

Chapitre 1: Introduction to Python

Python is an interpreted language, meaning each line of code is read and interpreted before being executed by the computer.

The Python interpreter creates an interactive system where you can enter commands that Python executes immediately before your eyes.

This approach allows you to test commands instantly using the interpreter, providing a key advantage for rapid development and debugging.

1.1 Installing Python: Installing Python and managing environments (Anaconda, pip).

A. Installation with Anaconda

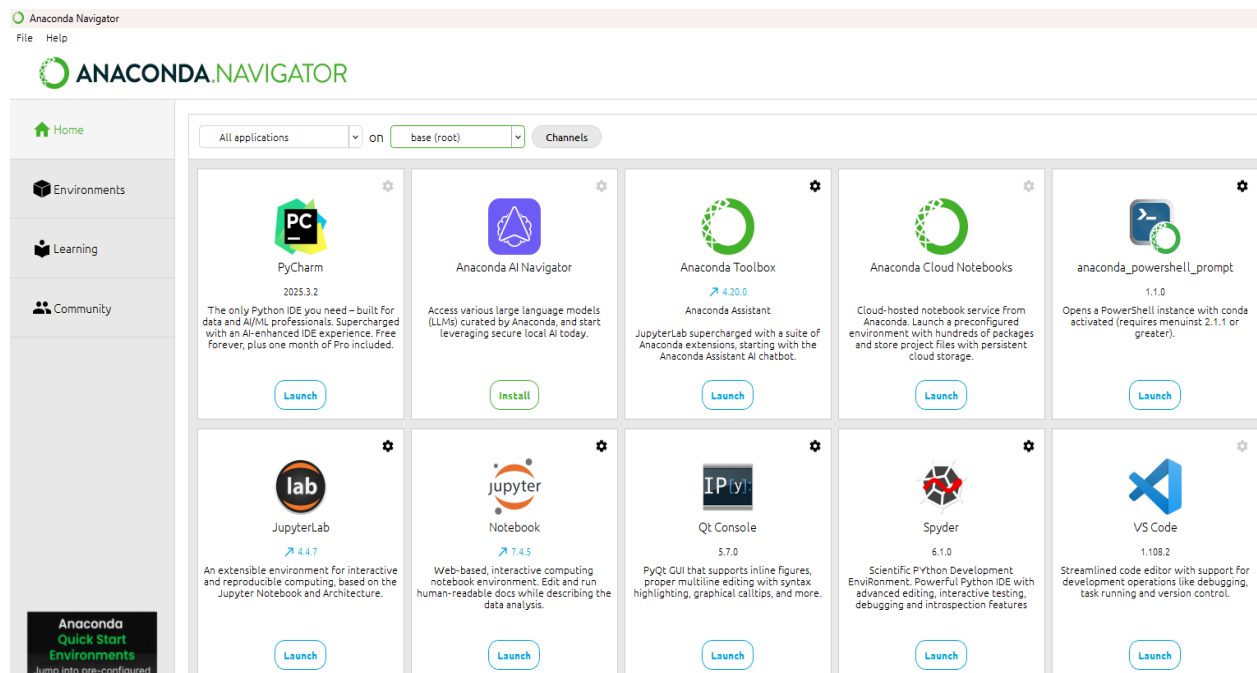
Anaconda simplifies Python installation along with scientific libraries (NumPy, SciPy, Pandas, etc.). It serves as a package manager, environment manager, and complete Python distribution—many packages come pre-installed, with pip for additional ones.

Getting Started

Download the Anaconda distribution for your OS (Windows) from: <https://www.anaconda.com>.

Windows Installation

1. Download the Anaconda installer (Windows) and double-click to launch.
2. Answer the setup questions.



B. Manual Installation

To download the Windows installer, visit: <https://www.python.org>
Then launch the Python installation.

Installing Additional Packages

Python's package manager (pip) installs extra libraries. For example:
pip install pillow (a library for reading/saving images).

Launching Python

Python typically uses two modes:

- Interactive mode
- Programming mode (also called Python scripts mode)

A. Interactive Mode

On Windows, open CMD and run the command:

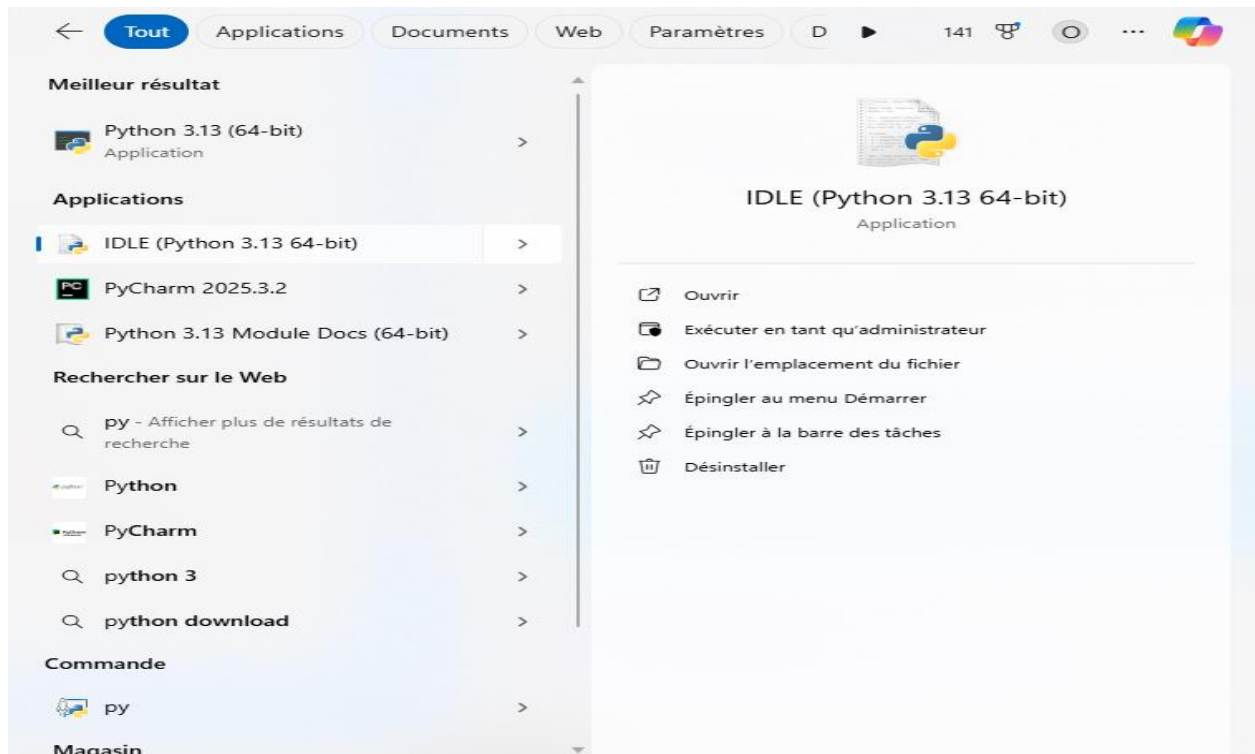
```
C:\Users\...> py
>>>
>>> print("Hello world!")
Hello world!
>>>
>>> 2+2
4
>>> 4*3
12
>>>
```

Try the interpreter as a calculator! To exit, type: `exit()`.

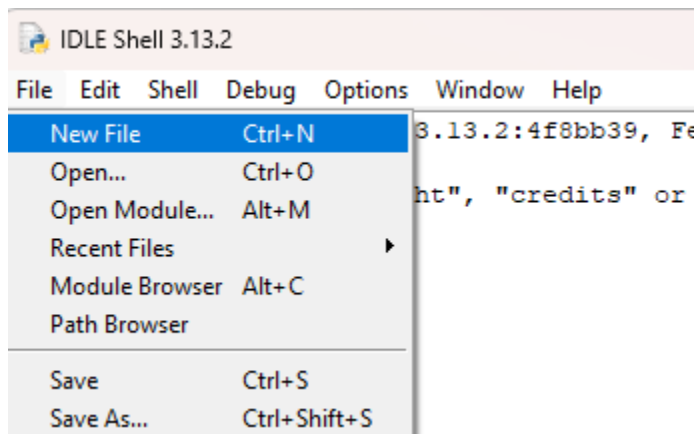
B. Programming Mode

The interpreter has limits for complex instruction sequences. Save them in a Python script file (program) instead.

For the previous example, open a text editor like IDLE (included with Python 3.13).

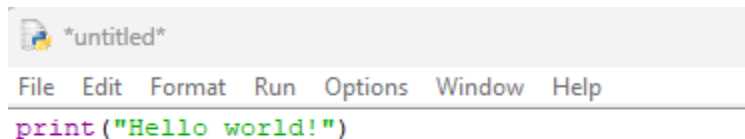


Then, go to **File > New File**.



and enter the following code:

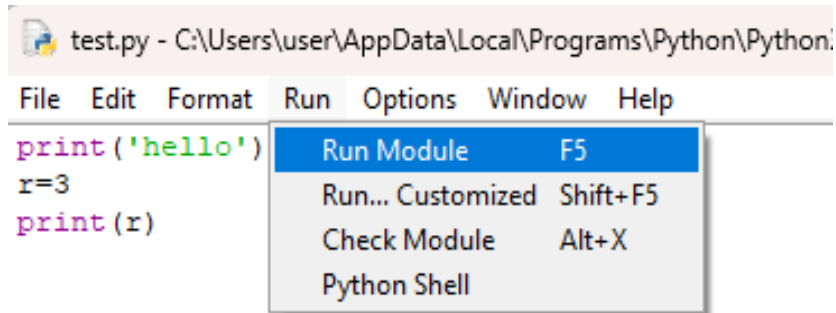
```
print("Hello world!")
```



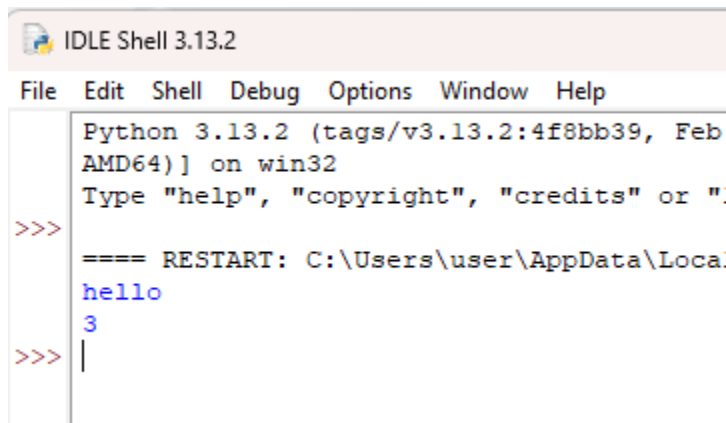
Next, save your file as test.py, then exit the text editor.

To execute: **File > Open test.py**

Then **Run > Run Module**



Here's the result:



1.2 Setting up the environment: Configuring tools (code editors: VS Code, PyCharm; package management).

Installing Visual Studio Code (VS Code)

The first tool we'll install is Visual Studio Code, also known as VS Code.

Download VS Code

Visit the official site: <https://code.visualstudio.com>

[Version 1.108](#) is now available! Read about the new features and fixes from December.

The open source AI code editor

 [Download for Windows](#)

[Web](#), [Insiders edition](#), or other platforms

By using VS Code, you agree to its [license](#) and [privacy statement](#).

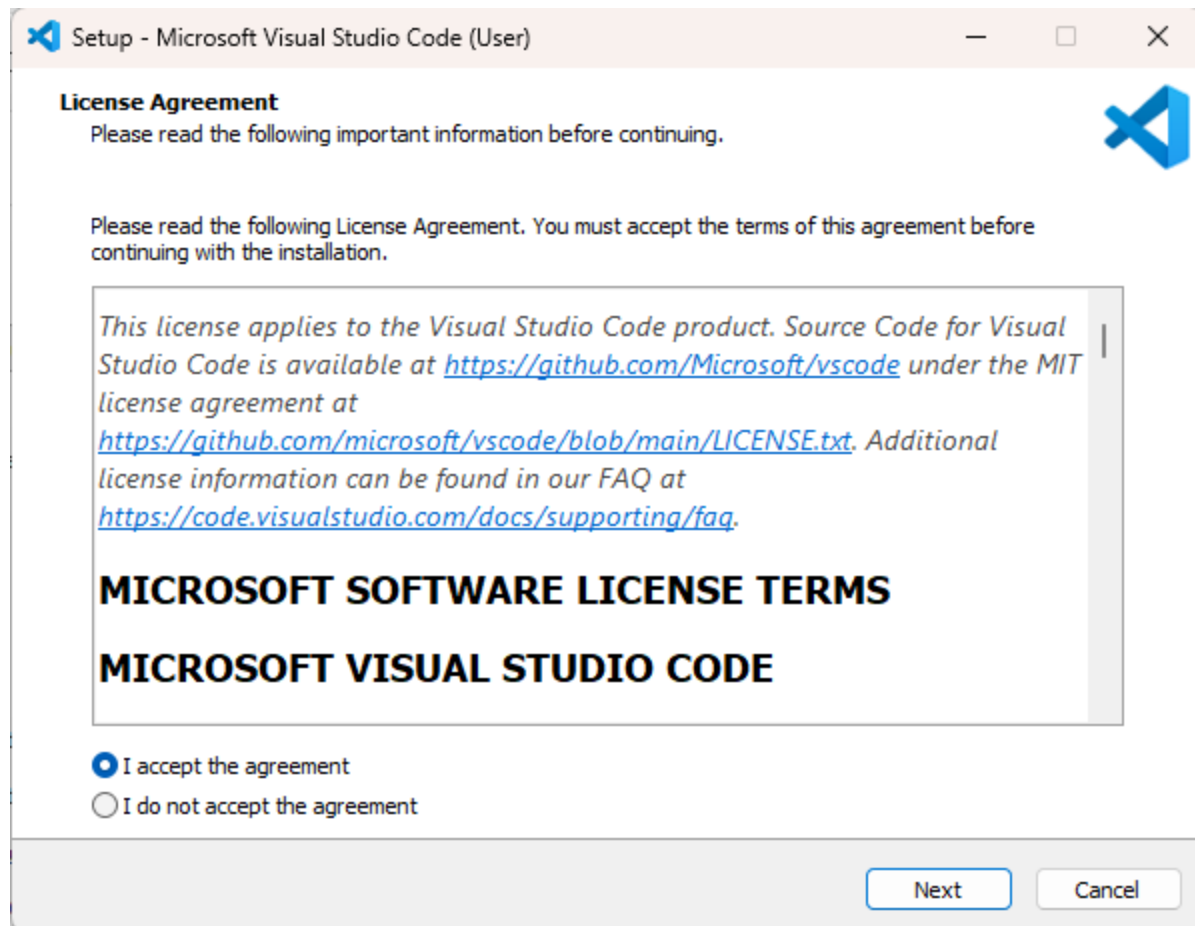


On the Visual Studio Code homepage, click the **Download** button.

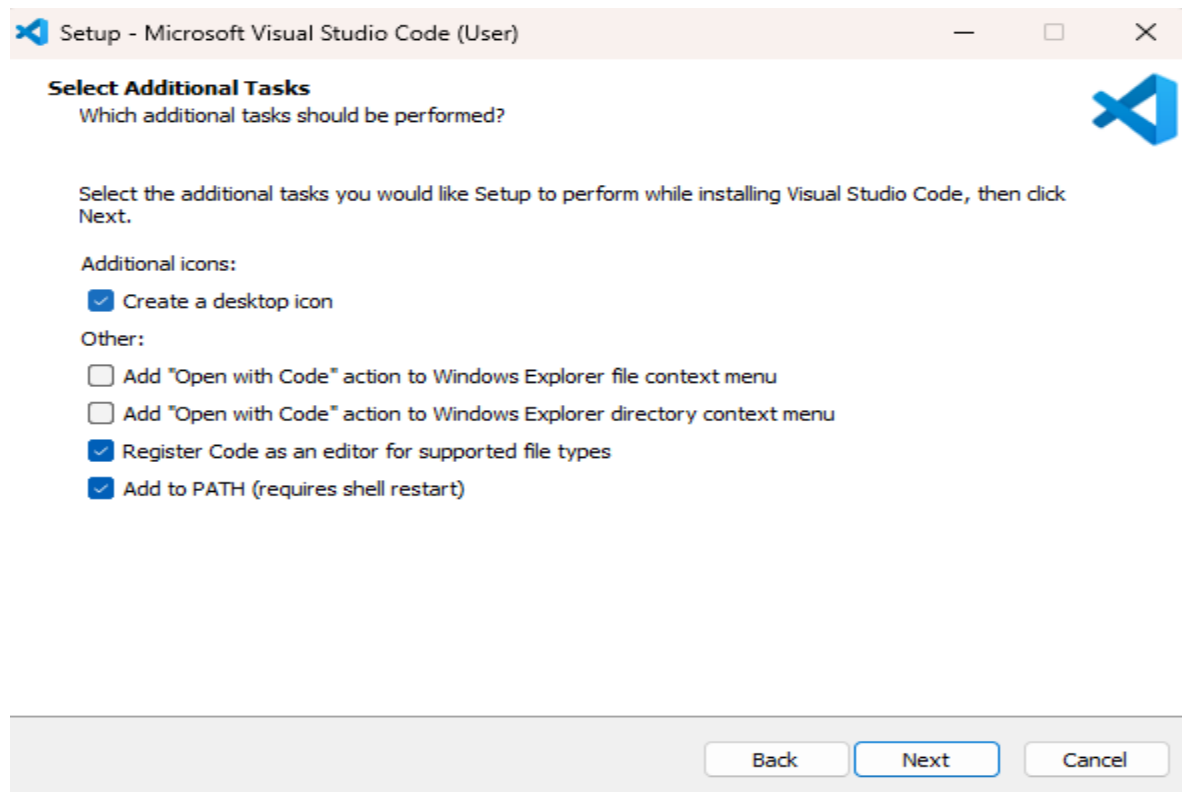
Windows Installation

Once downloaded, double-click the installer file to start.

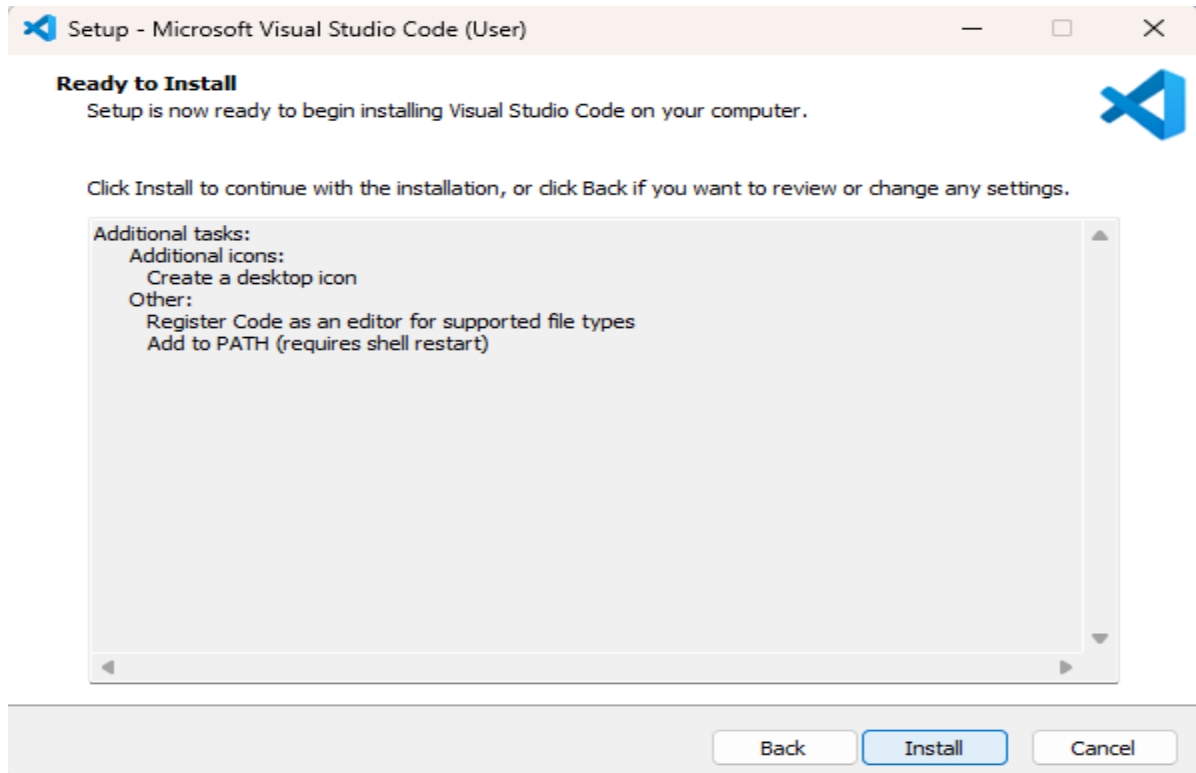
1. In the first step, accept the license agreement terms.



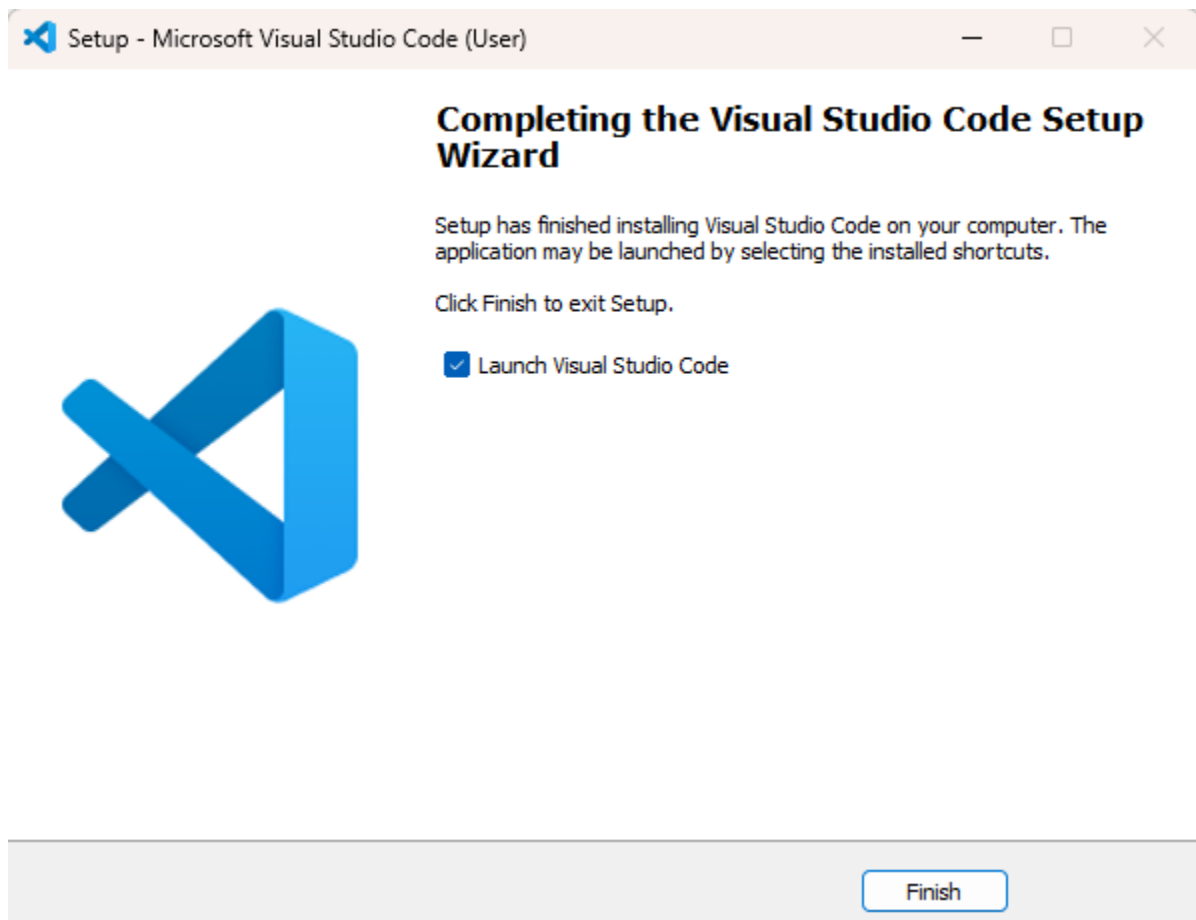
2. Keep the default installation location. Click **Next**.
3. Select whether to create a desktop shortcut. Click **Next**.



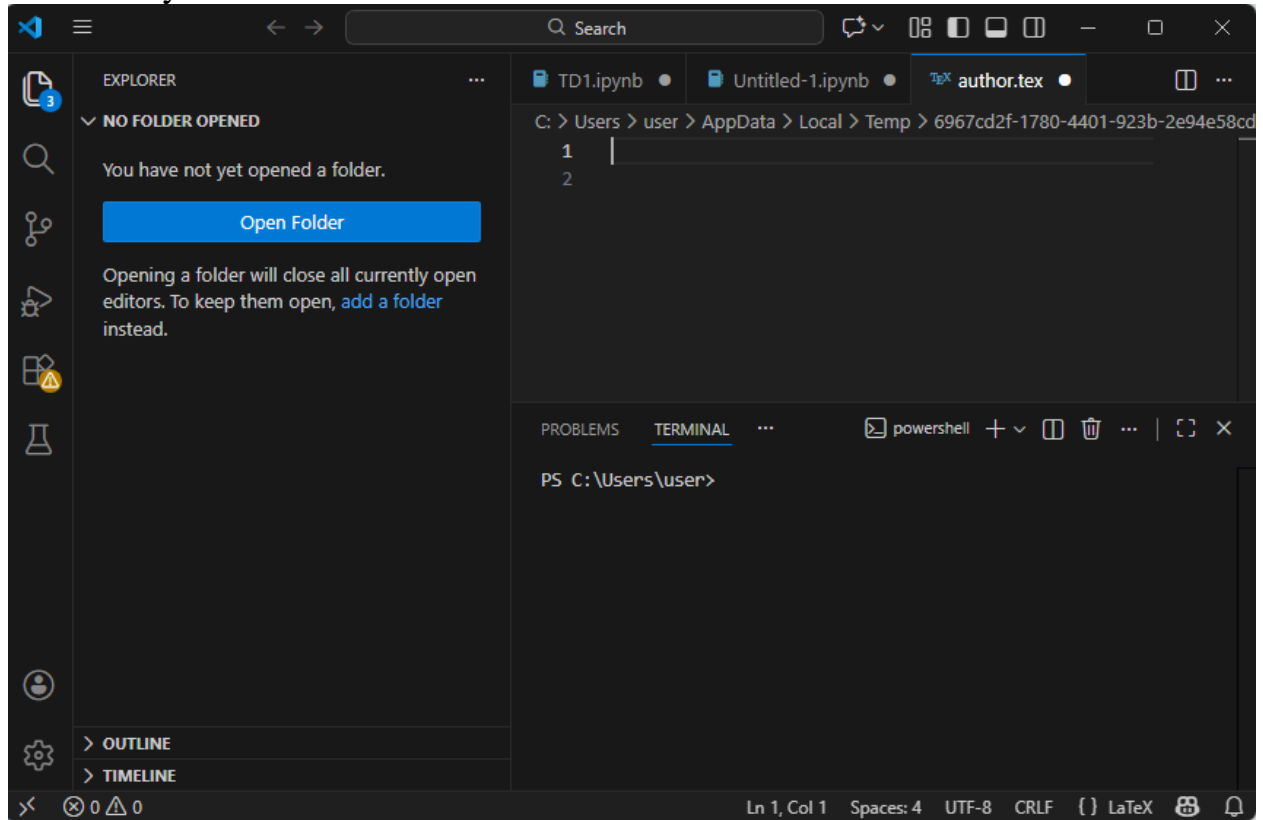
4. Click **Install** to begin. Wait for completion.



Once installation finishes, click **Finish**.



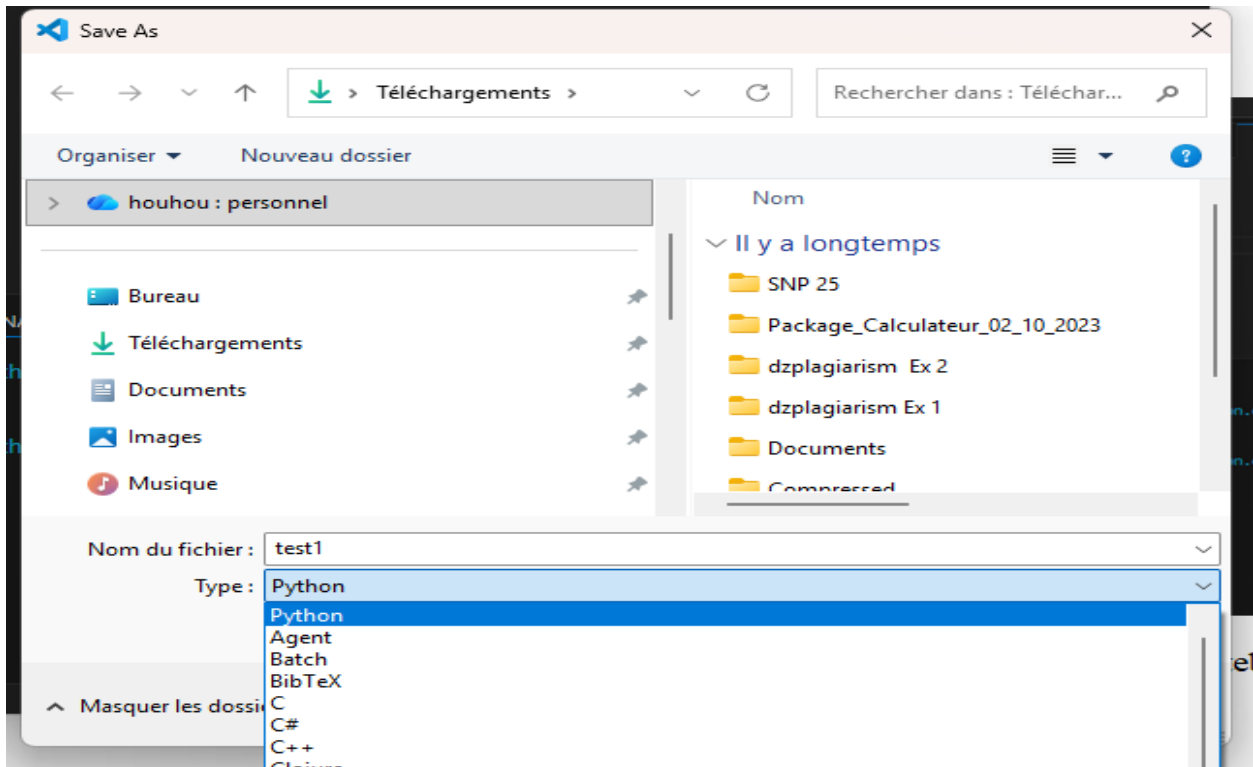
And there you have it!



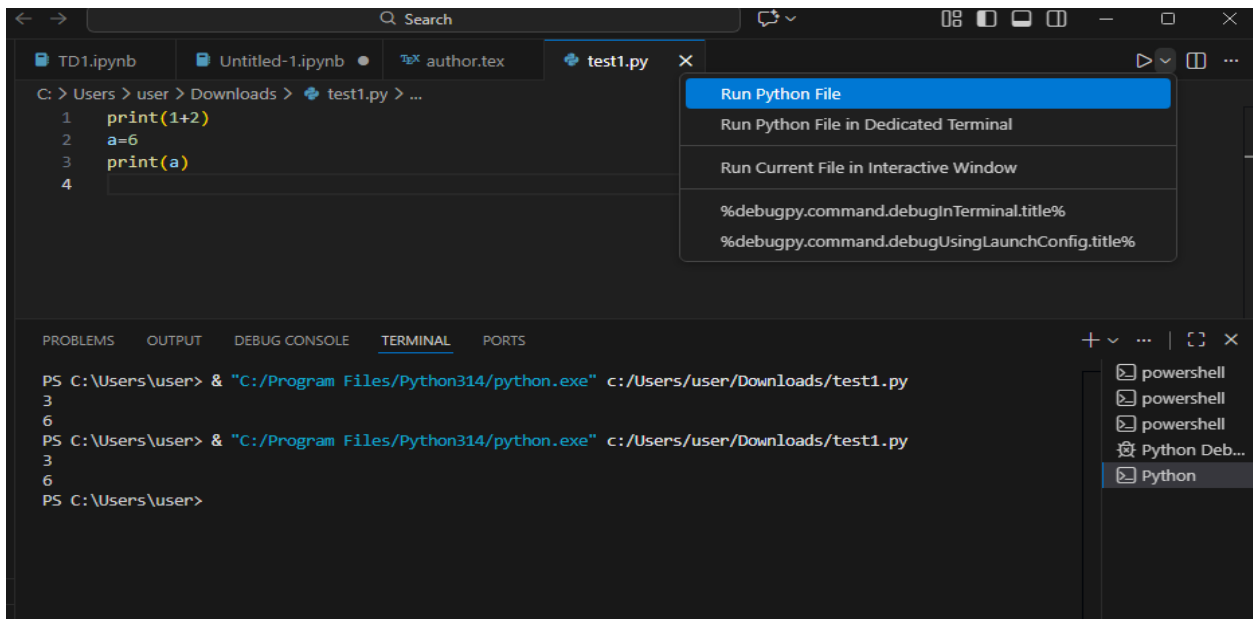
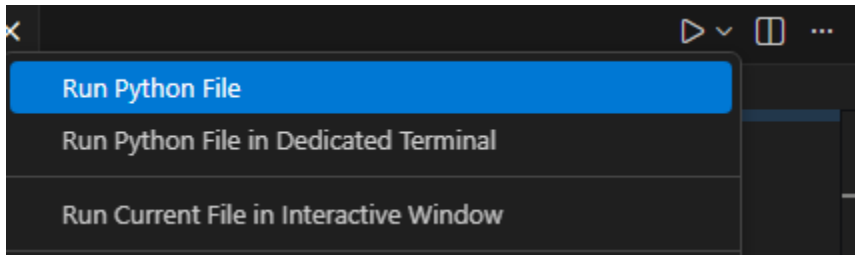
Example:

```
print(1+2)
a=6
print(a)
```

Click **File > Save As**, select type **Python**.



To run the program, click this button (top-right play/run icon).



Pycharm

Photo Editor: Piotr X - retouch... x | PyCharm : l'IDE Python pour dé... x

https://www.jetbrains.com/fr-fr/pycharm/

Google pycharm

Tous Images Vidéos Actualités Livres Plus Paramètres Outils

Environ 5,780,000 résultats (0,38 secondes)

www.jetbrains.com > fr-fr > pycharm

PyCharm : l'IDE Python pour développeurs professionnels par ...
PyCharm fournit la saisie automatique de code intelligente, des inspections de code, la mise en évidence d'erreur à la volée et des correctifs rapides, en plus de ...

Télécharger
Téléchargez la dernière version de PyCharm pour Windows ...

Fonctionnalités
Fonctionnalités de PyCharm. Assistance intelligente au ...

Acheter
Acheter PyCharm Professional : demandez un abonnement à ...

Autres résultats sur jetbrains.com >

PyCharm Blog
Recent posts. PyCharm 2020.2 EAP#4.

JetBrains Academy
JetBrains Academy combine un apprentissage interactif par ...

Nouveautés
Interactive rebasing. Si vous aimez que votre historique de commit ...

PyCharm
Logiciel

PyCharm est un environner pour programmer en Python un débogueur graphique. Il unitaires, l'intégration de loq le développement web avec

Licences : Commercial, Fr Licence Apache)

Date de sortie initiale : 3 f

Développeur : JetBrains

fr.wikipedia.org > wiki > PyCharm

PyCharm — Wikipédia
PyCharm est un environnement de développement intégré utilisé pour programmer en Python. Il permet l'analyse de code et contient un débogueur graphique.

Presse-papiers Organiser Nouveau Ouvrir

Mon bureau > Disque local (C:) > Utilisateurs > kouis > Téléchargements

Nom	Modifié le	Type	Taille
Aujourd'hui (1)			
pycharm-community-2020.1.3.exe	21/07/2020 19:34	Application	278 650 Ko



Choose Install Location

Choose the folder in which to install PyCharm Community Edition.

Setup will install PyCharm Community Edition in the following folder. To install in a different folder, click Browse and select another folder. Click Next to continue.

Destination Folder

Program Files\JetBrains\PyCharm Community Edition 2020.1\3

Browse...

Space required: 672.9 MB
Space available: 2.1 GB

< Back

Next >

Cancel



Installation Options

Configure your PyCharm Community Edition installation

Create Desktop Shortcut

64-bit launcher

Update PATH variable (restart needed)

Add launchers dir to the PATH

Update context menu

Add "Open Folder as Project"

Create Associations

.py

< Back

Next >

Cancel



Choose Start Menu Folder

Choose a Start Menu folder for the PyCharm Community Edition shortcuts.

Select the Start Menu folder in which you would like to create the program's shortcuts. You can also enter a name to create a new folder.

JetBrains

Accessibility
Accessories
Administrative Tools
FastStone Capture
Inkscape 0.92.4
Java
Maintenance
NVIDIA Corporation
Oracle VM VirtualBox
PhotoScape
Python 3.8
Realtek

< Back

Install

PyCharm Community Edition Setup



Completing PyCharm Community Edition Setup

Your computer must be restarted in order to complete the installation of PyCharm Community Edition. Do you want to reboot now?

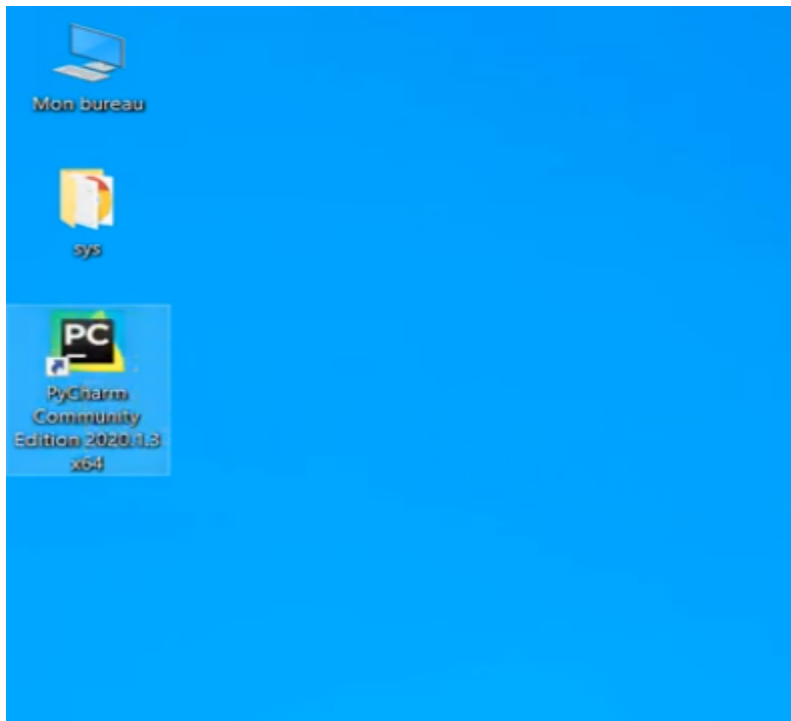
- Reboot now
- I want to manually reboot later

< Back

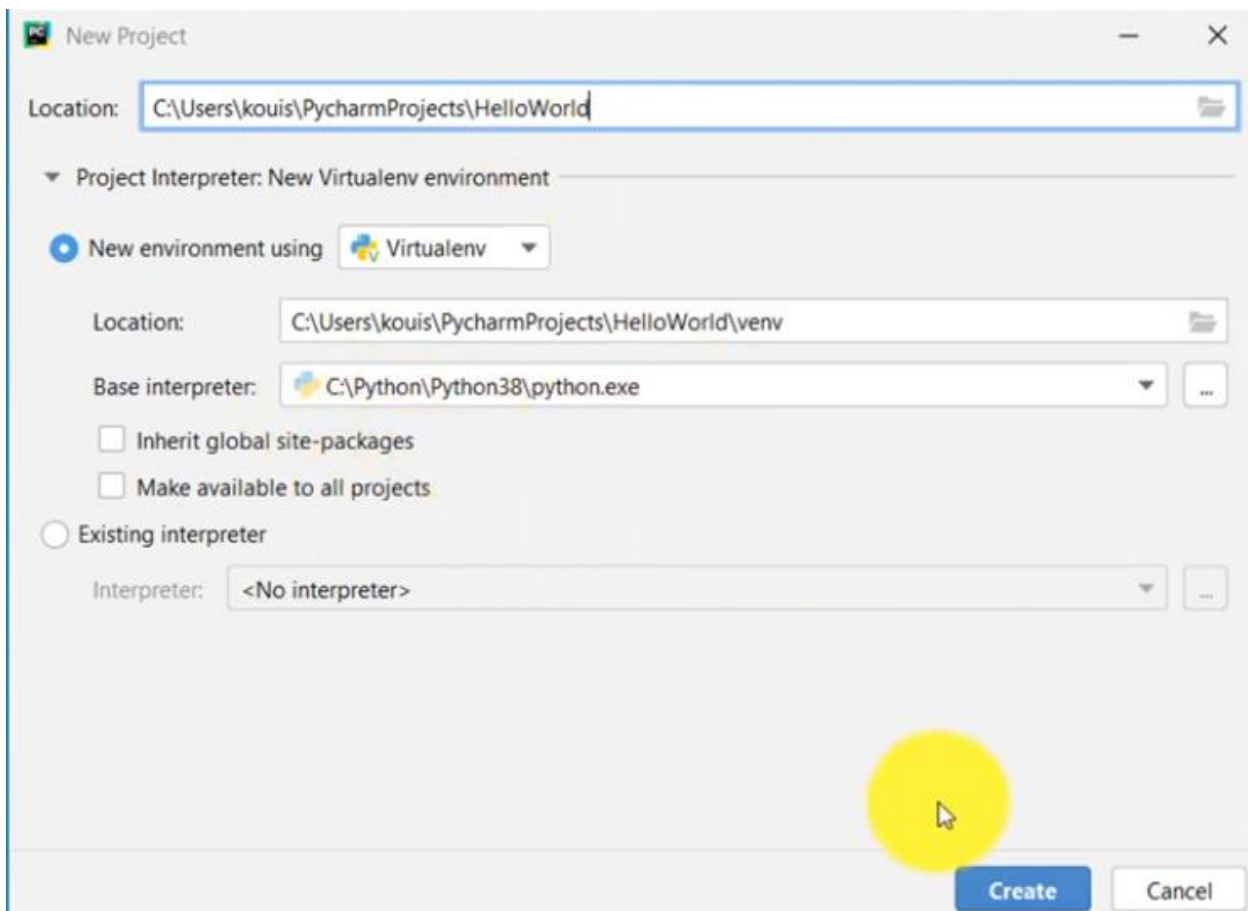
Finish

Cancel

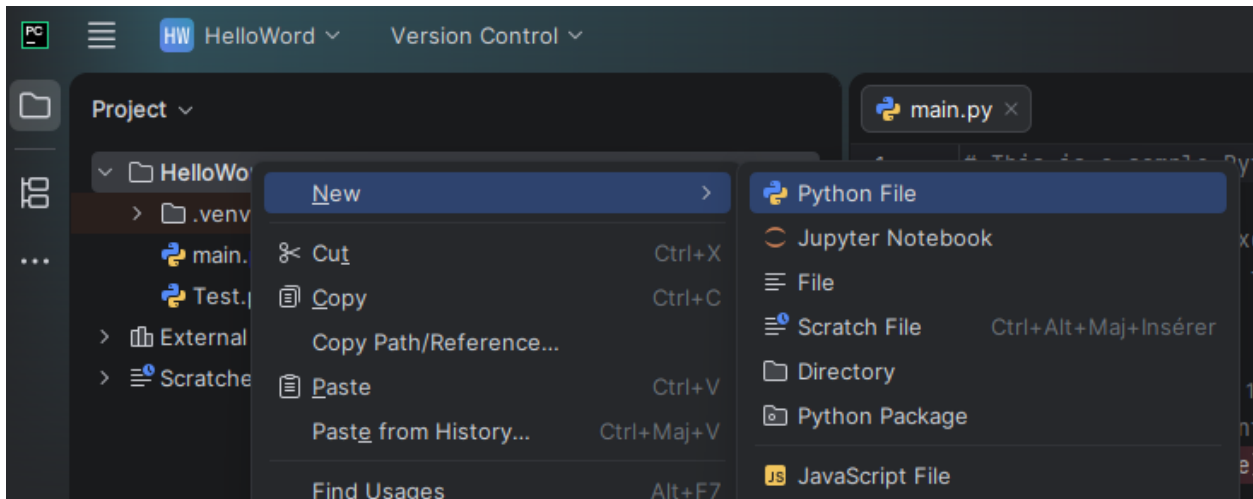
Click **Finish**.



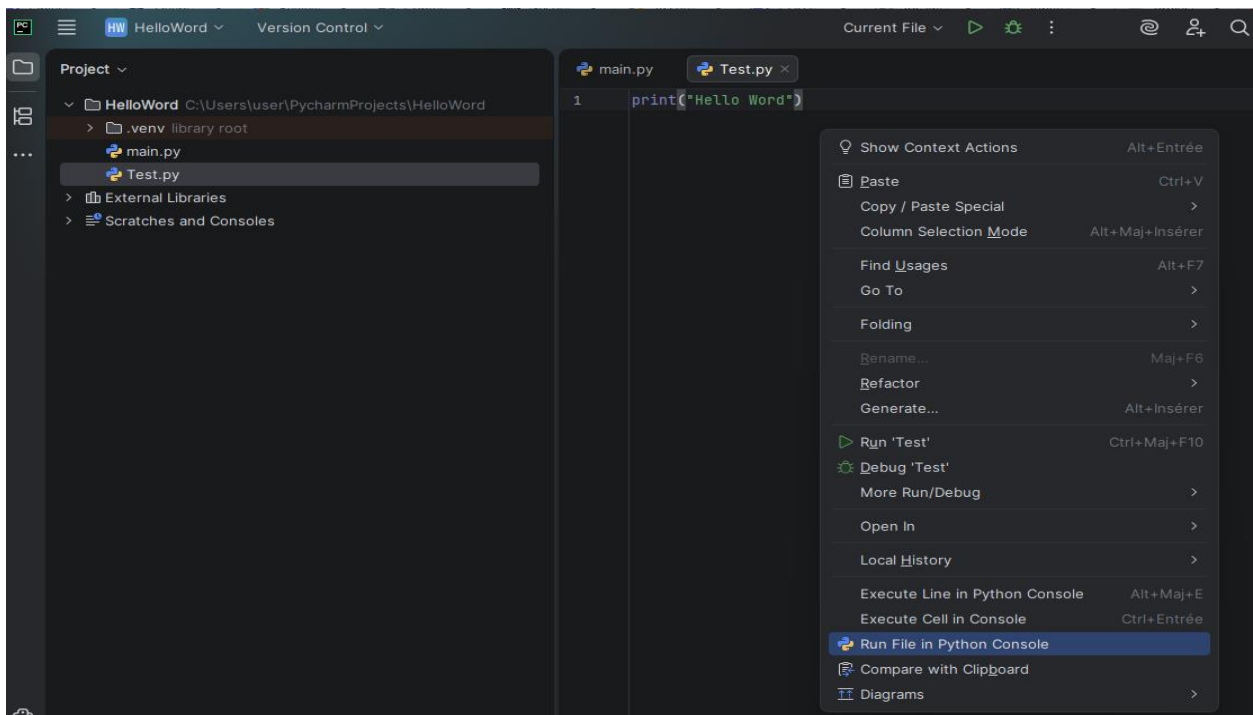
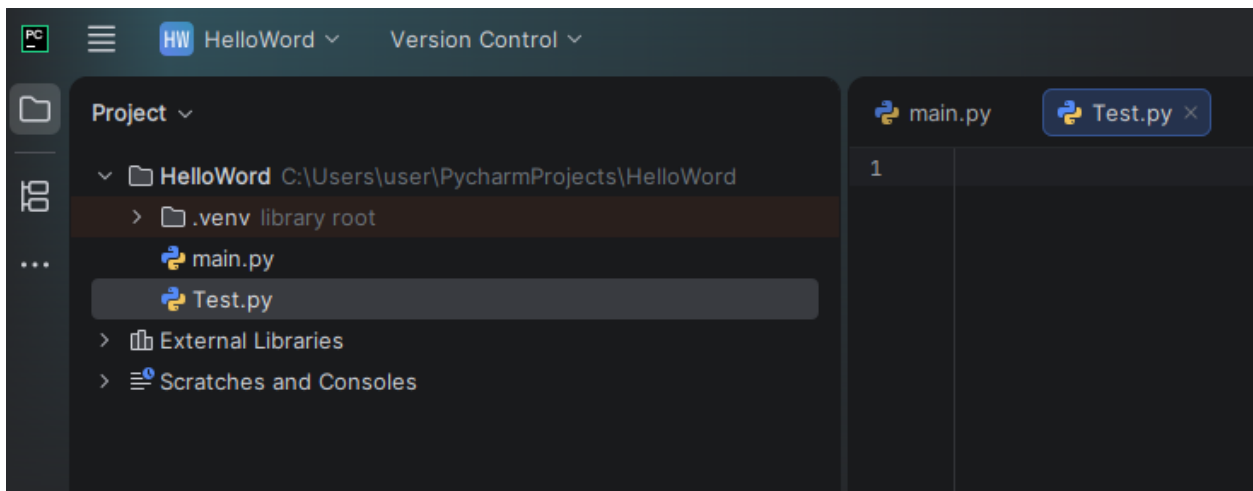
Click the **PyCharm** icon to launch.



Create New project(ex: HelloWord)



New\Python File(ex: Test)

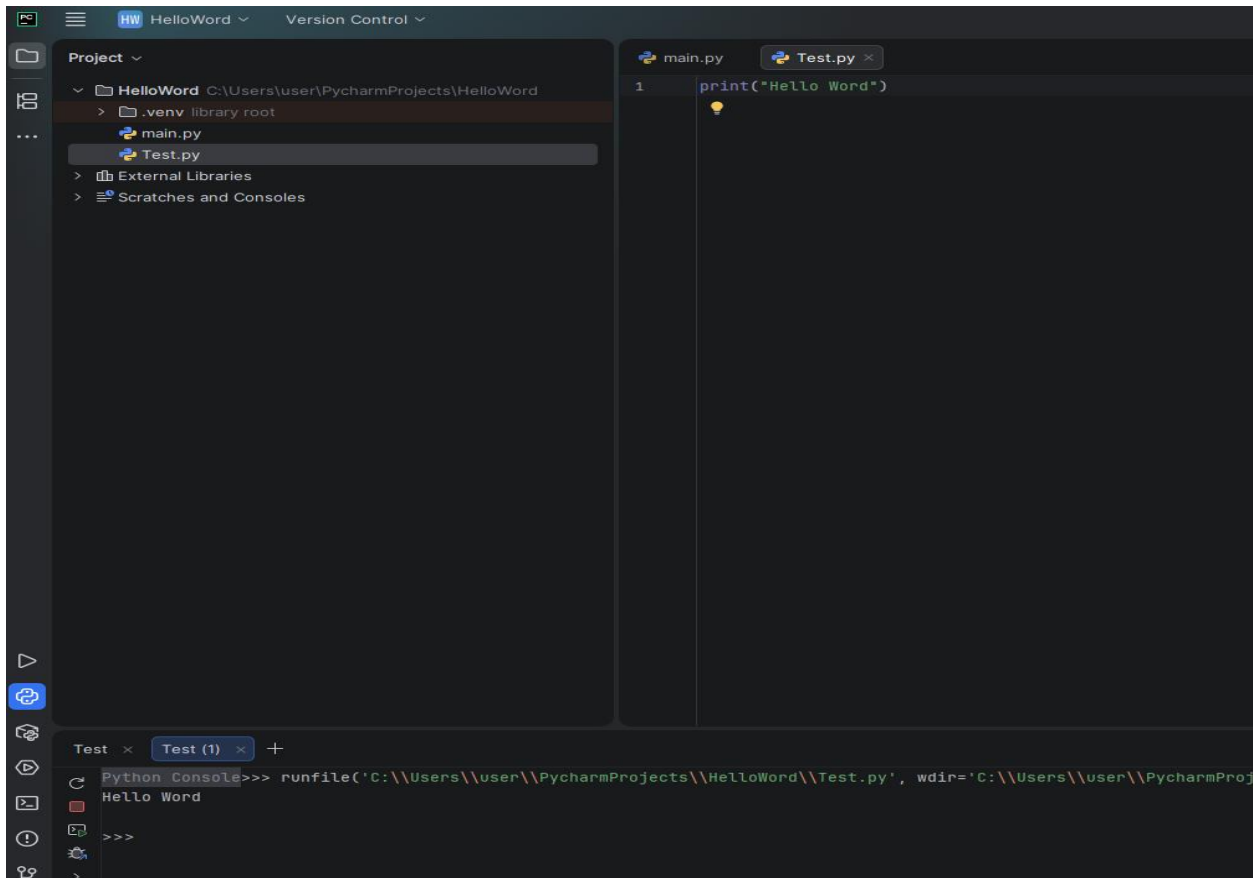


Enter the instruction: `print("Hello World")` (note: corrected "Word" to "World" for standard usage), then right-click and select **Run File in Python Console**.

Result:

text

Hello World



1.3 Getting started with Jupyter Notebooks: Interface, integrating text and code, running simple scripts.

Jupyter Notebook is a web-based application that lets you store Python code lines, their execution results (graphs, tables, etc.), and formatted text. It serves as another effective way and tool to work with Python.

Discover Jupyter Notebook

Jupyter Notebook is a powerful tool that lets Python users create and share interactive documents with live code, visualizations, documentation, and equations.

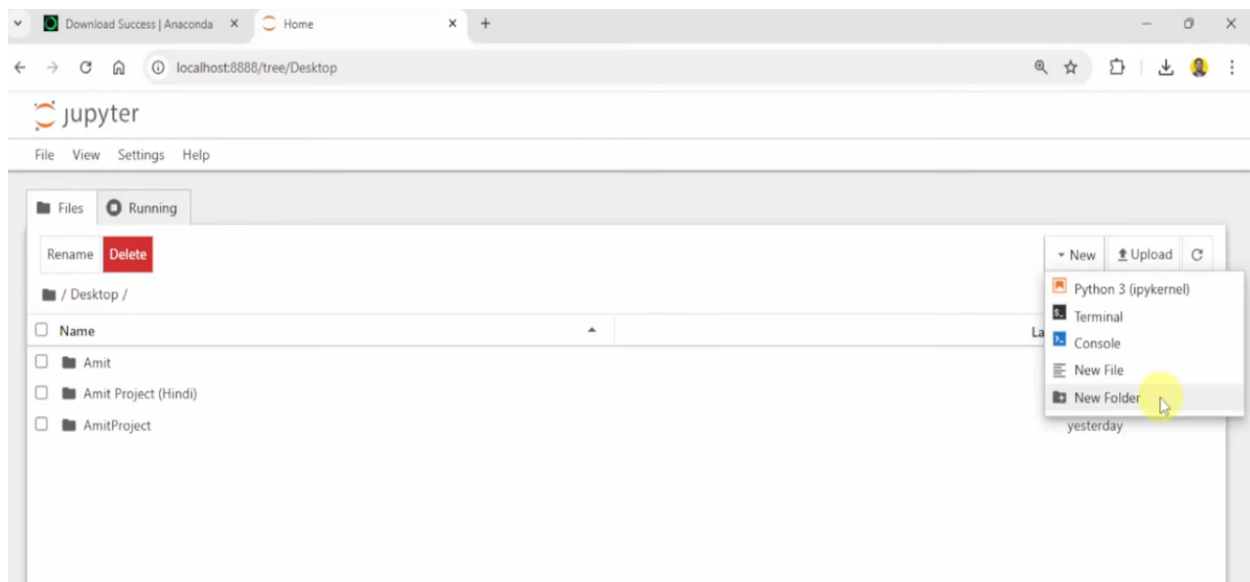
Your First Steps with Jupyter Launch via Console:

Python Installation:

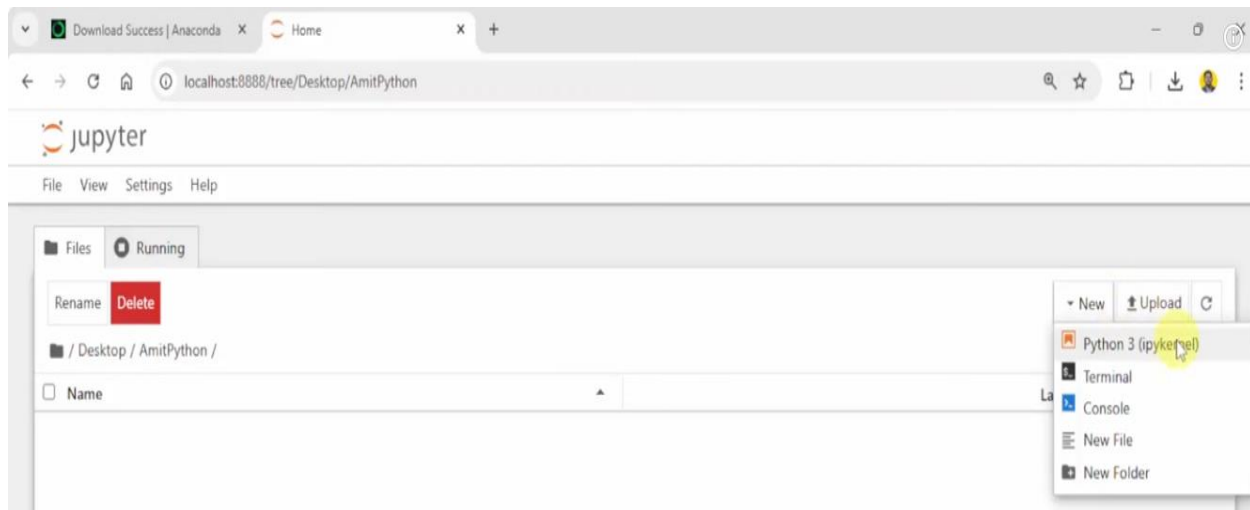
Open a file explorer console and run: `pip install jupyter`

Anaconda Installation:

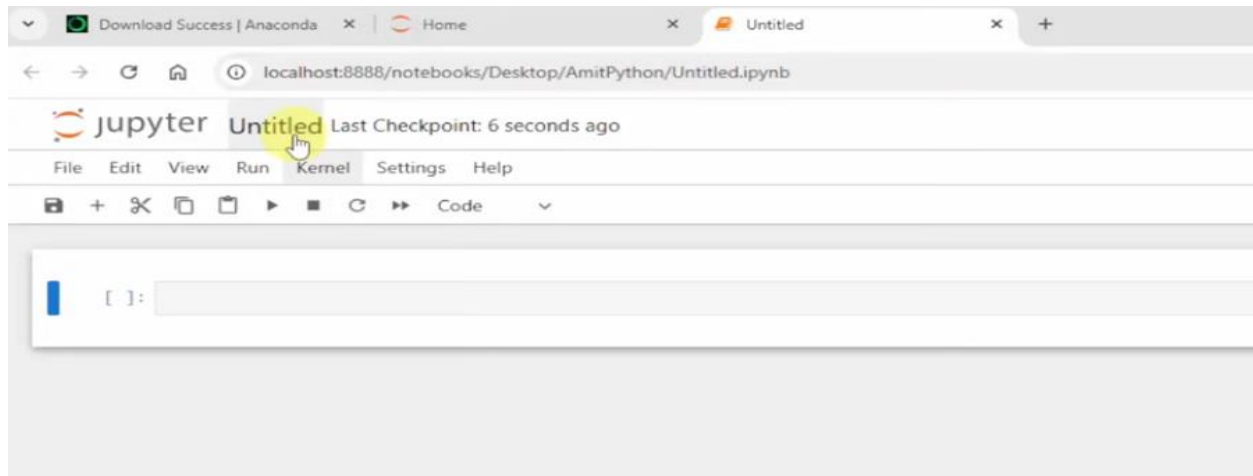
- Download the Anaconda version for your computer
- Run the Anaconda installer
- In Anaconda Navigator, select **Launch** under Jupyter



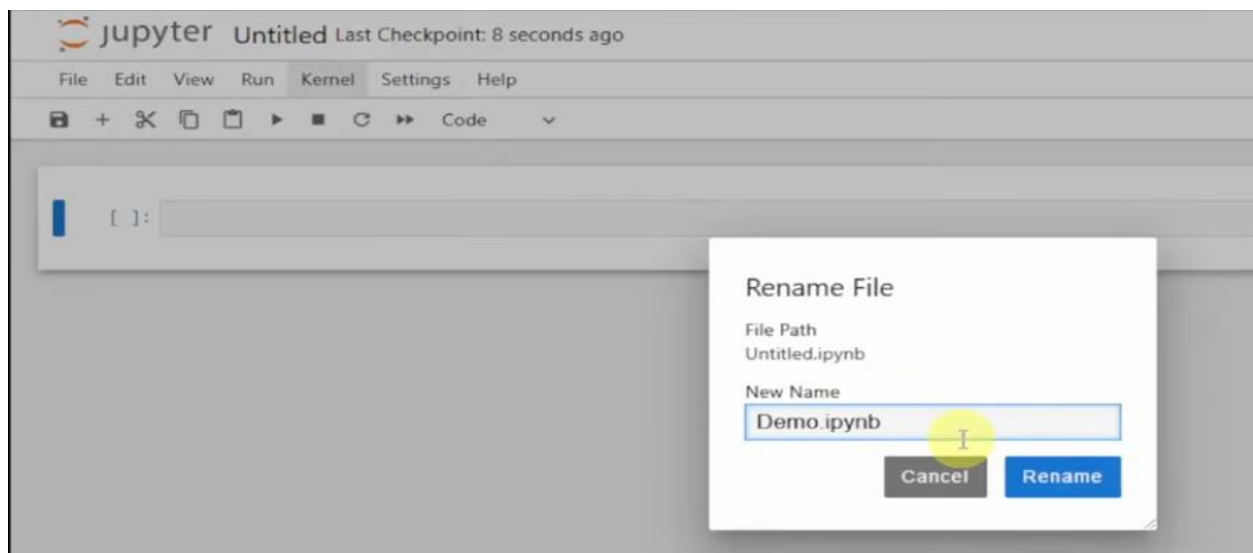
Click **New > New Folder** to create a new folder named **AmitPython**.



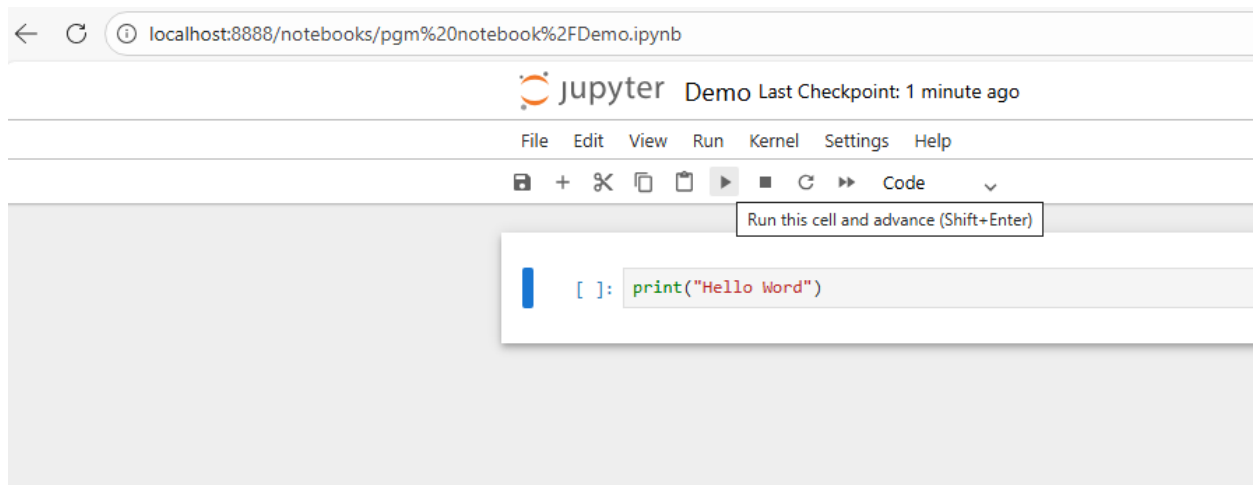
To create a Python file, click **New > Python 3**.



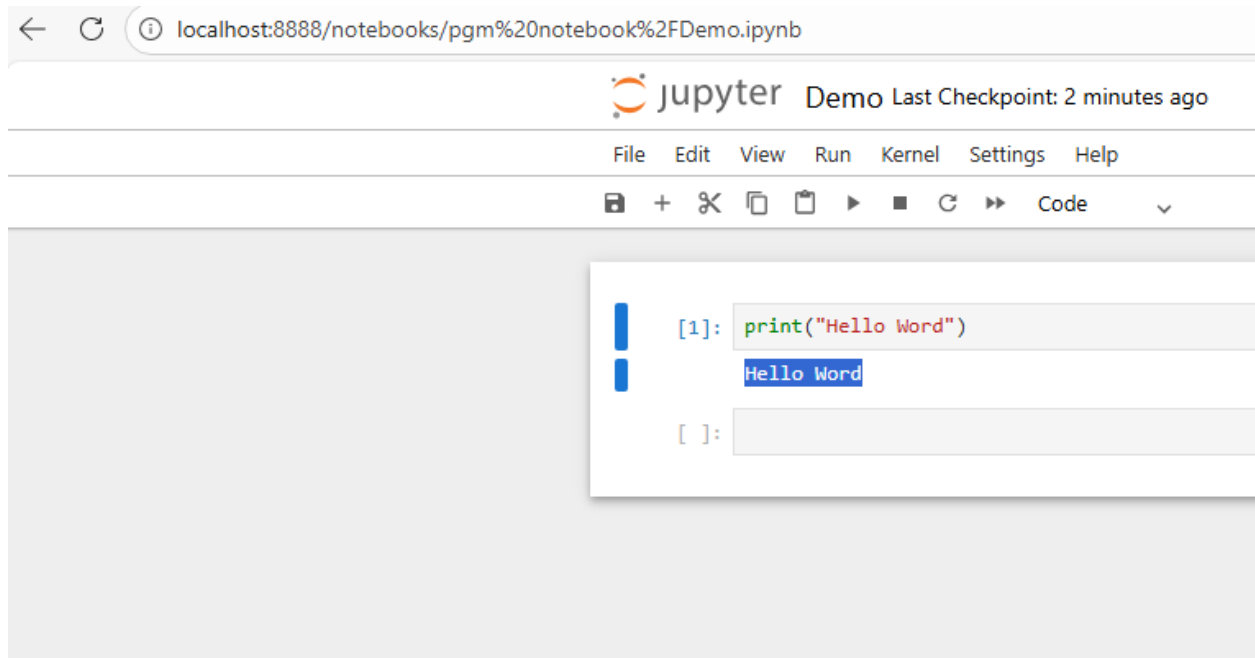
You can click here for rename with extension.ipynb (ex:demo.ipynb)



Enter the instruction: `print("Hello World")` (corrected spelling), then click **Run** ▶



And there you have it!



The image shows a web browser window displaying a Jupyter Notebook. The address bar shows the URL `localhost:8888/notebooks/pgm%20notebook%2FDemo.ipynb`. The Jupyter logo and the text "jupyter Demo Last Checkpoint: 2 minutes ago" are visible. Below the logo is a menu bar with options: File, Edit, View, Run, Kernel, Settings, Help. Underneath the menu bar is a toolbar with icons for file operations and execution. The main content area shows a code cell with the following content:

```
[1]: print("Hello Word")
```

The output of the code cell is displayed below the code:

```
Hello Word
```

Below the output, there is an empty code cell:

```
[ ]:
```