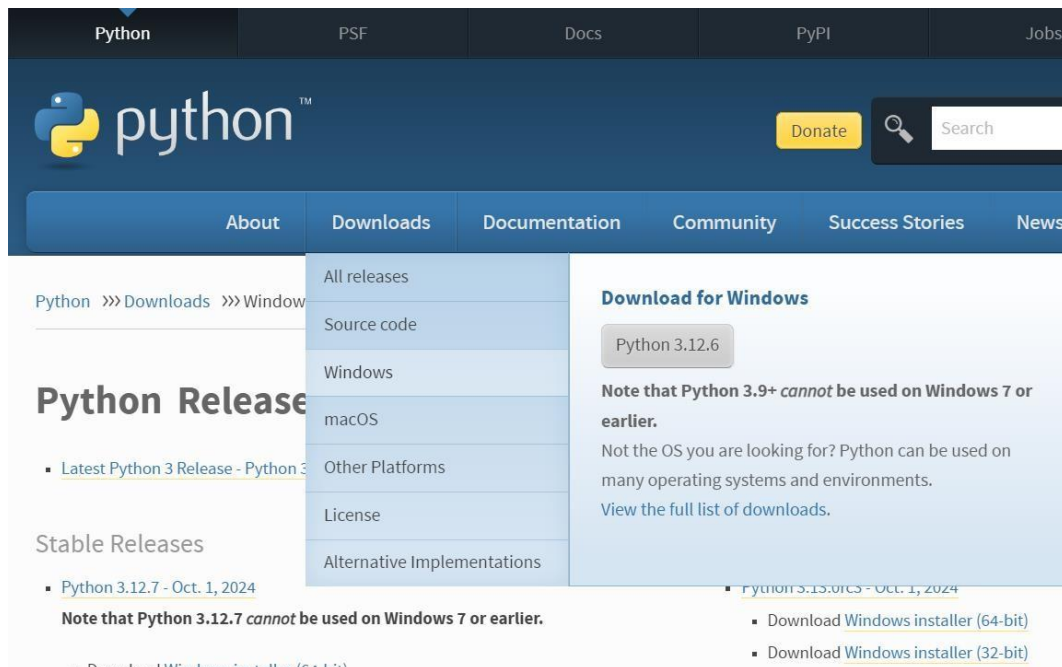


BLURRING OF AN IMAGE USING COMPUTER VISION

ENVIRONMENTAL SET-UP:

Installing Python: We can download it from

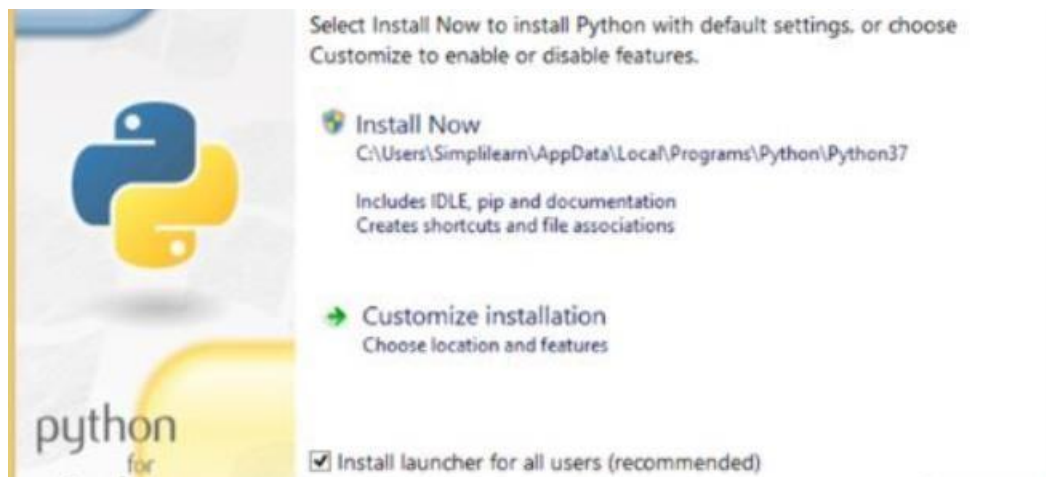
<https://www.python.org/downloads/>



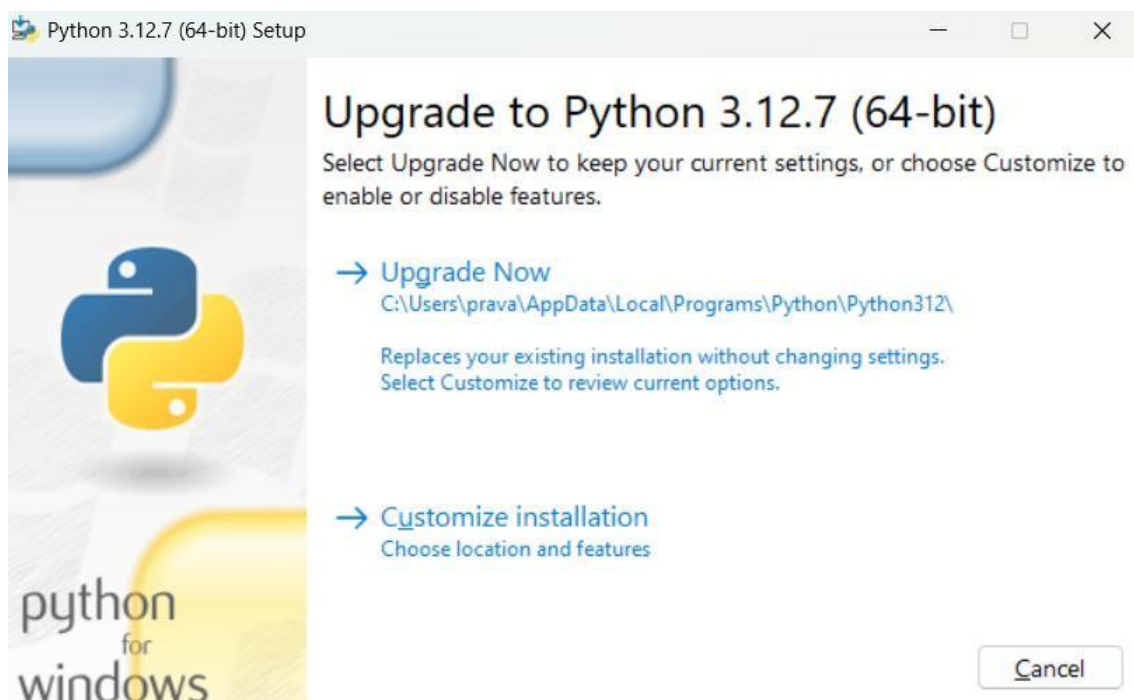
For a **64-bit** version of Windows, download the **Windows installer (64-bit)**.



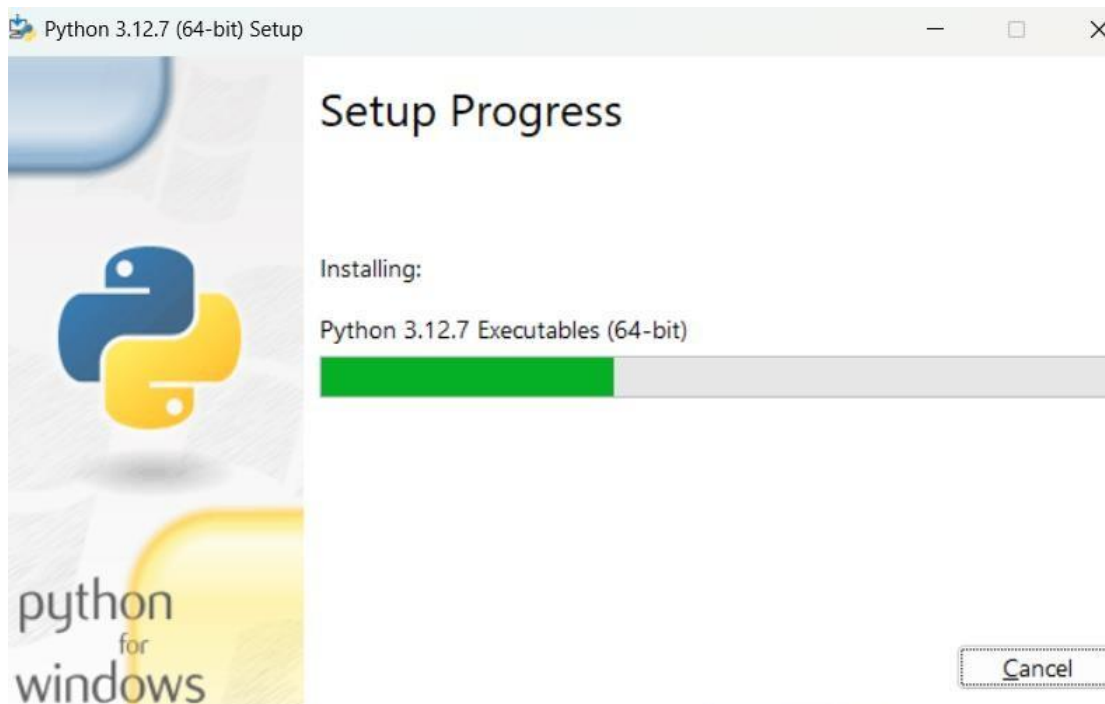
If we wanted to save the installation file in a different location, click on Customize installation; otherwise, continue with Install Now.



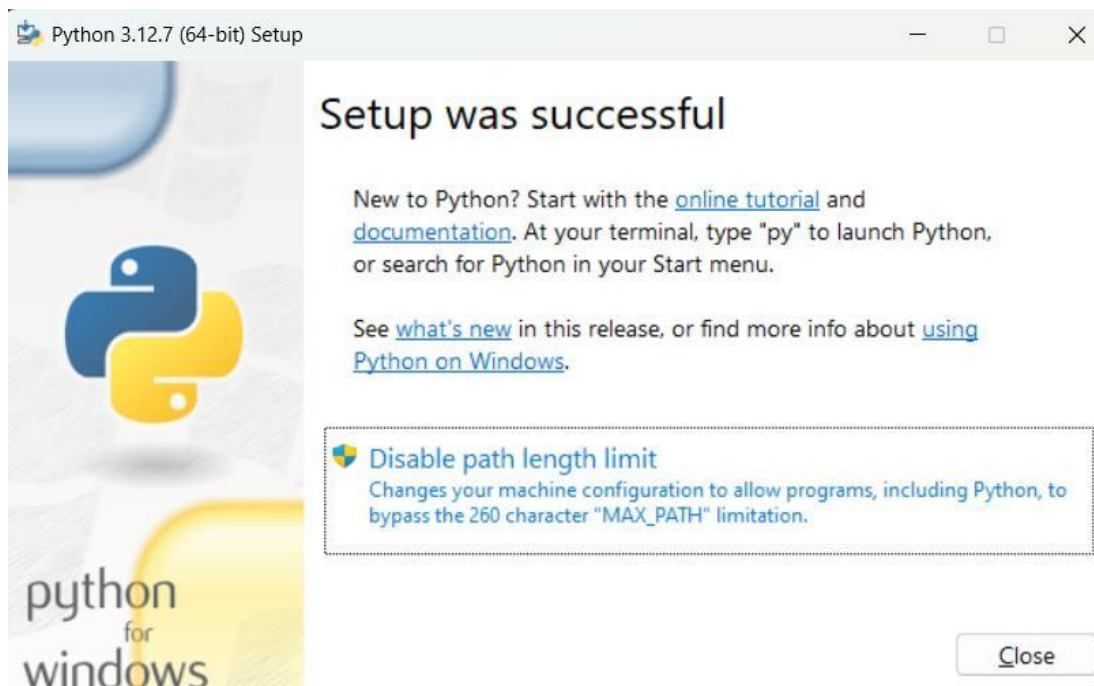
If already installed and wanted to upgrade the version we can choose upgrade now.



Once the installation is complete, the below pop-up box will appear: Setup was successful.



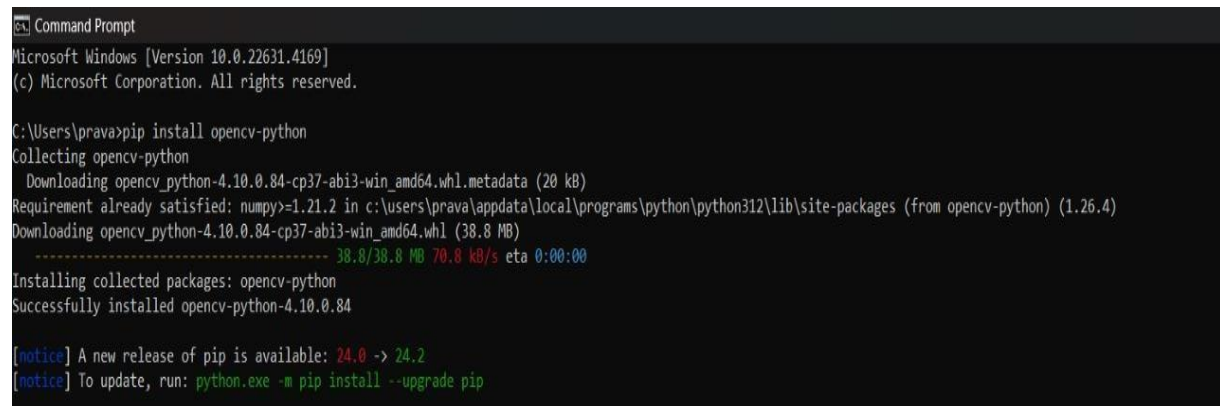
If the installation is successful it shows that the setup was successful.



Installing OpenCV: We can install the OpenCV library using pip. Open the command line (Command Prompt) and run the command.



Then it will be displayed as:



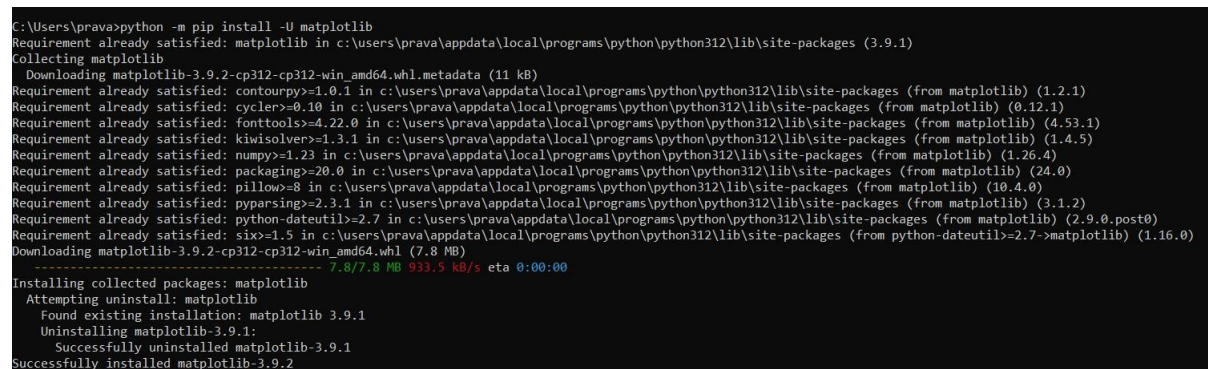
```
Command Prompt
Microsoft Windows [Version 10.0.22631.4169]
(c) Microsoft Corporation. All rights reserved.

C:\Users\prava>pip install opencv-python
Collecting opencv-python
  Downloading opencv_python-4.10.0.84-cp37-abi3-win_amd64.whl.metadata (20 kB)
Requirement already satisfied: numpy>=1.21.2 in c:\users\prava\appdata\local\programs\python\python312\lib\site-packages (from opencv-python) (1.26.4)
Downloading opencv_python-4.10.0.84-cp37-abi3-win_amd64.whl (38.8 MB)
----- 38.8/38.8 MB 70.8 kB/s eta 0:00:00
Installing collected packages: opencv-python
Successfully installed opencv-python-4.10.0.84

[notice] A new release of pip is available: 24.0 -> 24.2
[notice] To update, run: python.exe -m pip install --upgrade pip
```

The above steps ensure that Python and OpenCV are set up correctly for the project. We have to ensure all necessary libraries are installed before starting the project.

Installing Matplotlib: We can install matplotlib using pip as shown below.



```
C:\Users\prava>python -m pip install -U matplotlib
Requirement already satisfied: matplotlib in c:\users\prava\appdata\local\programs\python\python312\lib\site-packages (3.9.1)
Collecting matplotlib
  Downloading matplotlib-3.9.2-cp312-cp312-win_amd64.whl.metadata (11 kB)
Requirement already satisfied: contourpy>=1.0.1 in c:\users\prava\appdata\local\programs\python\python312\lib\site-packages (from matplotlib) (1.2.1)
Requirement already satisfied: cycler>=0.10 in c:\users\prava\appdata\local\programs\python\python312\lib\site-packages (from matplotlib) (0.12.1)
Requirement already satisfied: fonttools>=4.22.0 in c:\users\prava\appdata\local\programs\python\python312\lib\site-packages (from matplotlib) (4.53.1)
Requirement already satisfied: kiwisolver>=1.3.1 in c:\users\prava\appdata\local\programs\python\python312\lib\site-packages (from matplotlib) (1.4.5)
Requirement already satisfied: numpy>=1.23 in c:\users\prava\appdata\local\programs\python\python312\lib\site-packages (from matplotlib) (1.26.4)
Requirement already satisfied: packaging>=20.0 in c:\users\prava\appdata\local\programs\python\python312\lib\site-packages (from matplotlib) (24.0)
Requirement already satisfied: pillow>=8 in c:\users\prava\appdata\local\programs\python\python312\lib\site-packages (from matplotlib) (10.4.0)
Requirement already satisfied: pyparsing>=2.3.1 in c:\users\prava\appdata\local\programs\python\python312\lib\site-packages (from matplotlib) (3.1.2)
Requirement already satisfied: python-dateutil>=2.7 in c:\users\prava\appdata\local\programs\python\python312\lib\site-packages (from matplotlib) (2.9.0.post0)
Requirement already satisfied: six>=1.5 in c:\users\prava\appdata\local\programs\python\python312\lib\site-packages (from python-dateutil>=2.7->matplotlib) (1.16.0)
Downloading matplotlib-3.9.2-cp312-cp312-win_amd64.whl (7.8 MB)
----- 7.8/7.8 MB 933.5 kB/s eta 0:00:00
Installing collected packages: matplotlib
  Attempting uninstall: matplotlib
    Found existing installation: matplotlib 3.9.1
    Uninstalling matplotlib-3.9.1:
      Successfully uninstalled matplotlib-3.9.1
Successfully installed matplotlib-3.9.2
```

Installing VSCode:

Initially, Download VS Code, go to <https://code.visualstudio.com/> and click Download for Windows.

Open the downloaded .exe file and follow the installation prompts. Check the box that says "Add to PATH" (so you can use VS Code from the terminal). We can also select "Create a desktop shortcut" if we want. Click Install and wait for the process to finish. Once the installation is complete, click Finish to open VS Code.