**Python Installation and Setup Guide on Windows**

**🔗 Reference Links**

* **GitHub Learning Repository** (Optional):  
  <https://github.com/karthickag04/learn_python>
* **Official Python Website**:  
  <https://www.python.org/>

**📥 Step 1: Download Python**

1. Open your browser and search for:  
   python
2. Click the official Python website link:  
   <https://www.python.org/>
3. Navigate to the **Downloads** section and download the **latest Python version for Windows**  
   (e.g., Python 3.13.3)

**🧑‍💻 Step 2: Install Python**

1. Go to your **Downloads** folder.
2. Find the downloaded file (e.g., python-3.13.3.exe) and **double-click** it or **Right-click → Run as administrator**.
3. In the installer:
   * ✔️ Click on **"Customize installation"**
   * ✔️ Select **all checkboxes**
   * ✔️ Ensure **"Add Python to environment variables"** is checked
   * ✔️ Check **"Install Python for all users"**
4. Click **Next** and then click **Install** to complete the setup.

**🧪 Step 3: Verify Installation**

**1. Open Command Prompt**

* Press Windows Key, search for **cmd**, and open **Command Prompt**

**2. Run Python**

Type the following and press Enter:

python

Expected output:

C:\Users\DELL>python

Python 3.13.3 (tags/v3.13.3:6280bb5, Apr 8 2025, 14:47:33) [MSC v.1943 64 bit (AMD64)] on win32

Type "help", "copyright", "credits" or "license" for more information.

>>>

**3. Try a Simple Python Command**

Type:

>>> 1 + 2

Expected result:

3

**4. Exit Python Shell**

Type:

>>> exit()

This will return you to the normal command prompt:

C:\Users\DELL>

You can always re-enter the Python shell by typing python again.

**❌ If Python Is Not Recognized in CMD**

You may see:

'python' is not recognized as an internal or external command...

**✅ Step 1: Locate Python Installation**

Check for Python installation in any of these paths:

* C:\Program Files\Python3x
* C:\Users\<YourUsername>\AppData\Local\Programs\Python\Python3x
* C:\Users\<YourUsername>\AppData\Roaming\Python\Python3x

Note down:

* **Python executable path** (e.g., C:\Users\DELL\AppData\Local\Programs\Python\Python3x)
* **Scripts path** (e.g., C:\Users\DELL\AppData\Local\Programs\Python\Python3x\Scripts)

**✅ Step 2: Add Paths to Environment Variables**

1. Press Windows Key → search **Environment Variables**
2. Click **"Edit the system environment variables"**
3. In the System Properties window, click **"Environment Variables"**
4. Under **System variables**, select Path → click **Edit**
5. Click **New** and paste:
   * Python path  
     C:\Users\DELL\AppData\Local\Programs\Python\Python3x
   * Scripts path  
     C:\Users\DELL\AppData\Local\Programs\Python\Python3x\Scripts
6. Click **OK** to close all windows

**🔁 Step 3: Reopen CMD and Test Again**

* Close the existing Command Prompt and open a **new one**
* Type:

python

Then test again with:

>>> 5 \* 10

50

If you see results, Python is now installed and recognized system-wide.

**✅ Summary**

* Download from: <https://www.python.org/>
* Use **Custom Installation** with all options enabled
* Ensure **Environment Variables** are set
* Use CMD to verify Python with basic math
* Troubleshoot with environment path if Python is not recognized

**🛠️ PyCharm & Visual Studio Code Installation Guide (Windows)**

**🚀 Part 1: Install PyCharm Community Edition**

**🔗 Download Link**

👉 <https://www.jetbrains.com/pycharm/download/>

**🧰 Installation Steps**

1. Visit the above link and click on the **“Download”** button under **Community Edition** (Free and open-source).
2. Once the .exe file is downloaded (e.g., pycharm-community-2024.1.exe), go to your **Downloads** folder and double-click the installer.
3. In the setup wizard:
   * Click **Next**
   * Choose installation path (default is fine)
   * Click **Next**
4. In the next screen:
   * ✅ Check **“Add Launchers dir to the PATH”**
   * ✅ Check **“Add ‘Open Folder as Project’” (optional)**
   * ✅ Check **Create Desktop Shortcut**
5. Click **Next** and then **Install**
6. After installation, click **Finish** (you may also check **"Run PyCharm Community Edition"**).

**🧪 First Launch**

1. On first launch, choose **“Do not import settings”**
2. Wait for PyCharm to initialize
3. You’re now ready to create a new Python project or open an existing one.

**💻 Part 2: Install Visual Studio Code (VS Code)**

**🔗 Download Link**

👉 <https://code.visualstudio.com/>

**🧰 Installation Steps**

1. Visit the above link and click **“Download for Windows”**
2. Open the downloaded installer (e.g., VSCodeUserSetup-x64-1.89.0.exe)
3. Go through the setup wizard:
   * Click **Next**
   * Accept the agreement and click **Next**
   * Choose installation location (default is fine), then click **Next**
4. **IMPORTANT:** On the “Select Additional Tasks” screen:
   * ✅ Check **“Add to PATH”**
   * ✅ Check **“Add ‘Open with Code’ action to Windows Explorer file context menu”**
   * ✅ Check **“Register Code as an editor for supported file types”**
5. Click **Next**, then **Install**
6. Once installation is done, click **Finish** and launch VS Code

**🔌 First Launch – Install Python Extension for VSCODE**

1. Open **VS Code**
2. Click the **Extensions icon** (square icon on left bar)
3. Search for **"Python"** by Microsoft
4. Click **Install**

VS Code is now ready for Python development.

**🐍 Getting Started with Python in Visual Studio Code (VS Code)**

**✅ Step 1: Open VS Code**

Launch **Visual Studio Code** from your system.

**📂 Step 2: Open a Folder**

You can open a folder in **any one** of the following ways:

* From the **Welcome Page**, click on **"Open Folder..."**
* From the **Explorer icon** 📁 on the **left sidebar**, click **"Open Folder"**
* From the **menu bar**, click **File → Open Folder...**

**📁 Step 3: Create and Select a New Folder**

1. In the **Open Folder dialog box**, navigate to any of the following locations:
   * **Desktop**
   * **Documents**
   * **Local Disks D:, E:, or F:**  
     ❌ *Do NOT choose Local Disk C:*
2. Click **"New Folder"** 📁, and name it something meaningful like:
   * PythonPrograms
3. To rename: Right-click on the folder → **Rename** → type the new name → hit **Enter**.
4. After naming, **select the folder** and click **"OK"**.

**📄 Step 4: Create a New Python File**

1. In the **Explorer** 📁 (left sidebar), **expand your folder**.
2. Right-click inside the folder → **New File** 📄.
3. Name your file with a .py extension, for example:
   * py\_program\_01.py
4. You can:
   * **Rename** the file: Right-click → Rename
   * **Delete** the file: Right-click → Delete

**✏️ Step 5: Write and Save Python Code**

1. Double-click the file py\_program\_01.py to open it.
2. Type the following Python code:

print("Welcome to Python")

print(2 + 2)

1. To **save** the file:
   * Press **Ctrl + S**  
     or
   * Click **File → Save**

**💻 Step 6: Run the Program from Terminal**

1. Open terminal using any of these options:
   * **Menu:** Terminal → **New Terminal**
   * **Shortcut:** Ctrl + J or Ctrl + ~ (tilde)
2. Make sure the **terminal path** is set to your folder, e.g.:

C:\Users\YourName\Desktop\PythonPrograms>

D:\PythonPrograms>

1. Run your program using:

python py\_program\_01.py

or

py py\_program\_01.py

✅ You should see output like:

Welcome to Python

4

**🧩 Step 7: Optional - Install Python Extension for Easier Execution**

1. Click the **Extensions icon** 🧩 from the **left sidebar**.
2. Search for **Python** (by Microsoft) and click **Install**.
3. Once installed:
   * Right-click your Python file
   * Click **"Run Python File in Terminal"**

You will see the output in the terminal just like before.

**🎯 Repeat**

You can repeat these steps for different Python programs by creating new .py files in the same folder or a new folder.