Jupyter Lab - Python Setup Guide
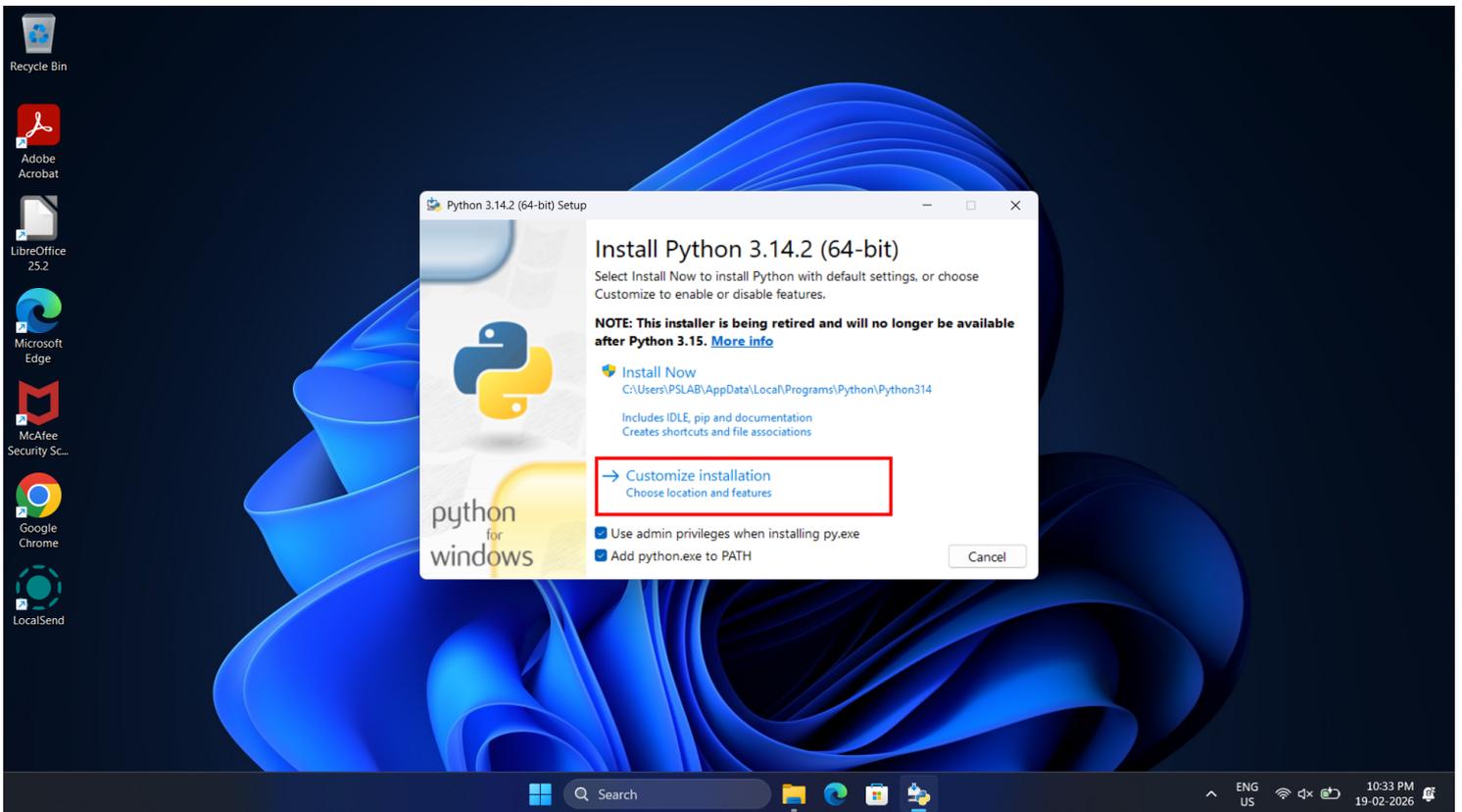
1 Installation of Python

1. Goto to https://www.python.org to download the latest version of Python (**Python 3.14** is the latest at the time of writing this guide).

2. Double click on the installer to run it. The installation window appears as seen in figure below.
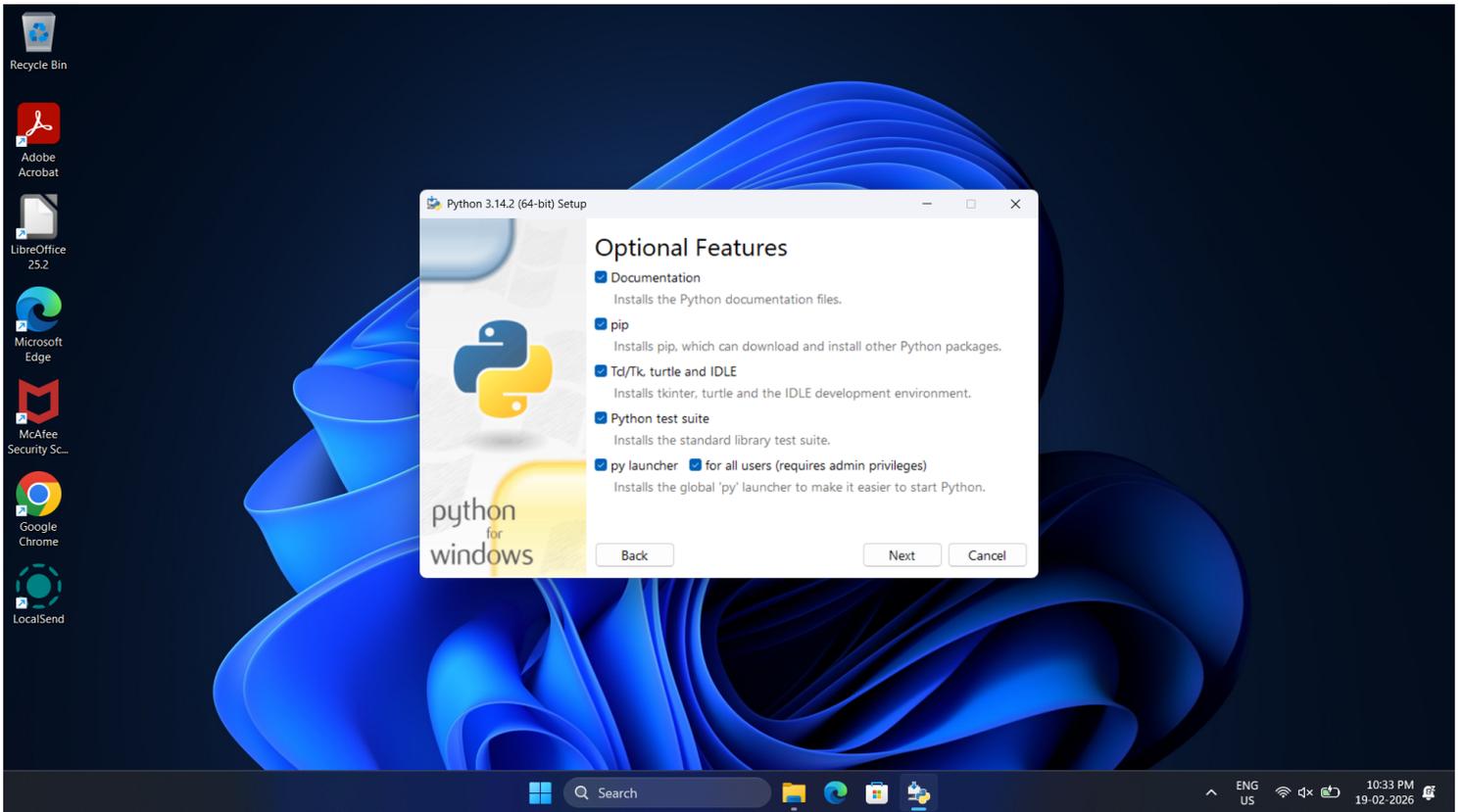
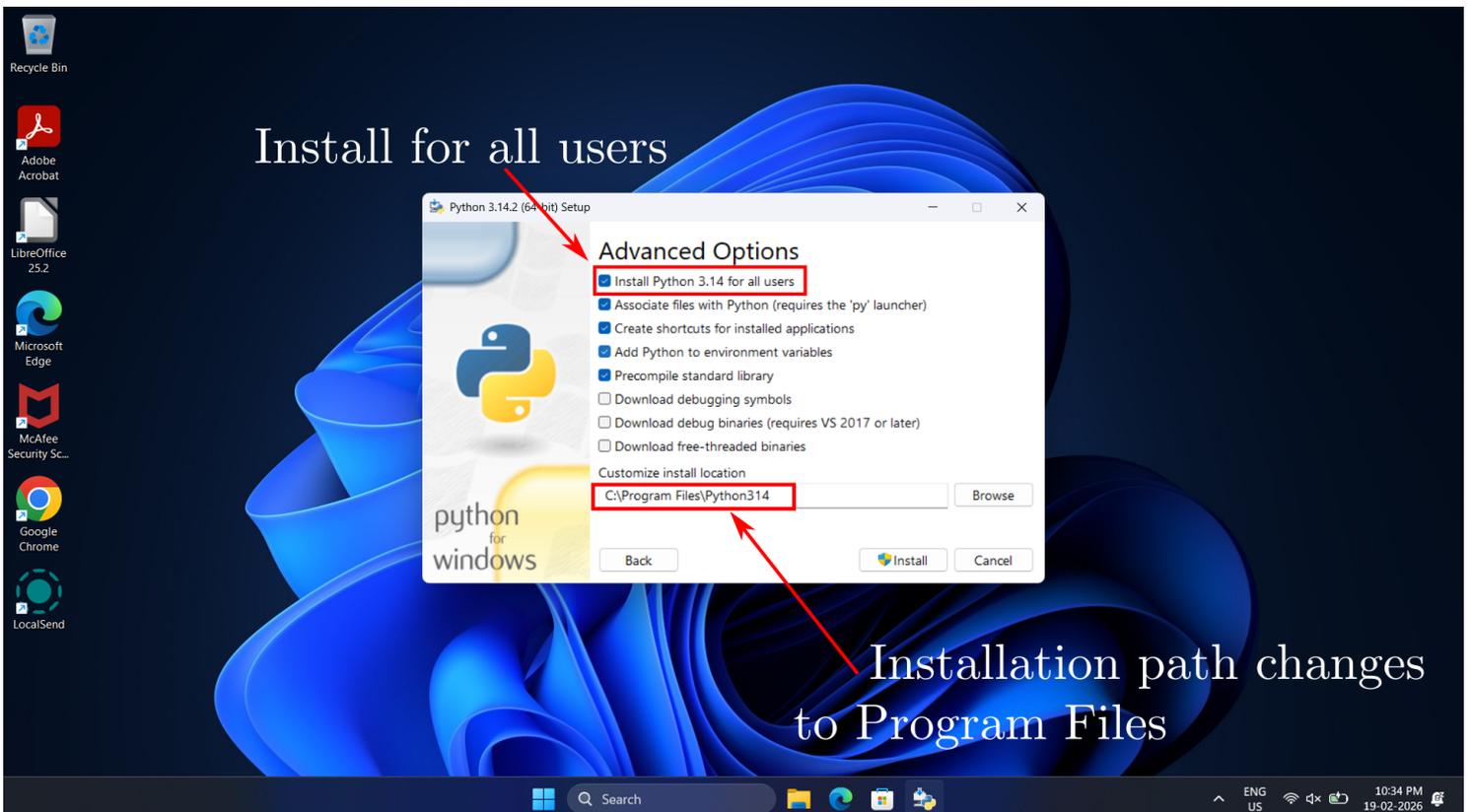3. Select the checkboxes as shown in the figure below.
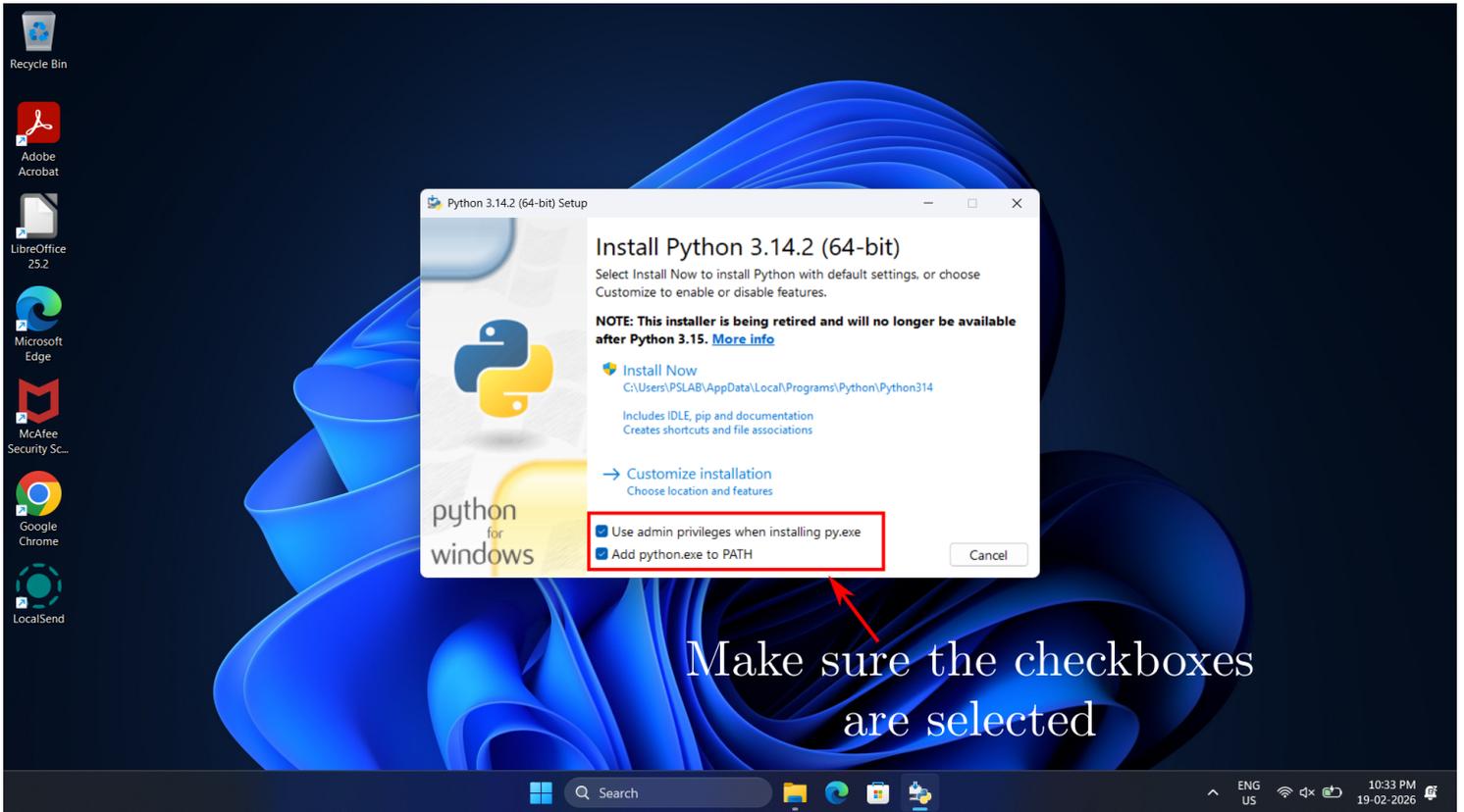
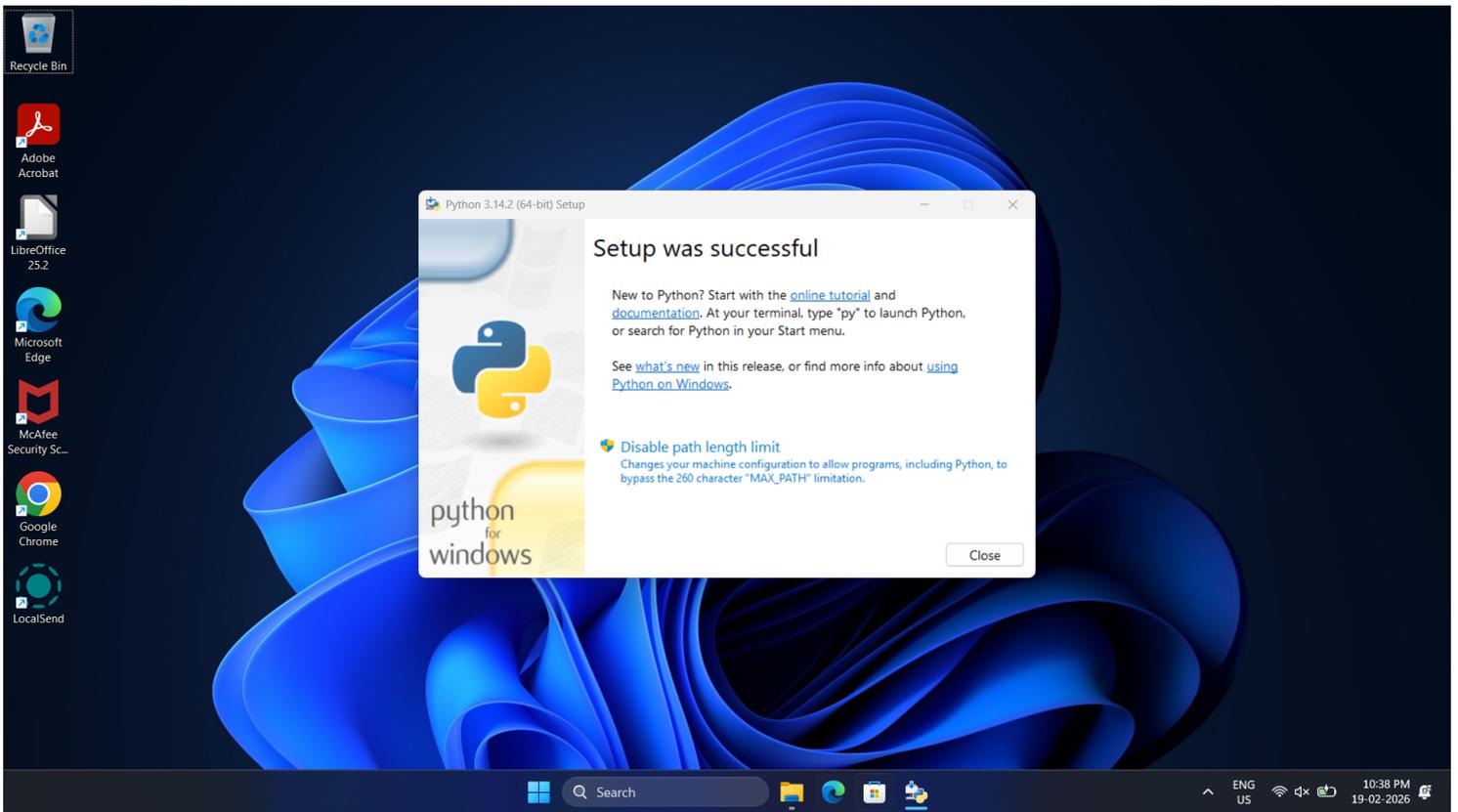4. Click on **Customize Installation** to proceed to the next stage.

5. Make sure all the checkboxes are selected as shown in the below figure. Click on **Next** to proceed.

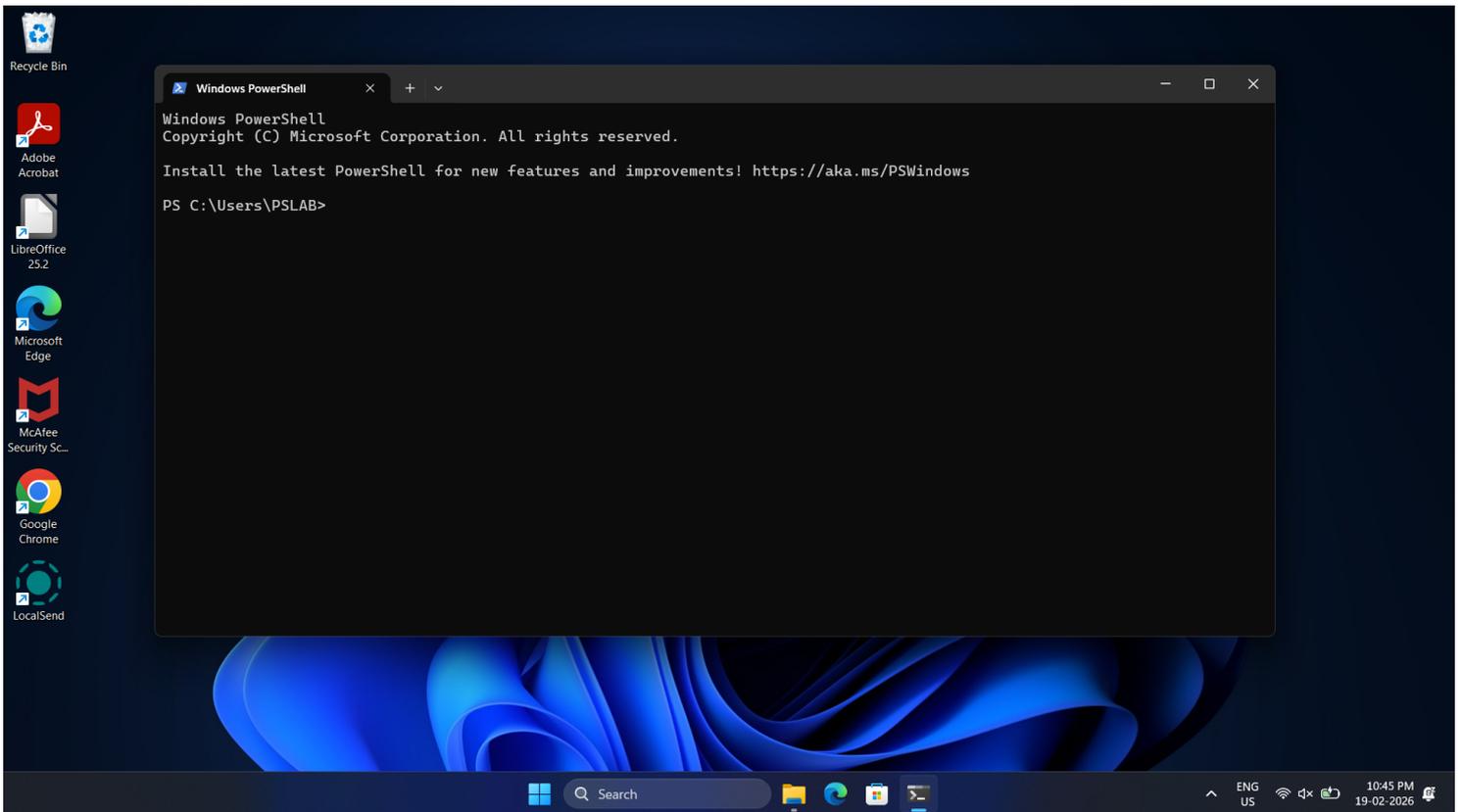6. Select **Install Python 3.14 for all users**. Click on **Install**.

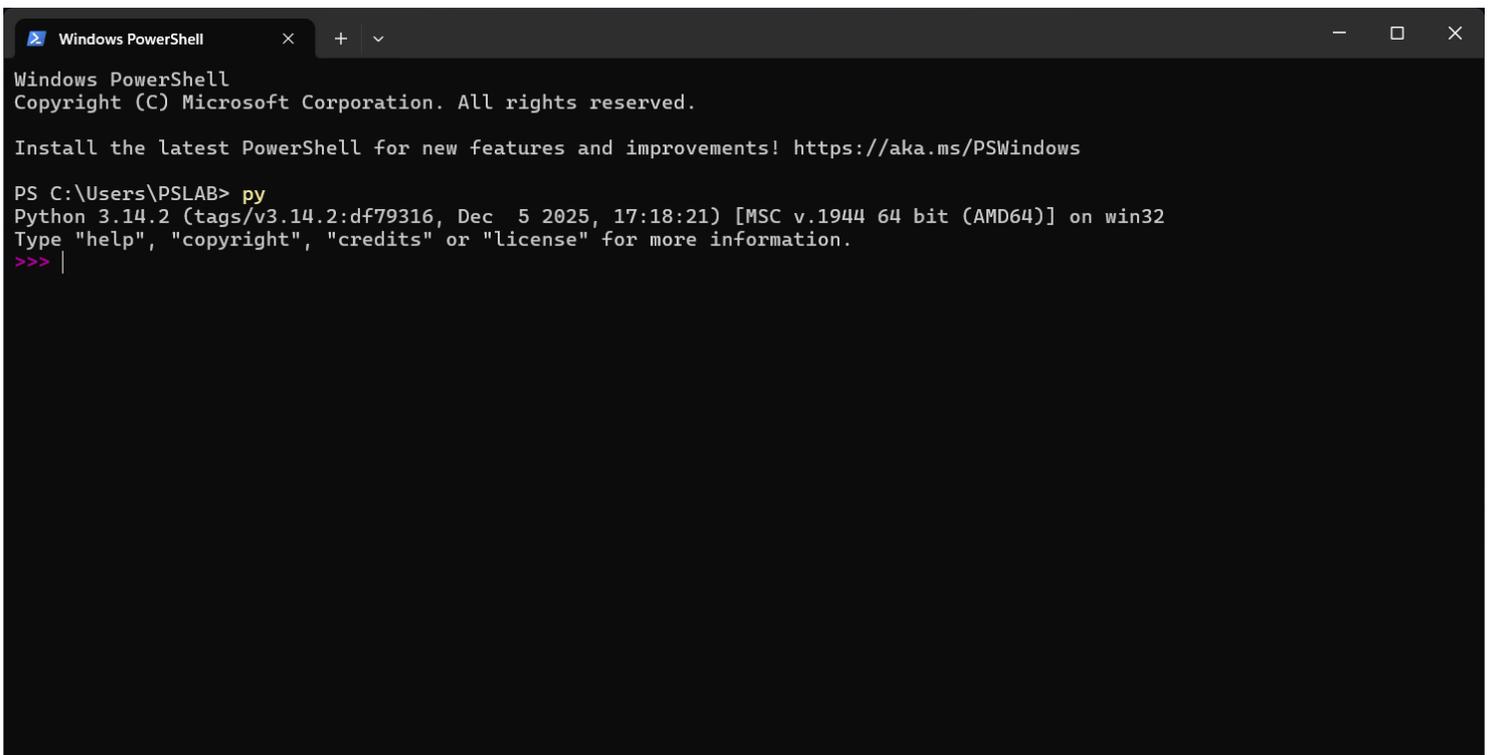7. Accept the Administrative Privileges and wait for installation to finish.

8. Restart the system. To verify the installation, open the **Terminal** (**Windows 11**) (In **Windows 10**, one can open **Command Prompt** or **Windows Powershell**).
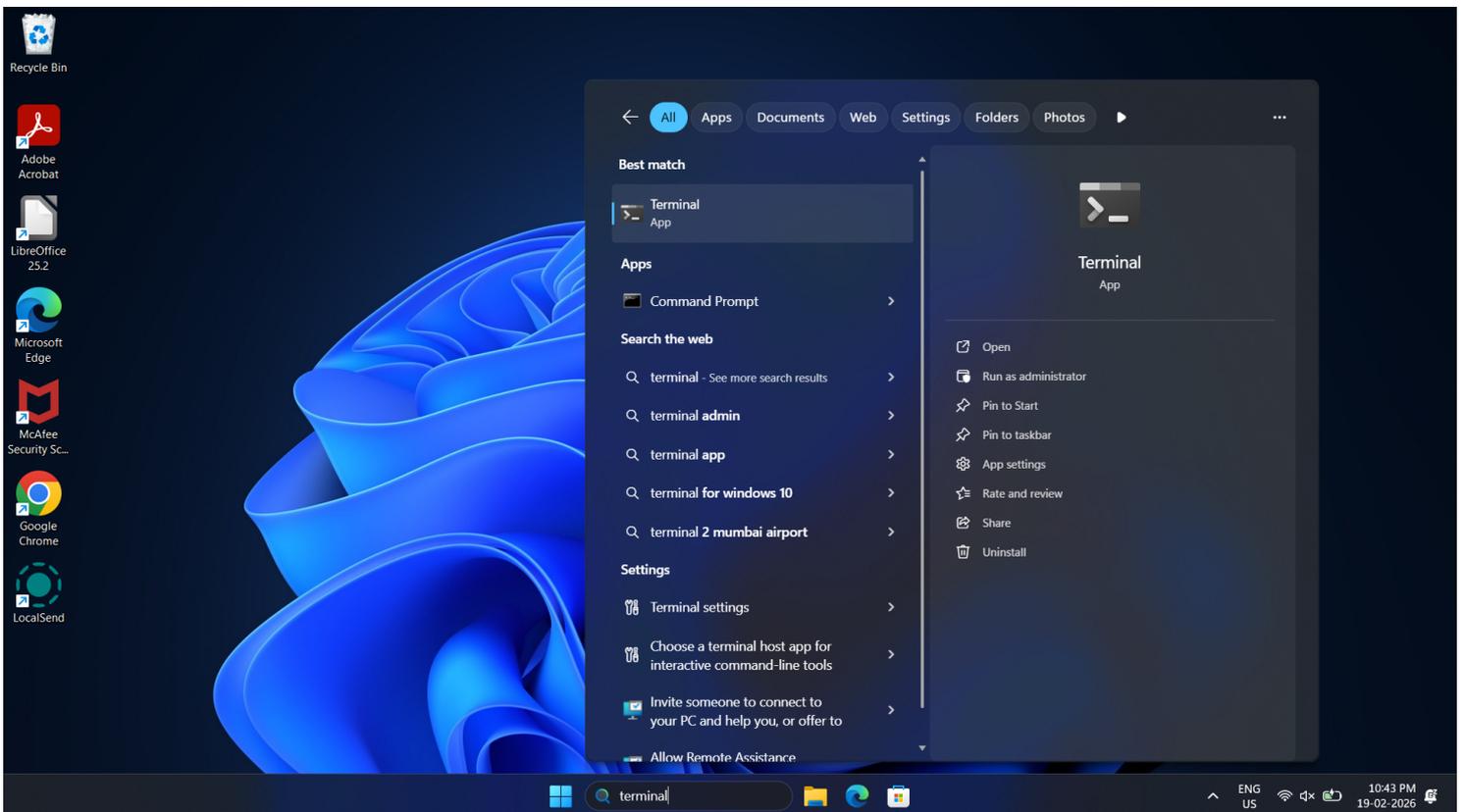
9. Type **py** in the terminal window and press Enter. The **Python Console** will start as shown in the figure below.

10. Exit out of the Python Console by typing **exit()** and pressing Enter or by pressing **Ctrl+C**.
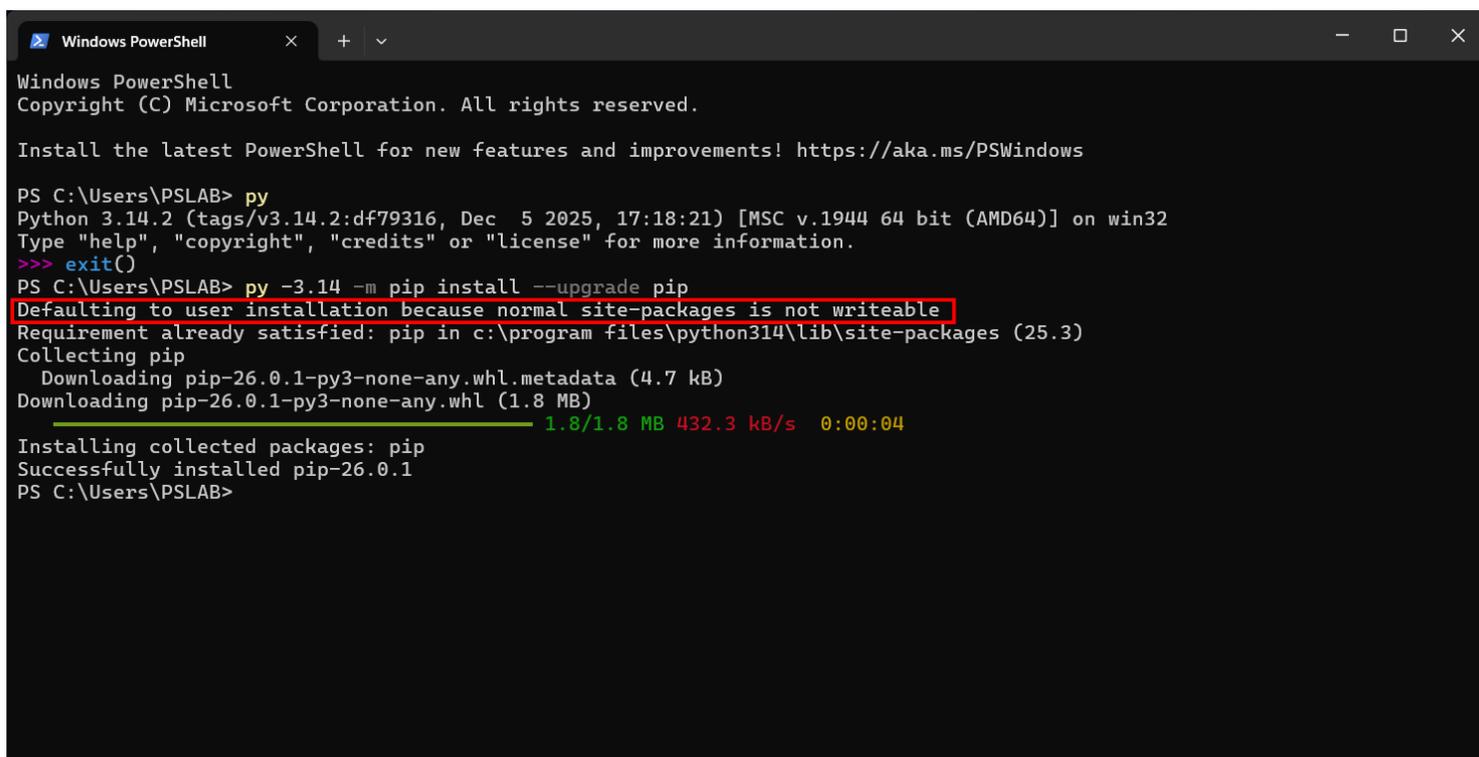
2 Setting Up Jupyter Lab Interactive Environment

1. In order to use the **Jupyter Lab** Interactive environment (https://jupyter.org/), we must first install them in **Python**.

2. In the terminal environment, type the command shown below

   ```
   >>> py -3.14 -m pip install --upgrade pip
   ```

   This command will update the Python Package Manager (**pip**).

3. During the update procedure, if a message as highlighted in the figure shown below appears:

   The paths for Python have to be configured.

   If this message does not appear, skip to step 10.

   <u>**Note:**</u> The argument **-3.14** in th command shown above corresponds to the Python version used. For other Python versions, the argument changes accordingly. For e.g., for Python 3.9, the argument becomes **-3.9** and the command becomes;
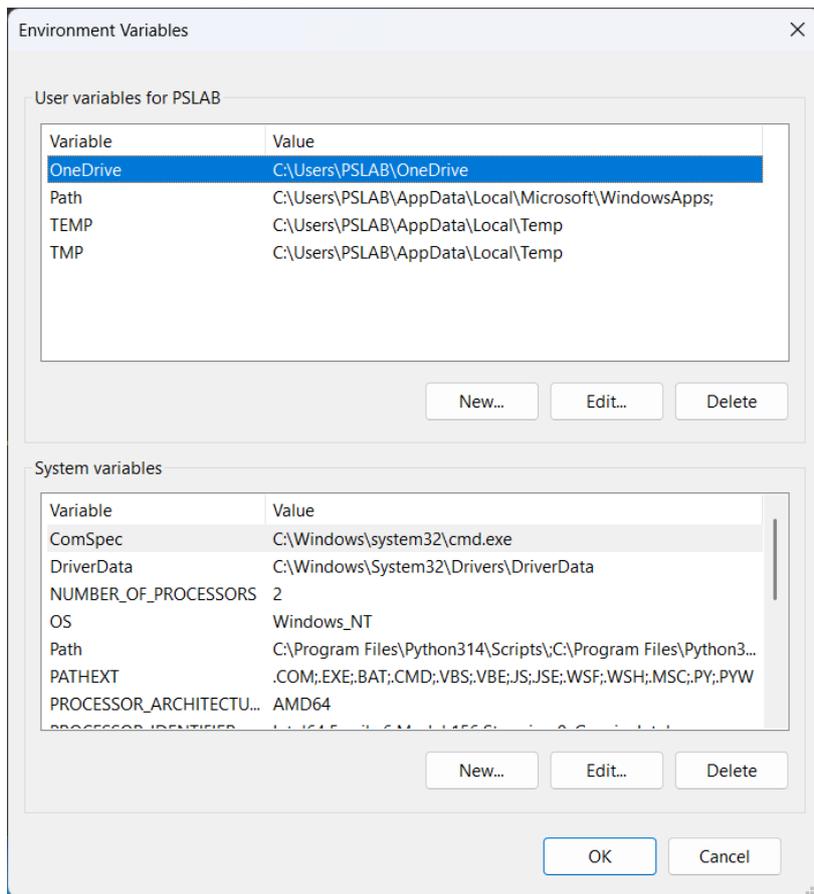
   ```
   >>> py -3.9 -m pip install --upgrade pip
   ```

   Additionally, if **only one** version of Python is installed on the system, then the version argument can be dropped.
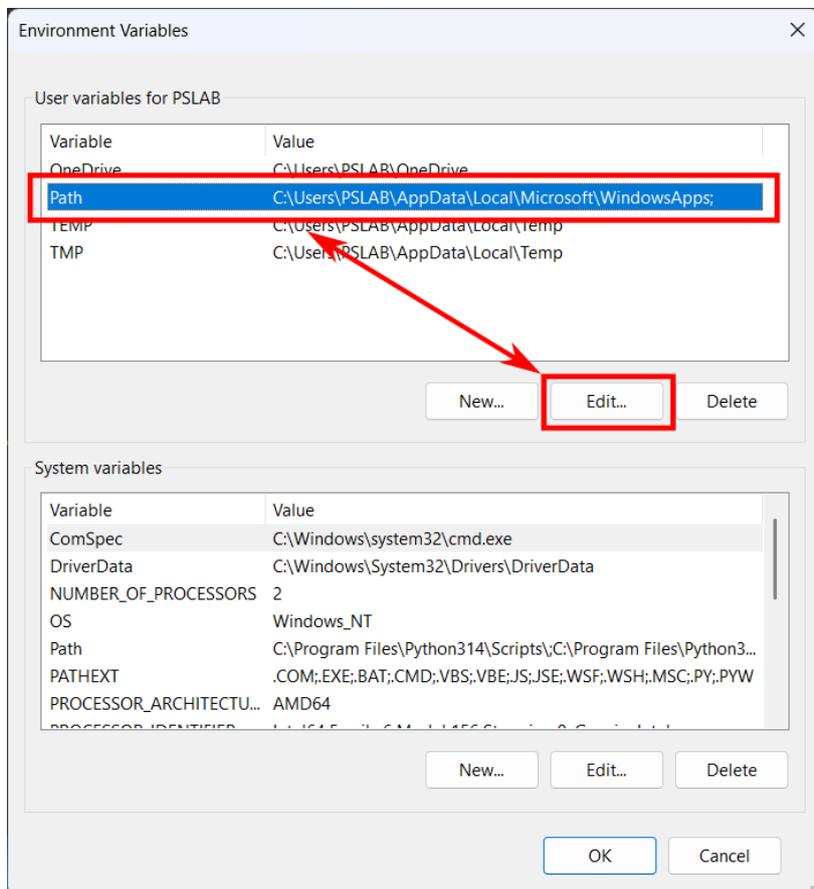
   ```
   >>> py -m pip install --upgrade pip
   ```

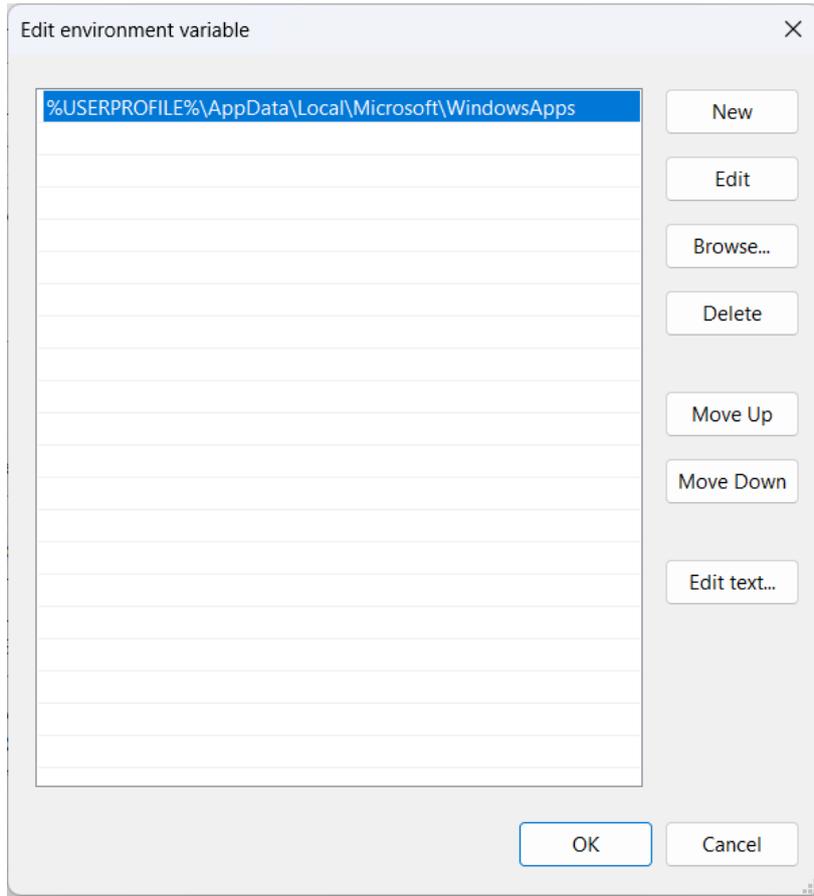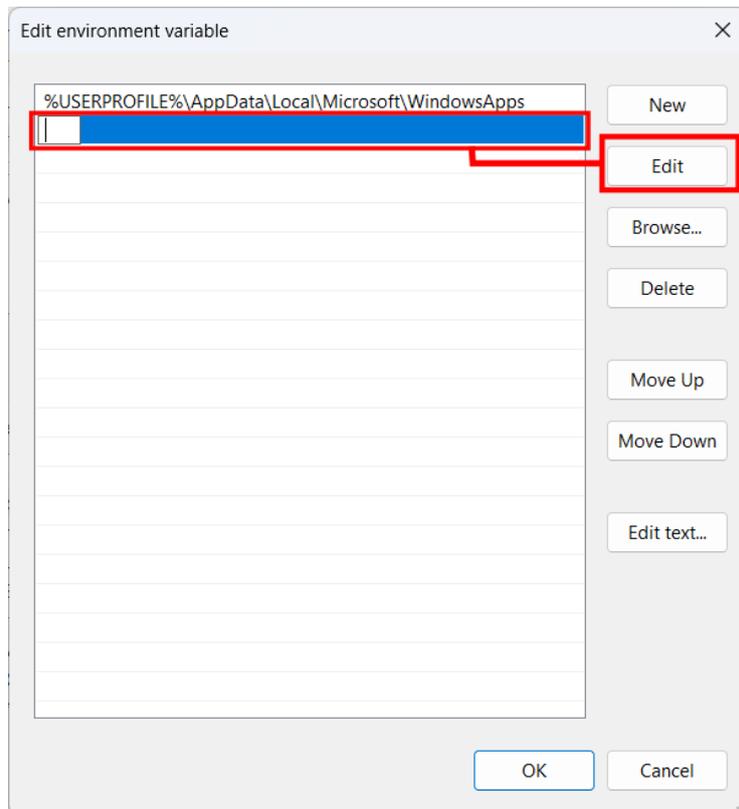4. Open the **Environment Variables** window as follows:
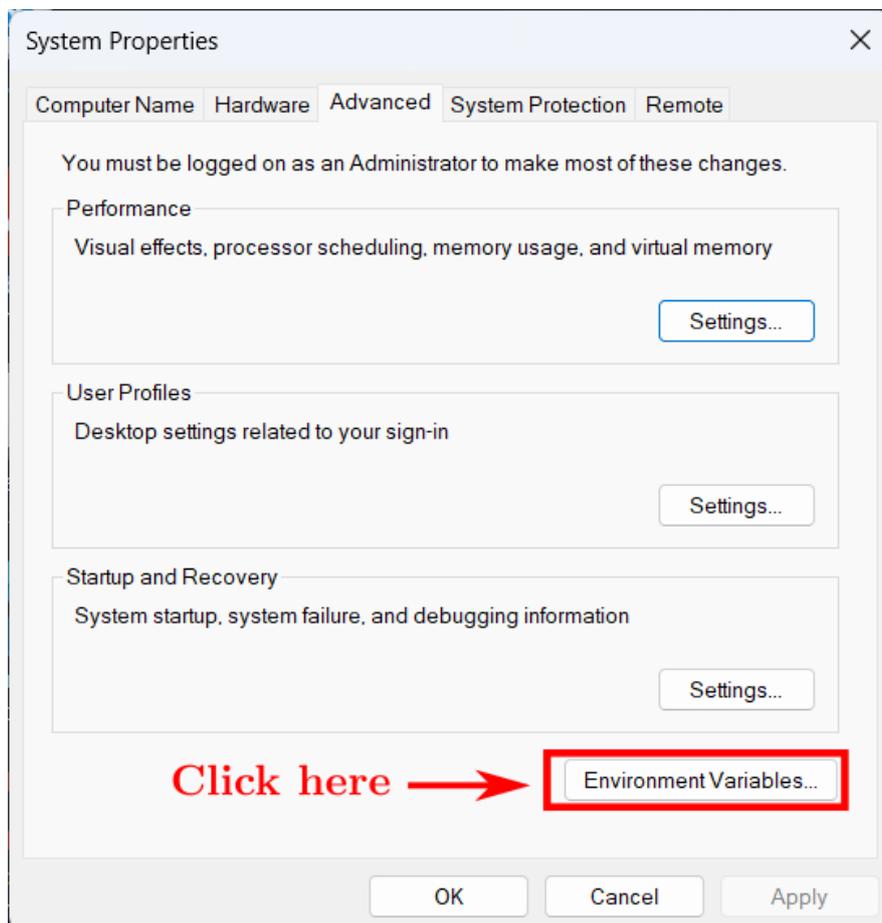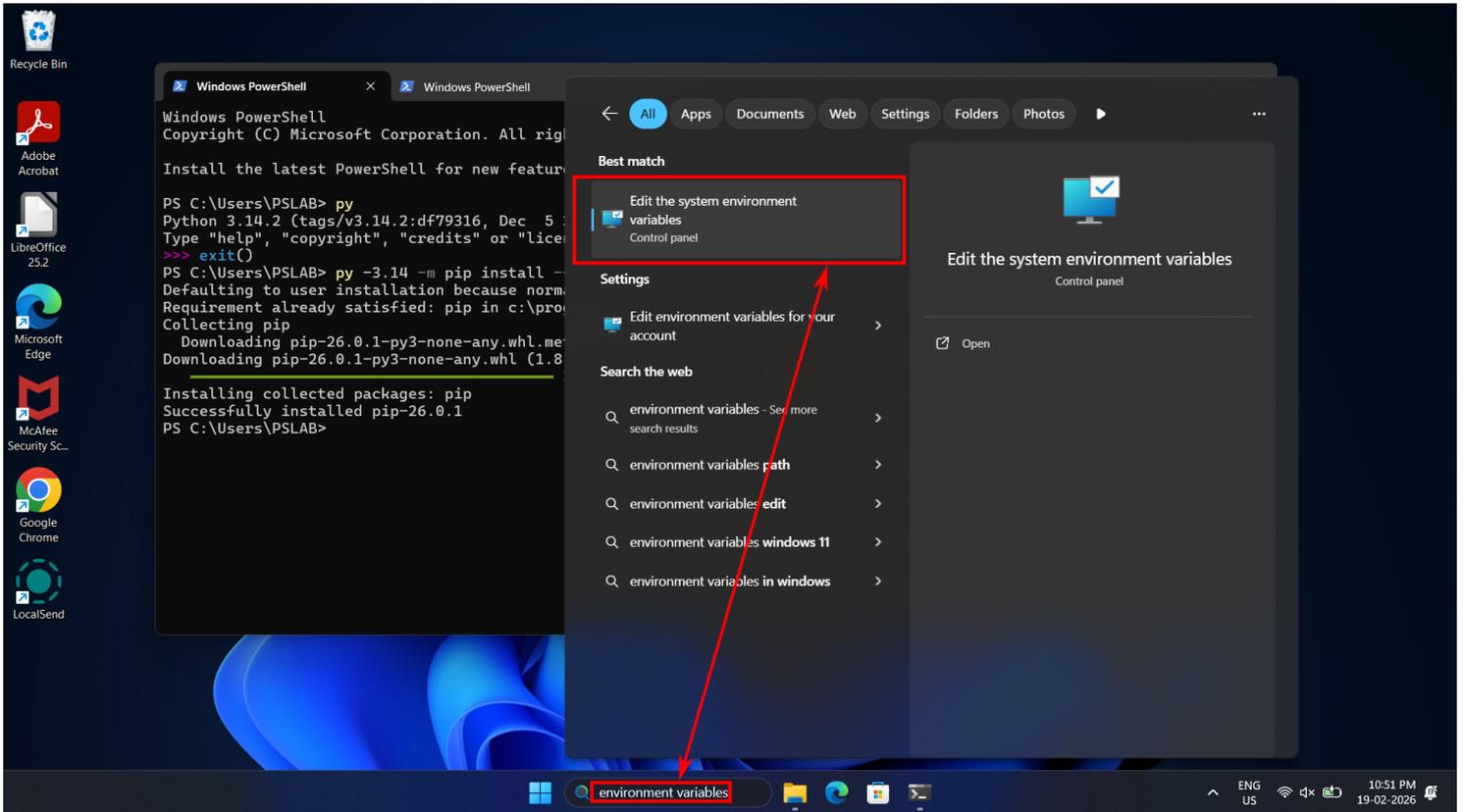
5. Select **Path** in the **User Variables** and click on **Edit**.

6. The following window will appear. There may be multiple entries based on softwares installed.

7. Click on **Edit**. It will create a new input for entry.
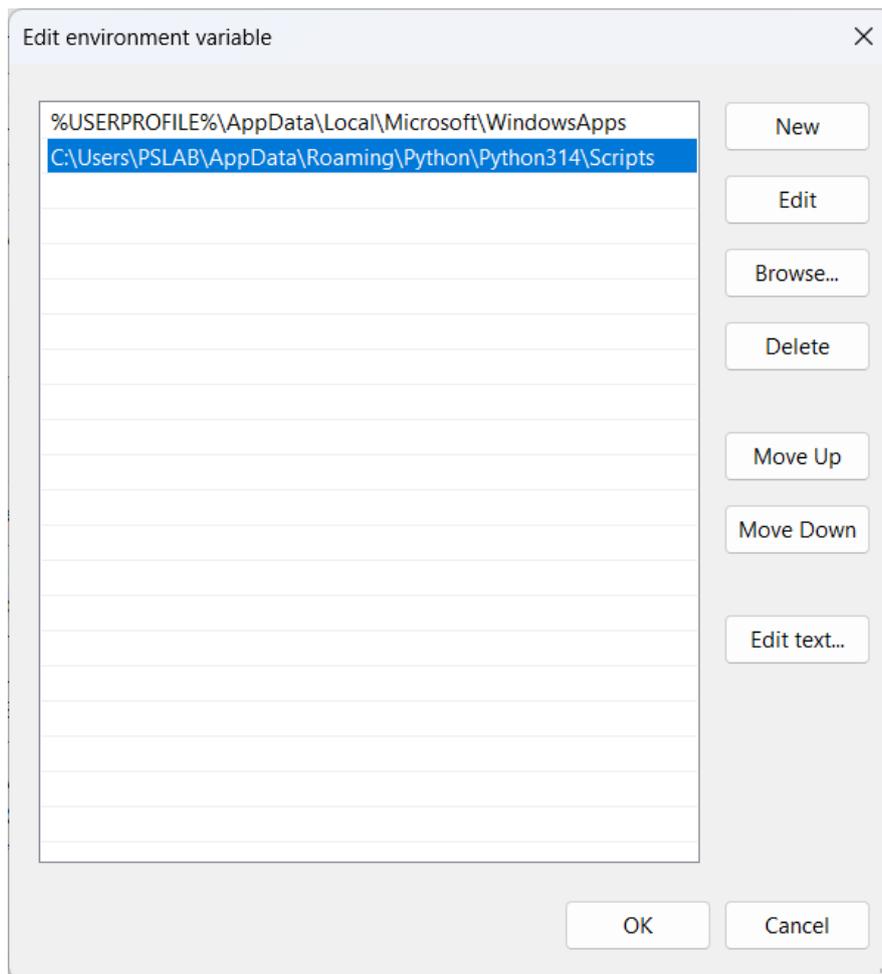
8. Input the following entry:

```
C:\Users\<User>\AppData\Roaming\Python\<PythonVer>\Scripts
```

where,

  `<User>`   :   User Account

  `<PythonVer>` :   Python Version. Eg: For Python 3.14, it is `Python314`

Press Enter after entry.

9. Click on **OK** on each dialog box to close.

10. We are now ready to install the requisite Python Packages. Open the **Terminal** and input the following command

```
>>> py -3.14 -m pip install <package name>
```

The package for the Jupyter interactive environment is called `jupyterlab`.

```
>>> py -3.14 -m pip install jupyterlab
```

Press **Enter** and let the installation finish.

Similarly, other requisites (`numpy` and `matplotlib`) can installed in the same way.

___Note:___ Similarly as mentioned before, the version argument (**-3.14**) may be dropped if there is **only one** Python version installed on the system.

```
>>> py -m pip install <package name>
```

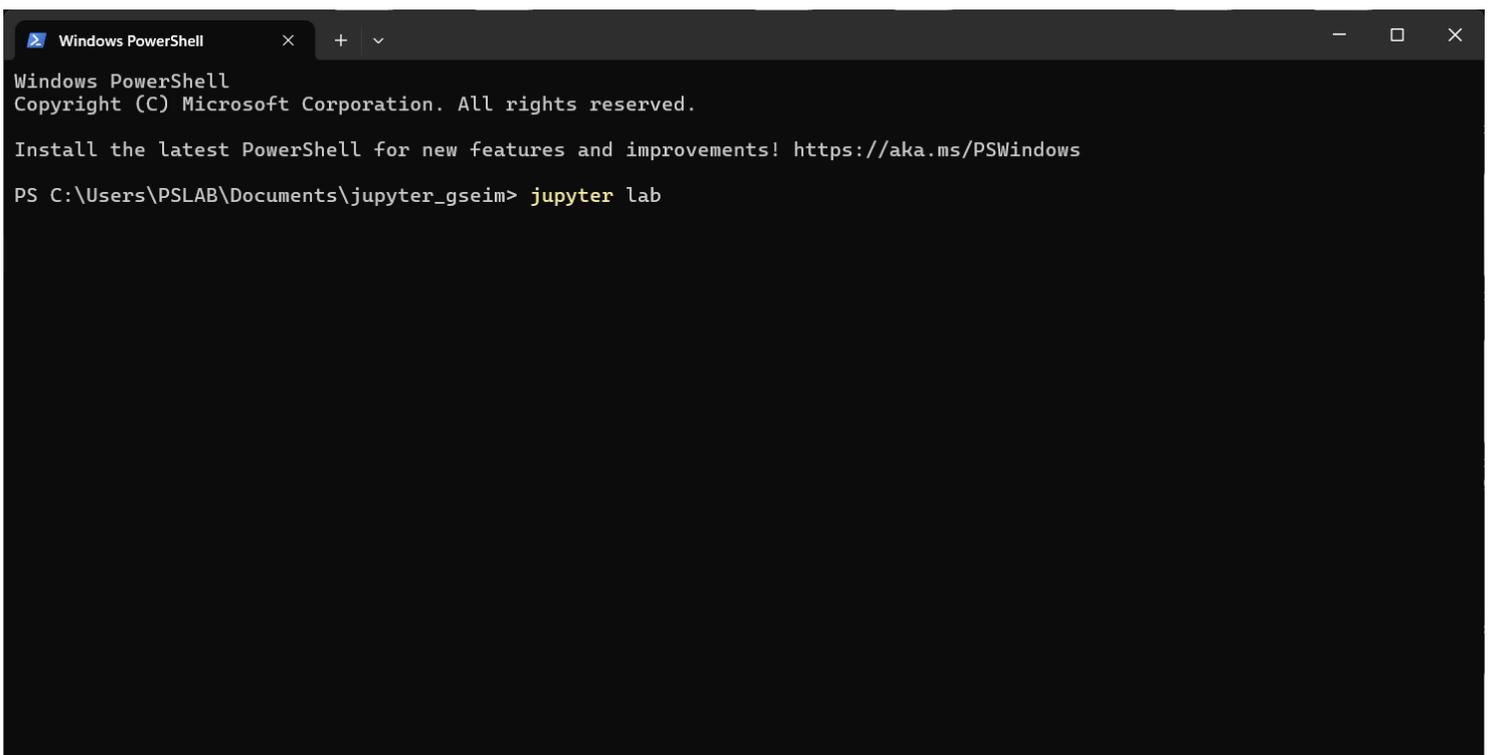# 3 Opening a Jupyter Lab Interactive Environment

1. Navigate to the folder containing the Jupyter Notebooks, and open the terminal. (In Windows 11, right-click in the folder, **Open in Terminal** option is available).
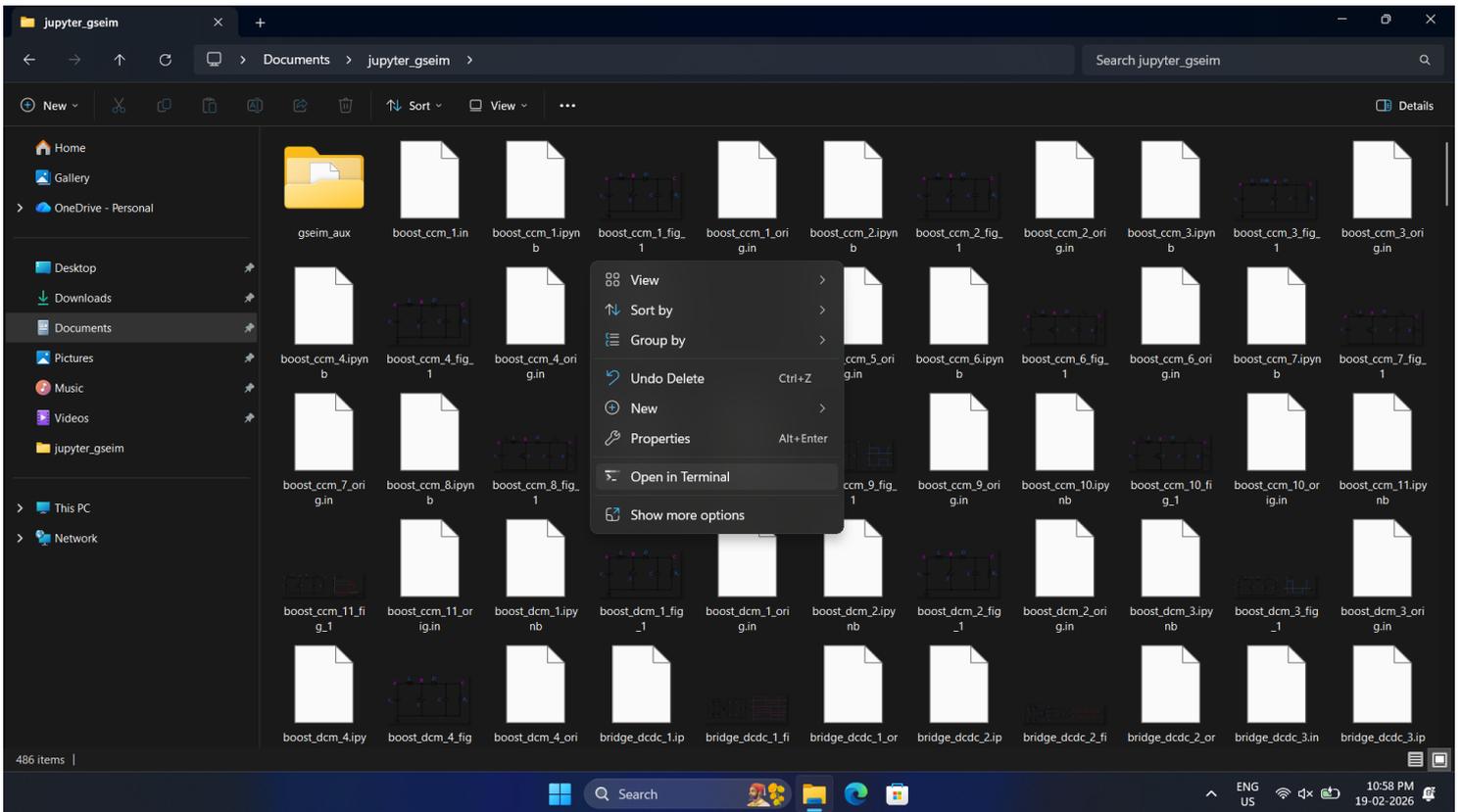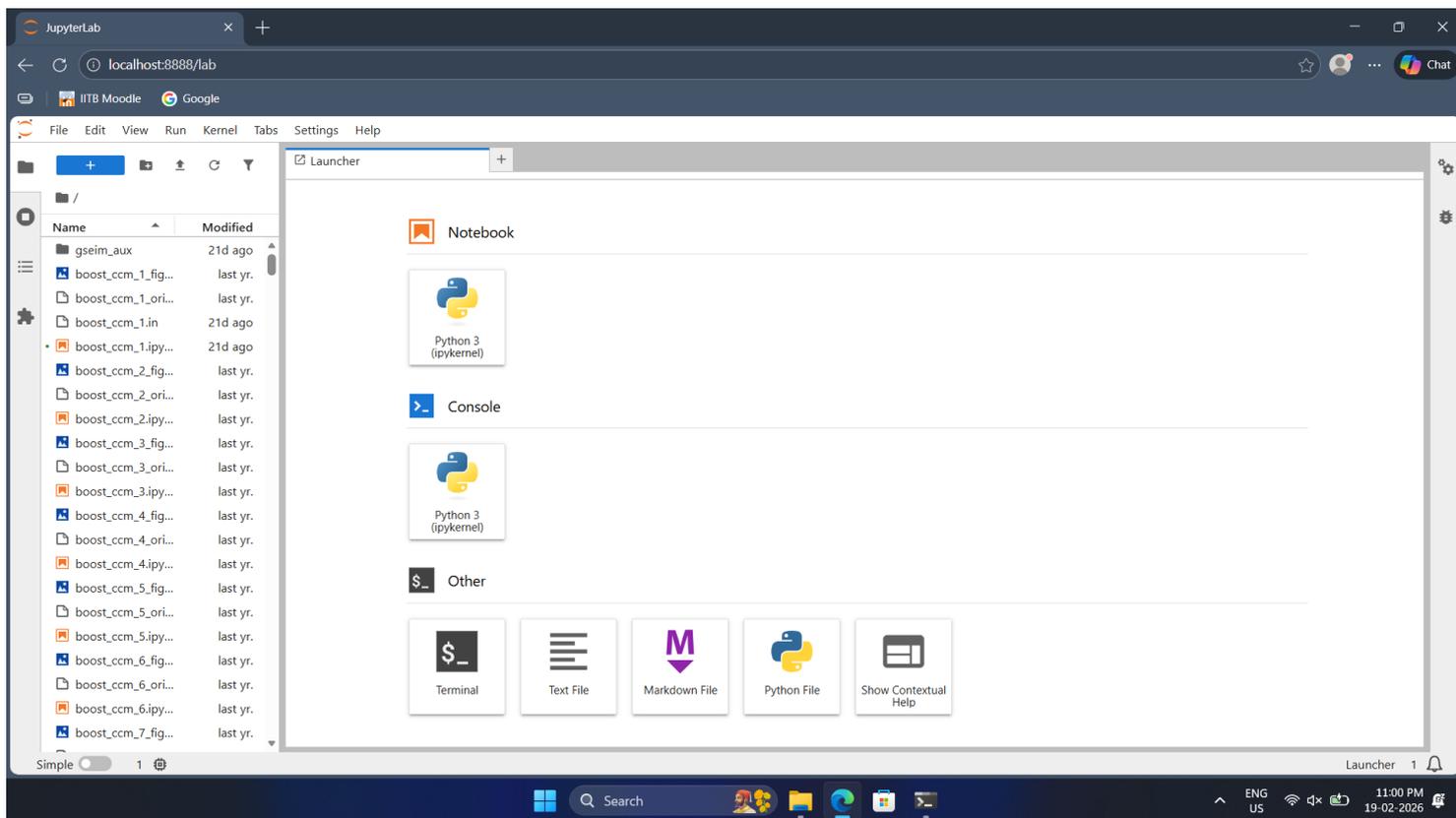
2. Type the command

```
>>> jupyter lab
```

and press Enter.

3. The Jupyter Interactive Environment will be launched in your default browser.

Note: Older version of Jupyter had the command,

```
>>> jupyter notebook
```

to launch the Jupyter Interactive Environment. This has been deprecated and this command will not work in the latest version of Jupyter Interactive Environment.