Introduction to Python

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Outline

- **Introduction**

- **Installation of Python and PyCharm**

- **PyCharm Lessons**

- **Usage of Libraries**

Introduction

Why python?

Short answer

"Life is short you need Python"

-- Bruce Eckel

Long answer

- Easy to use

- Rich set of libraries and frameworks

- Large community and corporate Support
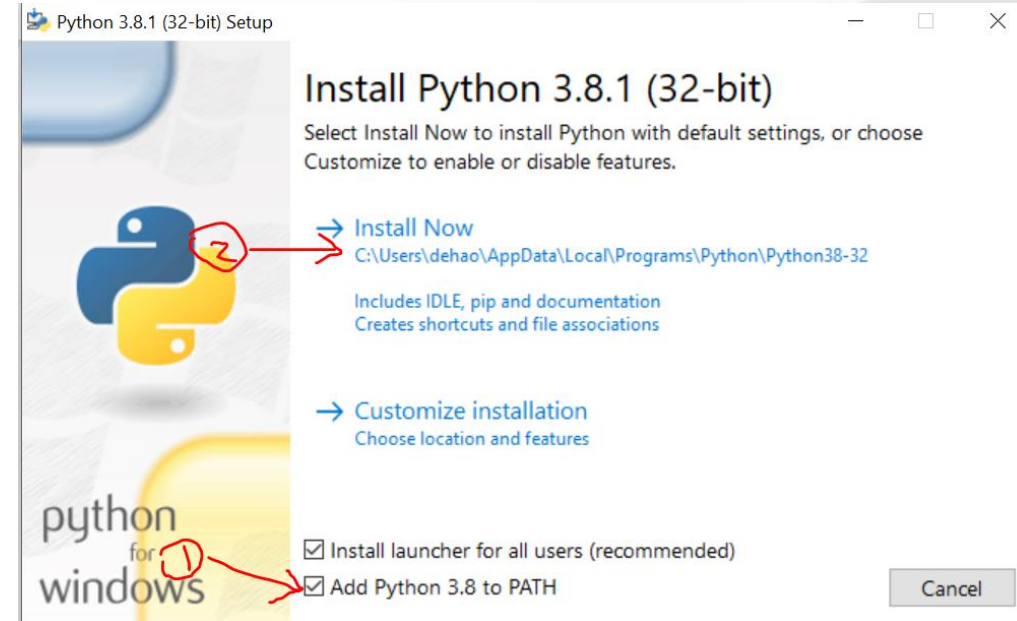
- Popular in machine learning community

Aug 2021	Aug 2020	Change		Programming Language	Ratings	Change
1	1			C	12.57%	-4.41%
2	3	▲		Python	11.86%	+2.17%
3	2	▼		Java	10.43%	-4.00%
4	4			C++	7.36%	+0.52%
5	5			C#	5.14%	+0.46%

https://www.tiobe.com/tiobe-index/
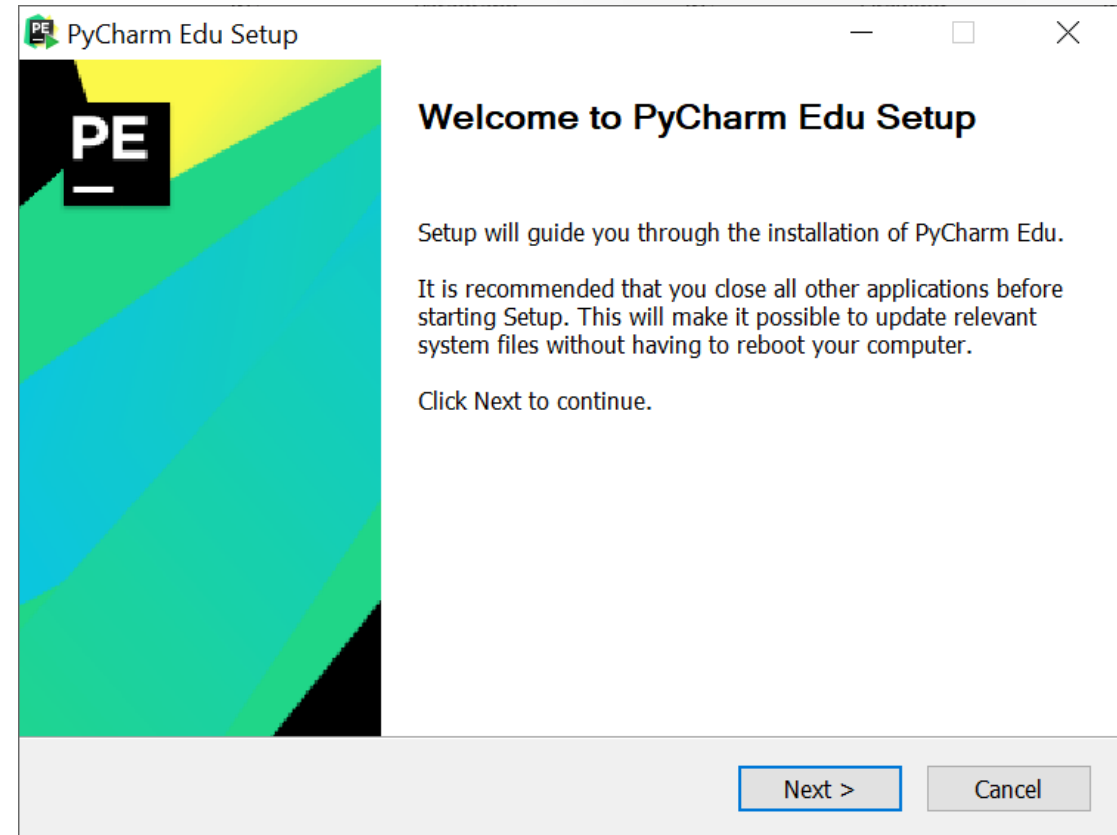
Installation of Python

- Download Python from
  https://www.python.org/downloads/
  (Use Python 3.8.1 as an example, and the
  OS is windows 10; In Mac/Linux system,
  python has been installed.)

- Python 2.7 is also fine, but it will not have
  official support in the future

- Run downloaded package as
  administrator and install Python as
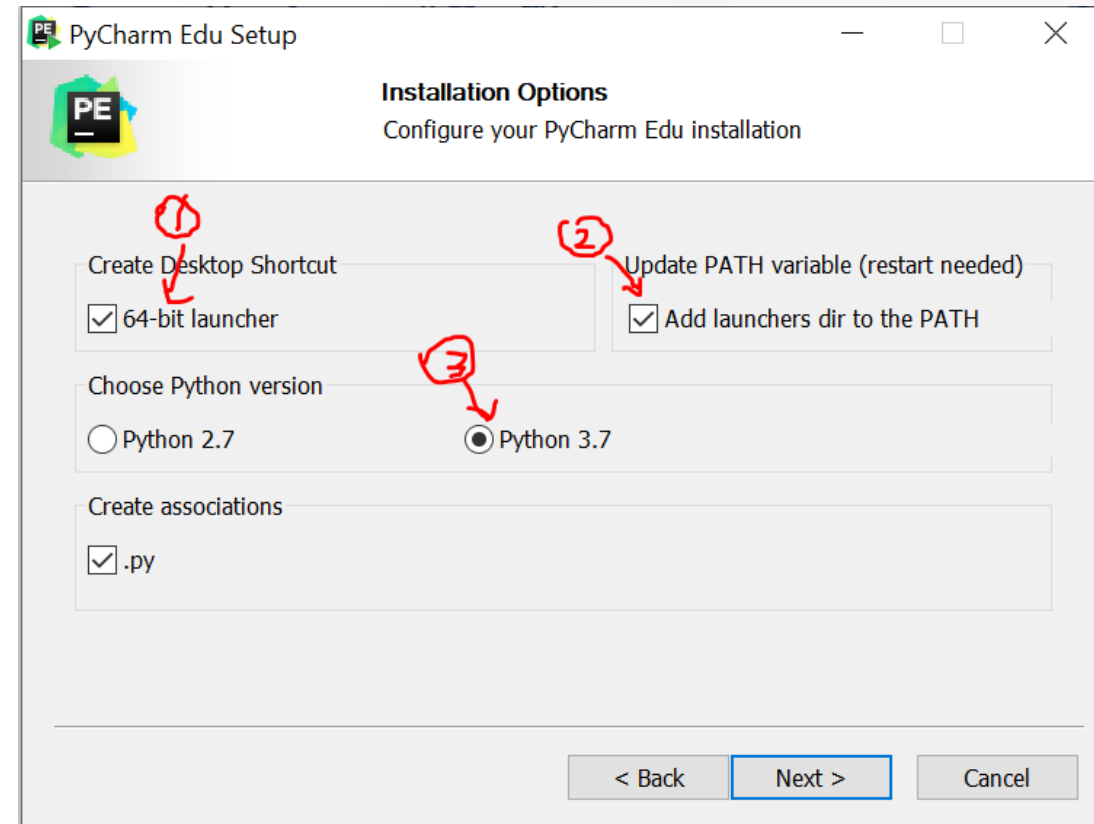 follows

- Disable path length limit

Installation of PyCharm

- Download PyCharm Educational Edition from https://www.jetbrains.com/education/download/#section=pycharm-edu

- Run downloaded package as administrator and install PyCharm as follows https://www.jetbrains.com/help/pycharm/quick-start-guide.html
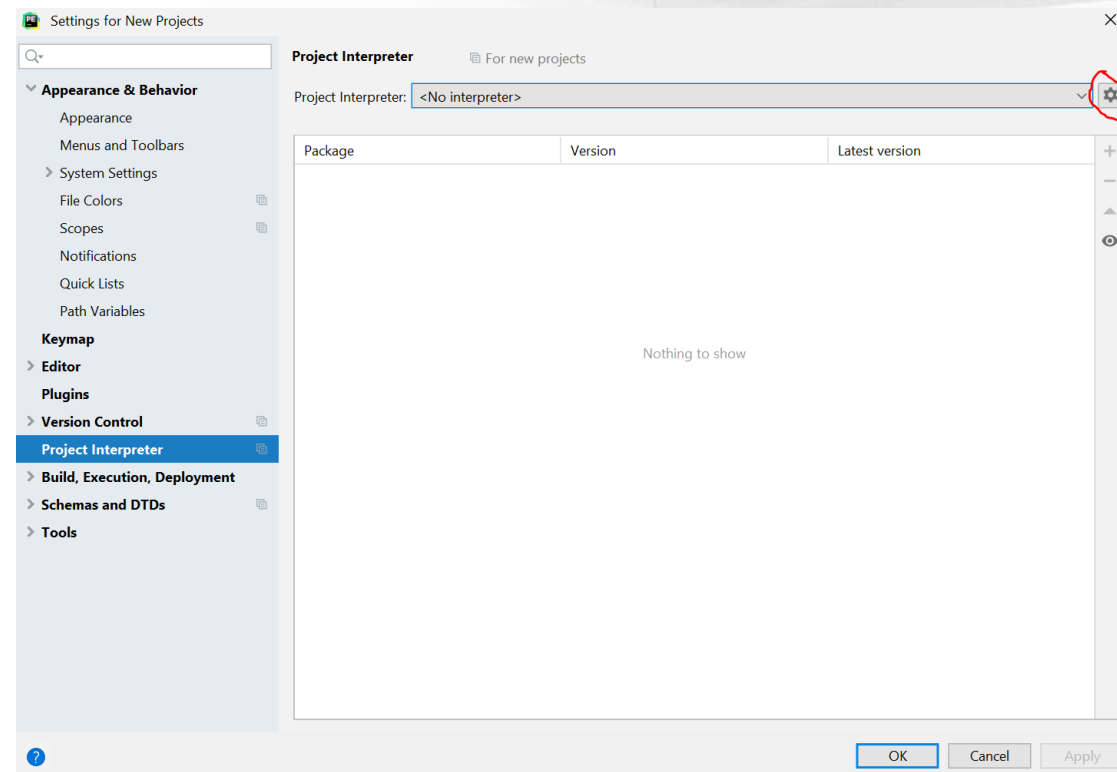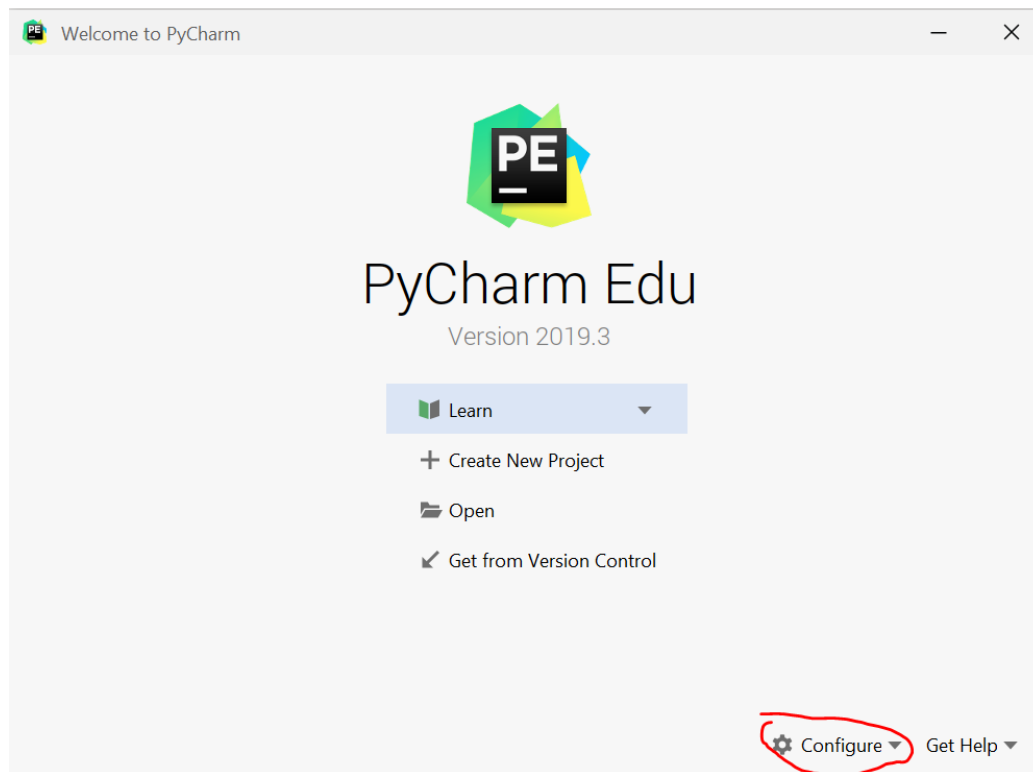
Installation of PyCharm

- (Optional) Add launchers dir to the PATH so that you can run PyCharm command in the terminal

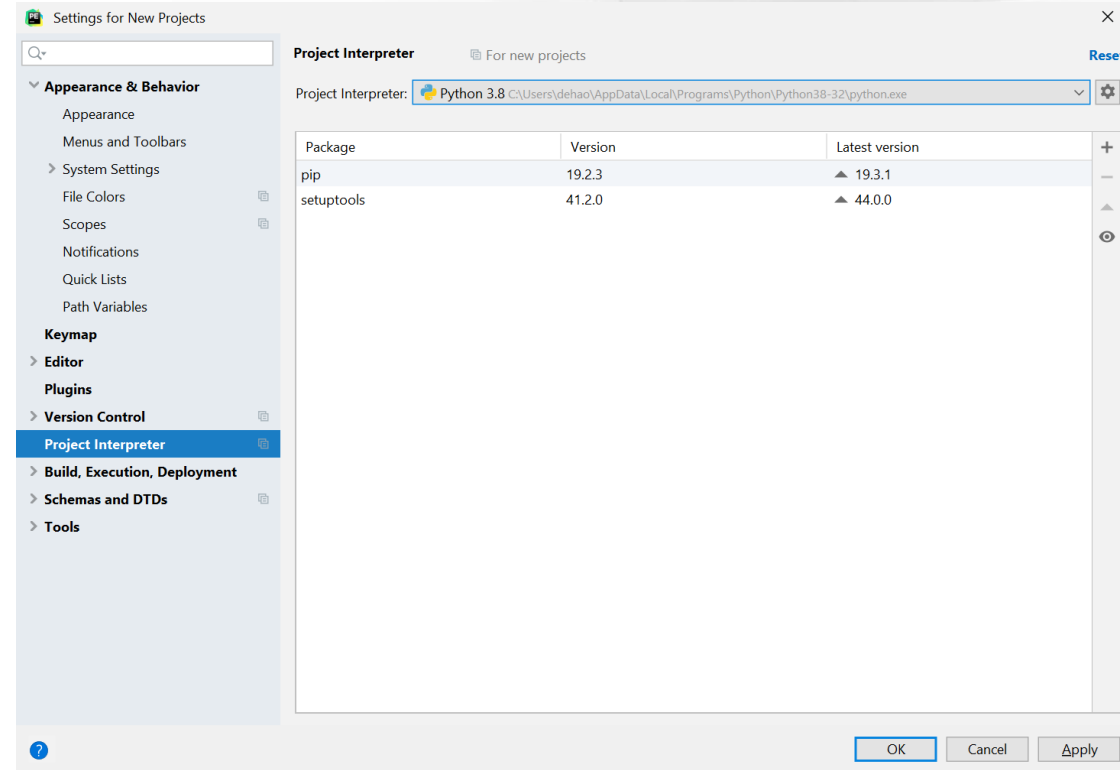- Reboot the system after installation
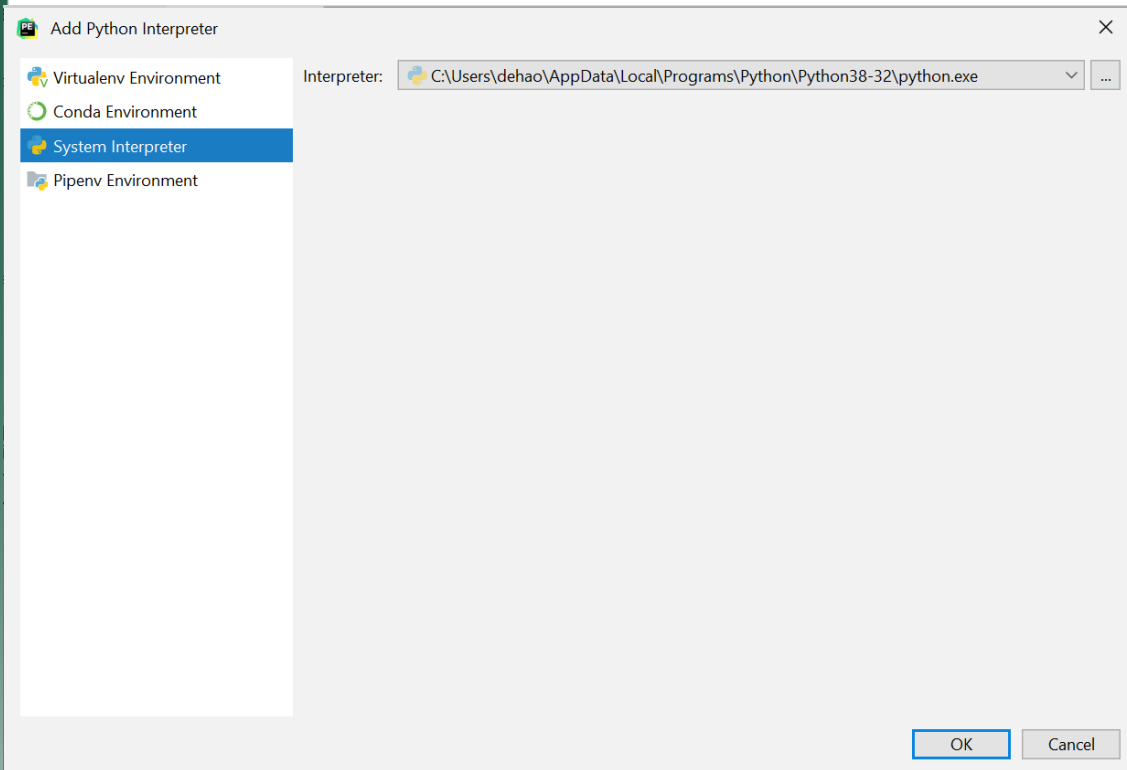
- Do not import settings

Configuration of PyCharm

- Click the button "Configure" and choose "settings"

- Under the "Project Interpreter", click the highlighted button and "add" interpreter

Configuration of PyCharm

- Add system interpreter or you can add the interpreter from anaconda
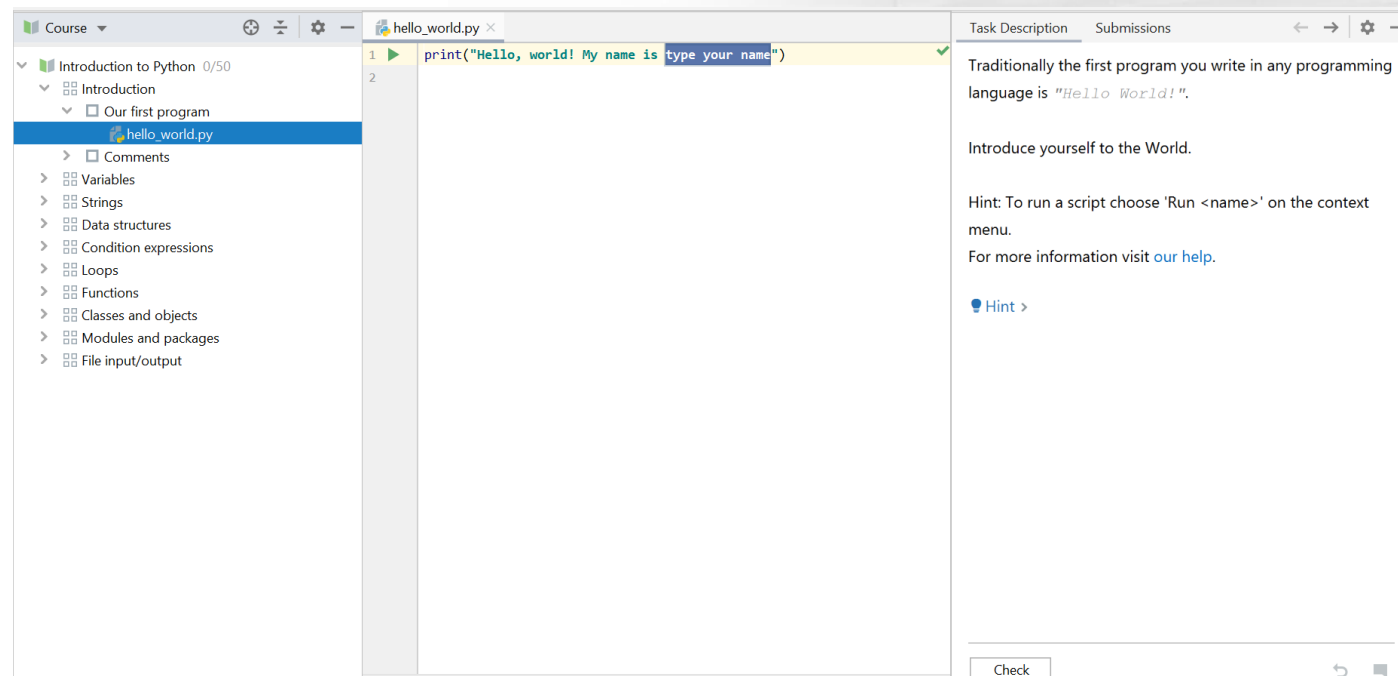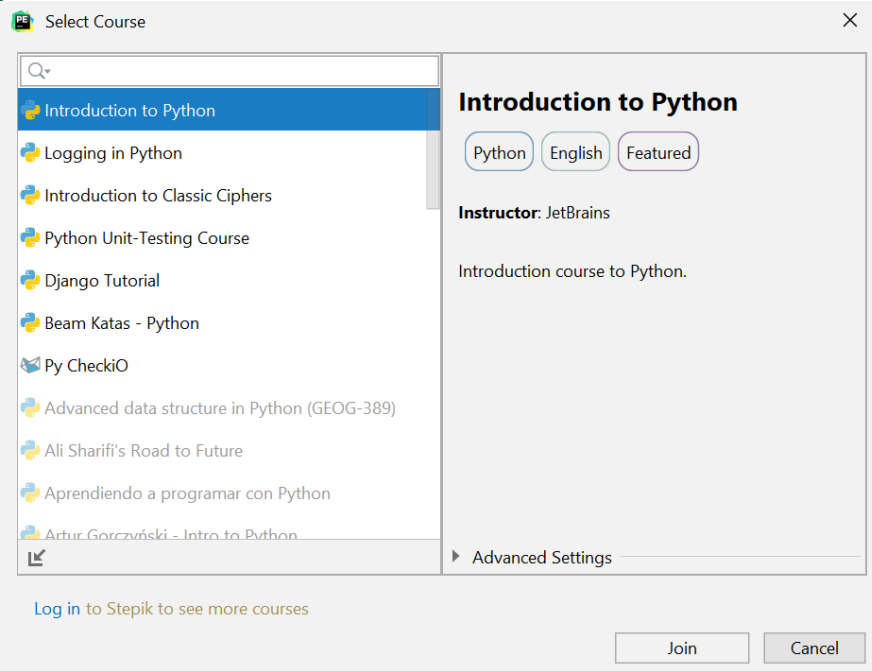- You can see installed packages in project interpreter

Installation of Python libraries

- Basically, the python libraries are installed by "pip" package manager https://en.wikipedia.org/wiki/Pip_(package_manager)

- (Recommended) You can either install python libraries in PyCharm https://www.jetbrains.com/help/pycharm-edu/installing-uninstalling-and-upgrading-packages.html

- Or you can install python libraries by typing commands in the terminal https://scipy.org/install.html

PyCharm Lessons

- You can learn more about Python by joining the course "Introduction to Python" in File/Learn/Browse course.

Usage of Libraries

- numpy

- Matplotlib

- Scikit-learn

- pytorch

➢Python tutorial from cs231n http://cs231n.github.io/python-numpy-tutorial/#numpy

➢More tutorials

https://docs.scipy.org/doc/numpy/user/quickstart.html

https://matplotlib.org/tutorials/introductory/pyplot.html

https://scikit-learn.org/stable/tutorial/index.html