

Learn To Program With Python 3

Setting Up Your Development Environment

What is a Development Environment?

- We know that **source code** is plain text file, so we need a **text editor**.
- We also need to download the programming language to run our programs.
- You SHOULD save all your programs in an organized **repository** on your computer.
- All the tools you use for testing and debugging your program is known as your **development environment**.
 - Example: Visual Studio Code (text editor) and Python 3.8 (Python version)
 - Example: Notepad++ (text editor) and Python 2.7 (Python version)

Our Development Environment

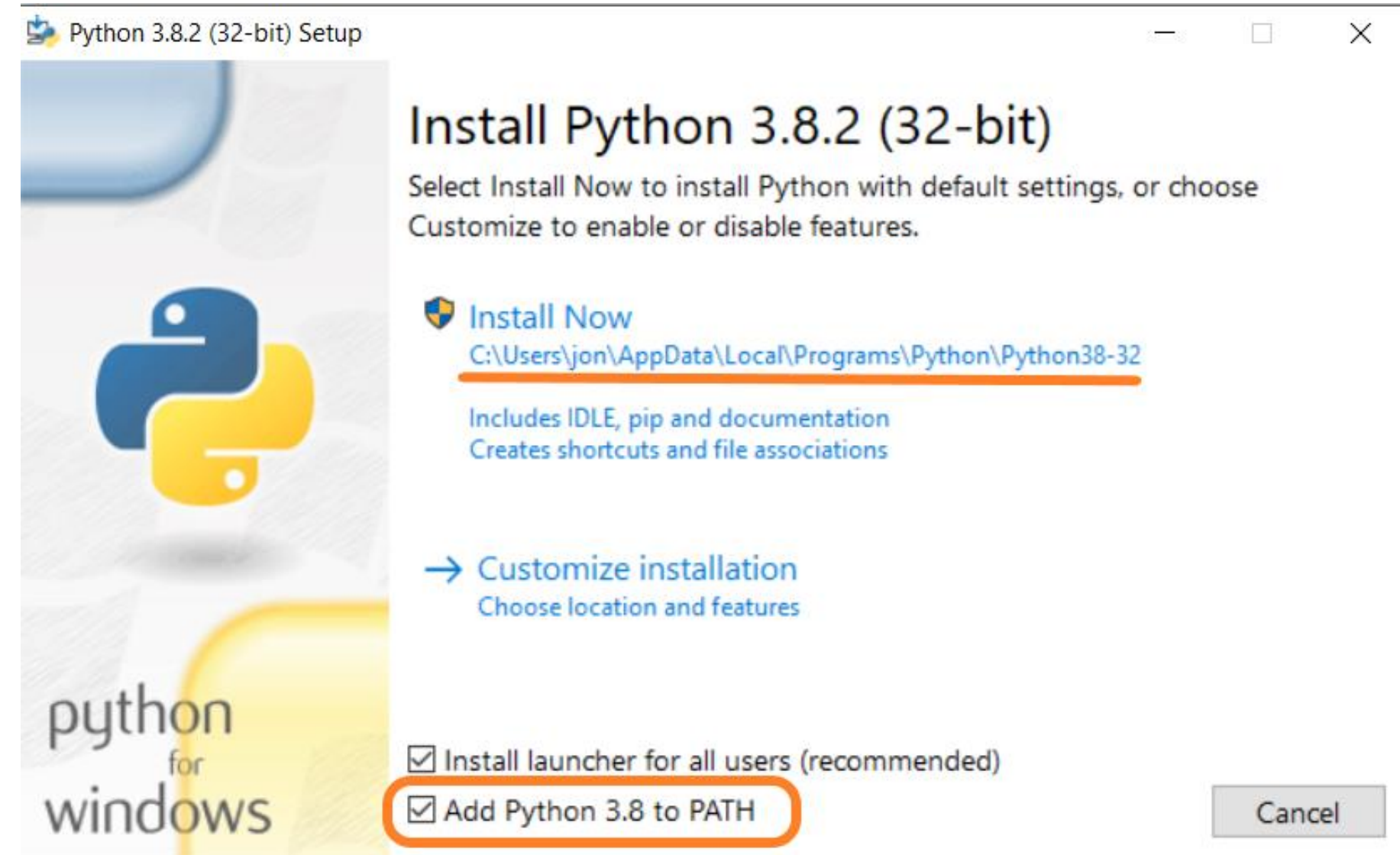
- My Development Environment
 - **Text editor**: Visual Studio Code
 - **Python Version**: 3.8
 - **Repository**: Desktop/workspace/
- Text editor alternatives: atom, notepad++, brackets, pycharm
- Python alternatives: Use Python 3.8. If you use different version than me things might not work as shown.
- Repository alternatives: Any place that is easy to find on your computer.

Installing Visual Studio Code

- Download from <https://code.visualstudio.com/>
- Windows, Linux, and MacOS version available

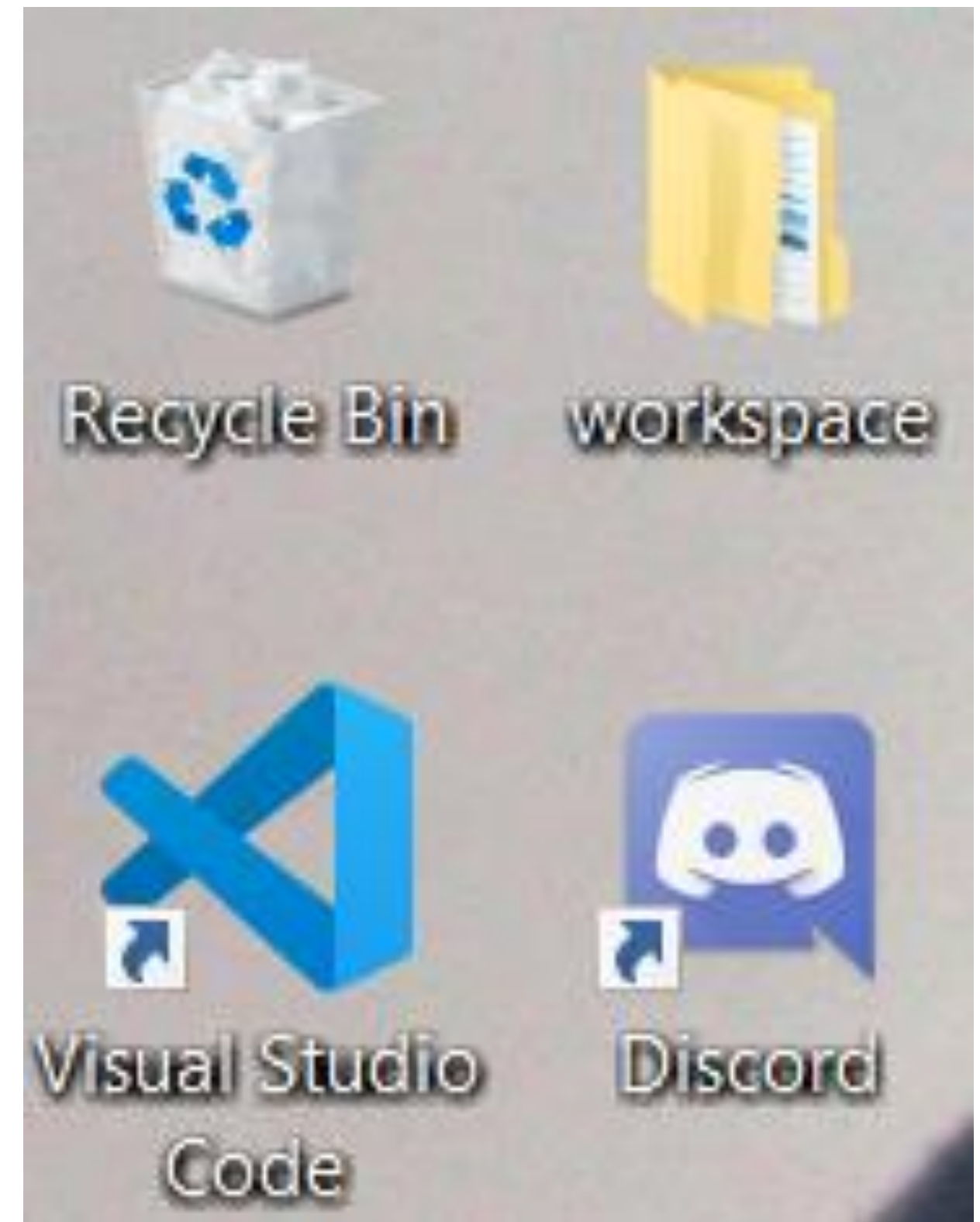
Installing Python

- Download from <https://www.python.org/>
- Following the one screen prompts
 - Make sure the “Add Python 3.8 to PATH” is checked.
 - Write down the install path, you may need this in the future!
 - Note: you may need to enable “view hidden files/folders” to see this directory in the future.



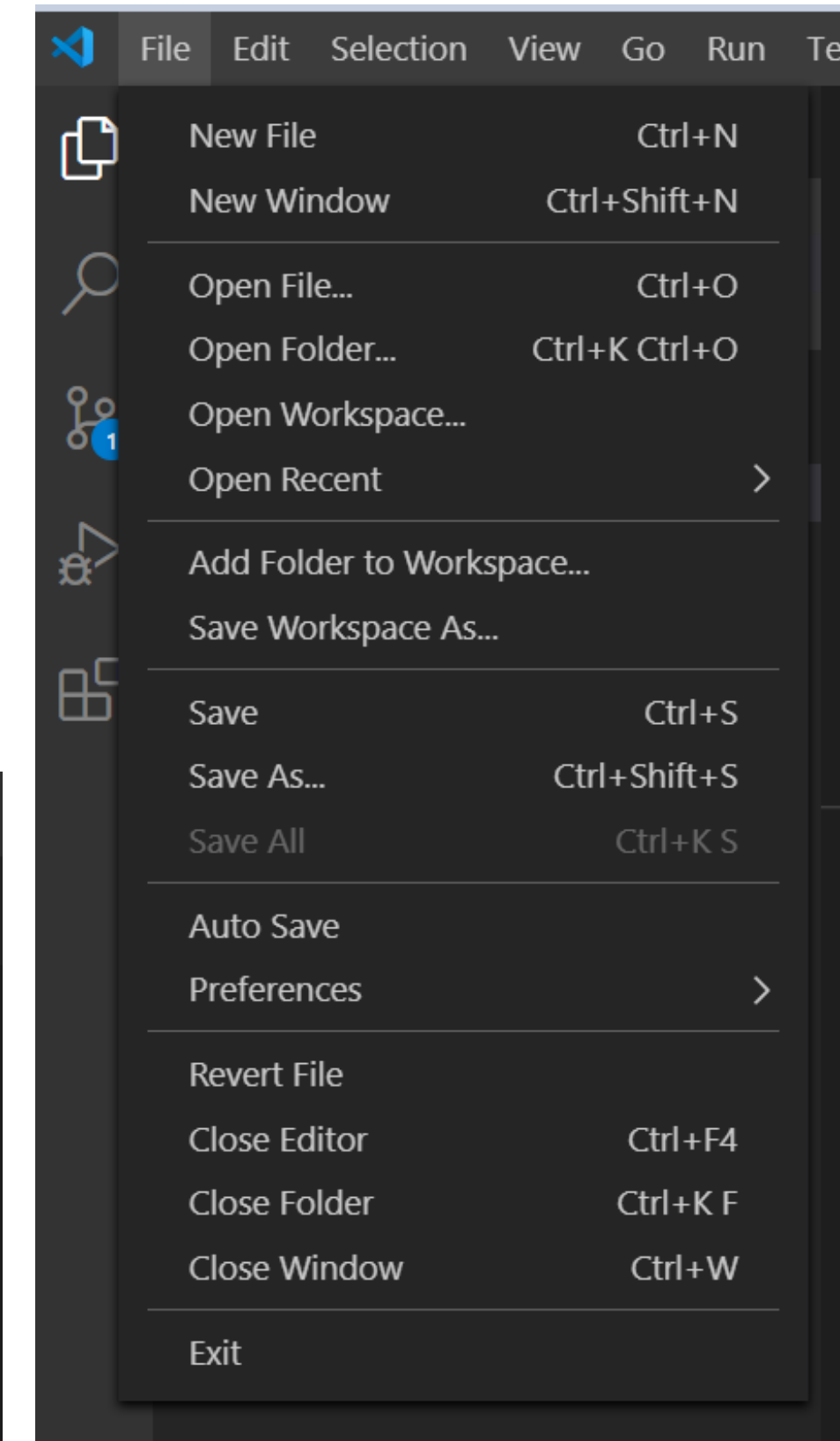
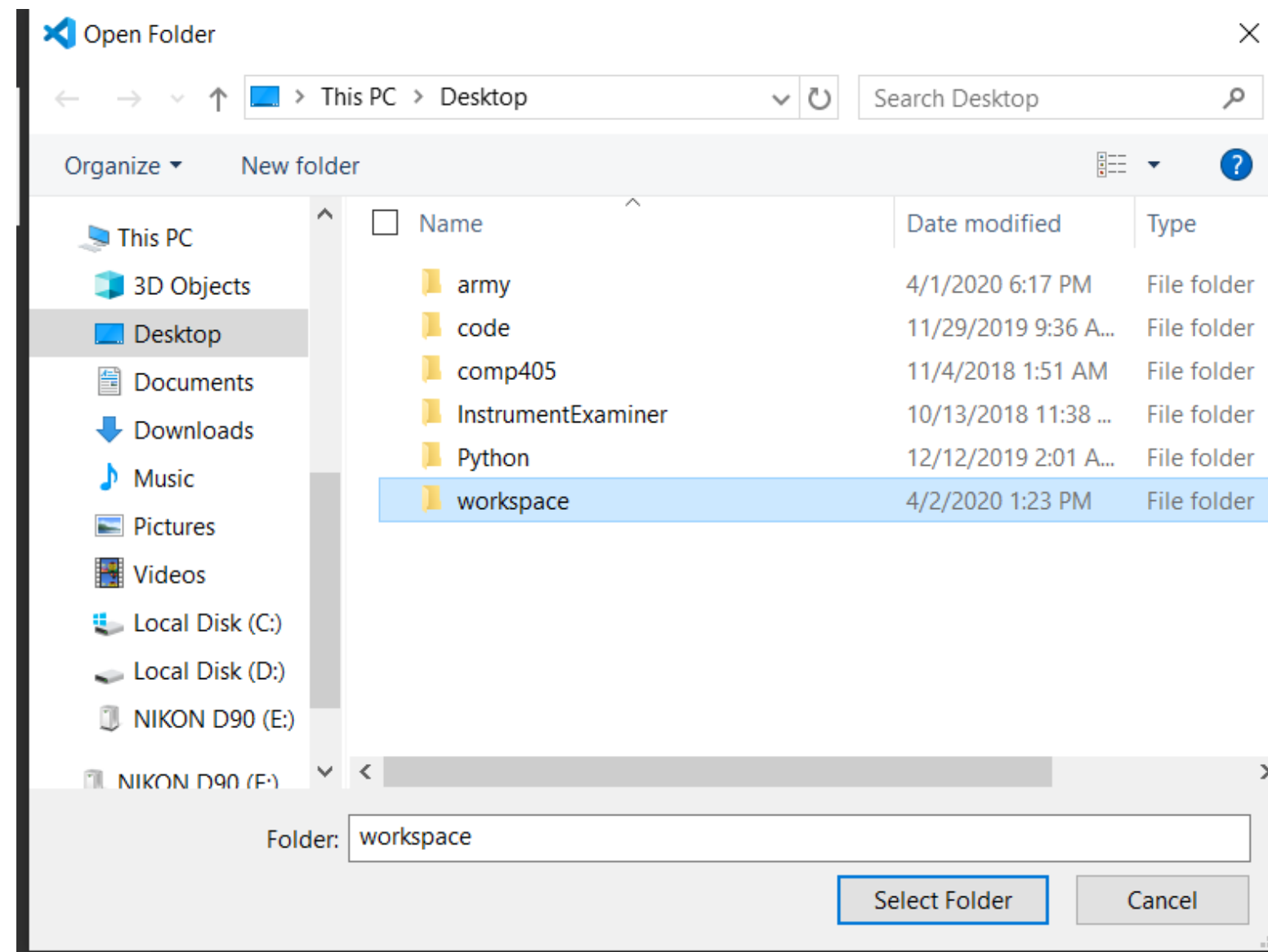
Creating Your Repository

- You SHOULD save all your programs in an organized **repository** on your computer.
- I personally like creating a new directory on the desktop called “workspace”.
- Your repository can be located anywhere on your computer as long as it is easy for you to find and navigate to.



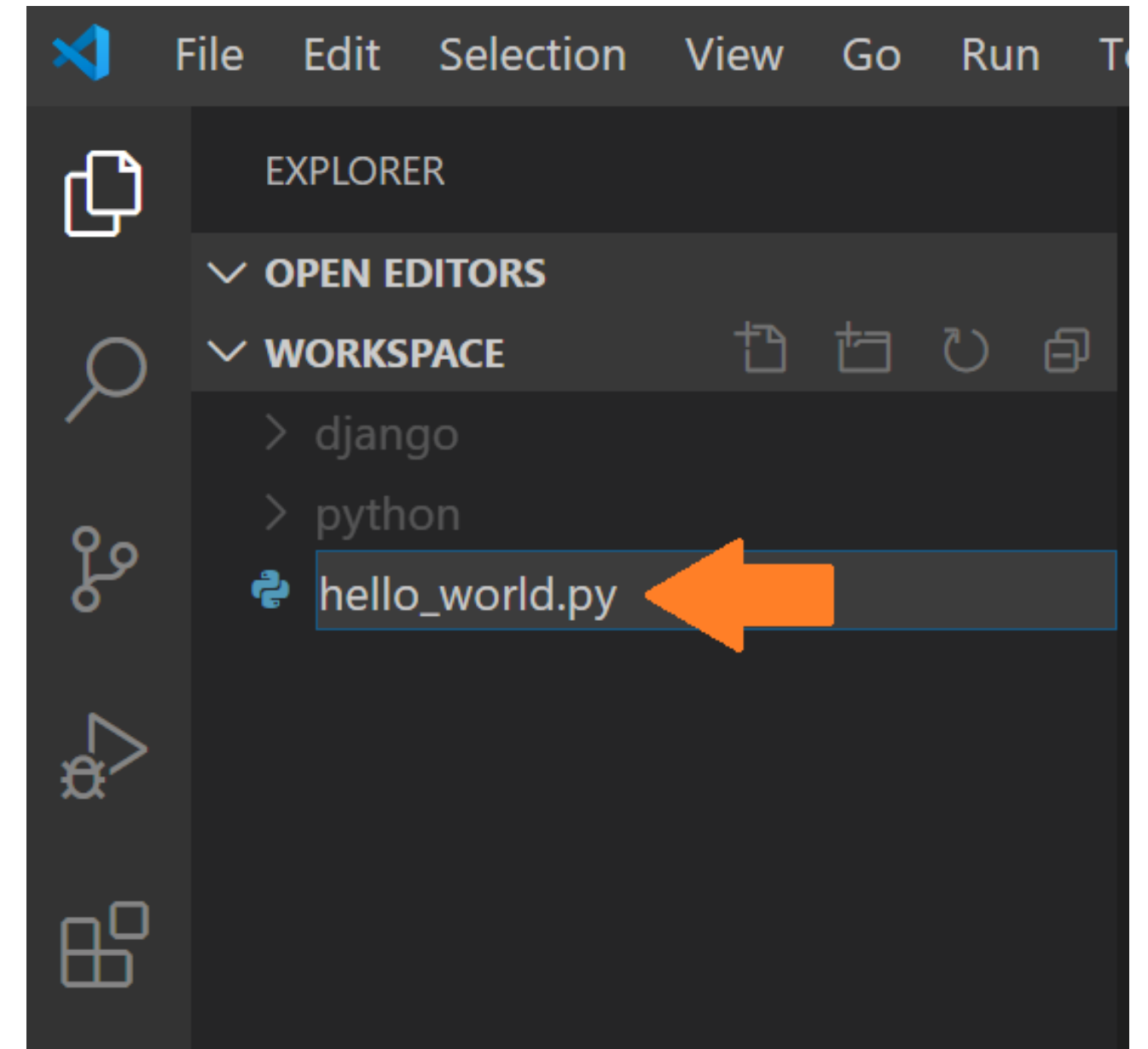
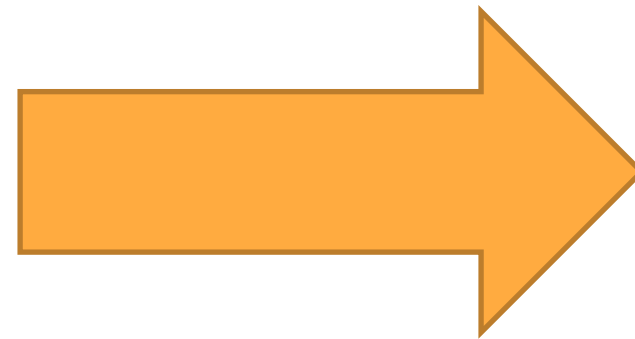
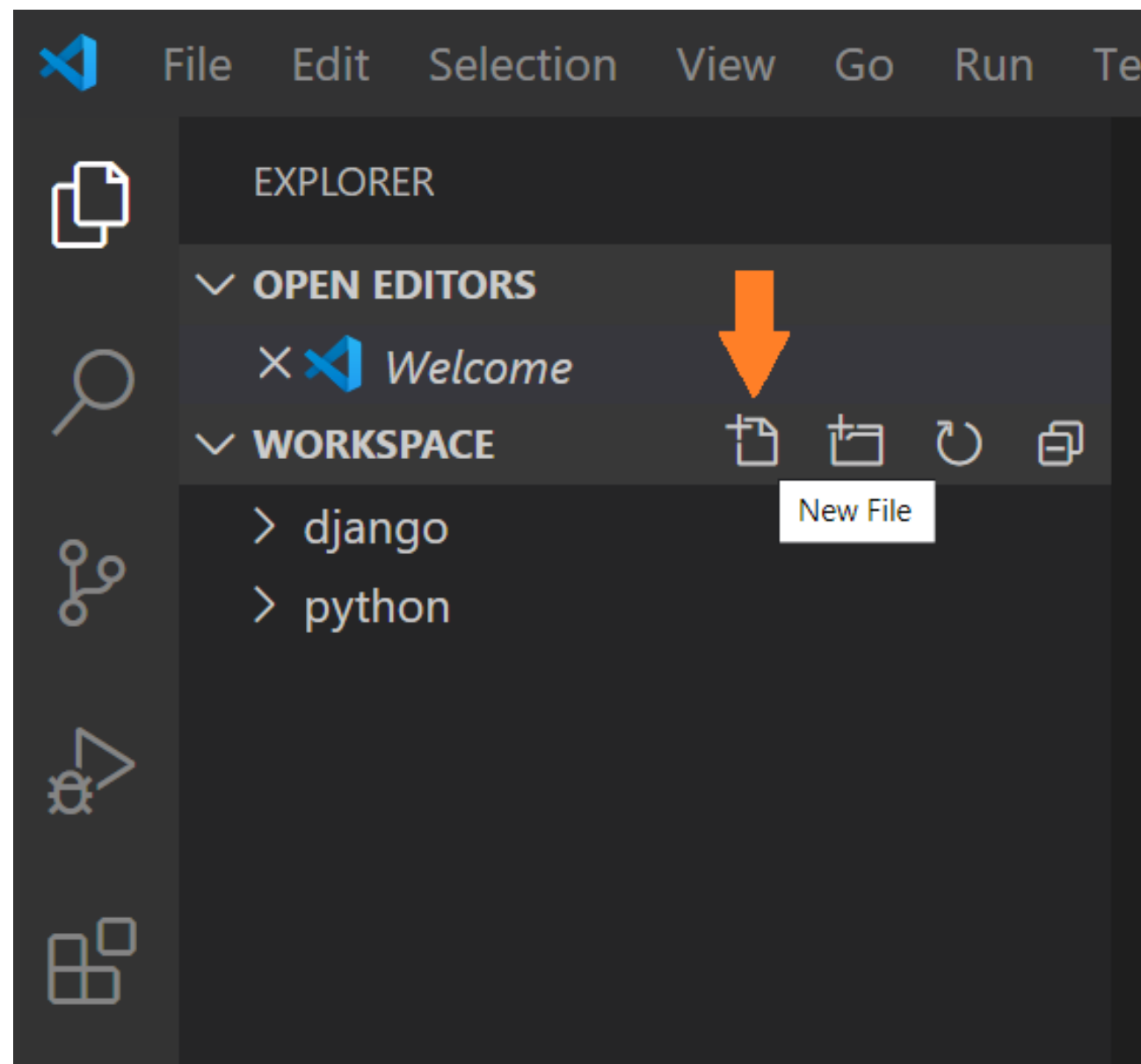
First Python Program: “Hello World!”

- Open visual studio code
- In the top left navbar, click “File”
 - This is one spot where you can open files/folders or create new files/folders
- Select “Open Folder...” then browse to your workspace.
and select “Select Folder”



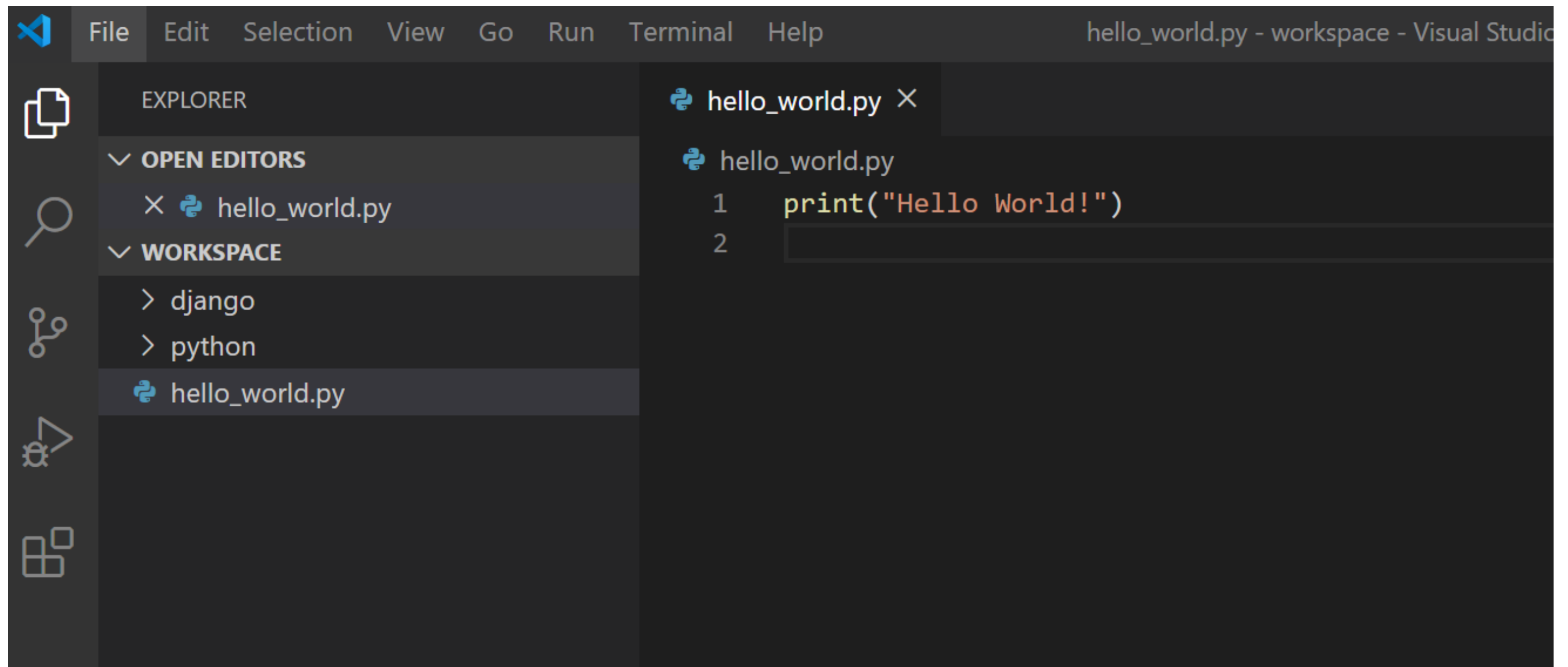
First Python Program: “Hello World!”

- This will open your “workspace” in the visual studio code explorer.
- Hover your mouse over the “WORKSPACE” list item in the explorer and click the “New File” Icon.
- Type “hello_world.py” as the new file name and press enter



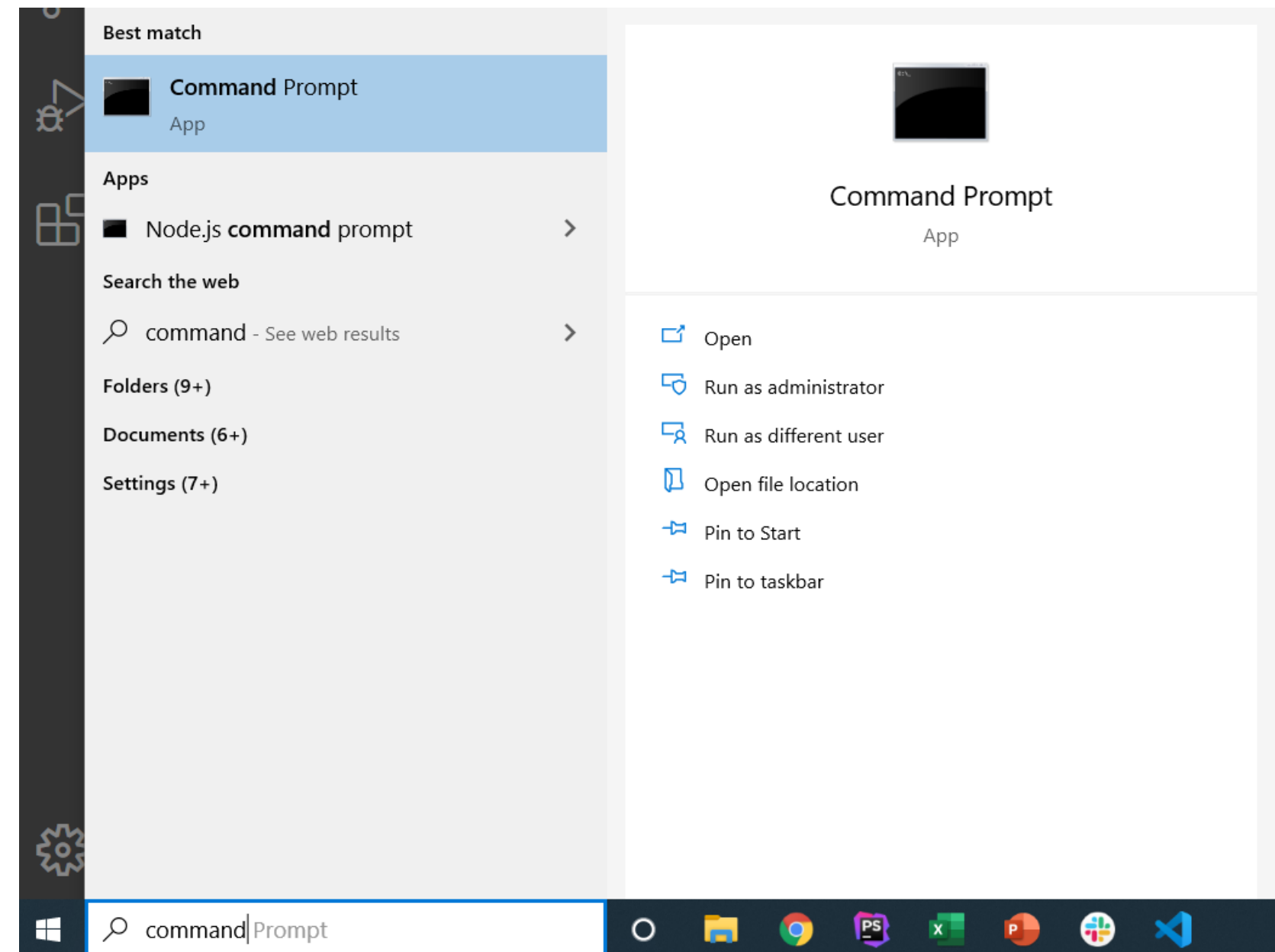
First Python Program: “Hello World!”

- Your file should open as a tab in Visual Studio Code.
- TYPE (do not copy and paste) the line below as line 1 in hello_world.py:
 - `print(“Hello World!”)`
- Save the file: Click file on the top navbar, select “Save”



First Python Program: “Hello World!”

- To run the program we will use our Terminal/Command prompt.
- Terminal/Command prompt allows us to write commands directly to our computer as opposed to using the graphical user interface.
- Example: To create a new directory earlier you probably used your mouse, clicked on your desktop, selected “New Folder”, entered a name, and pressed enter. The same thing can be done with one command in the terminal: “mkdir workspace”
- In MacOS: Search for “terminal” app
- In Windows: Search for “command prompt”



First Python Program: “Hello World!”

- Terminal Commands We Will Use:
 - “**cd**” – Change Directory. Requires “cd” followed by a space, followed by the directory name to change to
 - Example: “**cd Desktop**”
 - Example: “**cd ..**” The “dot dot” here is a special case that says “go up one directory”
 - “**mkdir**” – Make Directory. Requires “mkdir” followed by a space, followed by the directory name create
 - Example: “**mkdir workspace**”
 - Example: “**mkdir python**”
 - “**dir**” (“**ls**” in MacOS) – List the contents of the directory. Does not require anything following the command.
 - “**python**” – Python command (requires Python executable to be on your PATH, remember when we clicked “Add Python 3.8 To Path”?)
 - Has many different commands you can use with python.
 - We will use “python” followed by a space, followed by our file name.
 - Example: “**python hello_world.py**” – **Note: This assumes your terminal/command prompt is already in the directory “hello_world.py” is saved in. You have to “cd” (change directory) to it BEFORE running the python command!**

First Python Program: “Hello World!”

- Lets do it!
 - Note: this assumes you saved “hello_world.py” in Desktop/workspace/python
 - “cd” to your desktop: ex “**cd Desktop**”
 - Then “cd” to your workspace: ex “**cd workspace**”
 - The above two lines can be combined into one command: “cd Desktop/workspace”
 - Then “**dir**” (“ls” MacOS) to list the contents of the directory. **Verify hello_world.py is listed!**
 - If it is not, the next command will not work. Find where you saved hello_world.py and “cd” to that directory.
 - Then “**python hello_world.py**” to run your program!

First Python Program: "Hello World!"


```
Command Prompt
C:\Users\jon>cd Desktop

C:\Users\jon\Desktop>cd workspace

C:\Users\jon\Desktop\workspace>dir
Volume in drive C has no label.
Volume Serial Number is 9A15-3664

Directory of C:\Users\jon\Desktop\workspace

04/02/2020  01:35 PM    <DIR>          .
04/02/2020  01:35 PM    <DIR>          ..
04/10/2019  07:24 PM    <DIR>          django
04/02/2020  01:40 PM                23 hello_world.py
04/02/2020  11:04 AM    <DIR>          python
               1 File(s)                23 bytes
               4 Dir(s)  548,814,913,536 bytes free

C:\Users\jon\Desktop\workspace>python hello_world.py
Hello World! 

C:\Users\jon\Desktop\workspace>
```

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