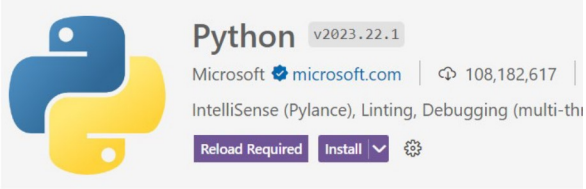
3. Download and install [Microsoft Visual Studio Code] (VS Code)

4. Open VS Code

5. Inside VS Code
    a. open the Extensions menu
        i. on far left menu, select the **Extensions** icon or hit **Ctrl + Shift + X**

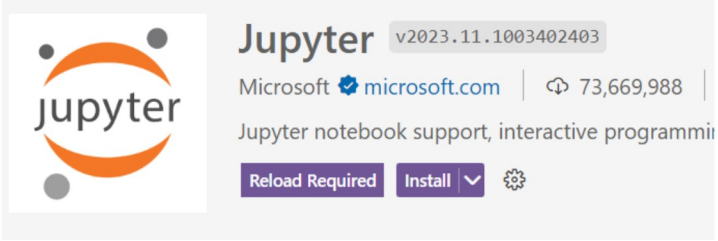


b. install Python Extension
   i. in the 'search Extensions' box at the top, type *Python*
   ii. the correct Extension is called *Python v2023.22.1* and is published by Microsoft



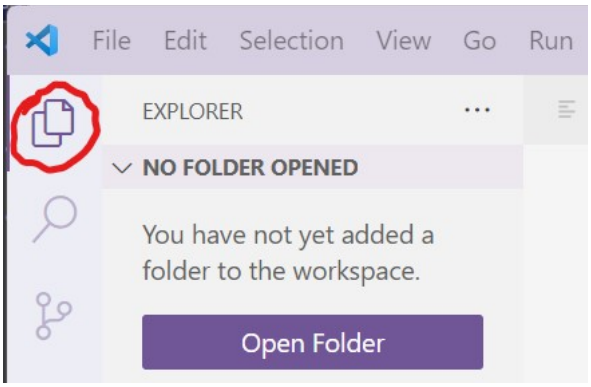
   iii. click on Install

c. install Jupyter Extension
   i. as above but search for *Jupyter*
   ii. the correct Extension is called *Jupyter v2023.11.1003402403* and is published by Microsoft



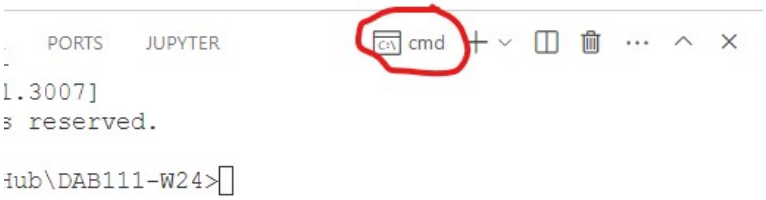
   iii. click Install

6. Create course folder
   a. from the far left menu, select the **Explorer** icon or hit **Ctrl + Shift + E**

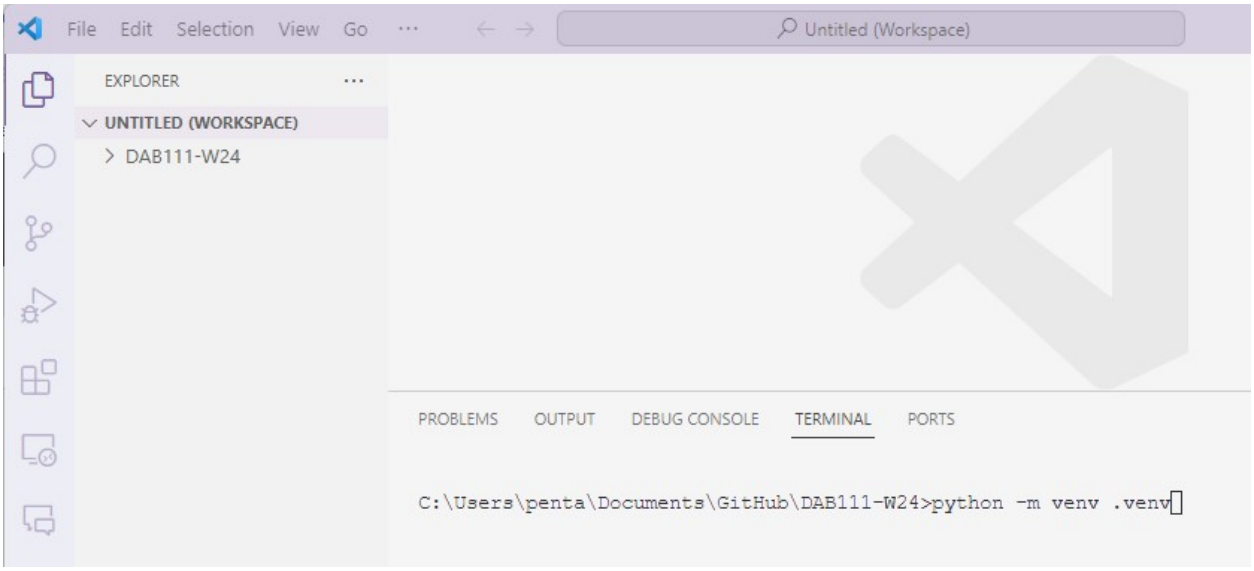


b. from top menu, select **File > Add Folder to Workspace…**
c. navigate to your **Documents** folder
d. create a new folder with course title and click **Add**

7. Create virtual environment
    a. open a terminal inside VS Code by hitting **Ctrl + Shift +** `
        i. make sure you are using the **cmd** terminal and NOT **powershell**



        ii. make sure you are in the course folder you just created
    b. at the command line type *python -m venv .venv* and hit Enter
        i. if you get a message asking if you want to use this virtual environment for your workspace, select **Yes**



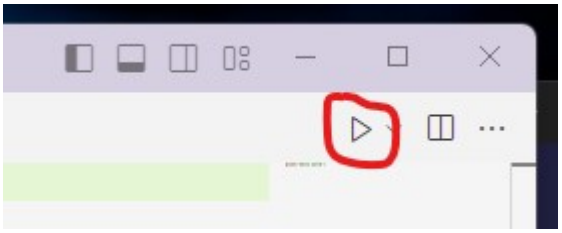
c. activate the virtual environment: at the command line type *.venv\Scripts\activate* and hit Enter
    i. if the virtual environment is activated, you will see a *(.venv)* in front of the current directory in the command line

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS  JUPYTER

C:\Users\penta\Documents\GitHub\DAB111-W24>.venv\Scripts\activate

(.venv) C:\Users\penta\Documents\GitHub\DAB111-W24>
```

8. Check code execution from .py file
    a. from top menu, select **File > New File**
    b. from the menu that opens, select **Python File**
    c. save the file as **test.py** by hitting **Ctrl + s** or from the File menu (extension .py should be added automatically)
        i. make sure you are saving the file in the correct folder
    d. in test.py type *print("hello, world!")* and save the file
    e. in the top righthand corner, click on the triangle (or from its dropdown menu, select Run Python File)



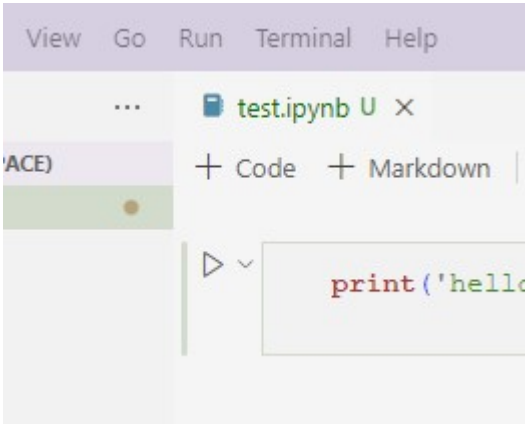
    f. 'hello, world!' should print to the terminal window

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS  JUPYTER

(.venv) C:\Users\penta\Documents\GitHub\DAB111-W24>c:/Users/pent
W24/test.py
hello, world!

(.venv) C:\Users\penta\Documents\GitHub\DAB111-W24>
```

9. Check code execution from .ipynb file
    a. from top menu, select **File** > **New File**
    b. from the menu that opens, select **Jupyter Notebook**
    c. save the file as **test.ipynb** by hitting **Ctrl + s** or from the File menu (extension .ipynb should be added automatically)
        i. make sure you are saving the file in the correct folder
    d. in test.ipynb type *print("hello, world!")* in the box to the right of the open triangle in the main portion of the screen



    e. save the file
    f. click on the triangle (or hit Ctrl + Enter)
    g. from the **Select Kernel** box, select **Python Environments** and then select the virtual environment you created earlier (should have a star in front and should be recommended)
    h. install the ipykernel package if it asks you to do so
    i. 'hello, world!' should print just below the box where you entered the code