



Python installation

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Python installation

Step 1

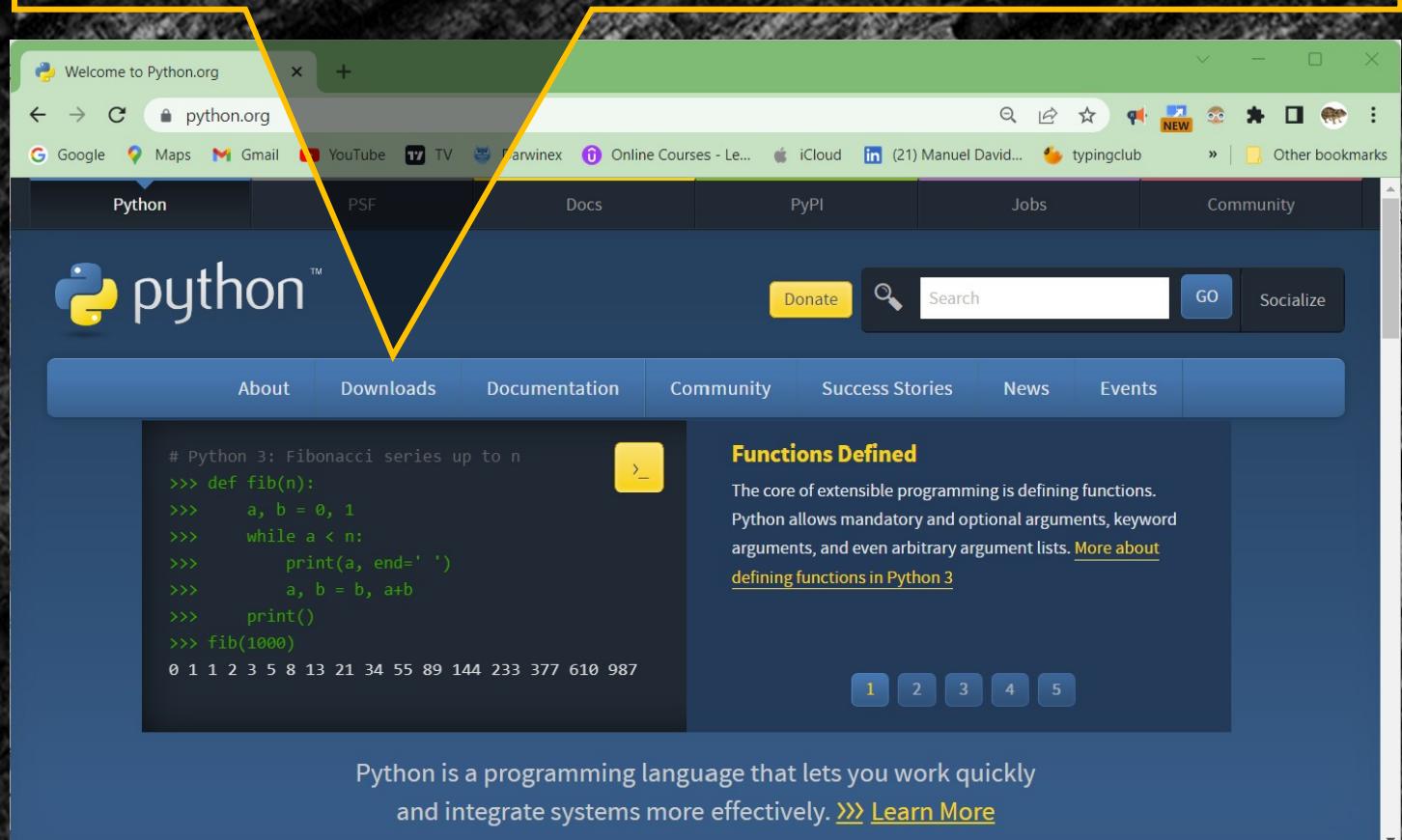
We are going to work with pure Python (Py), running on Jupyter Notebook, so first, let's go and install Py from the official web site:

www.python.org

For the installation and the course material you will need about 1 GB of free disk space. Anaconda is another common option for Py and associated libraries, but is 10 time heavier than the previous option.

Select your OS and the installer according to your PC.
We recommend version 3.11.0:

<https://www.python.org/ftp/python/3.11.0/python-3.11.0-amd64.exe>

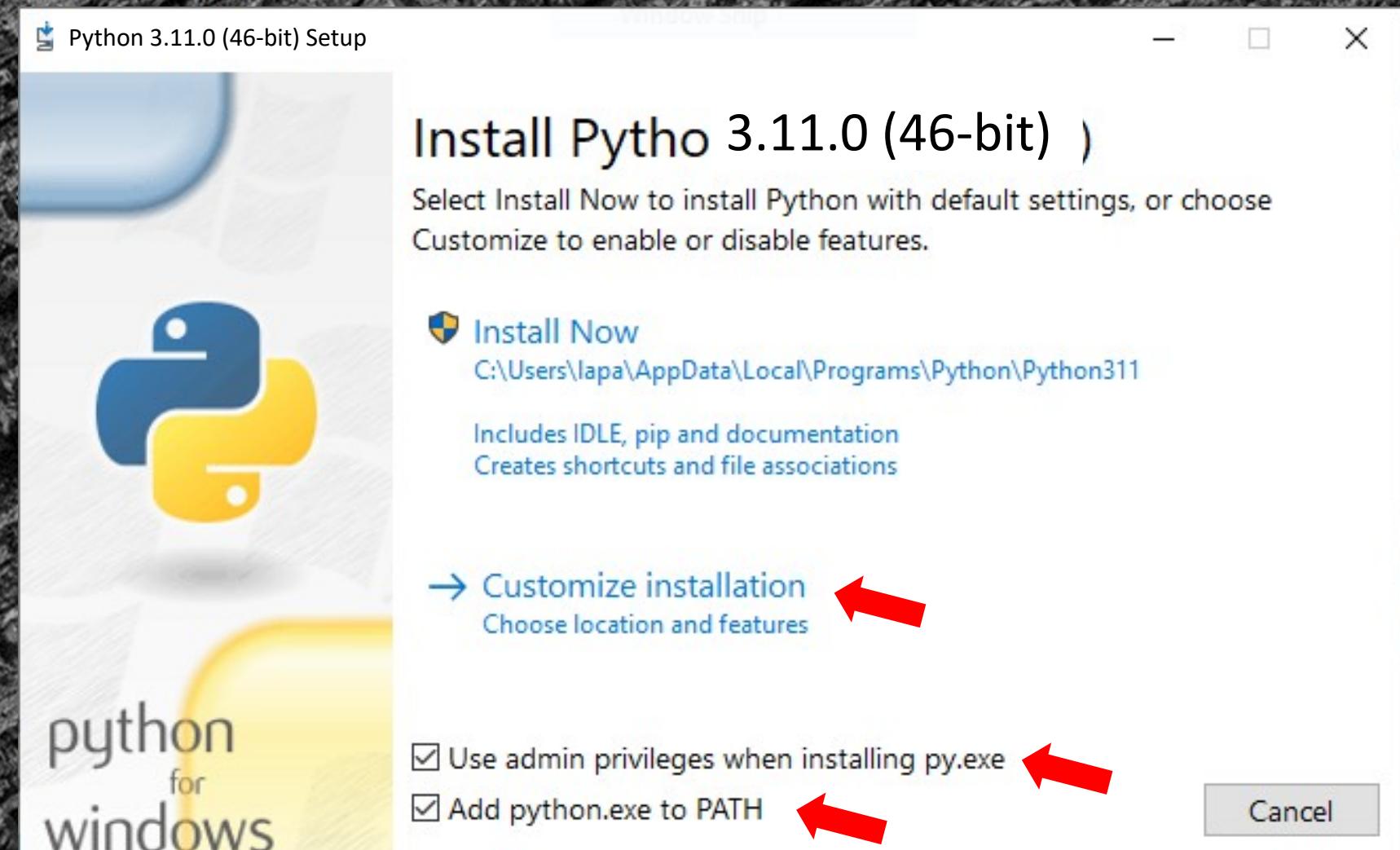


Python installation

Step 2

Double click on the executable file on your Downloads and this window should appear.

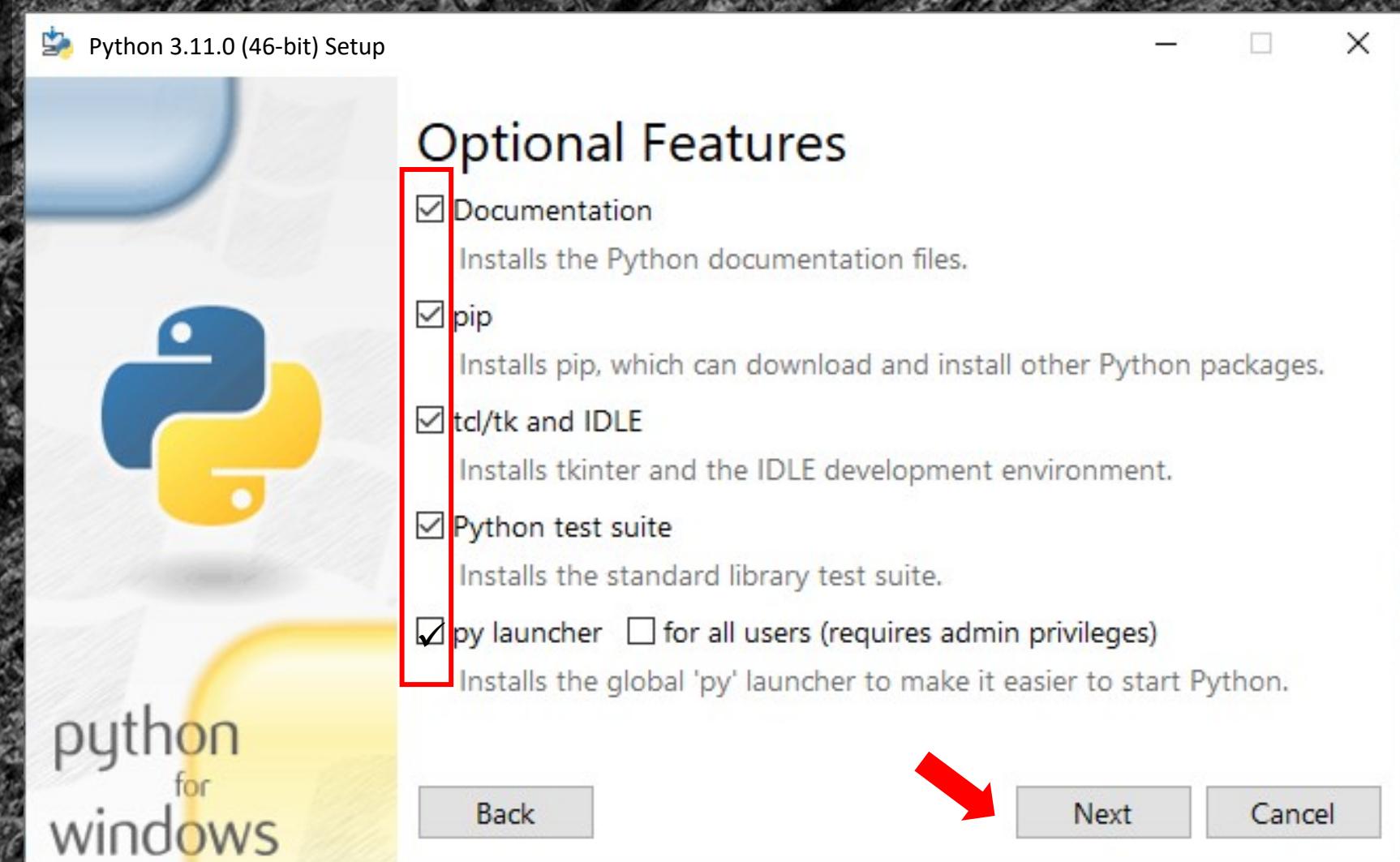
Click both square buttons at the bottom and then in the Customize installation option.



Python installation

Step 3

Click on first four square buttons and then Next



Python installation

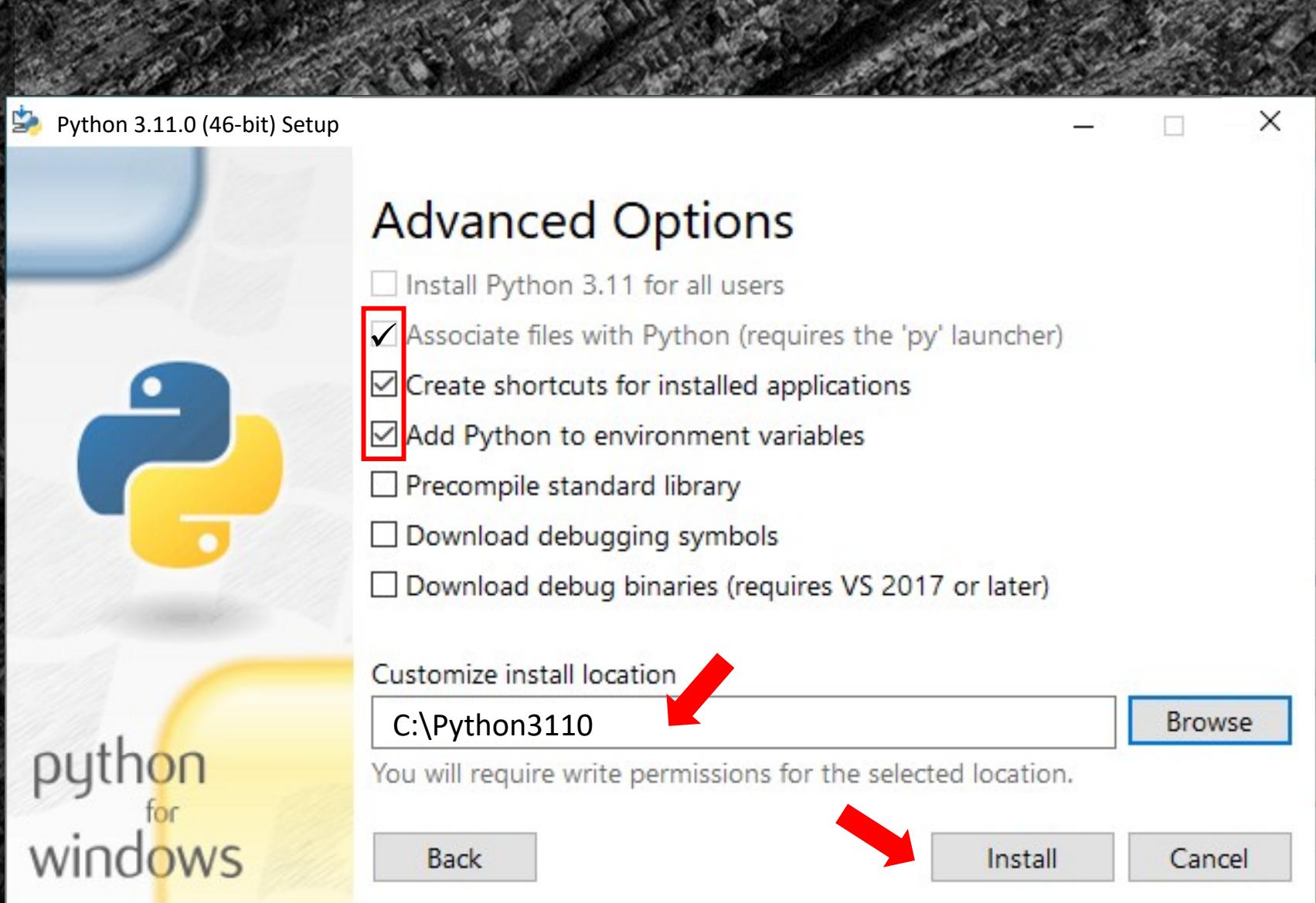
Step 4

Click on the 3rd and 4th square buttons.

Define the path of the installation. There you have to have permission to write and enough space (about 1 GB). We recommend this name:

C:\Python3110

Then press the Install button. It should take some minutes



Python installation verification

Step 5

Once Py is installed open a **cmd** (Command Prompt or Terminal window) and type python. The cmd should report the version you just installed and the prompt should changes to >>>

Type:

print("hello")

You should get a hello as answer

To leave Py and return to the OS, type:

Ctrl + z + Enter

The image consists of four vertically stacked screenshots of a Windows PowerShell window. Each screenshot shows a different stage of the Python verification process:

- Screenshot 1:** Shows the PowerShell prompt with standard output.
- Screenshot 2:** Shows the PowerShell prompt with the Python interpreter loaded, displaying its version and copyright information.
- Screenshot 3:** Shows the Python interpreter's interactive mode (>>>) where the command `print("hello")` is typed and executed, resulting in the output "hello".
- Screenshot 4:** Shows the PowerShell prompt again, with the command `^Z` being typed to exit the Python interpreter and return to the OS.

Basic libraries installation

Step 6

Python relies on a large set of libraries for a wide variety of tasks. Let's install the three most basic ones and the work environment or notebook.

In a cmd (out of Py) type:

pip install numpy

After some seconds of minutes the cmd should report:

Successfully installed numpy-2.2.2

You have the option of update the pip (Python Package Index) with the command in green

```
c:\ Command Prompt
Microsoft Windows [Version 10.0.19045.3803]
(c) Microsoft Corporation. All rights reserved.

C:\Users\lapa>python
Python 3.11.0 (main, Oct 24 2022, 18:26:48) [MSC v.1933 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> print('hola')
hola
>>> ^Z

C:\Users\lapa>pip install numpy
Collecting numpy
  Downloading numpy-2.2.2-cp311-cp311-win_amd64.whl (12.9 MB)
    12.9/12.9 MB 46.9 MB/s eta 0:00:00
Installing collected packages: numpy
Successfully installed numpy-2.2.2

[notice] A new release of pip available: 22.3 -> 24.3.1
[notice] To update, run: python.exe -m pip install --upgrade pip

C:\Users\lapa>
```

```
c:\ Command Prompt
Python 3.11.0 (main, Oct 24 2022, 18:26:48) [MSC v.1933 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> print('hola')
hola
>>> ^Z

C:\Users\lapa>pip install numpy
Collecting numpy
  Downloading numpy-2.2.2-cp311-cp311-win_amd64.whl (12.9 MB)
    12.9/12.9 MB 46.9 MB/s eta 0:00:00
Installing collected packages: numpy
Successfully installed numpy-2.2.2

[notice] A new release of pip available: 22.3 -> 24.3.1
[notice] To update, run: python.exe -m pip install --upgrade pip

C:\Users\lapa>python.exe -m pip install --upgrade pip
Requirement already satisfied: pip in c:\python311\lib\site-packages (22.3)
Collecting pip
  Downloading pip-24.3.1-py3-none-any.whl (1.8 MB)
    1.8/1.8 MB 29.2 MB/s eta 0:00:00
Installing collected packages: pip
  Attempting uninstall: pip
    Found existing installation: pip 22.3
    Uninstalling pip-22.3:
      Successfully uninstalled pip-22.3
Successfully installed pip-24.3.1

C:\Users\lapa>
```

Basic libraries installation

Step 6 (cont.)

In a cmd type (out of Py) now type:

pip install matplotlib

Then:

pip install pandas

And finally:

pip install jupyterlab

If the installations (Py and libraries) go well, after double clicking **intro_3.py** file, in the Py folder of Session 0, you should see the following plot:

