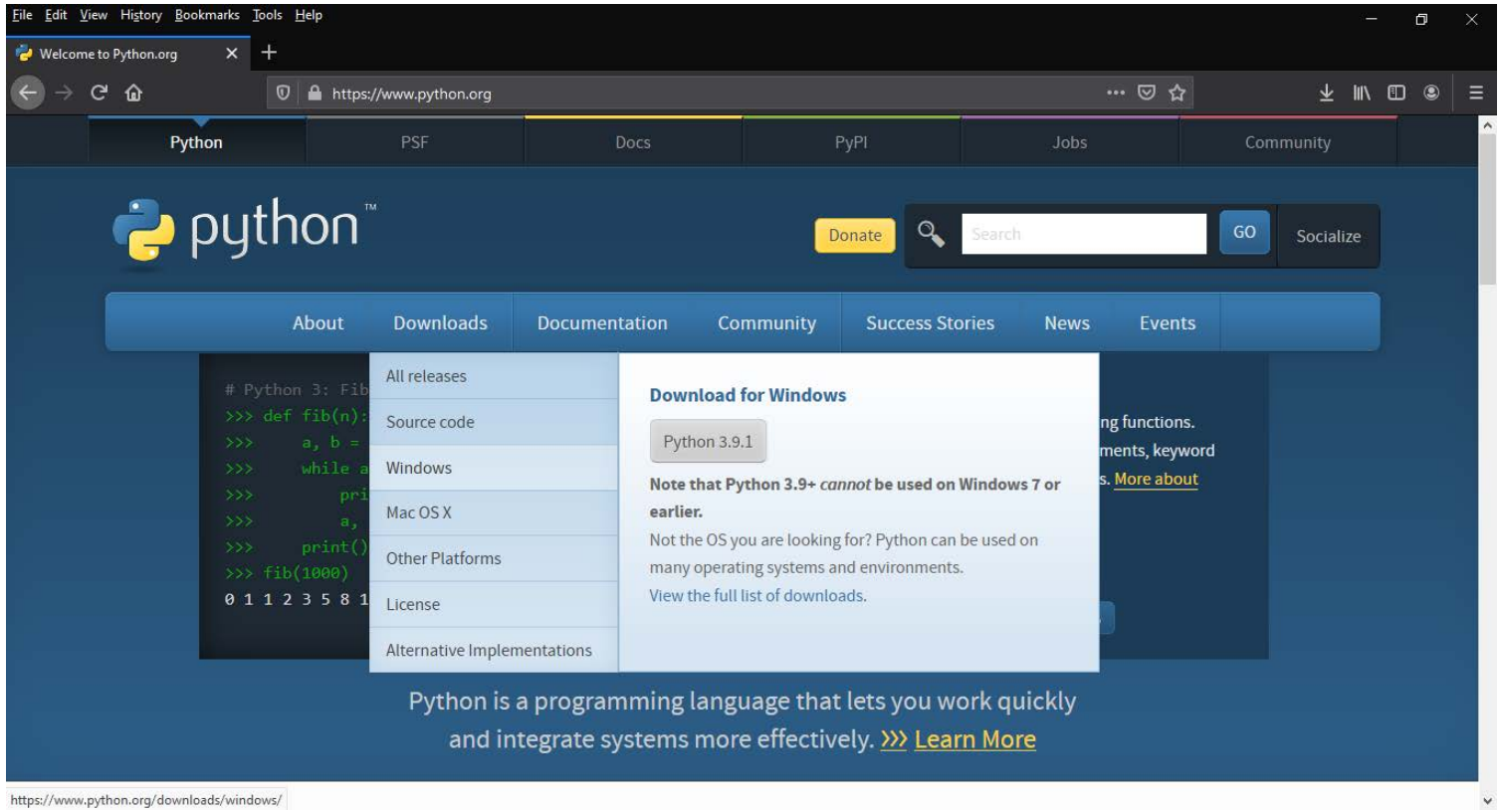
Session 1
Setting up

By: Fatemeh Saberi

Python
Set up

Go to https://www.python.org and click on *Downloads* tab, then select your operating system.

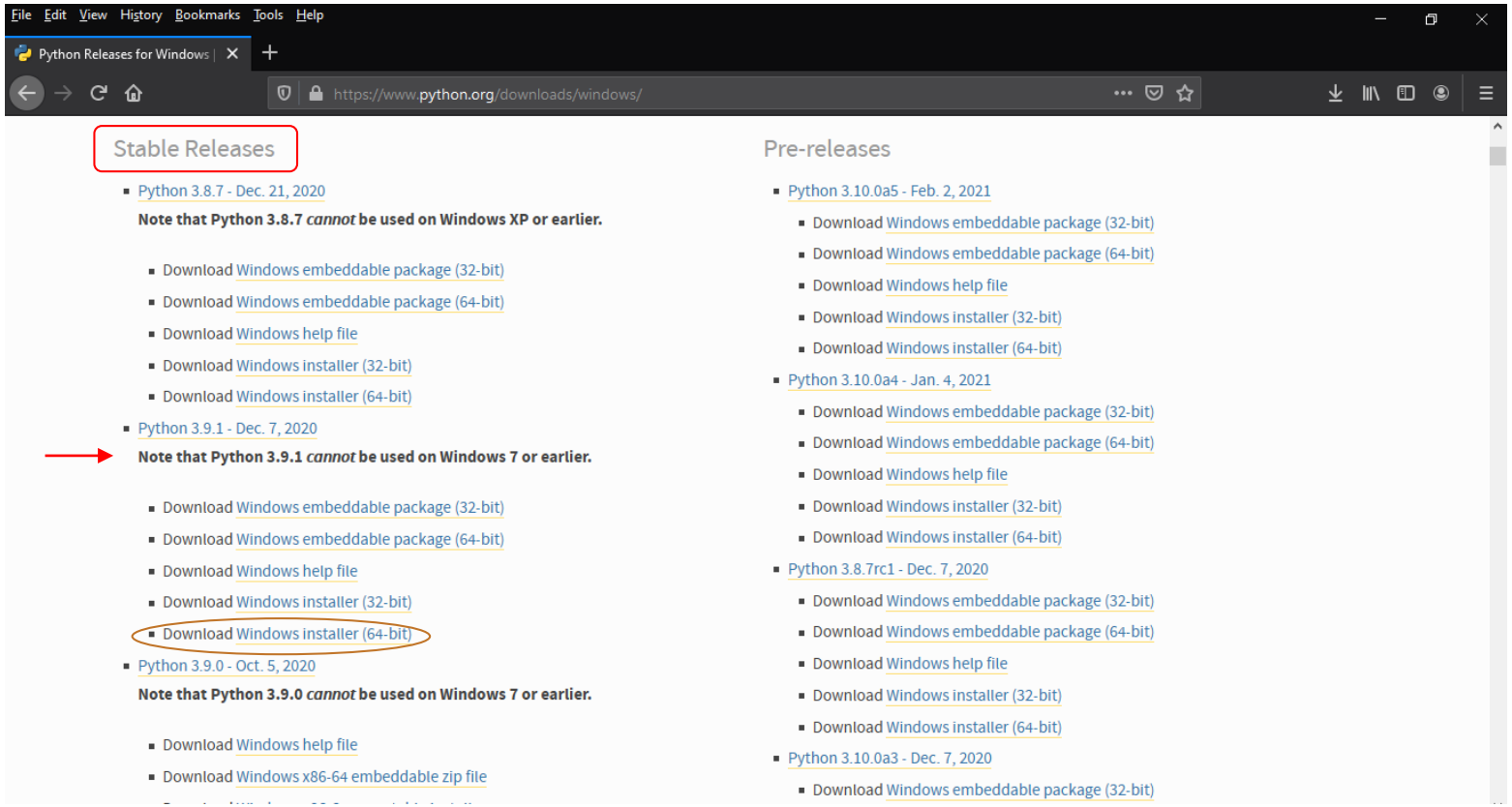
Ours will be *Windows*.



Python Set up

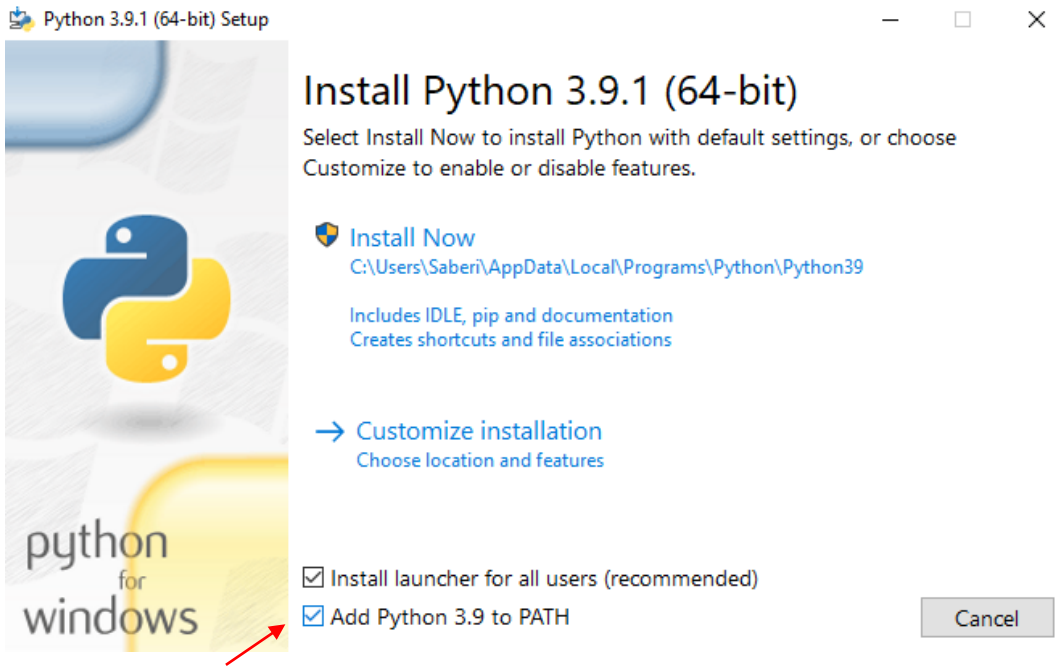
From the *Stable Releases*, download the latest version that is compatible with your System type.

Our System type is *64-bit*.



Python Set up

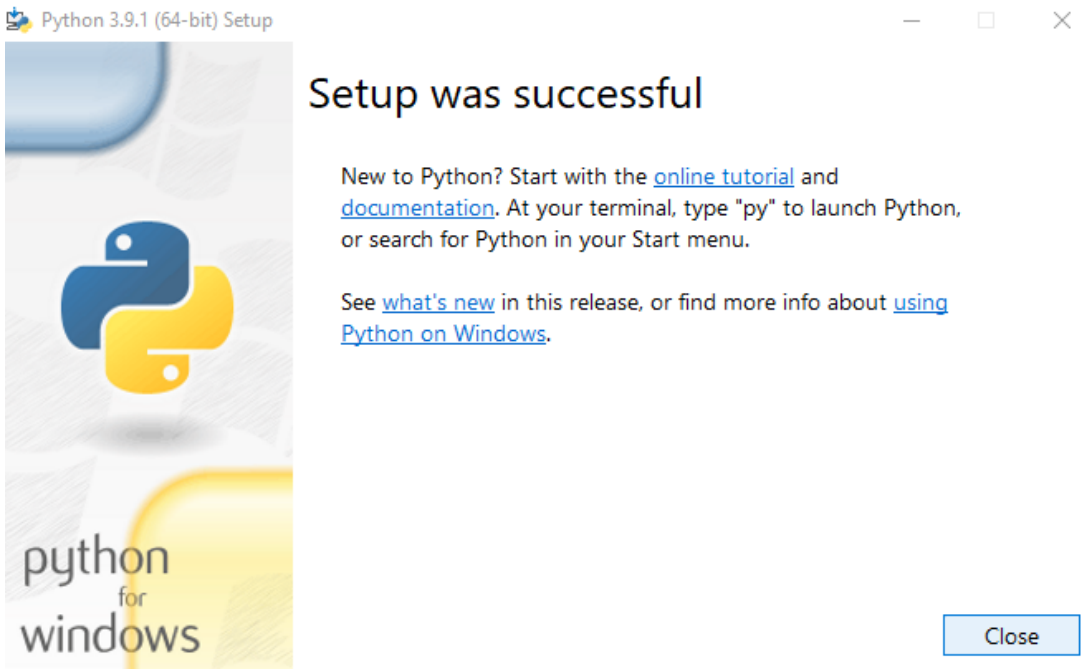
- Run the downloaded installer.
- Before hitting the *Install Now* option, make sure you check the *"Add python 3.9 to PATH"* box because if you don't do it, you will not be able to run Python on the command line.



Python
Set up

By now, you should be faced with something like the picture below.

Hit the close button.

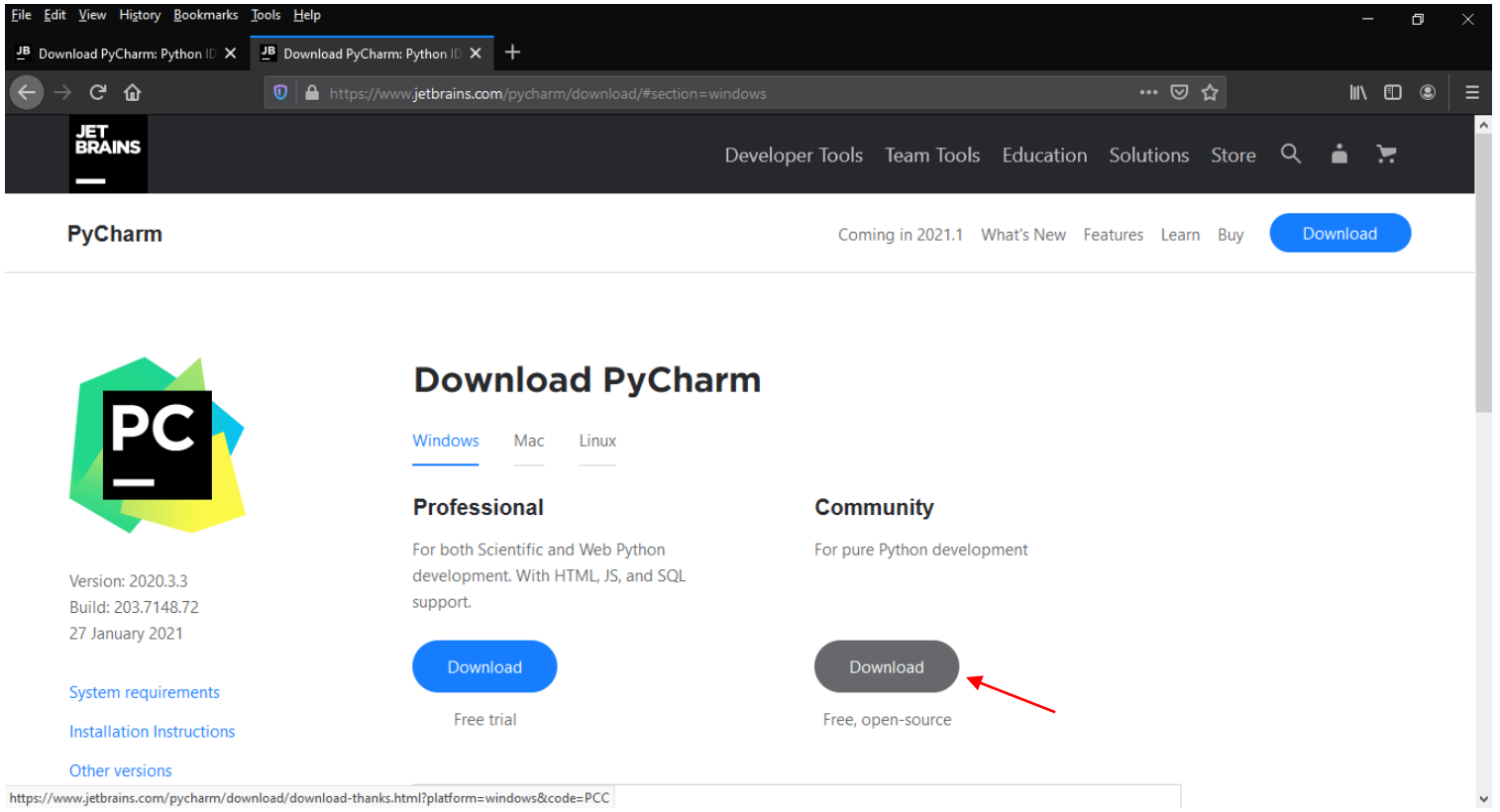


Various Integrated Development Environments (IDES)

Pycharm

Installing Pycharm

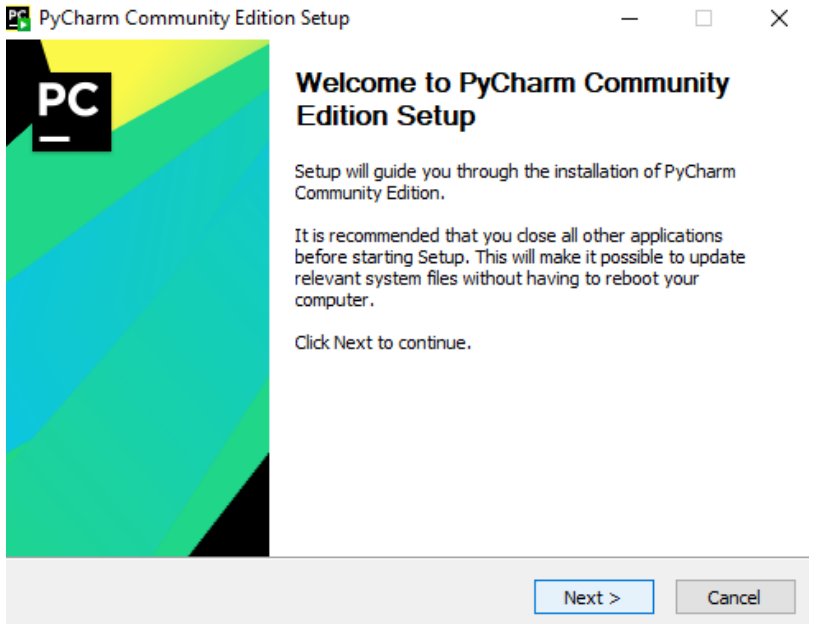
Go to https://www.jetbrains.com/pycharm/download/ and based on your operating system, download the *Community* version.



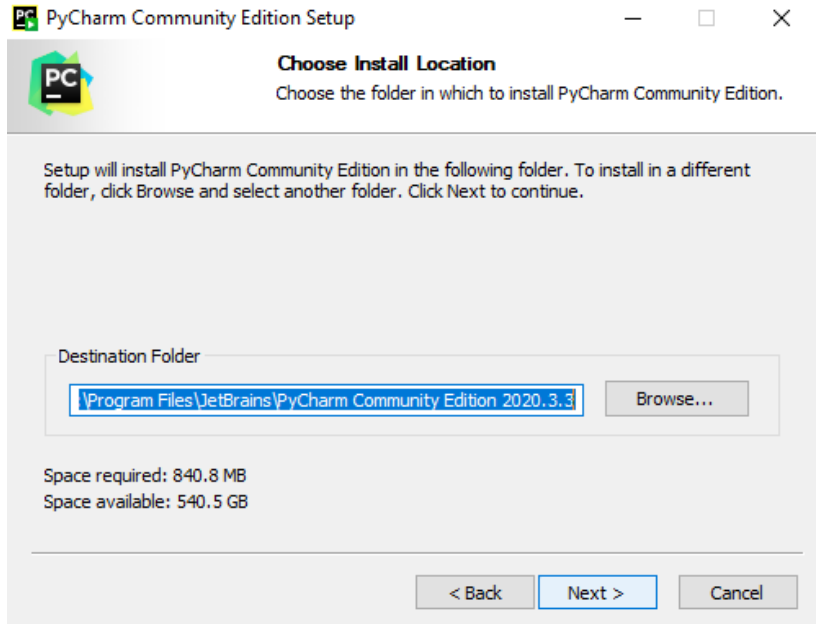
Installing Pycharm

After running the installer, click on *Next* for the following 2 steps.

1



2

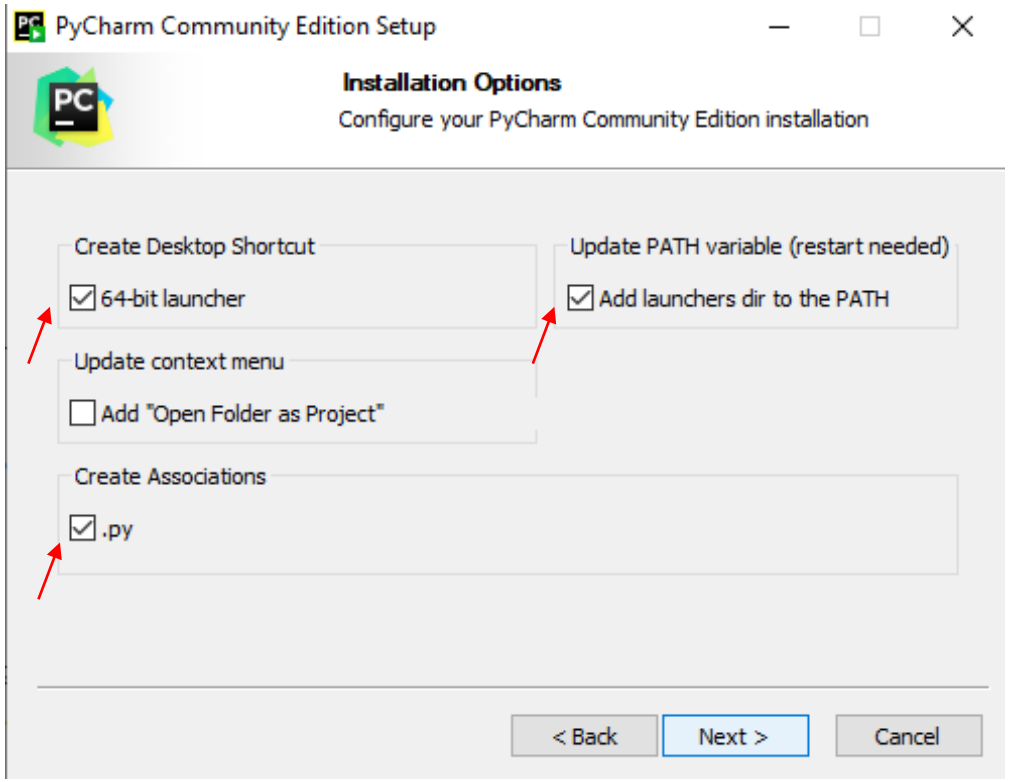


Installing Pycharm

Please make sure to check all the selected boxes in the process,

Then hit the *Next* button.

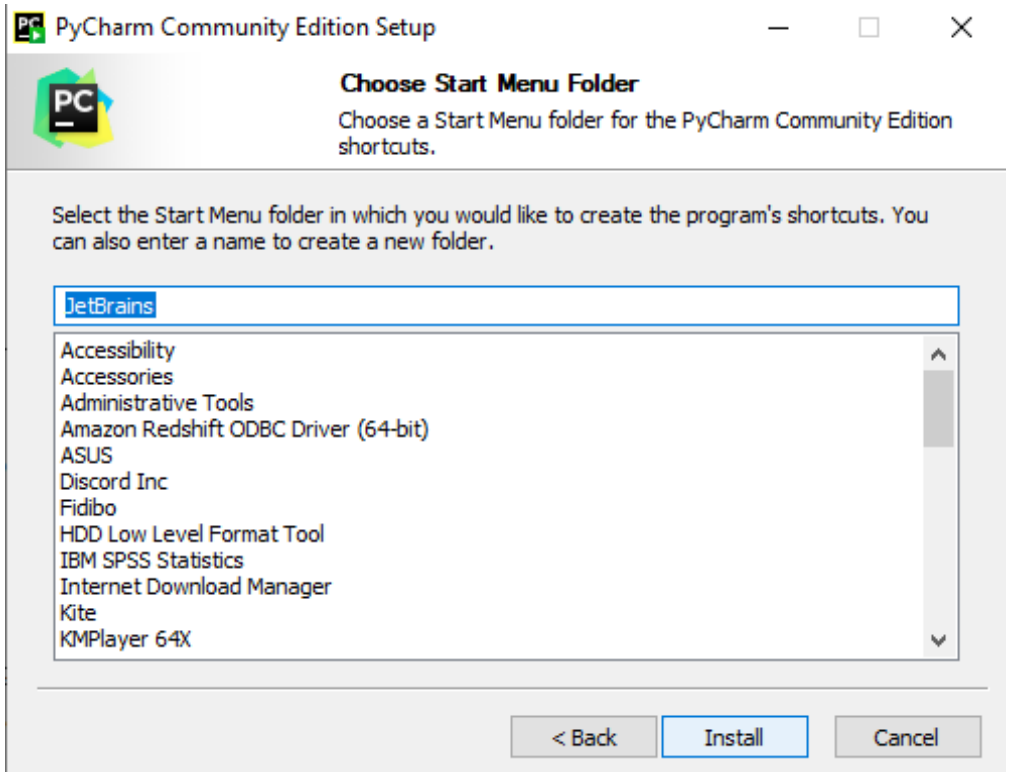
3



Installing Pycharm

Click on the *Install* button.

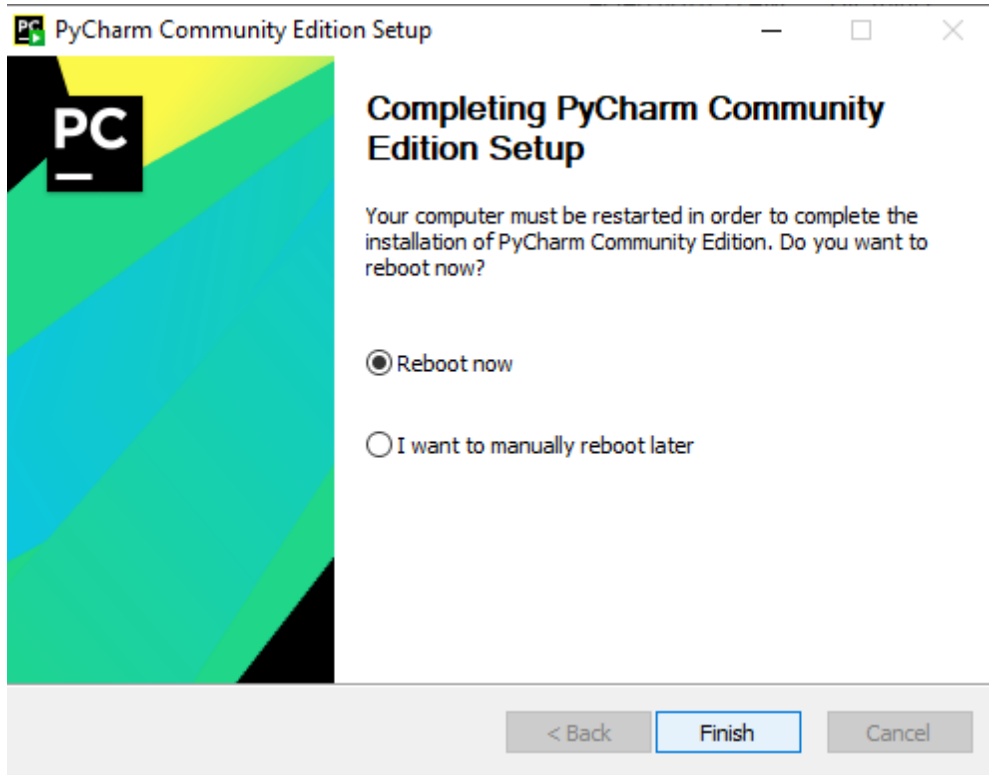
4



Installing Pycharm

If you want to run Pycharm right away, select *Reboot now*. Before clicking on the *Finish* button, please make sure you do not have any unsaved process on your system.

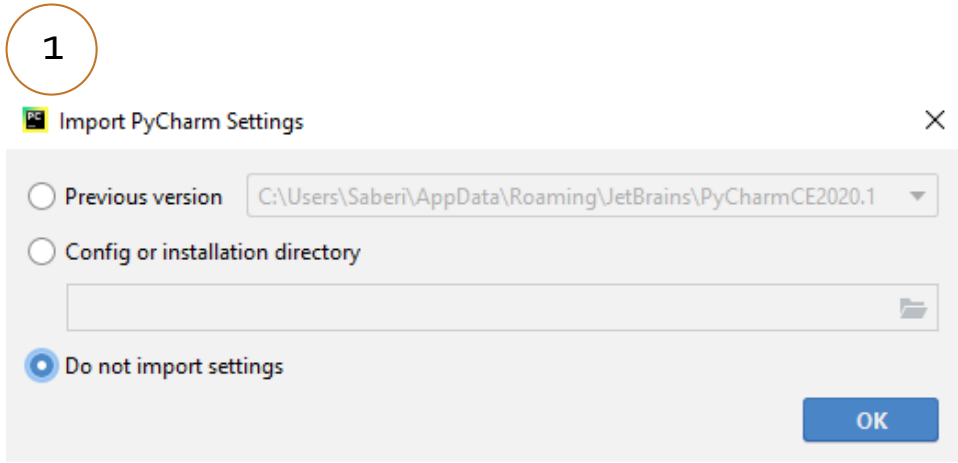
5



Hands on Pycharm

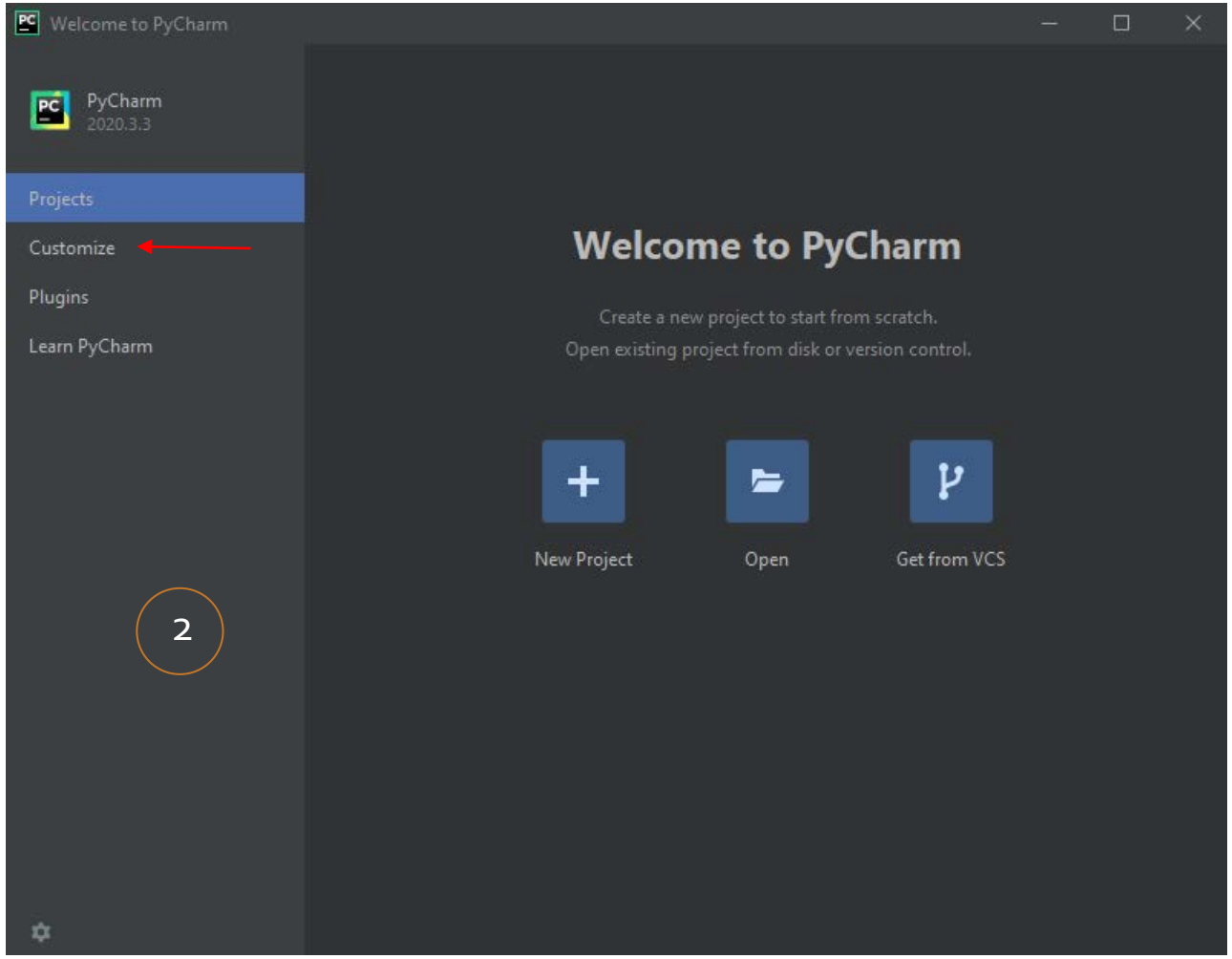
After running Pycharm for the first time, you will encounter the message below.

Select the *"Do not import settings"* option, then click on the *OK* button.



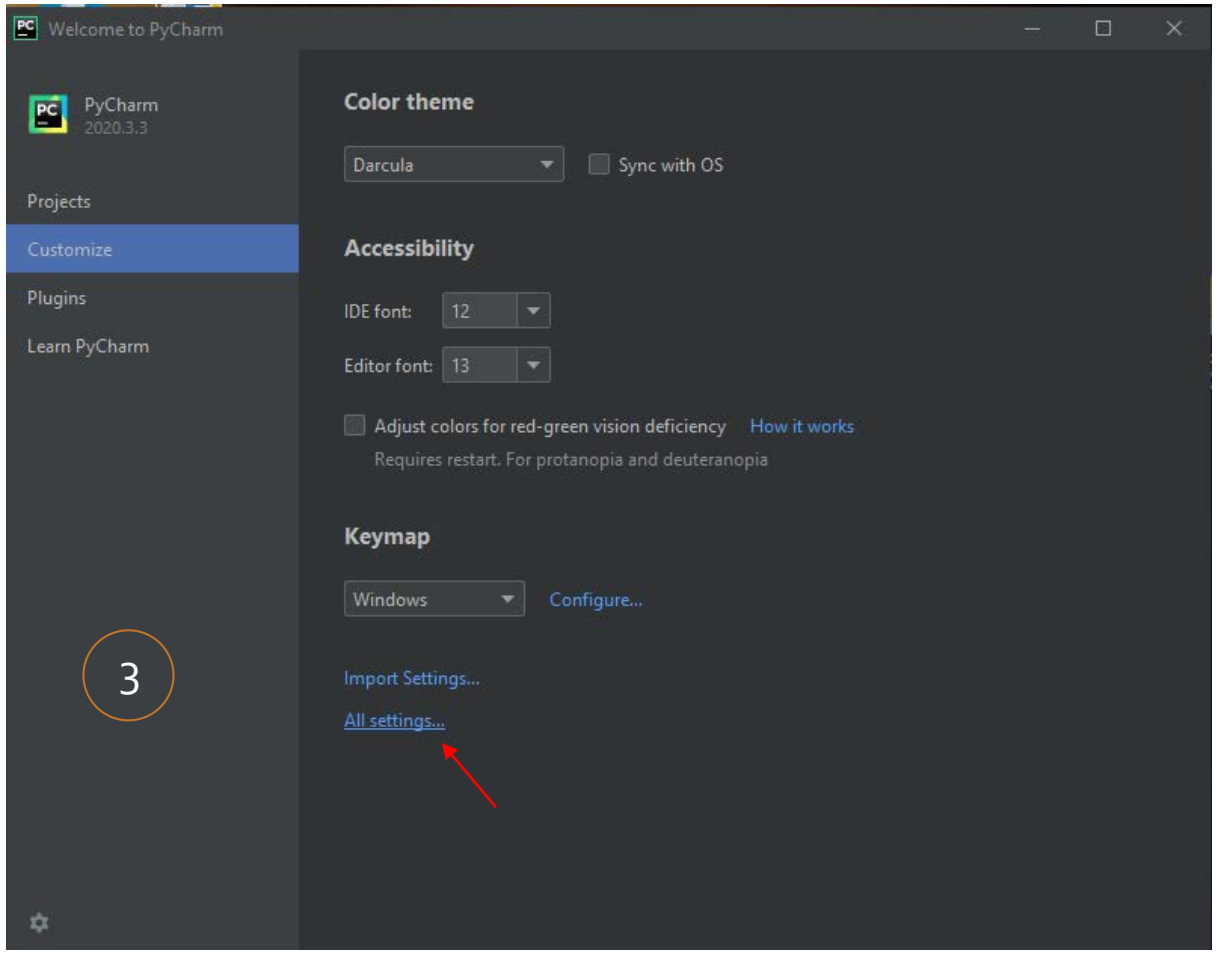
Hands on Pycharm

On the following page, click on the *Customize* tab.



Hands on Pycharm

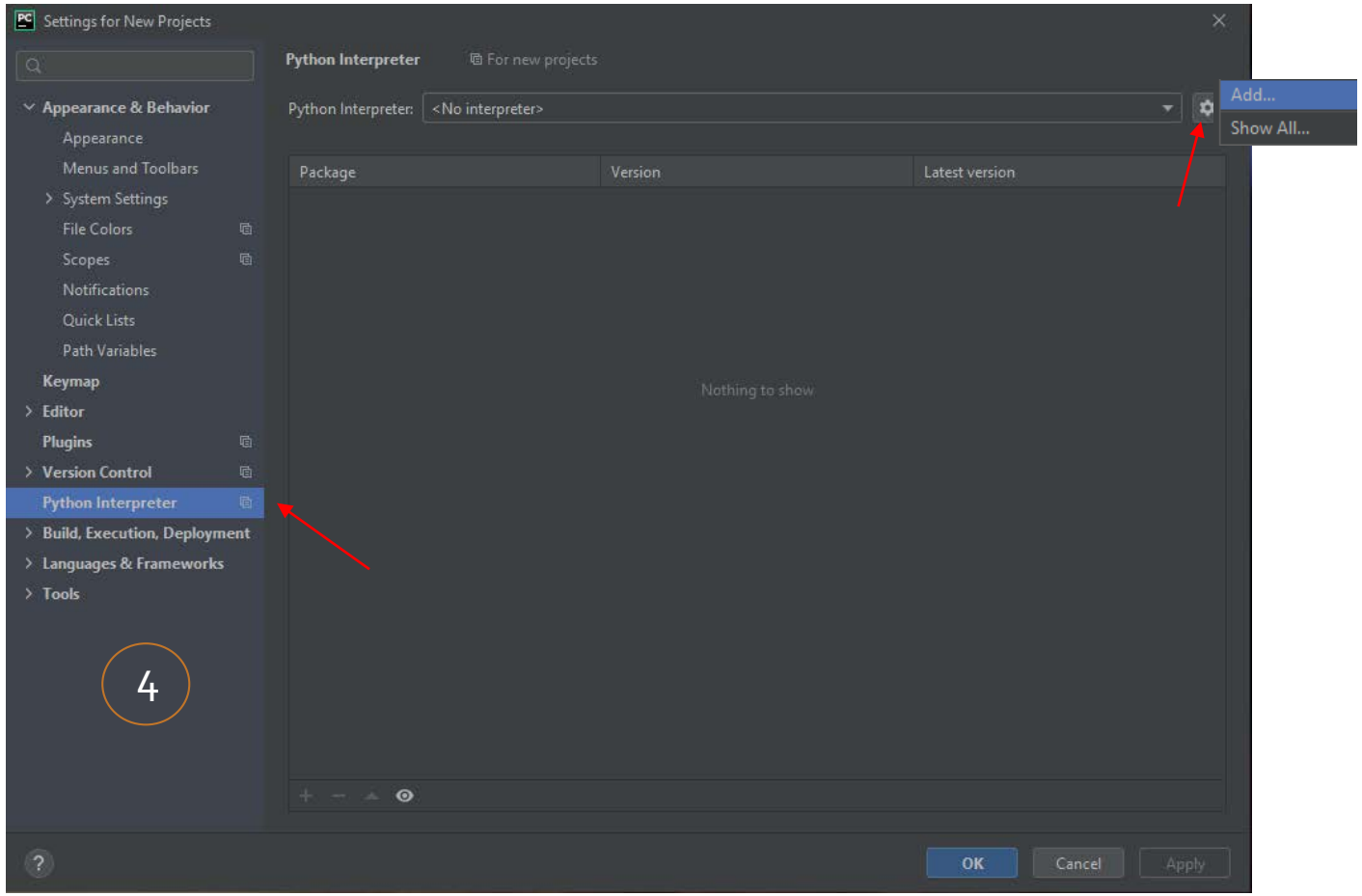
Click on the "*All settings*" option.



Hands on Pycharm

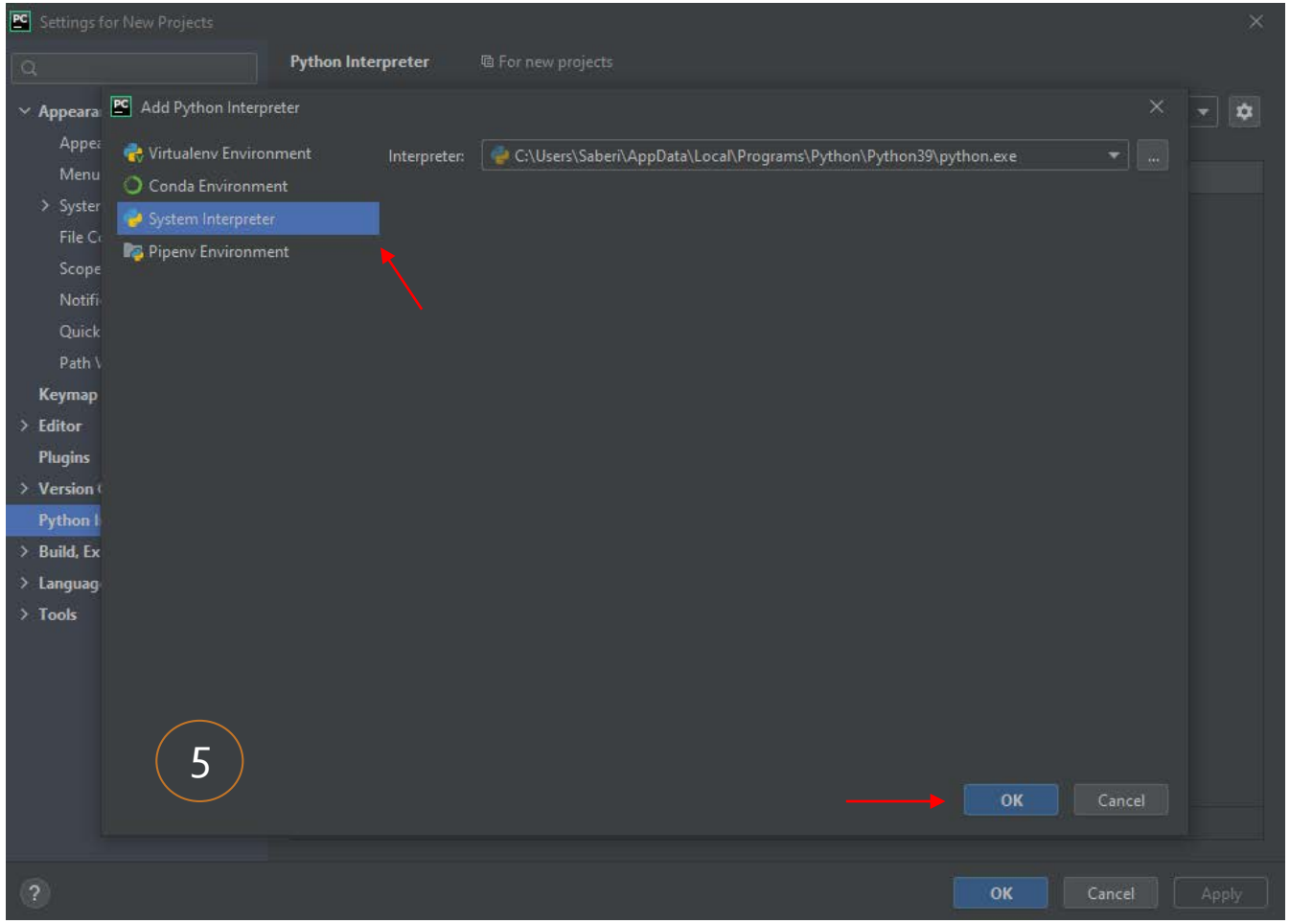
Select *Python Interpreter* from the left bar, then hit the settings icon.

After that, click on the *Add…* option.



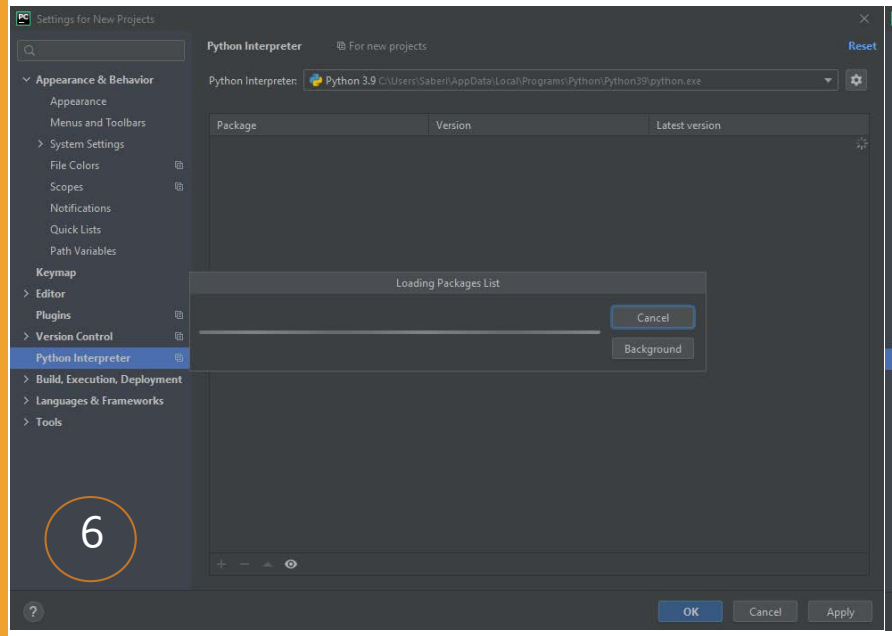
Hands on Pycharm

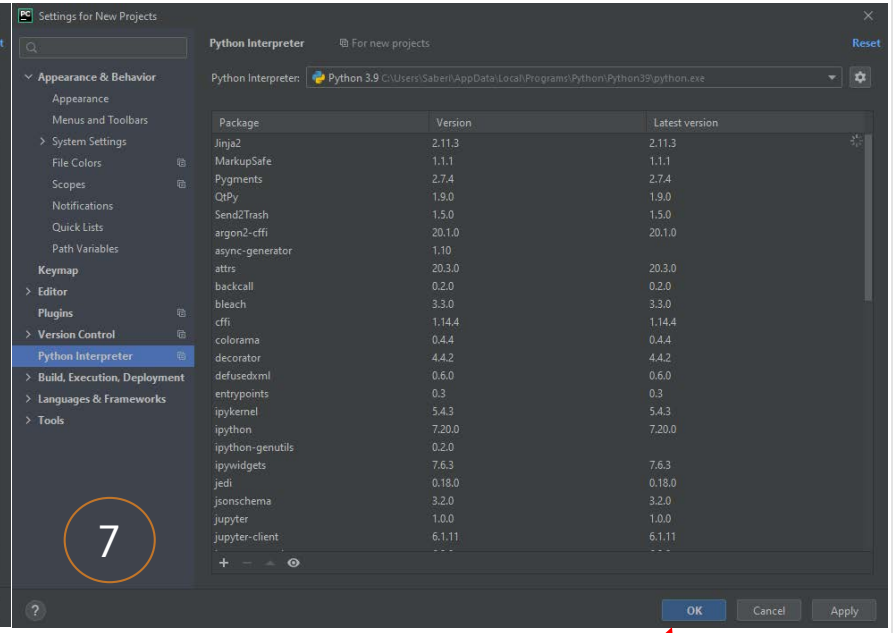
Select System Interpreter, then hit the *OK* button.



Hands on Pycharm

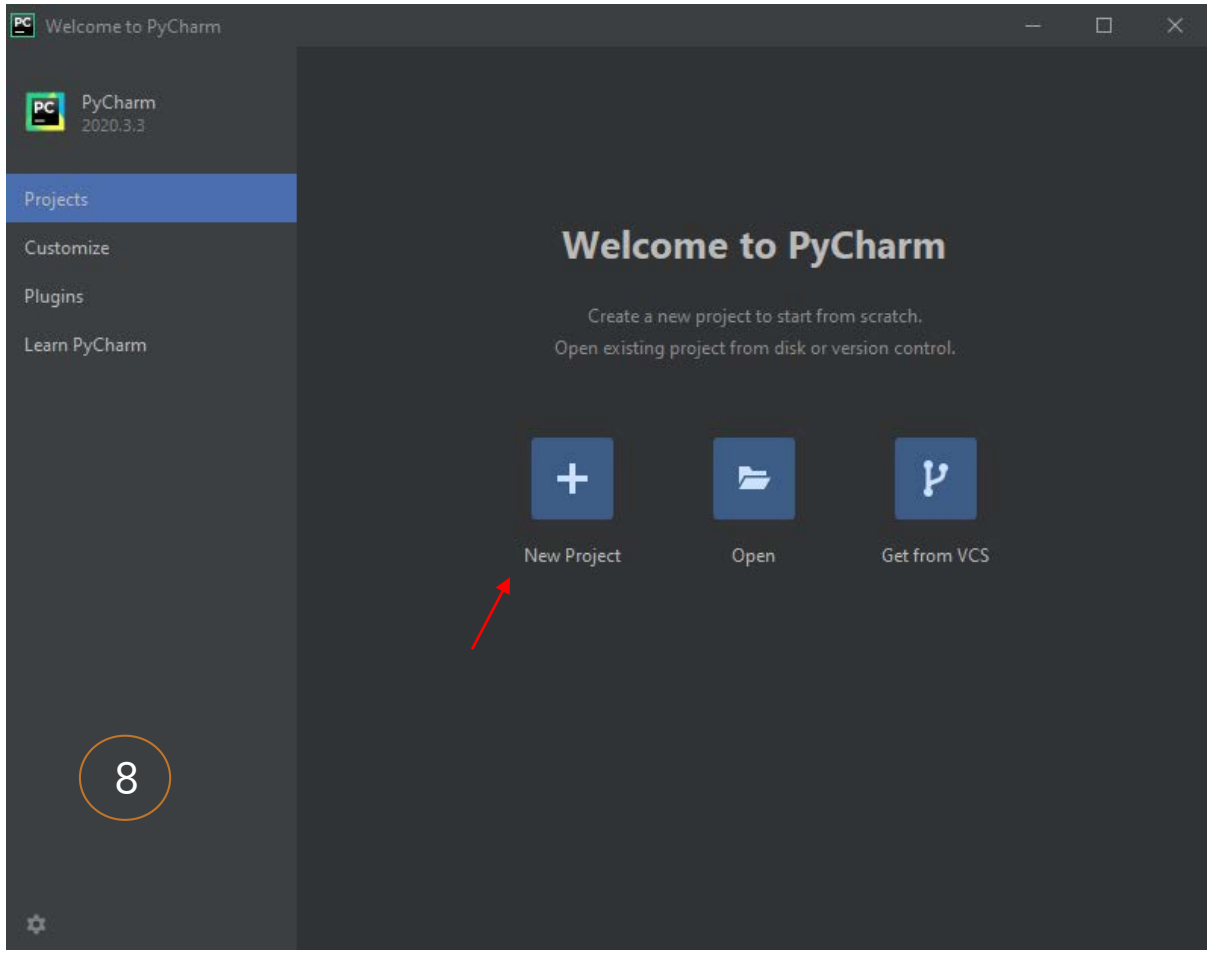
Let it be loaded, then click on *OK*.





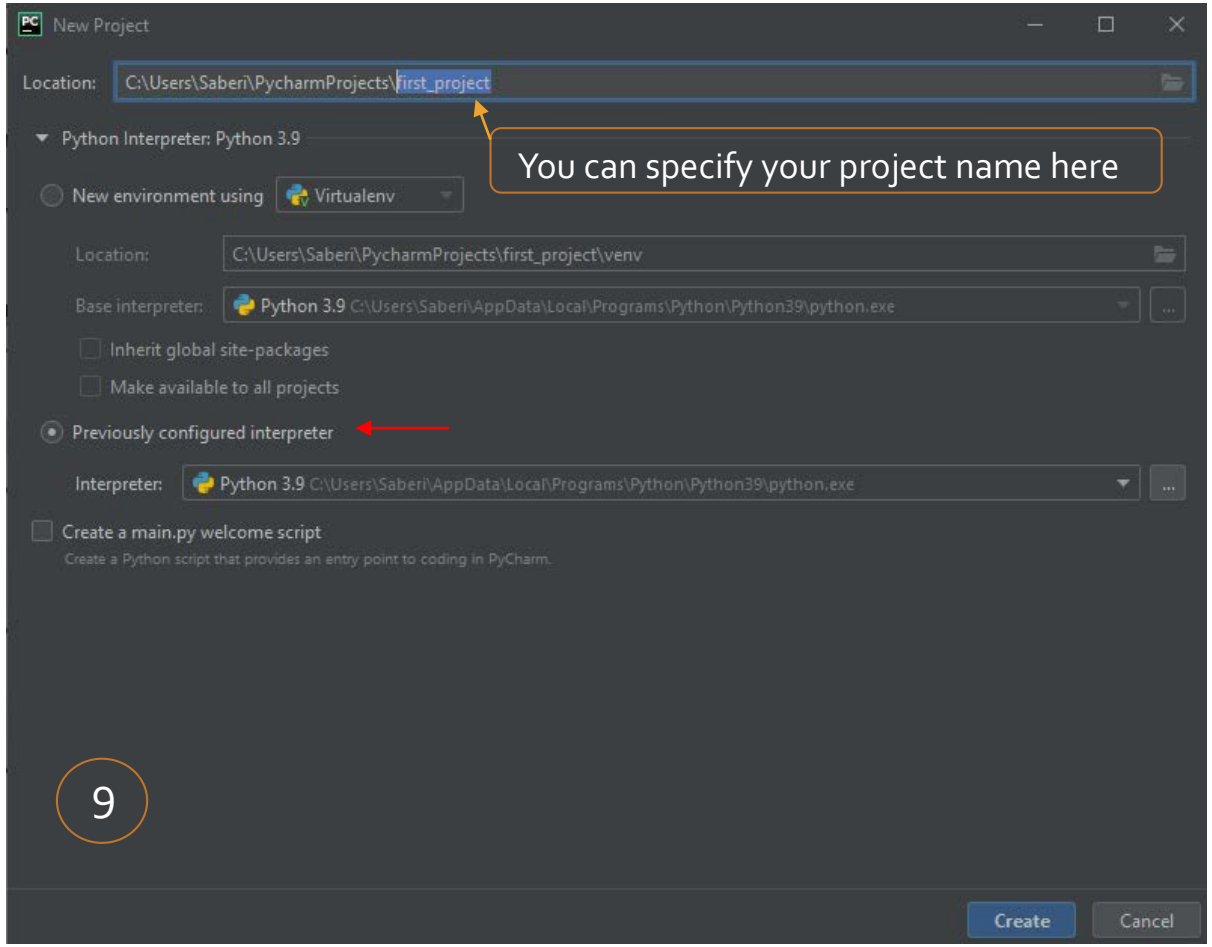
Hands on Pycharm

Go back to the Projects tab. To create your first Python file, click on the *New Project* icon.



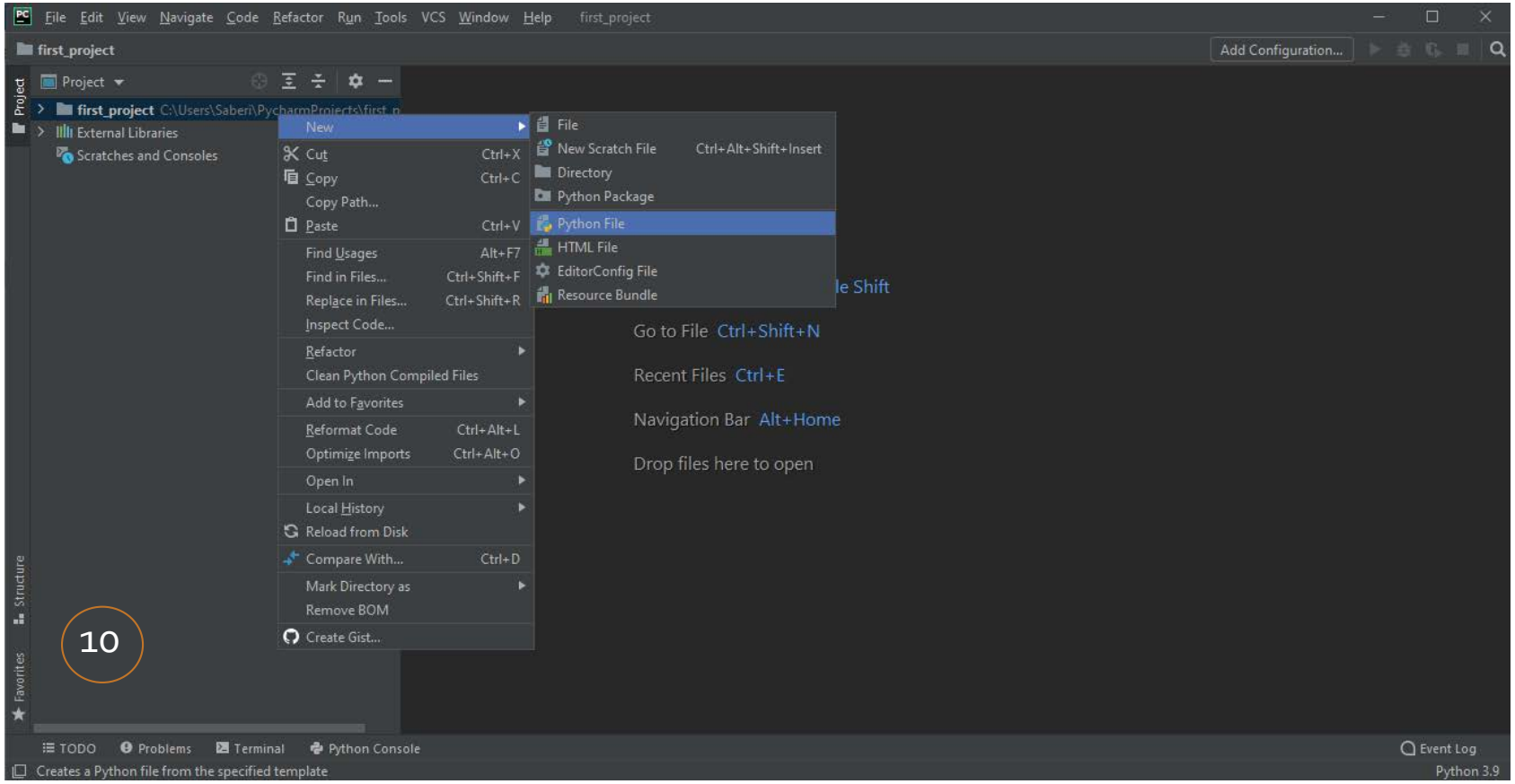
Hands on Pycharm

For the Python Interpreter section, select *Previously configured interpreter*, then click on the *Create* button.



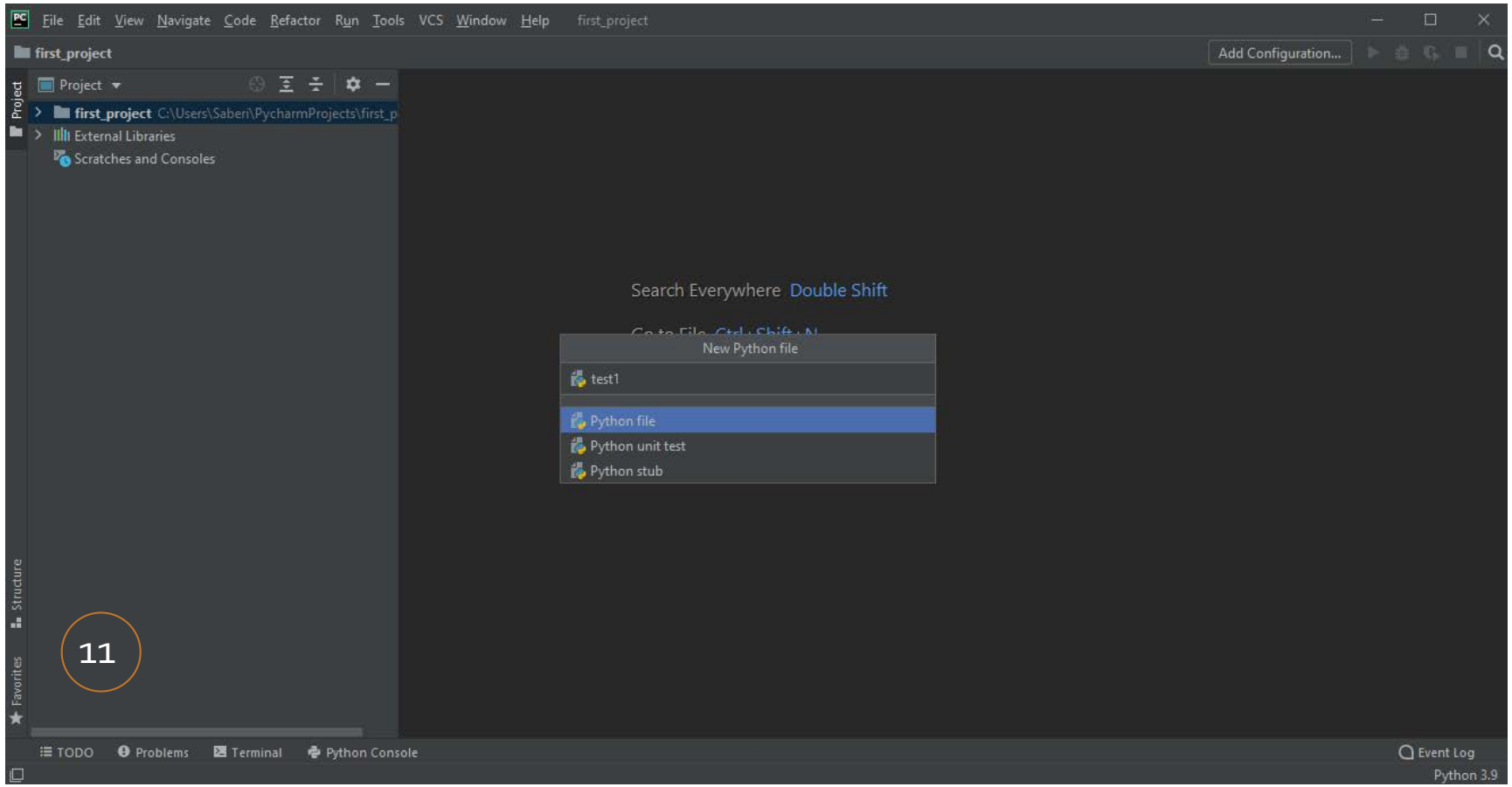
Hands on Pycharm

Right click on your project, then select New -> Python File



Hands on Pycharm

Specify a name for your file, ours will be test1

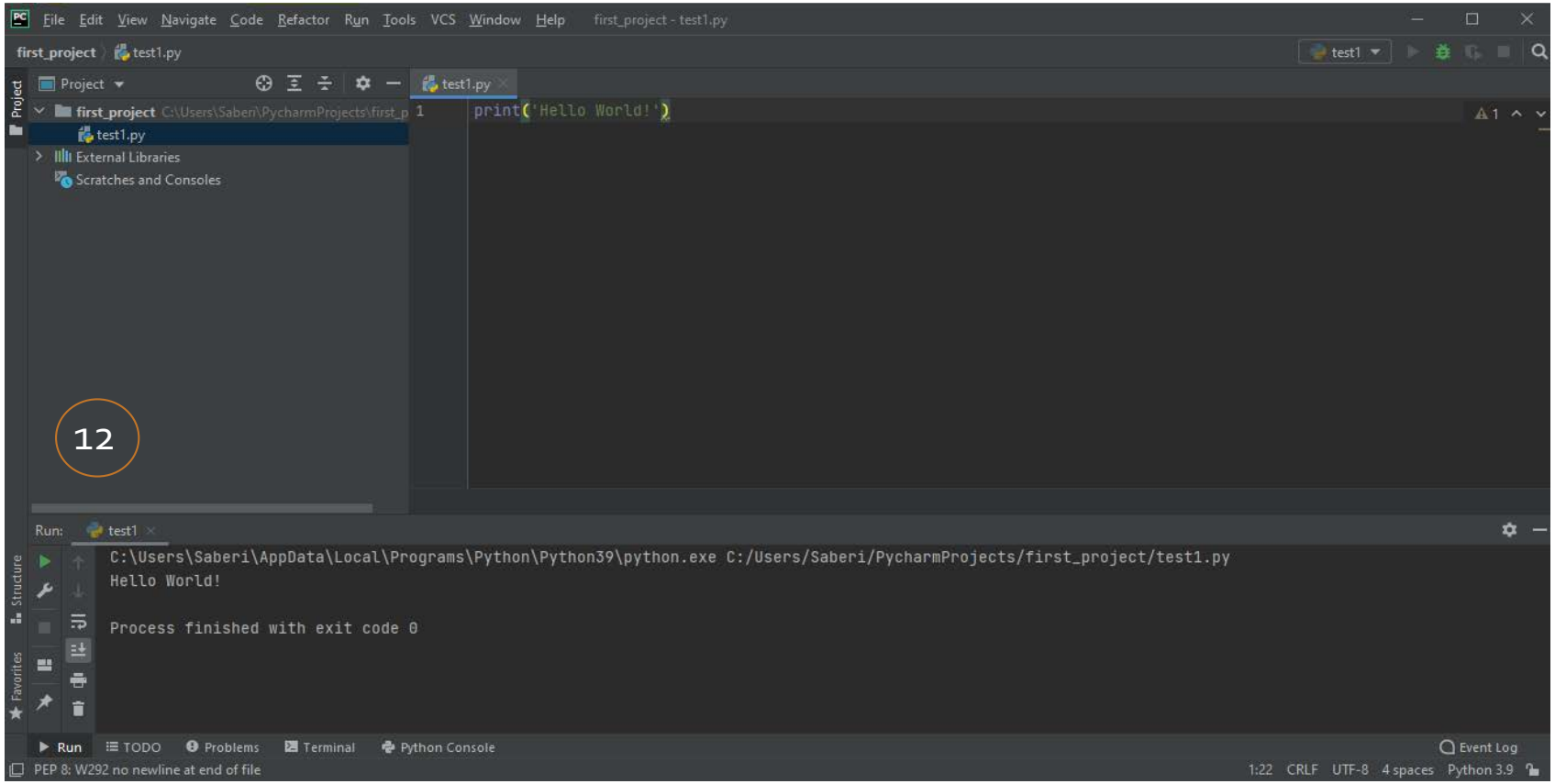


Hands on Pycharm

You are all Set!

Enjoy writing your first program.

To execute your code, press Crtl+Shift+F10.

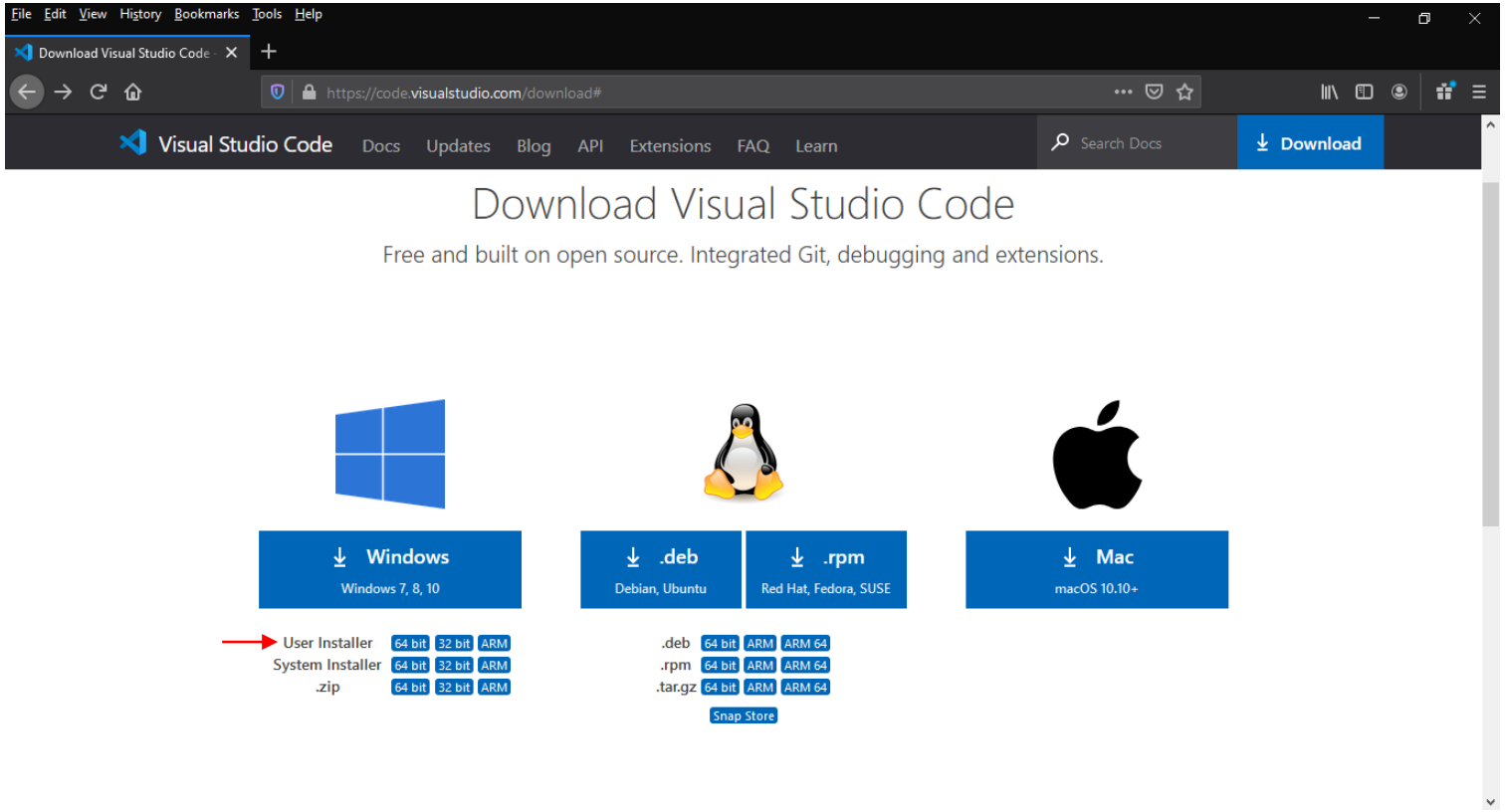


Visual Studio Code

Installing VS Code

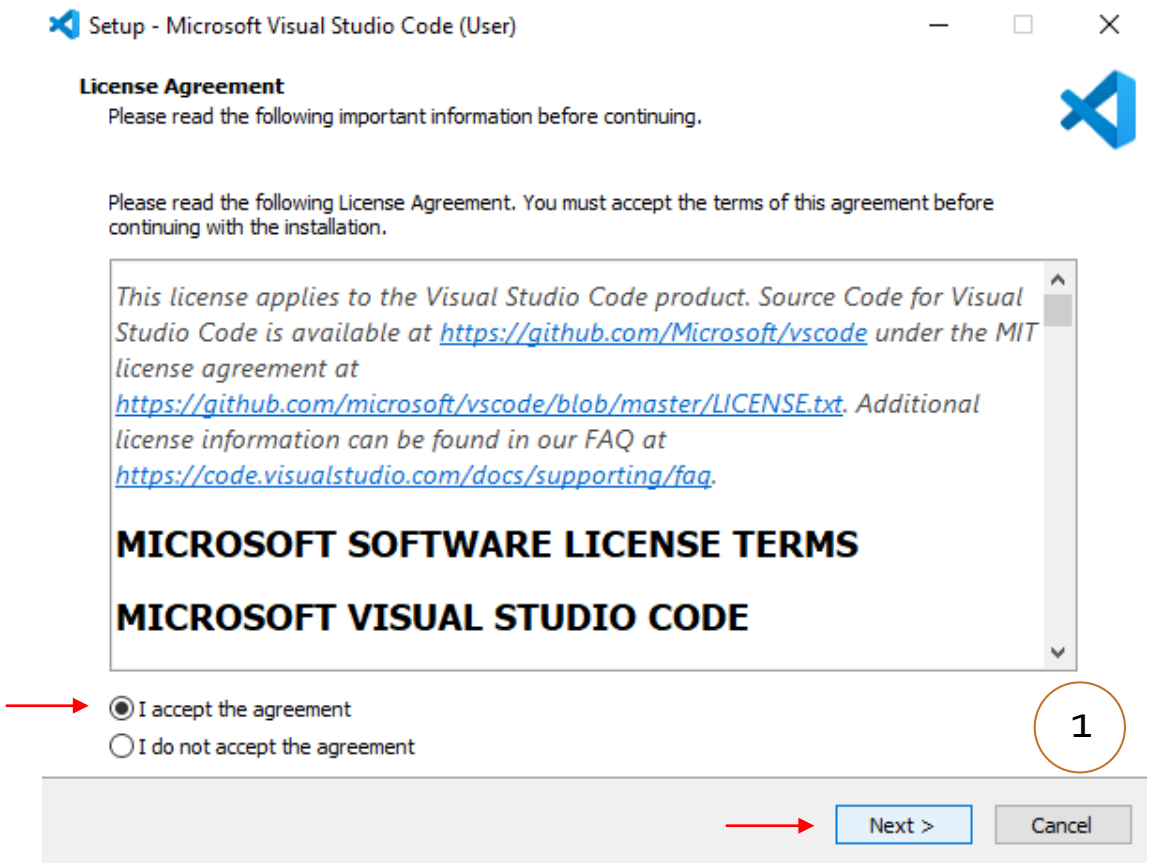
Go to https://code.visualstudio.com/download and based on your operating system and System type download VSC.

Ours is a 64-bit Windows, So we're gonna Download *64-bit User Installer*.



Installing VS Code

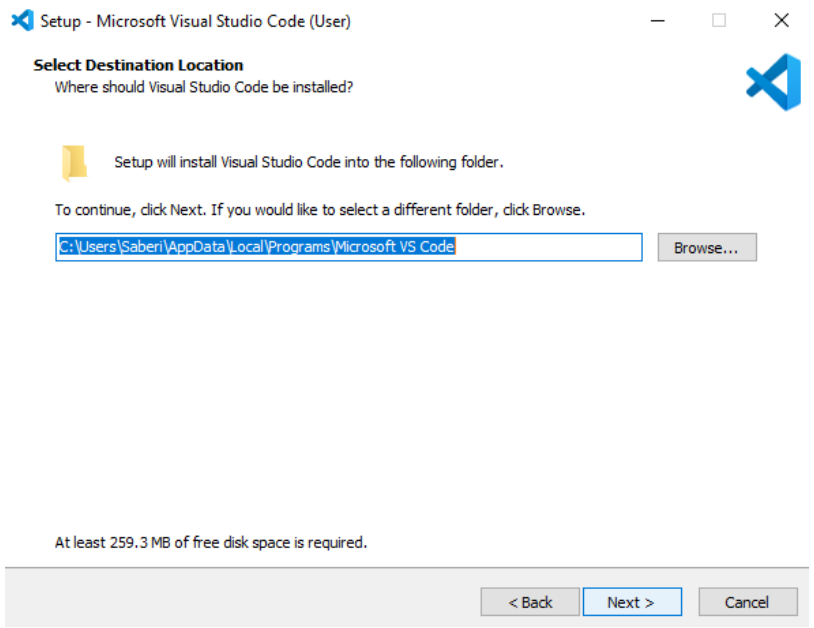
After running the installer, check the specified box, then click on the *Next* button.



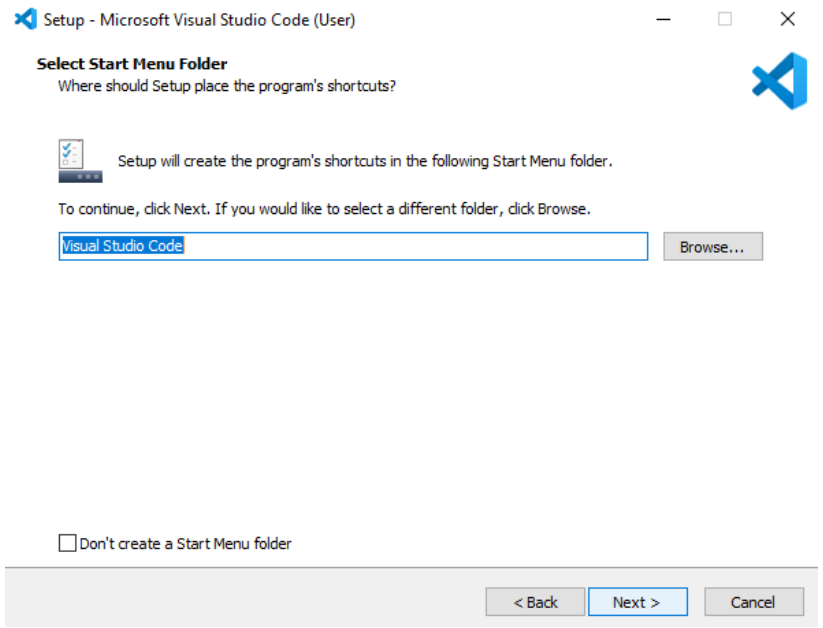
Installing VS Code

Click on *Next* for the following 2 steps.

2



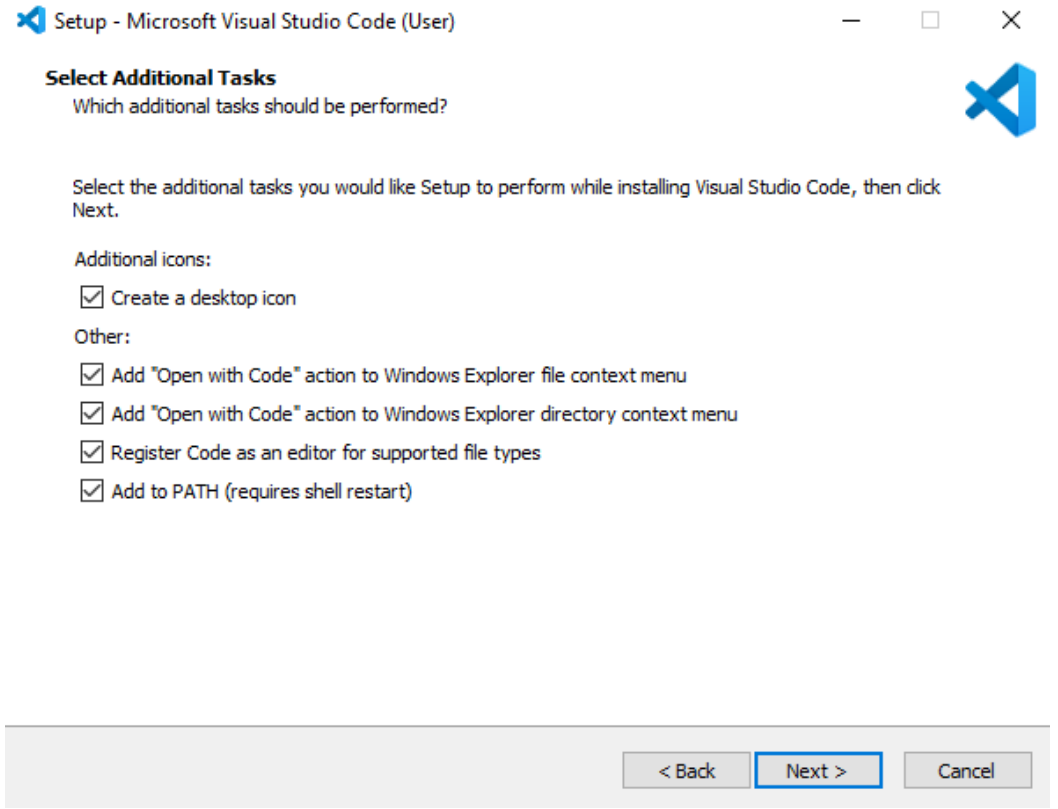
3



Installing VS Code

Check all the boxes, then click on *Next* button.

4

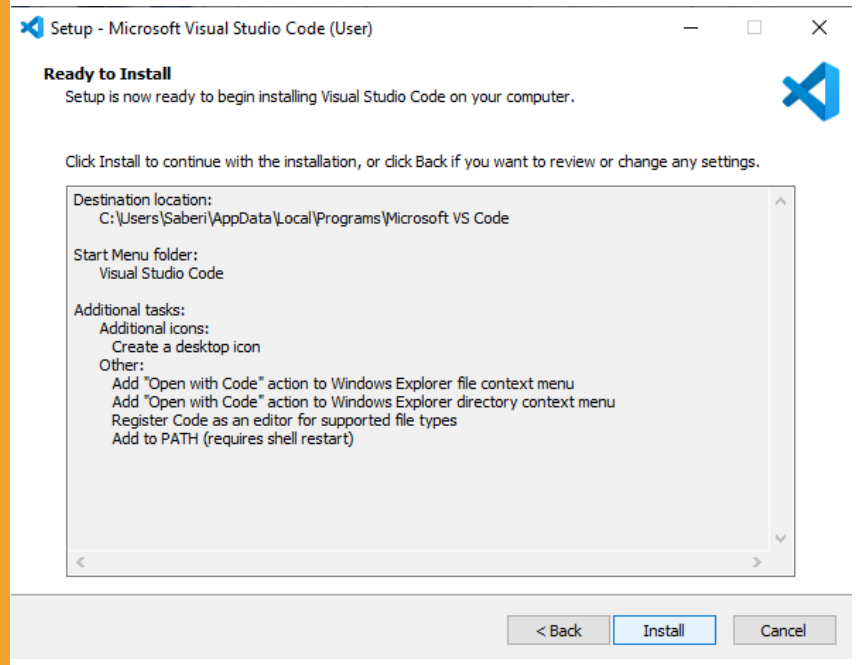


Installing VS Code

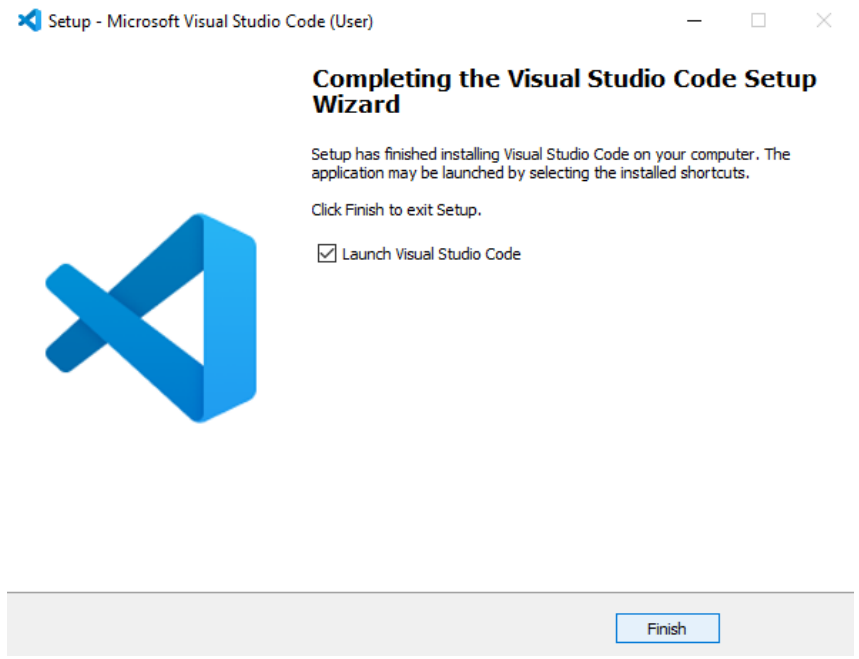
Click on *Install*.

At last hit the *Finish* button.

5

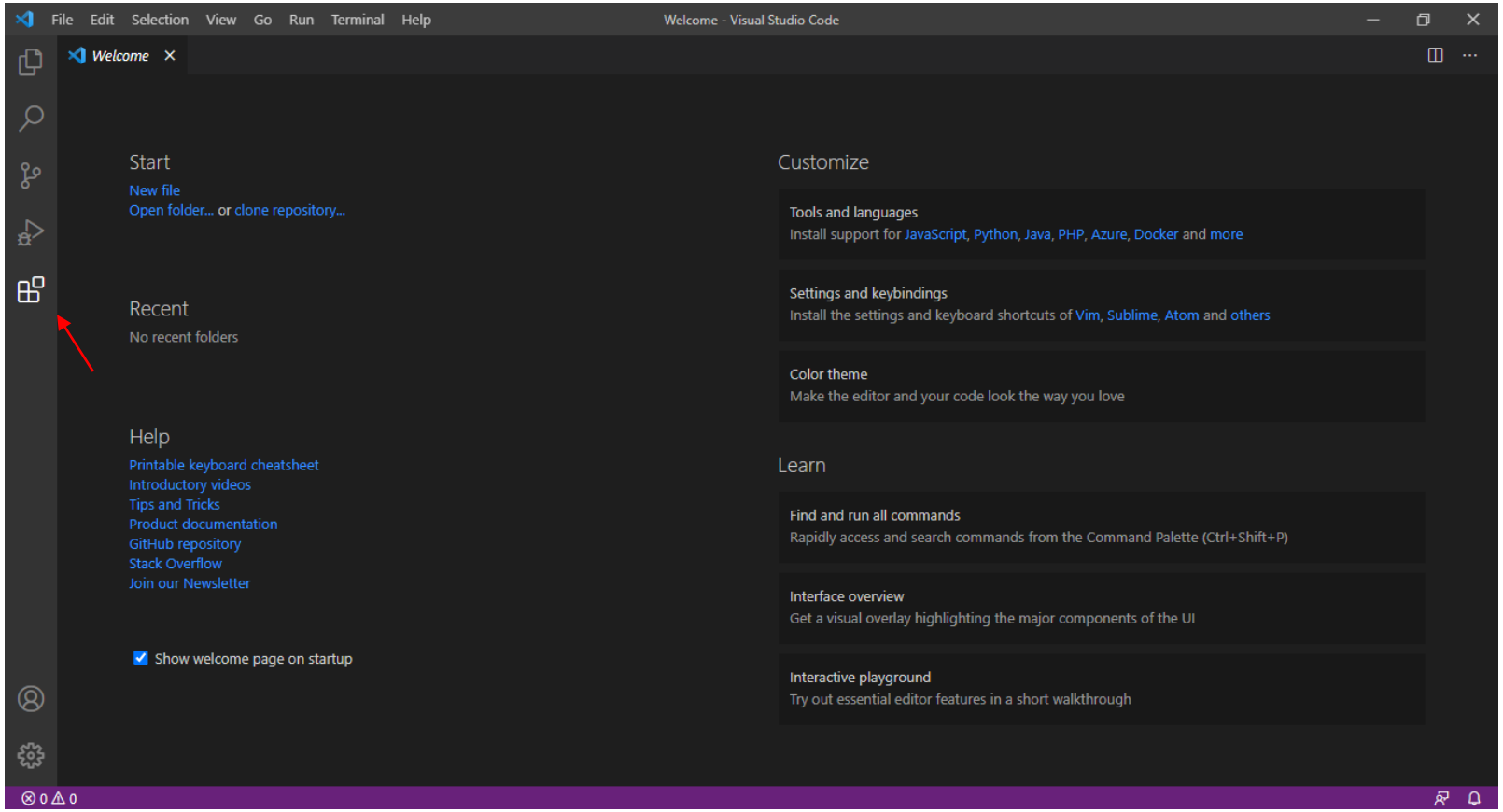


6



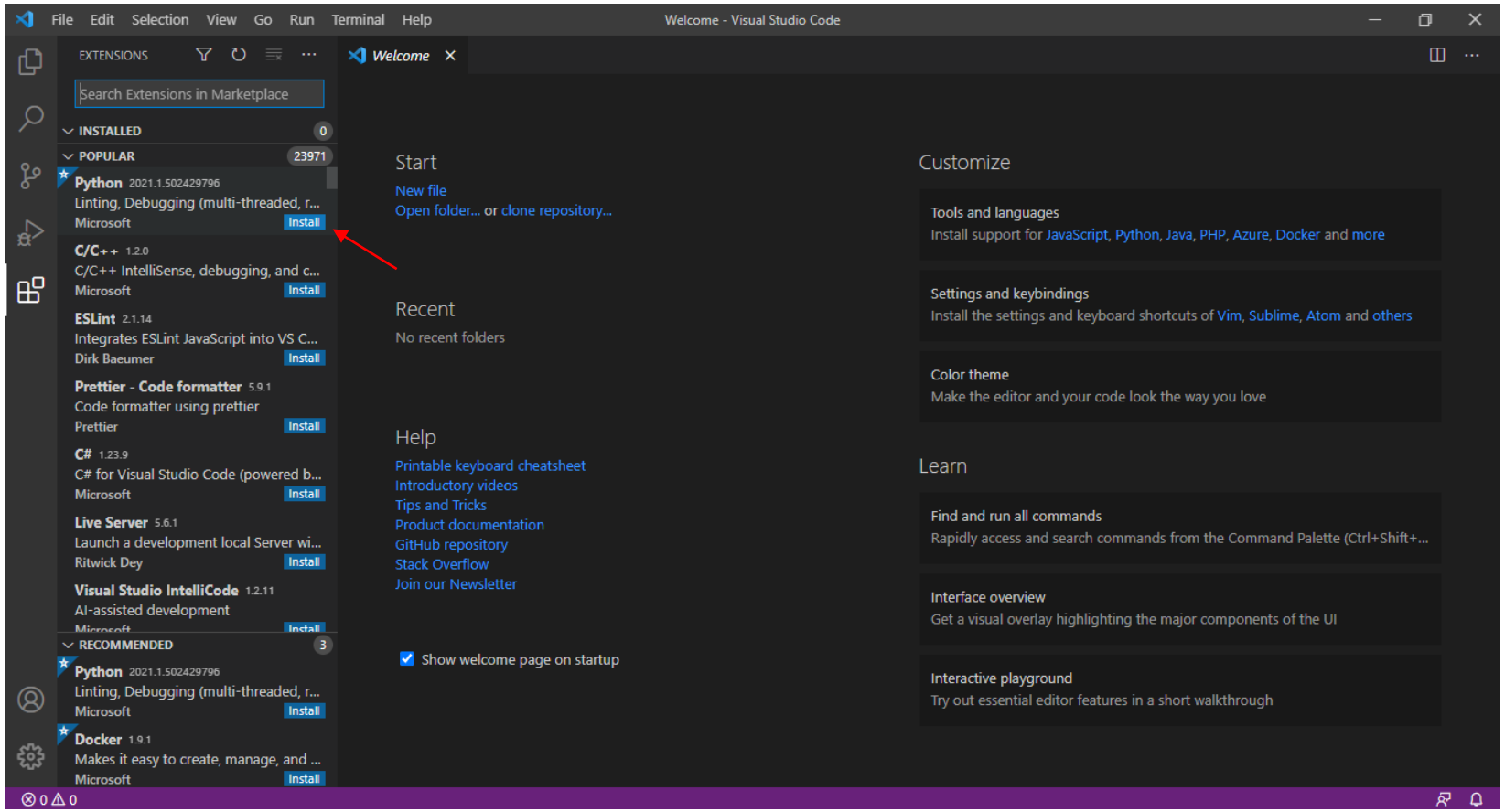
Hands on VS Code

After running VS Code, click on the Extensions icon.



Hands on VS Code

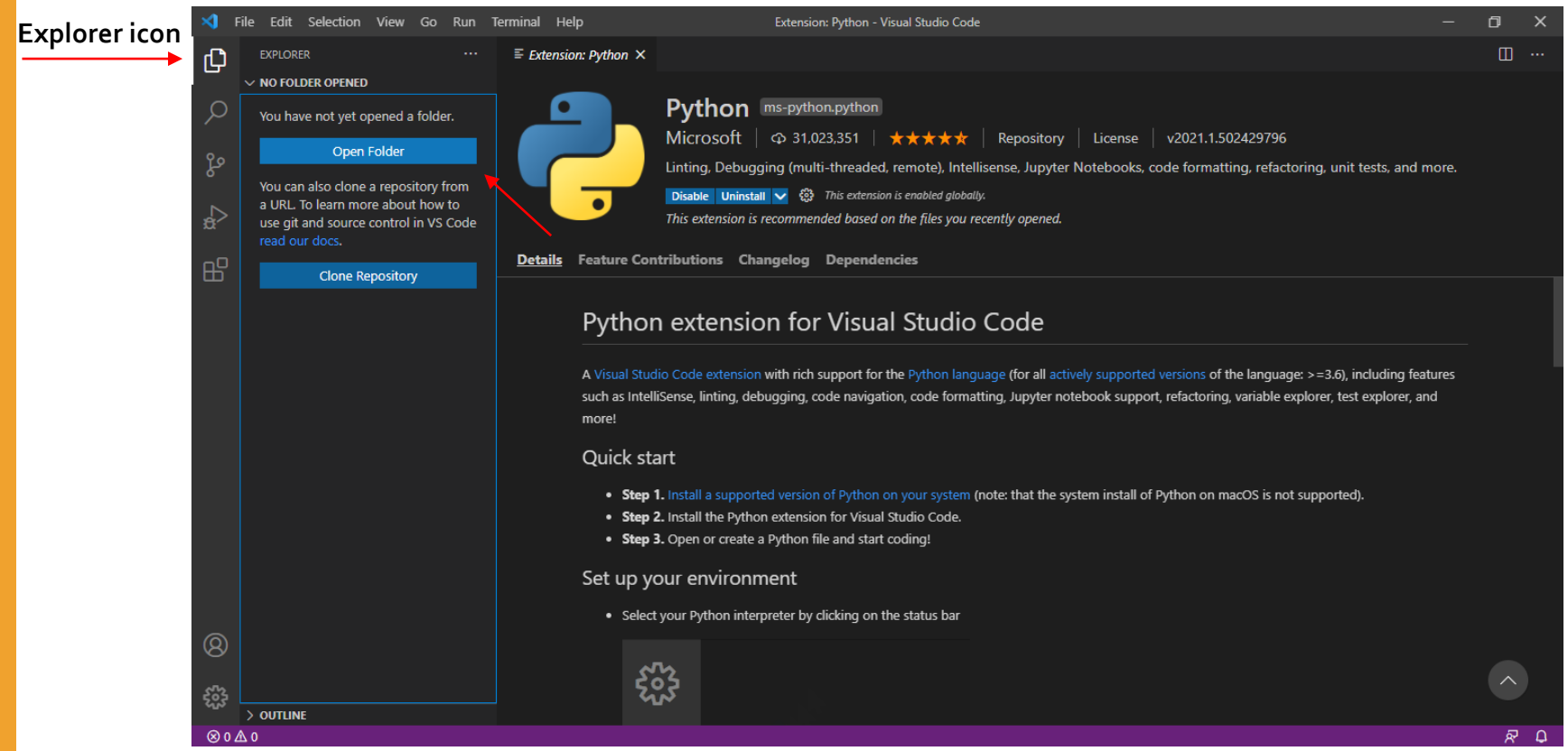
Hit the *Install* button for Python Extension.



Hands on VS Code

Click on Explorer Icon, then you'll be faced with something like picture below.

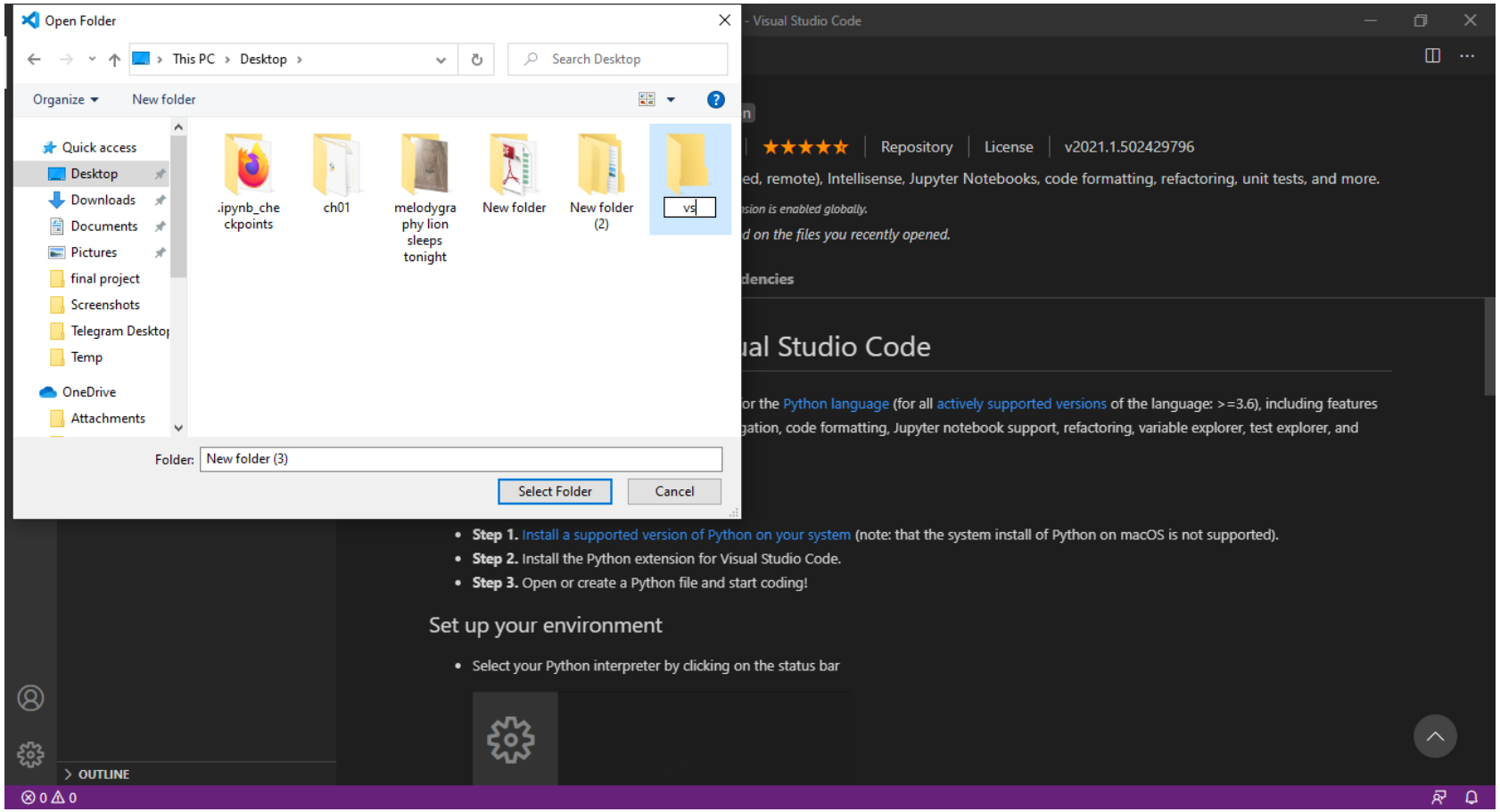
Hit the "*Open Folder*" tab.



Hands on VS Code

Create a directory for your python file in your desired path.

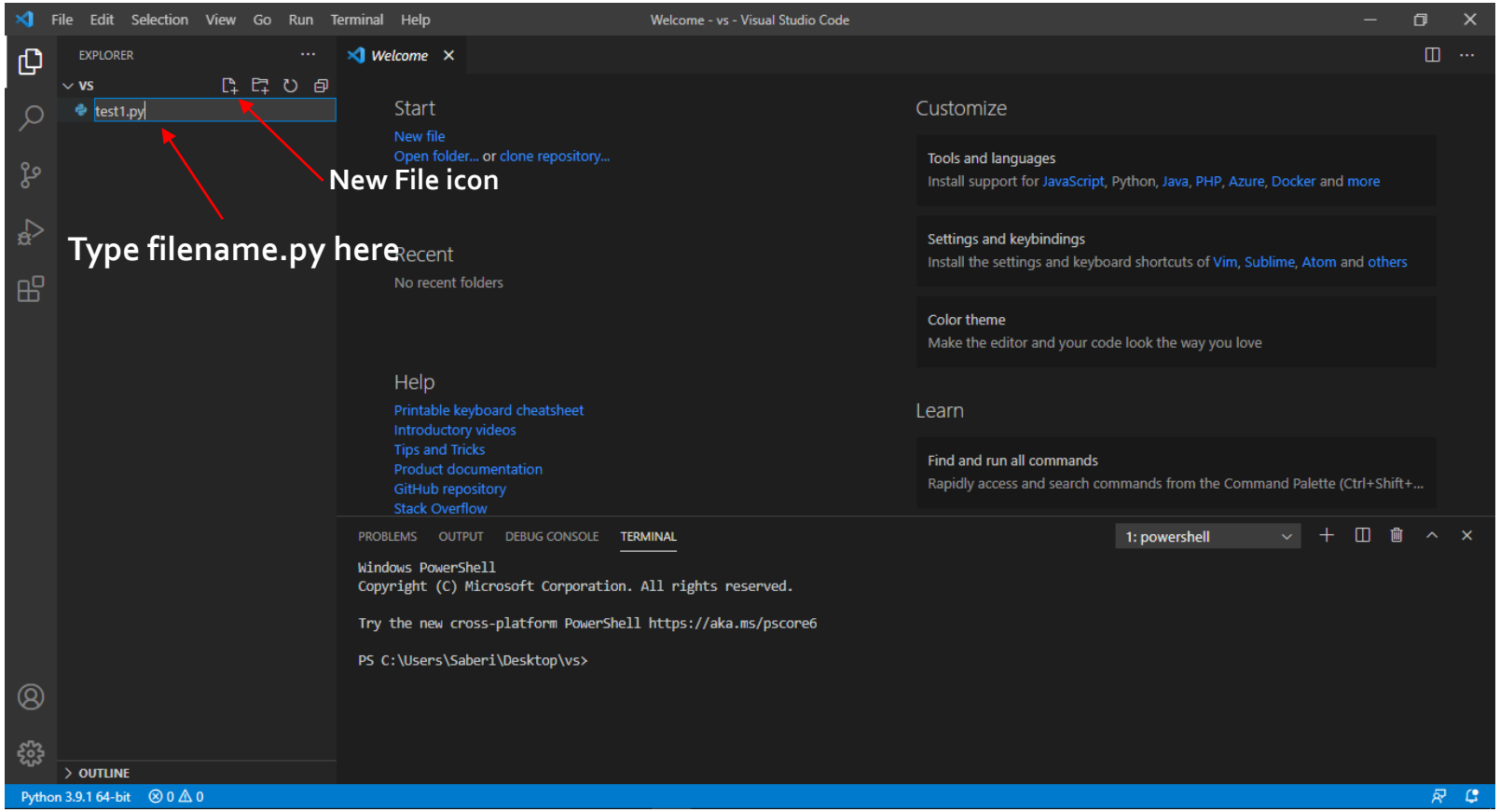
Ours will be a folder named “vs” on Desktop.



Hands on VS Code

Click on the *New File* icon, then specify your python file's name.

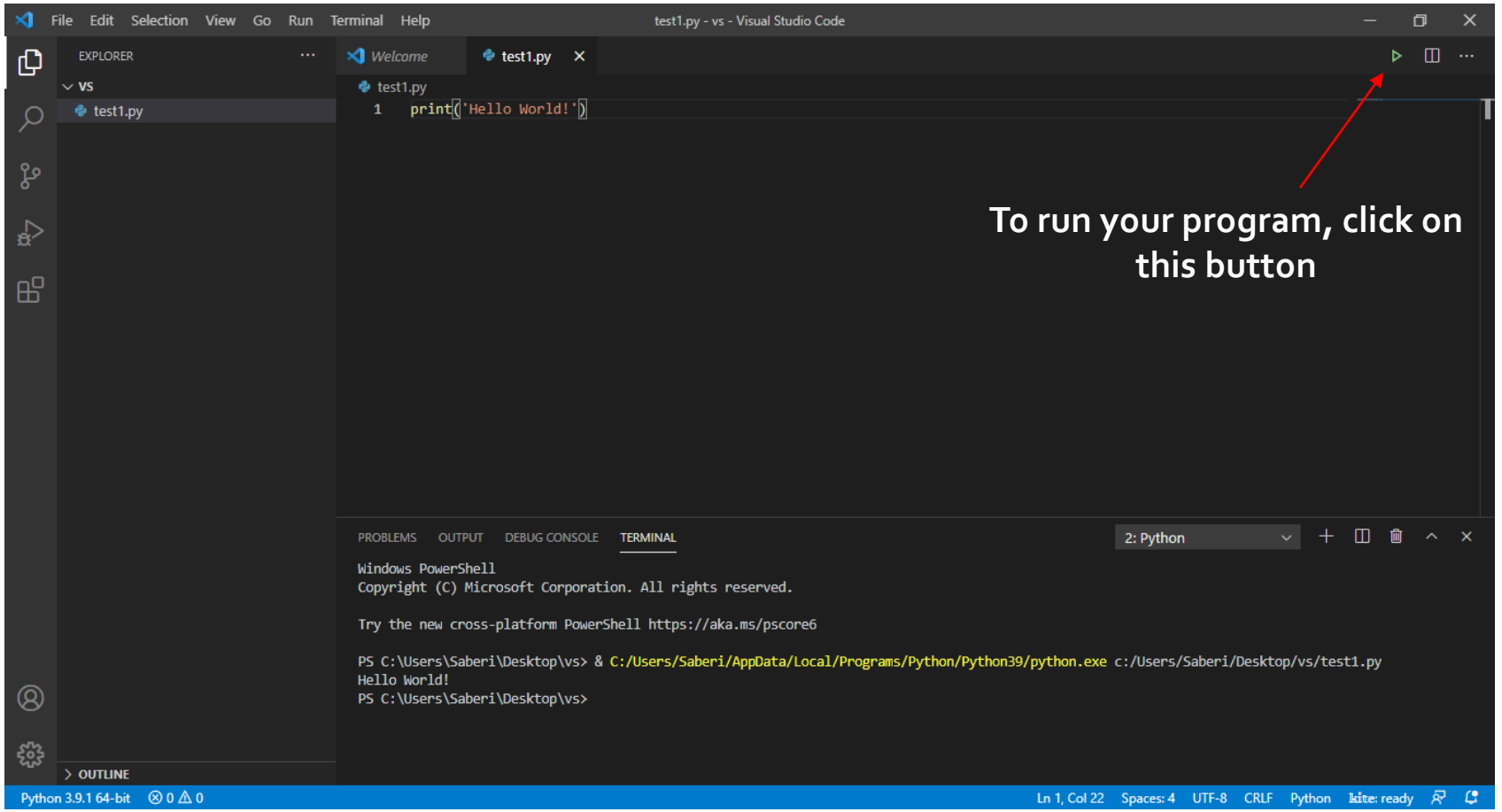
**Pay attention that you should type the file's .py extension*.



Hands on VS Code

You are all Set!

Enjoy writing your first program.



Pip commands

- Pip is a package manager for Python

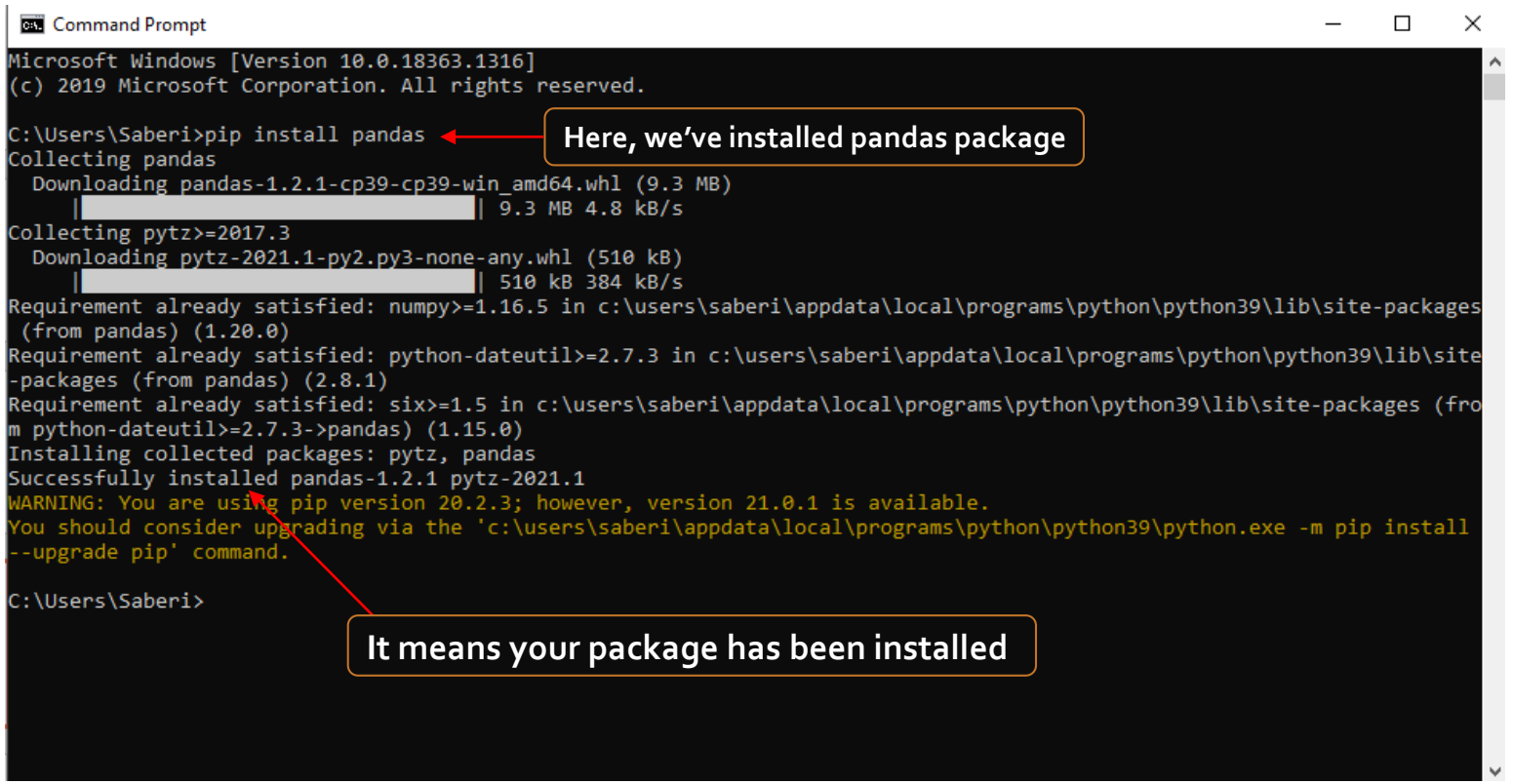
Installing packages via pip

Open your OS's command-line interpreter.

Ours is Windows, so we'll open *Command Prompt.*

You can install your desired packages one at a time by the following command:

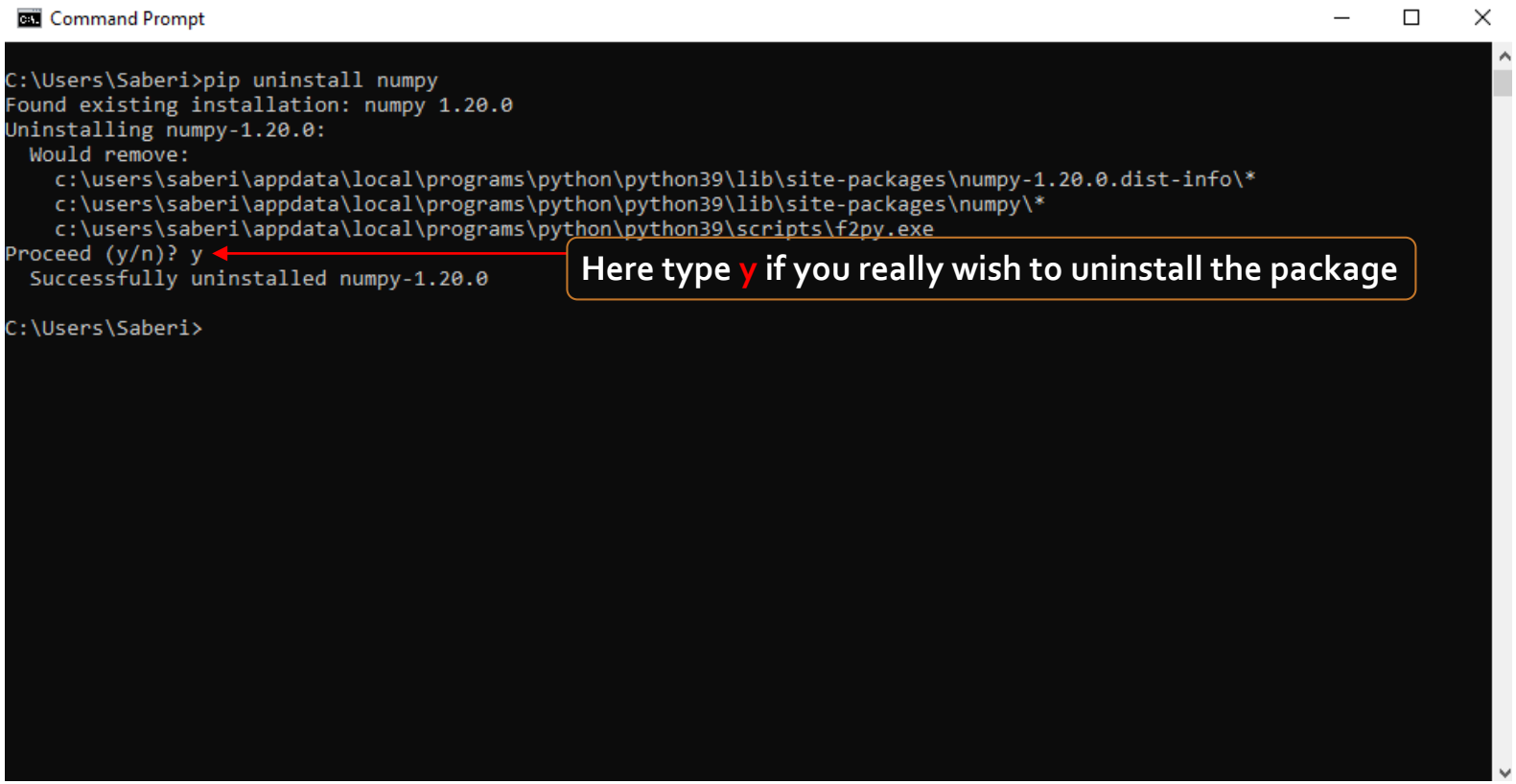
>pip install *package_name*



Uninstalling packages via pip

You can uninstall packages by the following command:

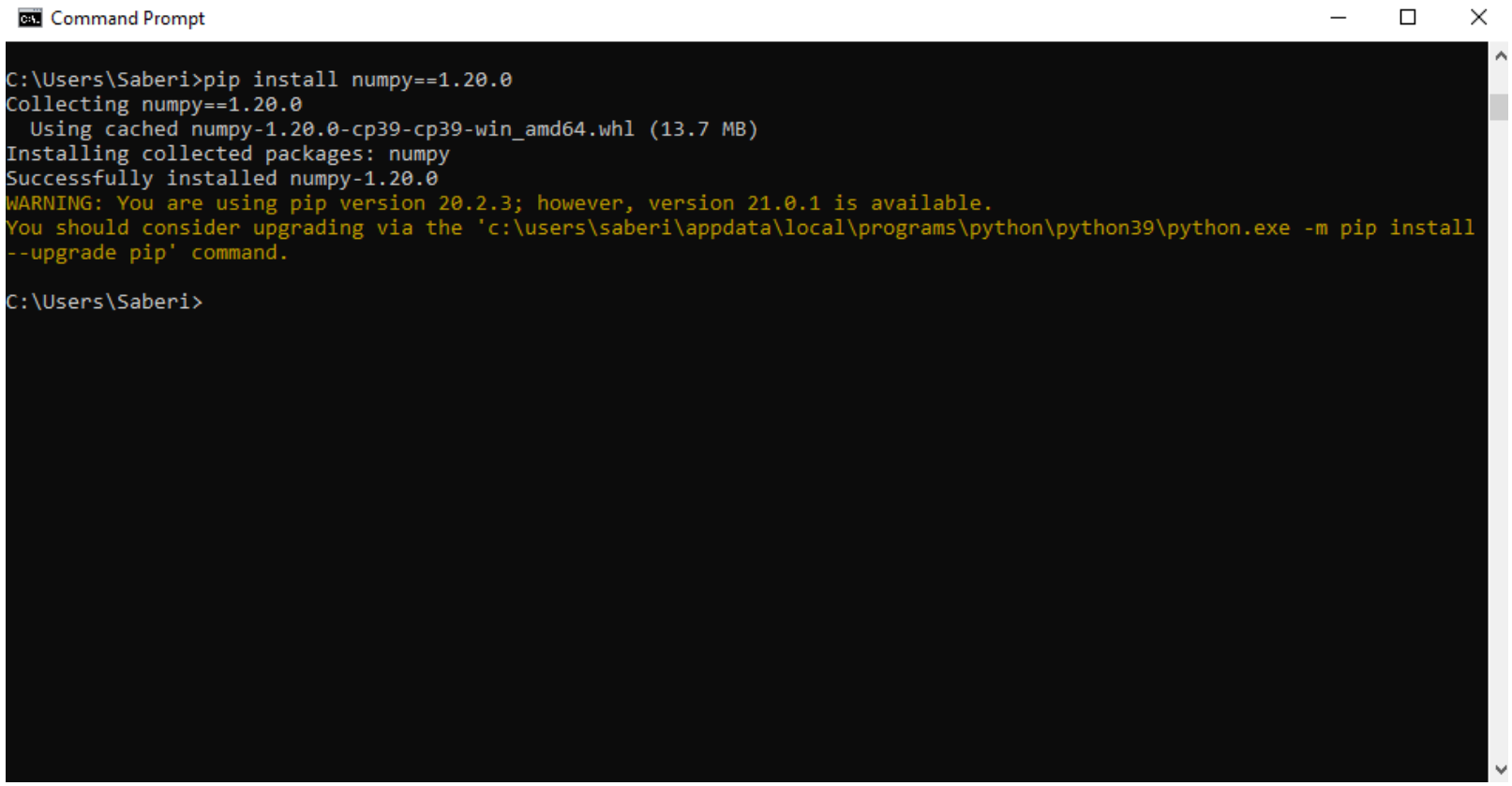
>pip uninstall *package_name*



Installing a package with a specific version via pip

Sometimes you wish to install a specific version of your desired package. You can make it happen by the following command:

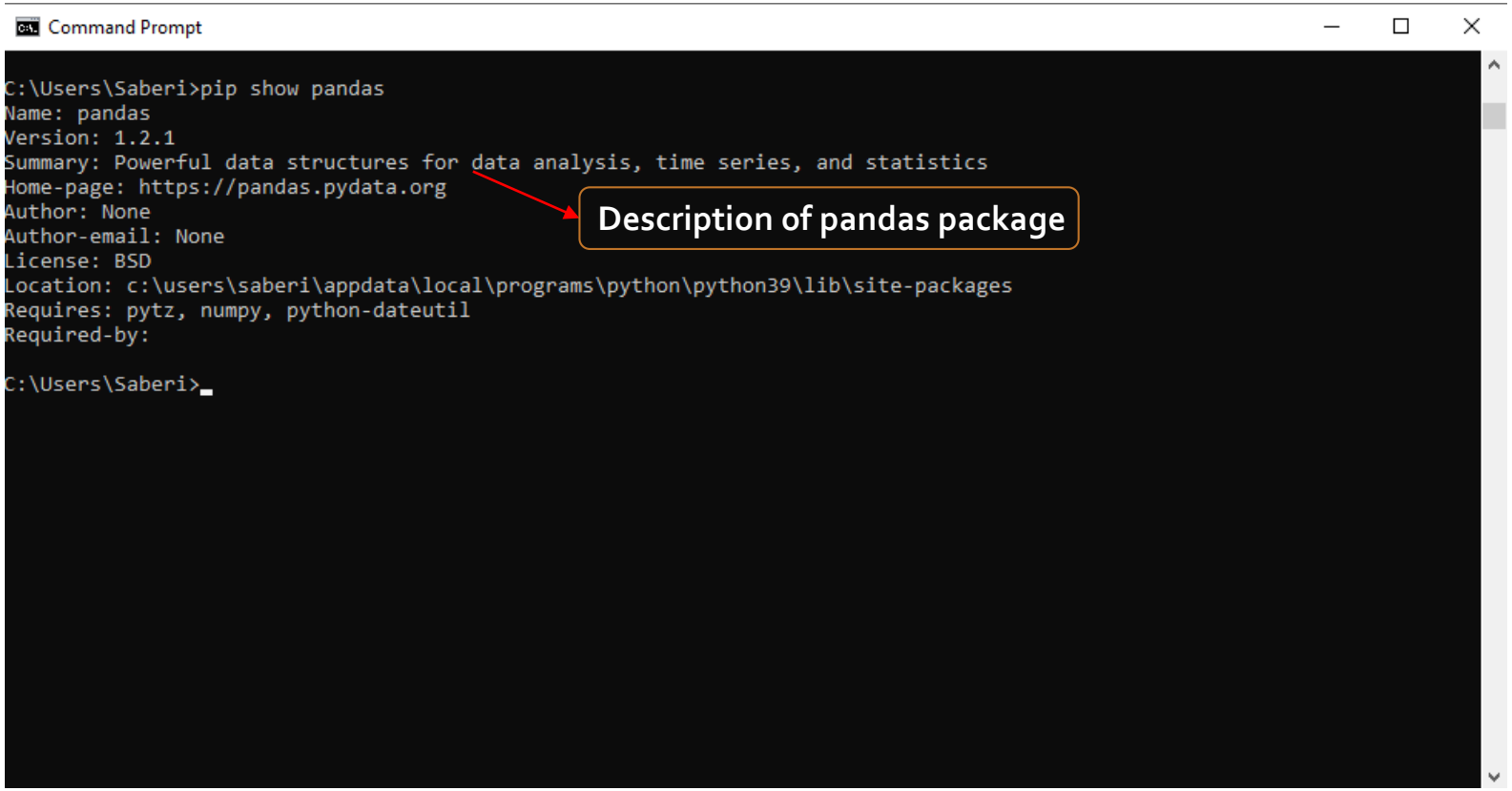
>pip install *package_name==version*



Access package details via pip

You can get details of a package like its version or description by the following command:

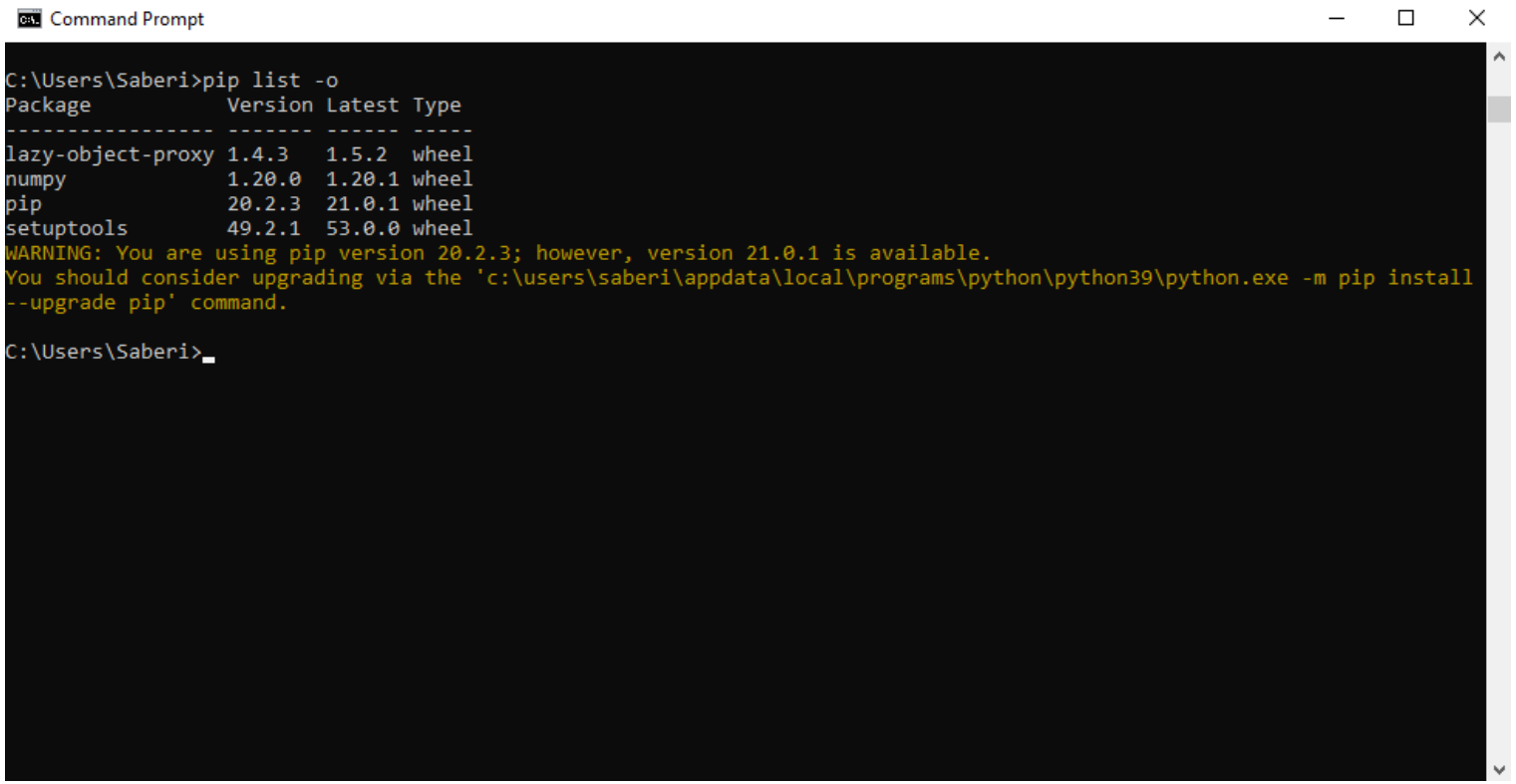
>pip show *package_name*



Getting a list of outdated packages via pip

You can get a list of outdated packages alongside their installed versions and their corresponding latest versions, by the following command:

>pip list -o



Getting a list of updated packages via pip

You can get a list of updated packages to the latest versions by the following command:

>pip list -u

Checking compatibility between packages via pip

If you wish to check your installed packages have compatible dependencies, you can use the below command :

>pip check

If your packages are compatible, you'll get the below message.

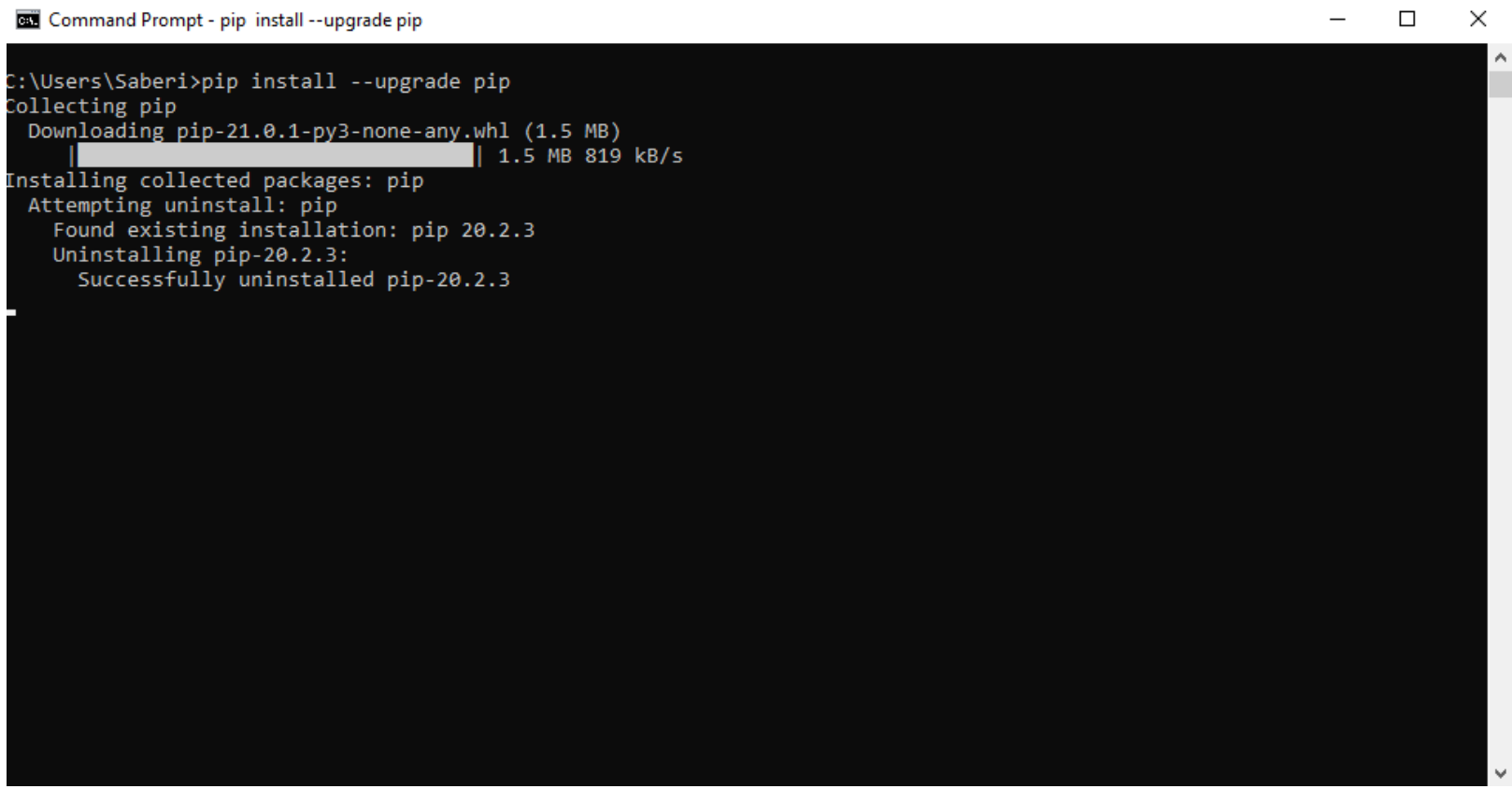
But if your packages are incompatible, you'll get something like the below message.

```
nbclient 0.5.1 has requirement jupyter-client>=6.1.5, but you have jupyter-client 5.3.5.
datascience 0.10.6 has requirement folium==0.2.1, but you have folium 0.8.3.
albumentations 0.1.12 has requirement imgaug<0.2.7,>=0.2.5, but you have imgaug 0.2.9.
```

Updating pip

You can update your pip to the latest version via the below command:

>pip install --upgrade pip



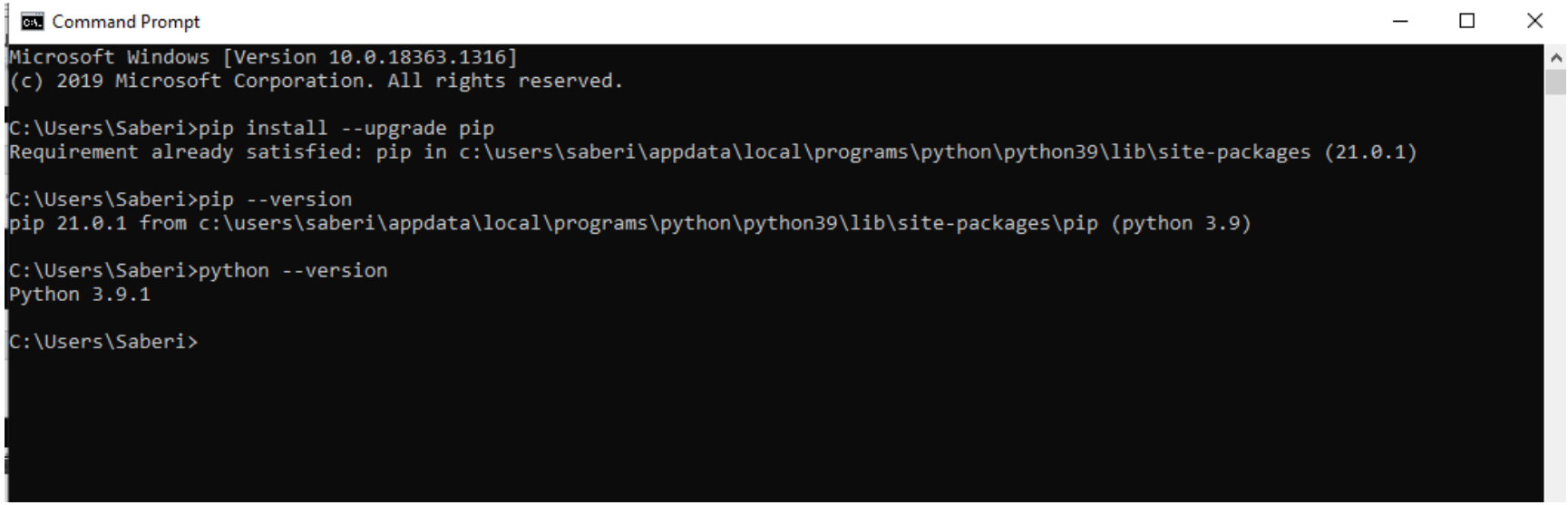
Version check

To check your pip version :

>pip --version

To check your python version :

>python --version

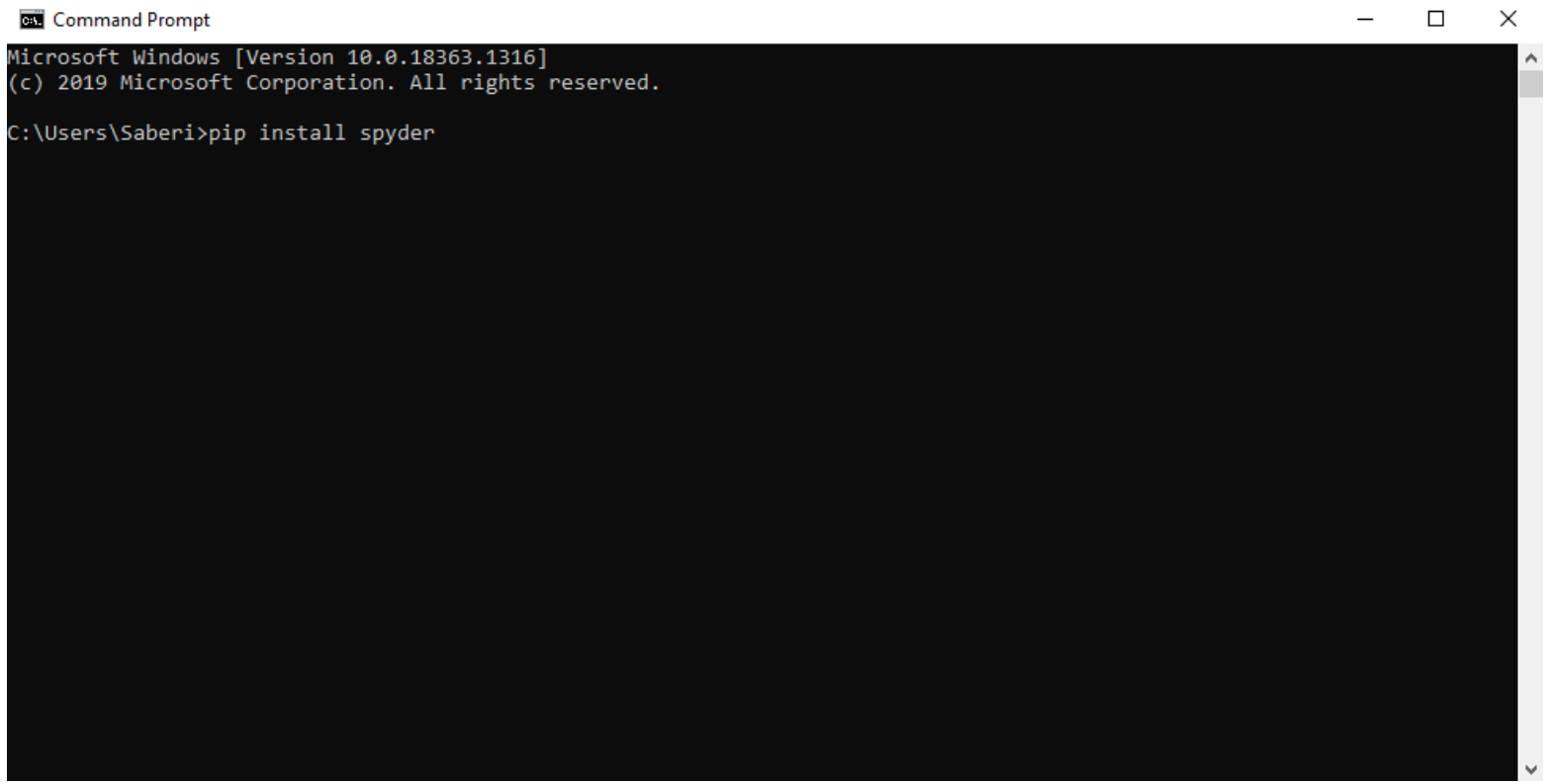


Spyder

Installing Spyder

To install Spyder IDE, open your OS's command-line interpreter, then type:

>pip install spyder



Installation process may take awhile.

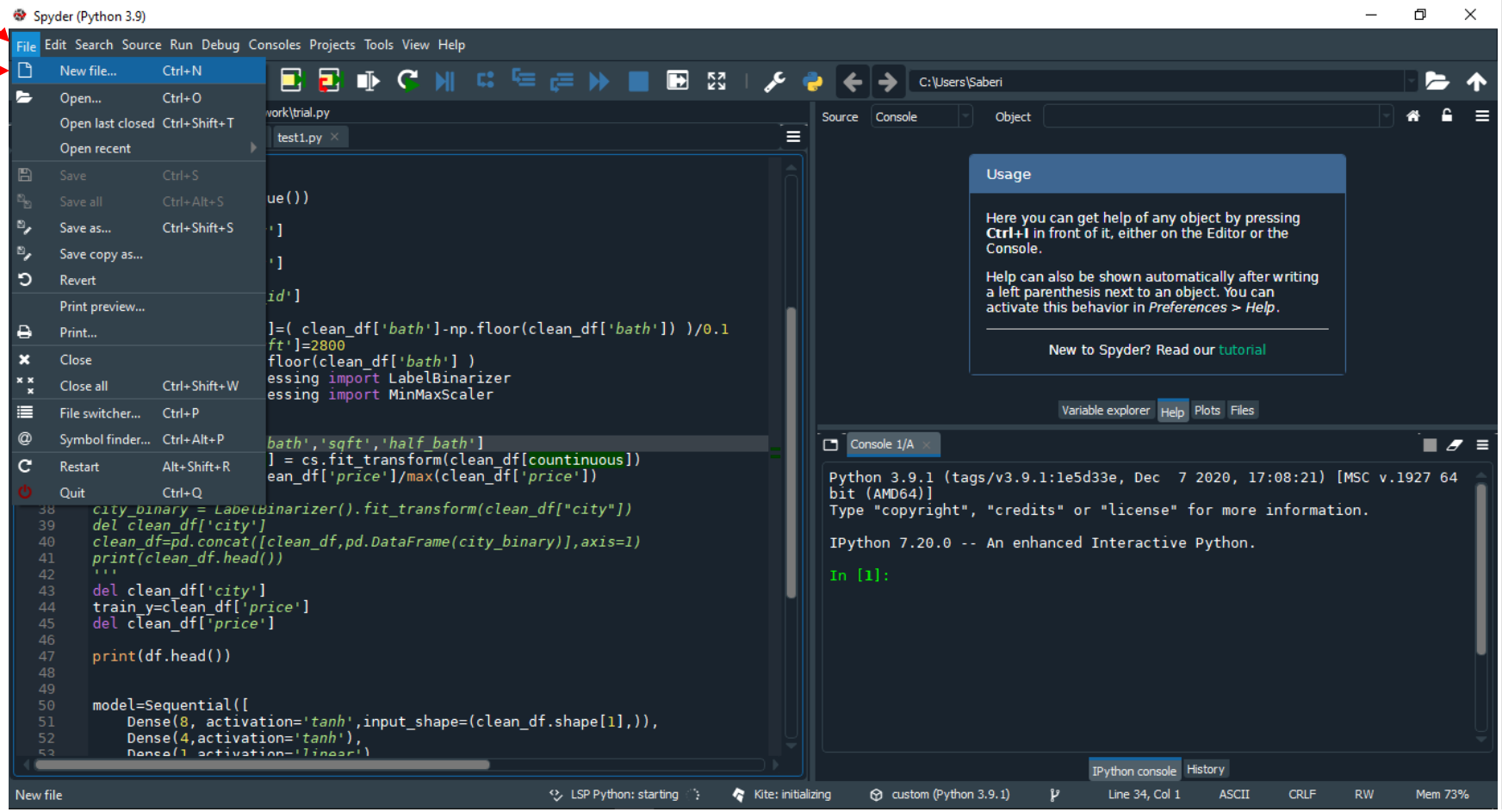
Hands on Spyder

To run Spyder, type *spyder* on the Command Prompt.

It may take awhile for Spyder to boot up, be patient!

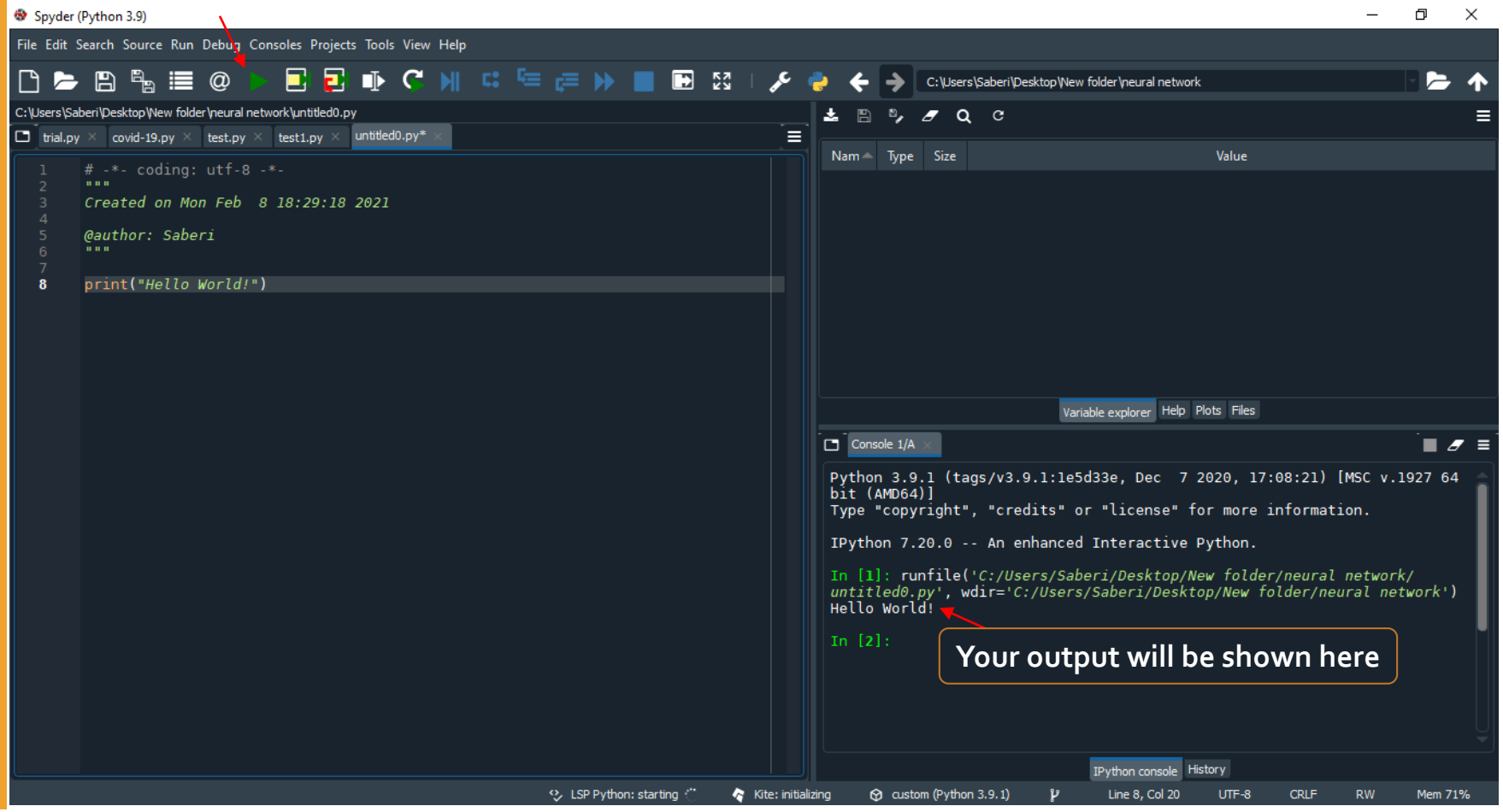
Hands on Spyder

Now that you've run Spyder, you can create a new file from the menu bar and start coding right away!



Hands on Spyder

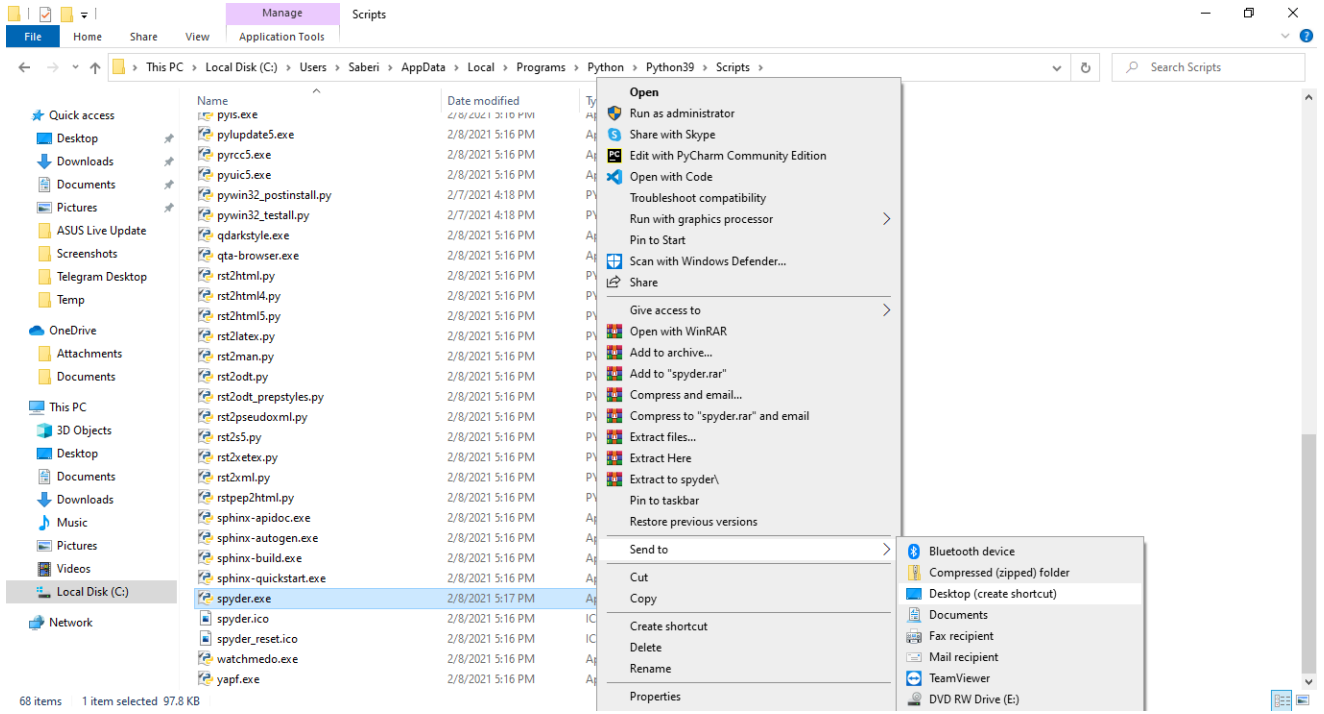
You can run your program either by pressing F5 on your keyboard or by clicking on the green icon above.



Hands on Spyder

If you wish to have a shortcut for Spyder so you don't have to run it from CMD, you can follow the steps below.

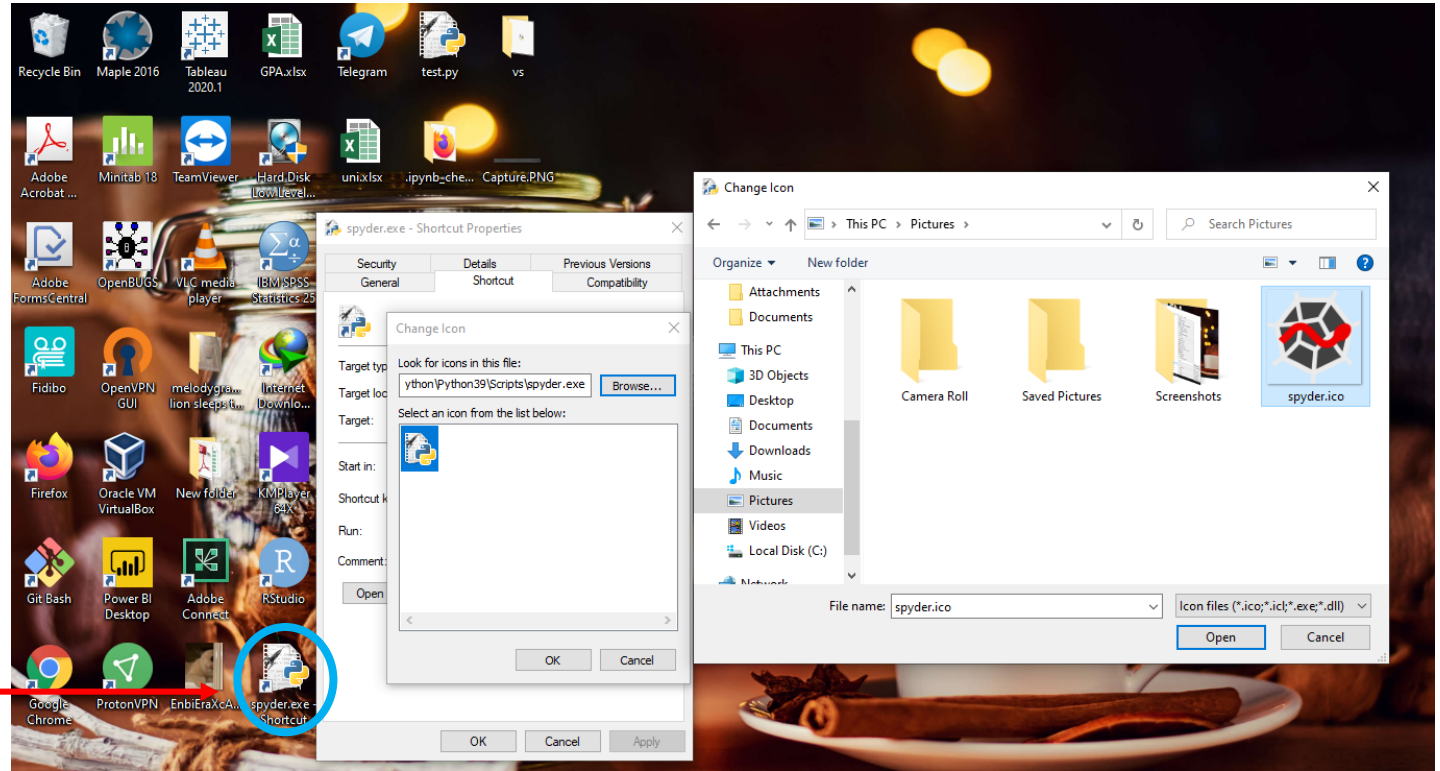
- Go to the directory of your python (The path you installed python in)
- Enter *Scripts* folder
- Find *spyder.exe*
- *Right click on it and send a shortcut to your Desktop*



Hands on Spyder

If you have downloaded an icon for Spyder, you can apply it by:

- Right click on the shortcut
- Select Properties
- From the Shortcut tab, select the Change Icon button
- Then browse the downloaded icon.
- Click on *OK*



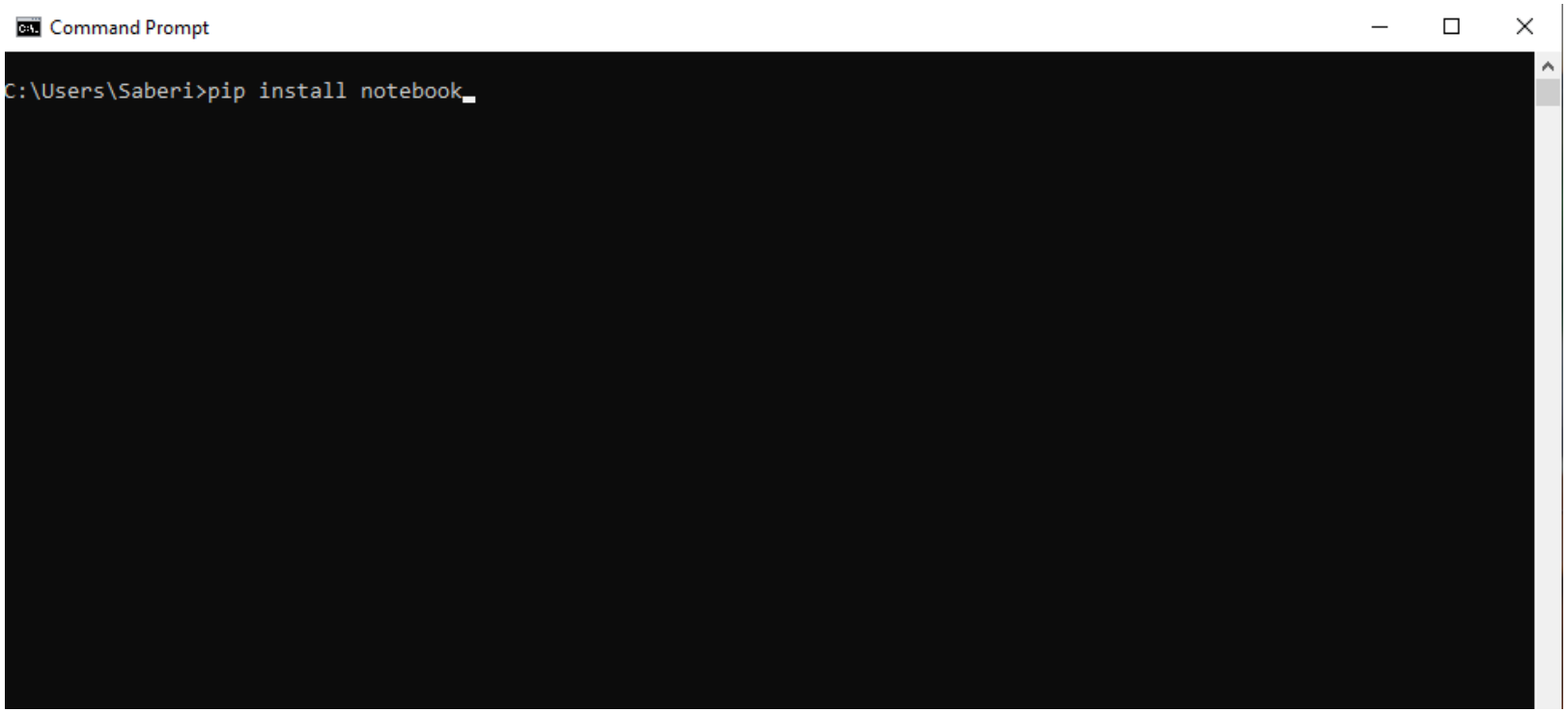
This is the shortcut we are trying to allocate an icon to

Jupyter Notebook

Installing Jupyter Notebook

To install Jupyter Notebook, open your OS's command-line interpreter, then type:

>pip install notebook



Installation process may take awhile.

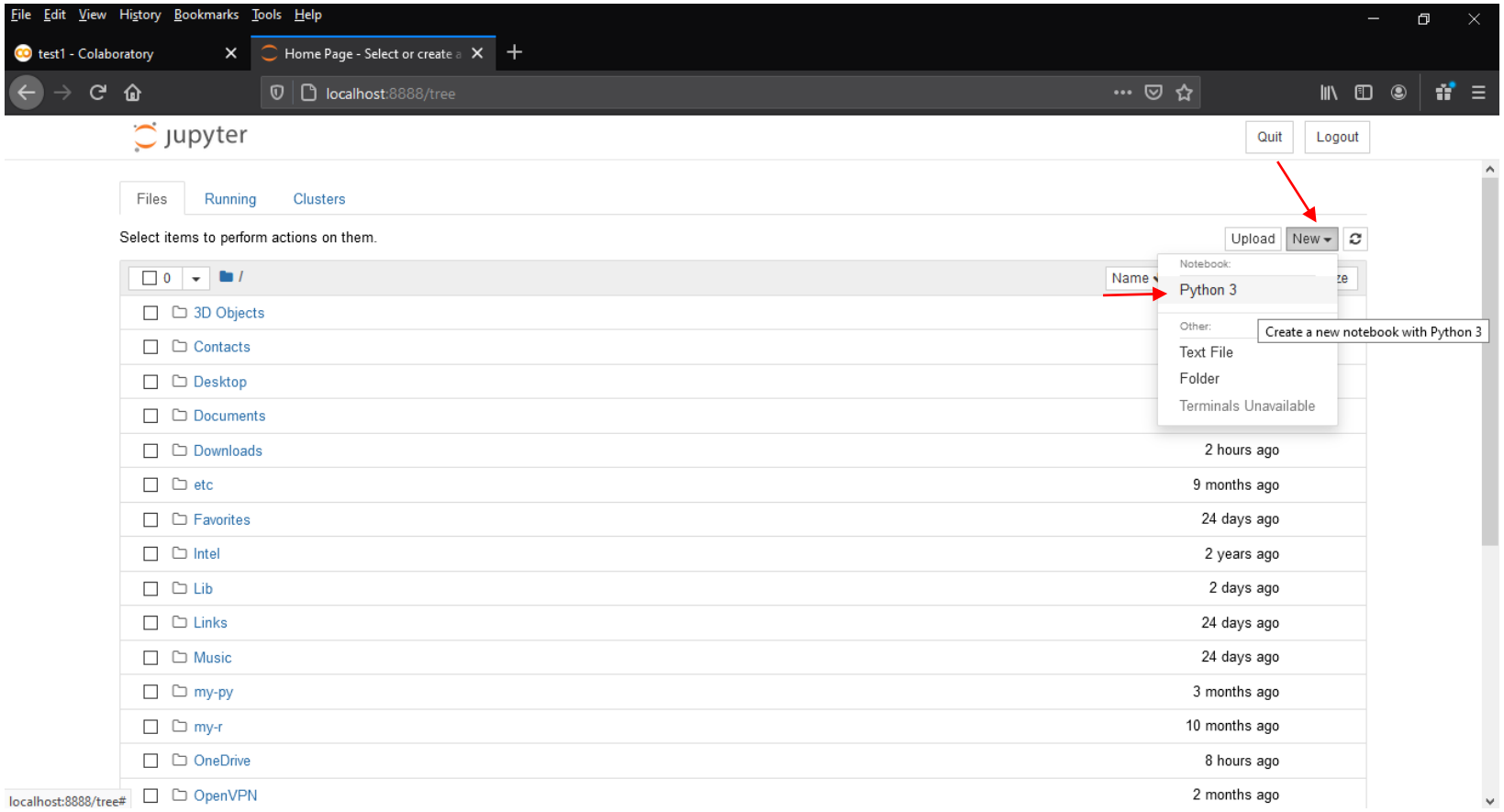
Hands on Jupyter Notebook

To run Jupyter Notebook, type *jupyter notebook* on the Command Prompt.

After running the command above, you'll be redirected to a web page.
That's your Jupyter environment.
Keep in mind that the Jupyter kernel is running on CMD, so do not close it !

Hands on Jupyter Notebook

To create a python notebook, go to your desired path, then click on New->Python 3



Hands on Jupyter Notebook

You are all set!

To run a cell and create a new one below it, hit Shift+Enter keys.