

Informatik 1 - Biomedical Engineering

Tutor Session 0 - Setup / anaconda / packages / jupyter



1) Installing python on your system

Plain Python: <https://www.python.org/downloads/> (<https://www.python.org/downloads/>)

For this course: <https://www.anaconda.com/download/> (<https://www.anaconda.com/download/>) (Select the default Python 3.6 version 64 bit version)

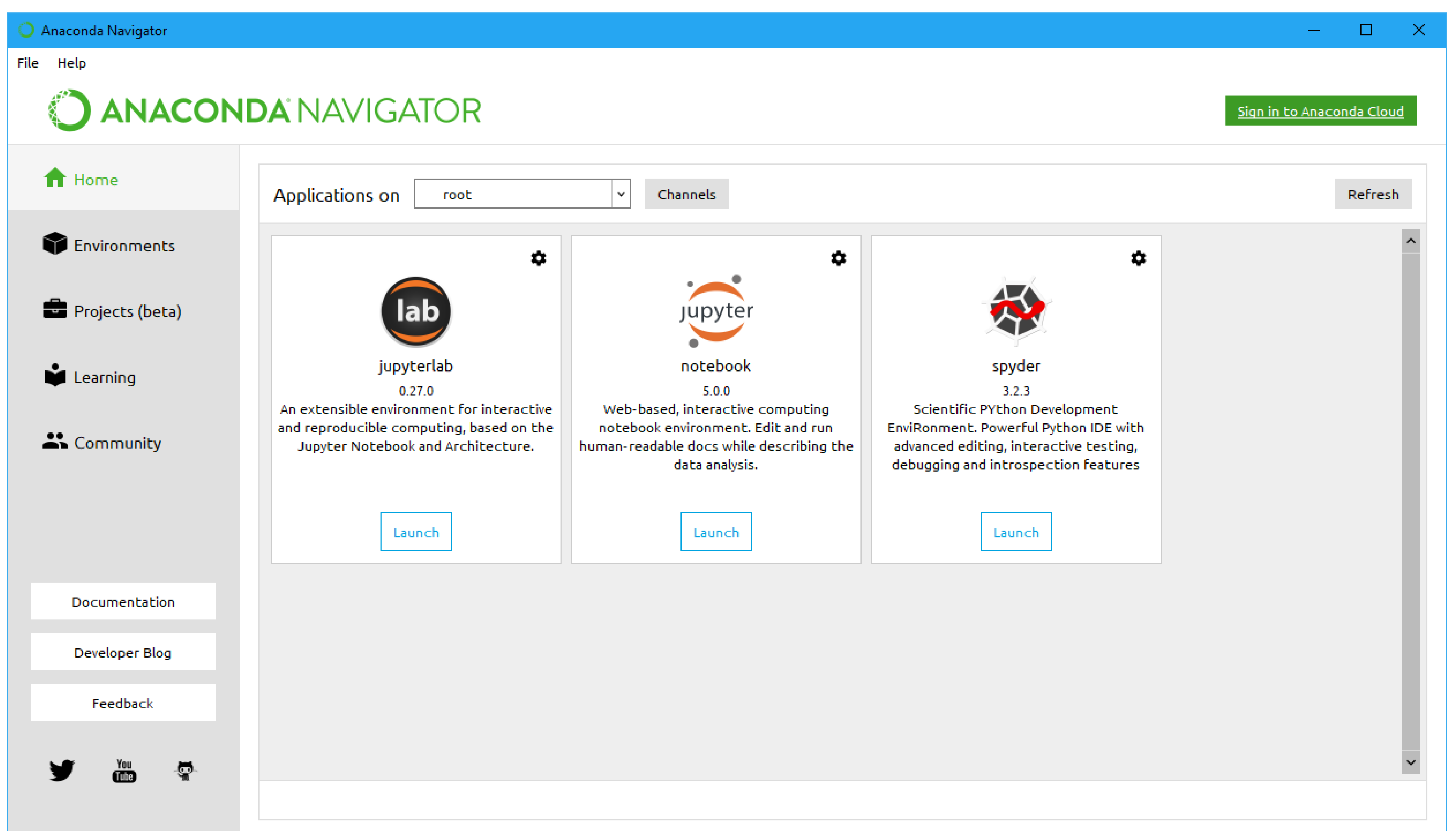


1.1) What is Anaconda?

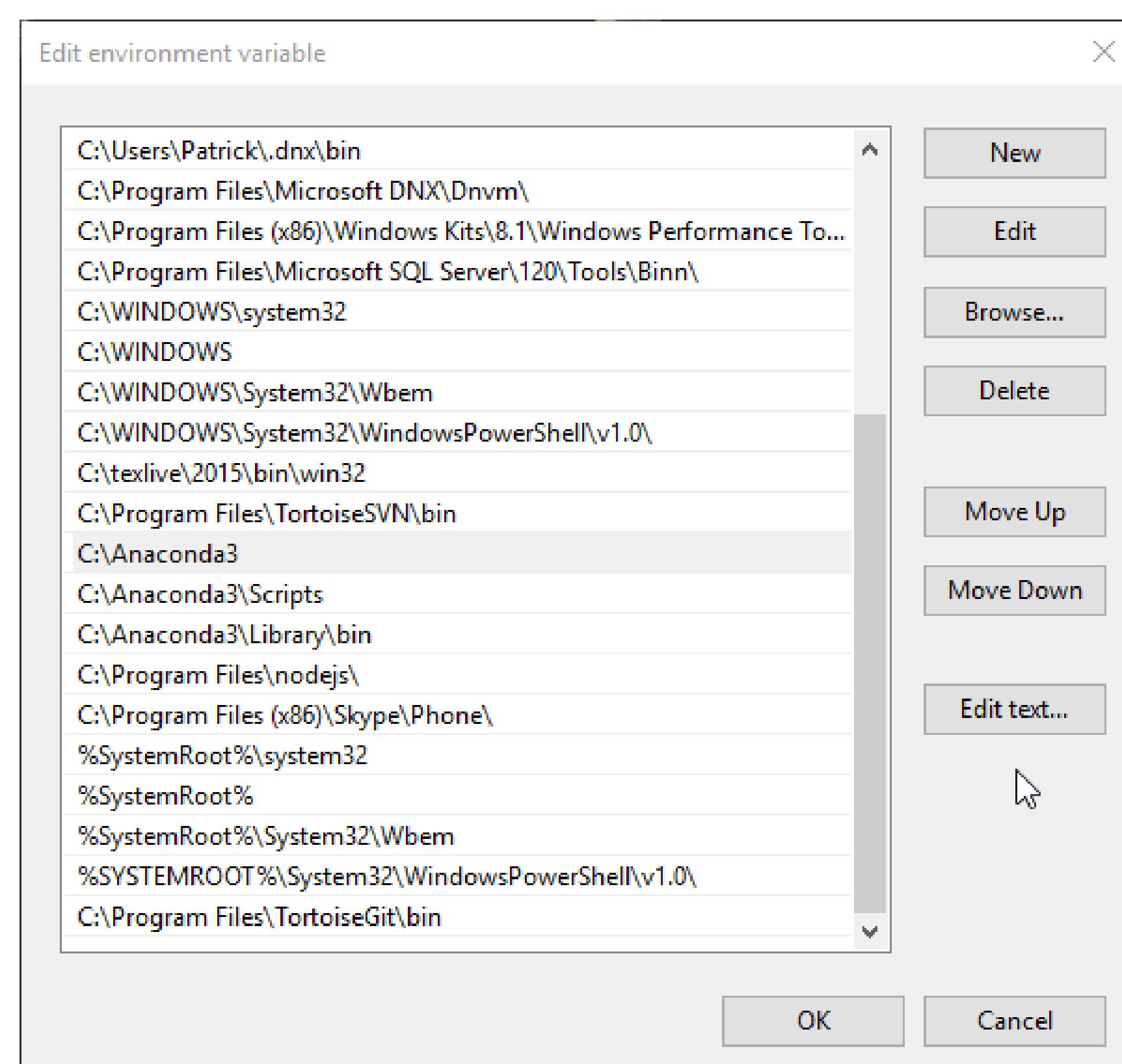
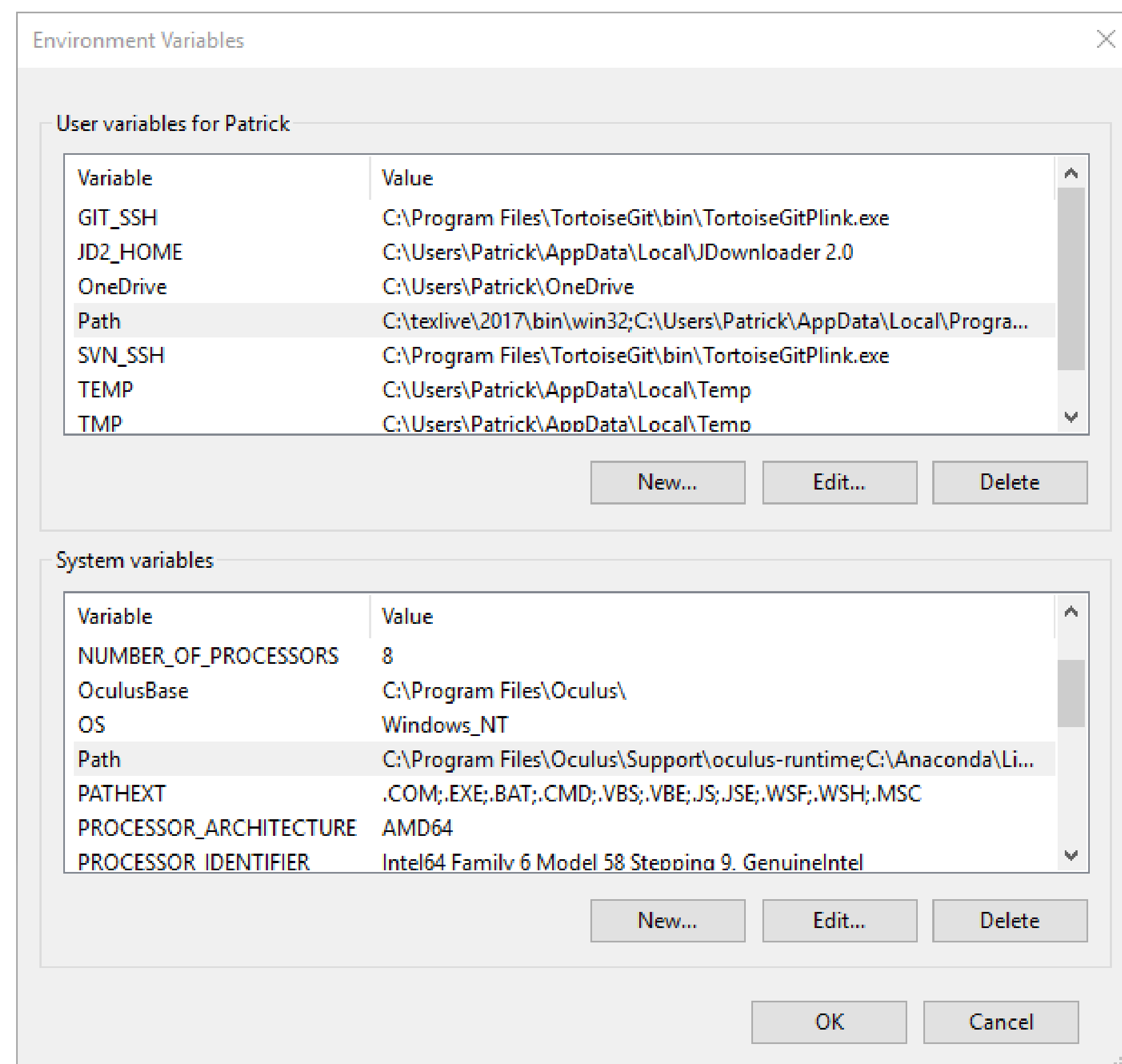
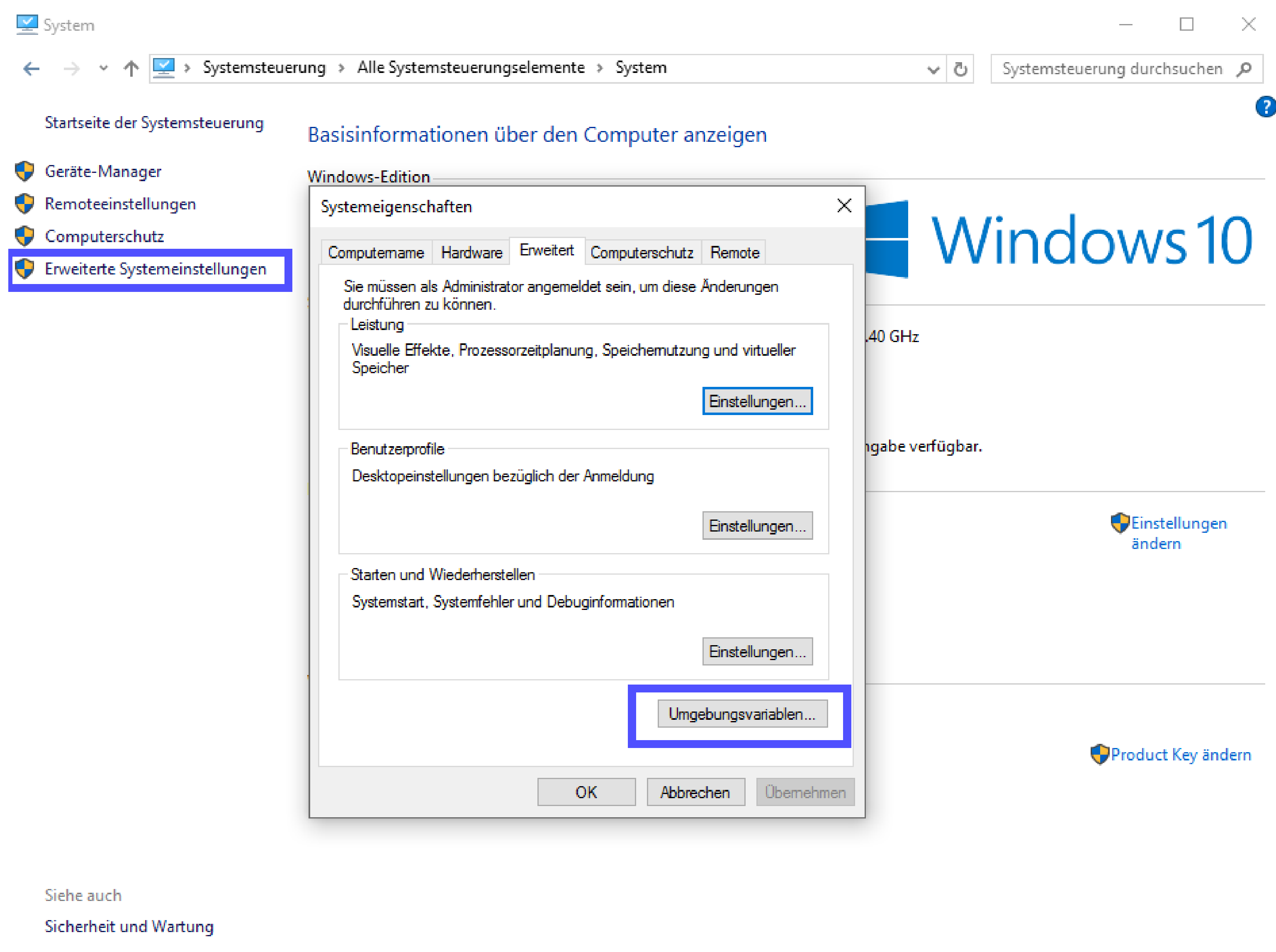
Anaconda is a complete suite for Python development in the scientific domain. And it takes care of the setup for you...

It contains:

- The interpreter
- A large number of useful packages
- A command line interface. (Anaconda prompt/anaconda command prompt)
- Anaconda Navigator (launching can take a bit)
 - A package manager
 - The Spyder IDE
 - jupyter notebooks
 - Extensive learning resources

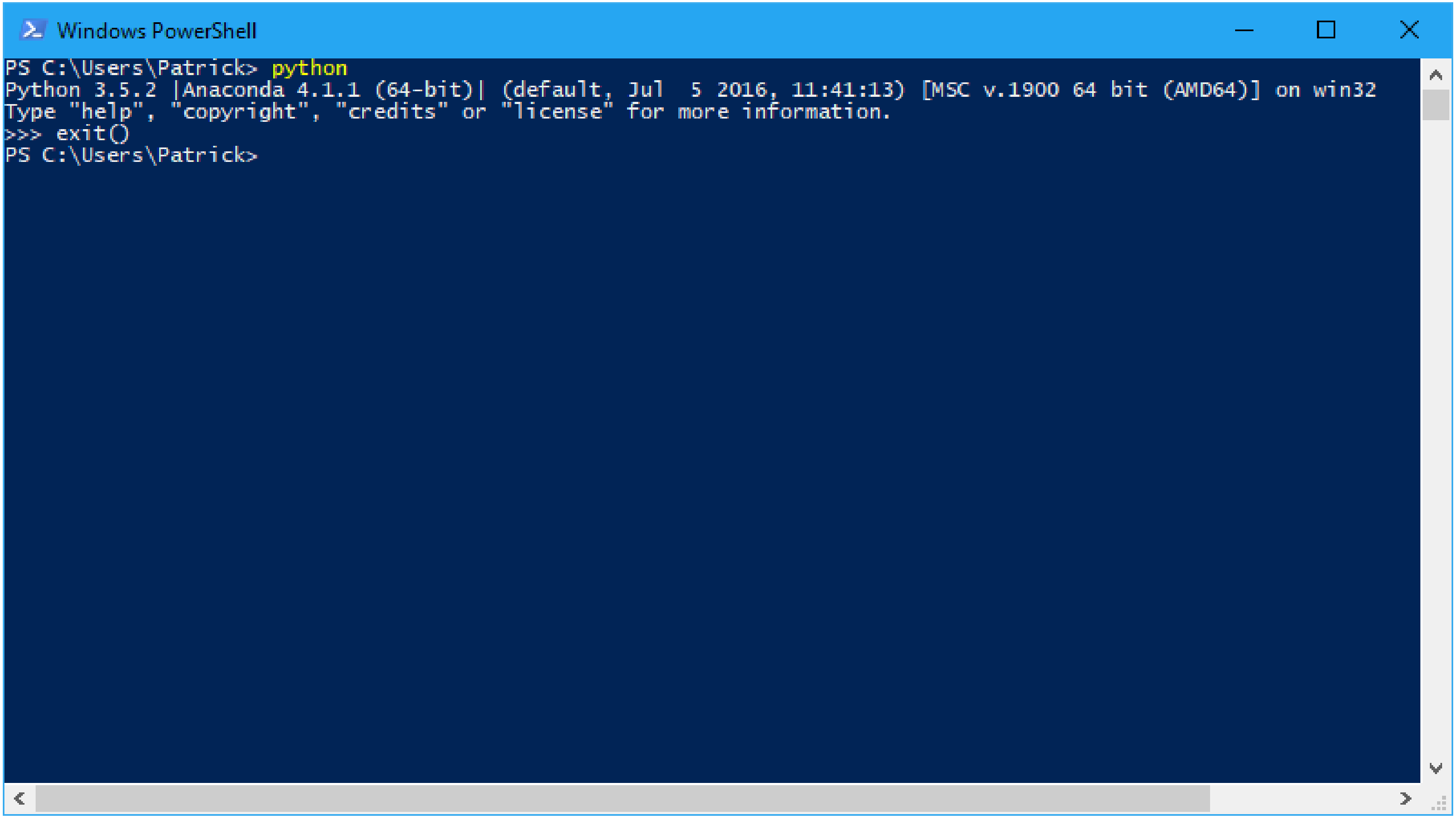


1.2) Environment Variables (if not set automatically)

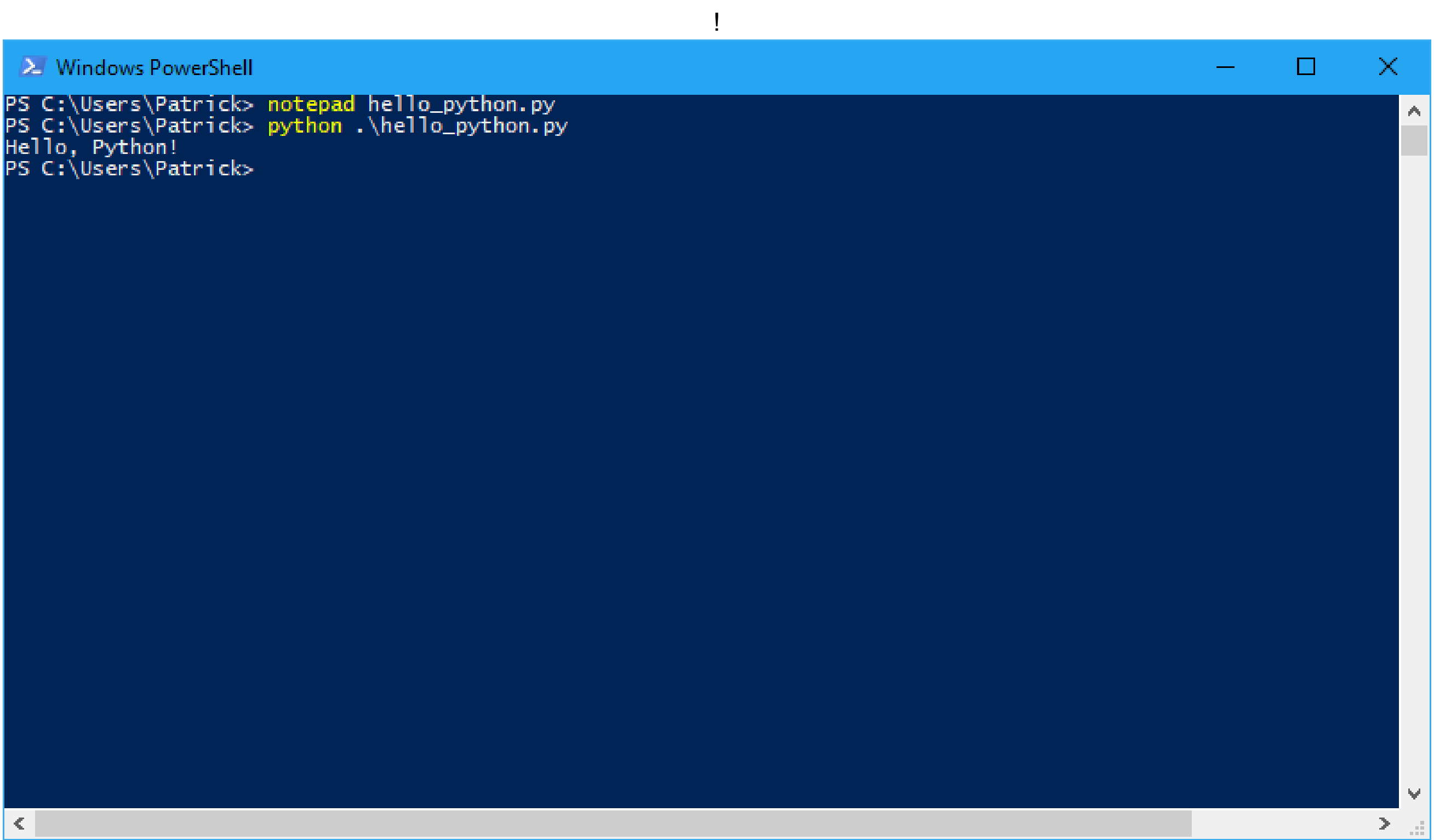


2) See if it works

1. Open your console of choice
2. Type python
3. See what happens. Your precise text might be different (i.e.:version number...)
4. Exit by typing exit() and pressing enter



1. Create a textfile and name it hello_python.py
2. Open the file and write the following: print("Hello, Python!")
3. Save the file
4. Use a console (cmd or powershell for windows) and navigate to the folder of the previously created file
5. type python hello_python.py



3) Jupyter

Launch via Anaconda Navigator

Default address: <http://127.0.0.1:8888/tree> (<http://127.0.0.1:8888/tree>) (localhost on unix systems)

Upload Tutorial sheets and play around

3.1) Basic Usage

- Code is written in cells
- Cells can be executed individually and out of sequence. (You can run cell 1, cell 2 and then cell 1 again)
- System state is saved
- Hotkey to run a cell: Shift + Enter
- "File -> Download as -> Python (.py) " to get the full source
 - Open in editor and clean up the comments if you use this for submitting
- It can do a lot more which is not needed for now...

3.2) Example

```
In [ ]: print("Hello, World!")
```

3.3) Working with cells

- 1. Run the 1st cell (a = 0) below
- 2. Run the 3rd cell (print(a))
- 3. Run the 2nd cell (a = a + 1). That increases the value by 1. Repeat as often as wanted.
- 4. Run the 3rd cell (print(a)) again

In []:

a = 0

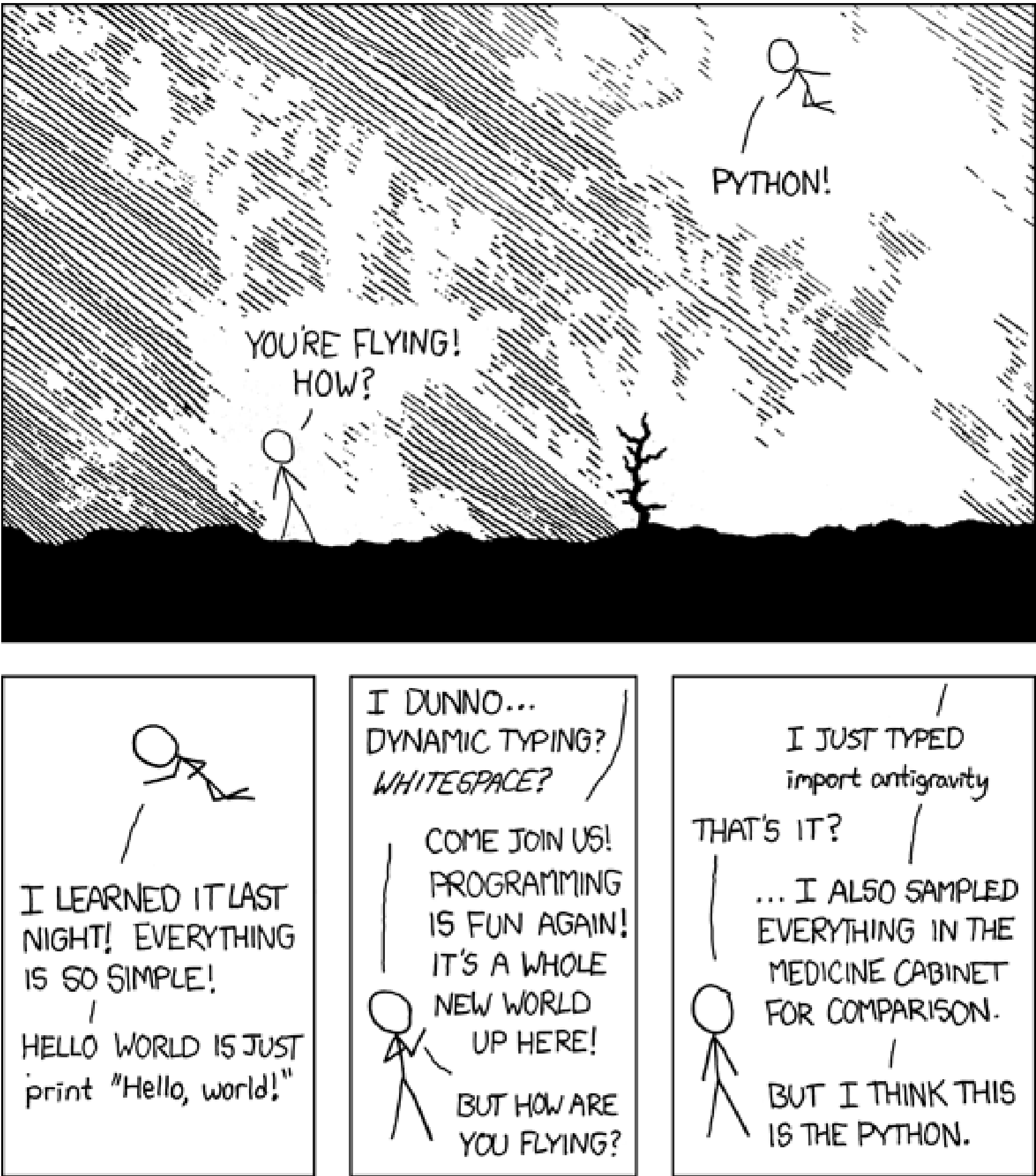
In []:

a = a+1

In []:

print(a)

4) You are good to go!



["Python" by "Randall Munroe (XKCD)"]