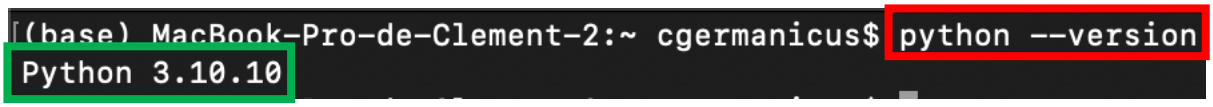
How to install Python 3

1. Verification

Open a terminal :

- **Windows** : Press Windows+R, a small window will open on the bottom left of your screen. Write « cmd » and hit Enter
- **Mac** : Press Command+Space, a search bar will open. Write « terminal » and hit Enter
- **Linux** : Press Ctrl+Alt+T

Write **`python --version`** then hit Enter. If you already installed Python on your machine (or if your machine has it by default), you should get this result :



It is possible that your machine does not recognize the **`python`** command, try again with **`python3 --version`** if this is the case.

If your terminal is displaying a Python version, you can directly move on to step 3.

Note : Try to have at least version **3.8**, which is considered to be a good minimum. You can update your Python installation following step 2 of this document.

2. Install Python 3

On https://www.python.org/downloads/, download Python 3.

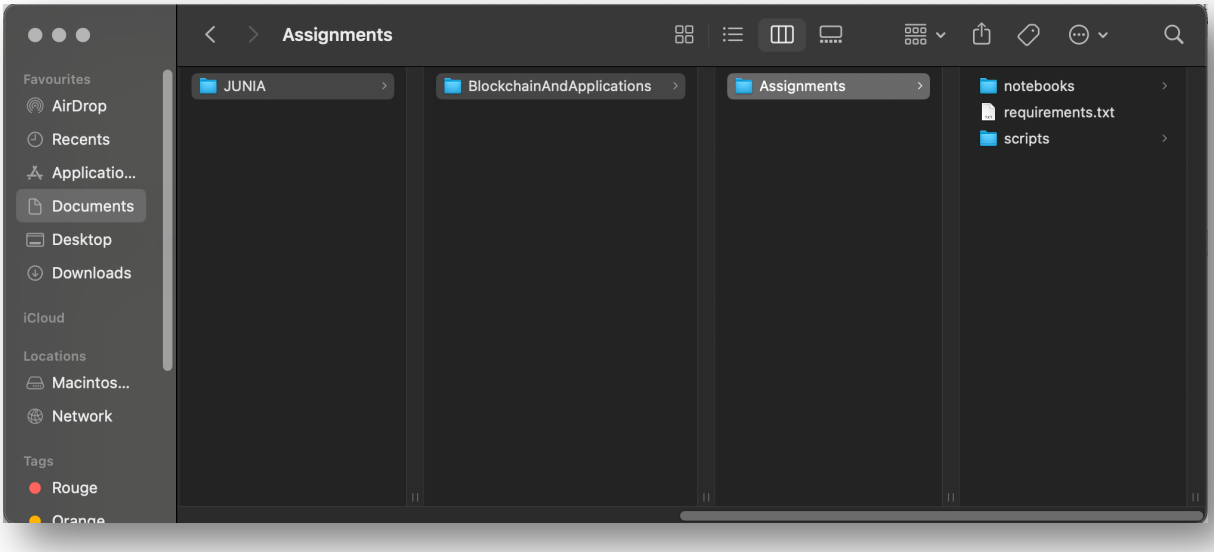
Follow the installation instructions. Once finished, open a terminal (see step 1) and write **`python3 --version`**. This time, you should see the version you just downloaded. If this does not work, reboot your machine and try to display the version again. If this is still not working, call me.

IMPORTANT : From now on, only use the **`python3`** command, not **`python`**

3. Creating a virtual environment

Why this matters : Throughout this module, we will be using Python packages that may be in conflict with packages you may have already installed on your machine. It is thus important to create a dedicated space for your blockchain development that will not impact any other work you have on your machine.

On your machine, create a folder that will contain everything for the blockchain module. Give it any name you want. For example, on my machine, I chose to create this path for the module : **`Documents/JUNIA/BlockchainAndApplications/`**. In this folder, add the **`Assignment`** you downloaded. Your folder structure must look like below.



Open a terminal (again) and use **cd** to navigate to the **Assignments** folder.

```
(base) MacBook-Pro-de-Clement-2:~ cgermanicus$ cd Documents/JUNIA/BlockchainAndApplications/Assignments
```

Create a **env_Blockchain** folder (you can do this using either the regular way or using the **mkdir** command inside the terminal).

```
(base) MacBook-Pro-de-Clement-2:Assignments cgermanicus$ mkdir env_Blockchain
```

Use the **python (ou python3) -m venv env_Blockchain** command to create a new virtual environment inside that **env_Blockchain** folder.

```
(base) MacBook-Pro-de-Clement-2:Assignments cgermanicus$ python -m venv env_Blockchain
```

Depending on your operating system (Windows, Mac or Linux), the command to activate a virtual environment varies. Refer to the table below to find the right command for you.

Platform	Shell	Command to activate virtual environment
POSIX	bash/zsh	`$ source <venv>/bin/activate`
	fish	`$ source <venv>/bin/activate.fish`
	csh/tcsh	`$ source <venv>/bin/activate.csh`
	PowerShell	`$ <venv>/bin/Activate.ps1`
Windows	cmd.exe	`C:\> <venv>\Scripts\activate.bat`
	PowerShell	`PS C:\> <venv>\Scripts\Activate.ps1`

Note 1 : Linux and Mac are POSIX. For Linux and Mac, the default terminal is the first one (bash). For Windows, it depends. Look at the top of your terminal window and check if you see « PowerShell ».

Note 2 : <venv> must be replaced with **`env_Blockchain`**, because your terminal window is pointing towards your Assignments folder.

As example, on my Mac, I use the default terminal. My command is thus :

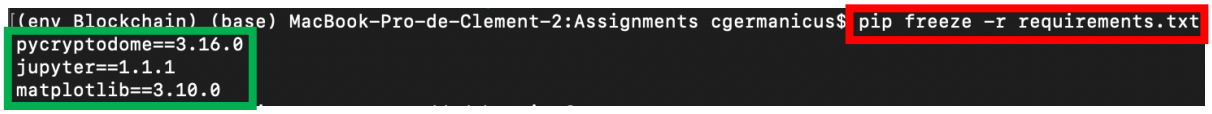
`source env_Blockchain/bin/activate`.

You should now see **`(env_Blockchain)`** displayed at the start of each command line.

4. Installing required packages

If you followed every instructions so far, you should have in your Assignments folder a file named **`requirements.txt`**. This file is needed to install all packages required to develop our own blockchain. Write **`pip install -r requirements.txt`** in your opened terminal and hit Enter.

You should see a lot of new text lines being displayed. Wait for everything to finish then validate your installation using **`pip freeze -r requirements.txt`** :



Your virtual environment is ready ! Quit it using **`deactivate`**. You should no longer have **`(env_Blockchain)`** displayed at the start of the line. You can now close your terminal.

Now open Starting_assignements.pdf and read it entirely.