Introduction to Python Programming

Instructor: 林海川 (Haichuan Lin)

Professional Software Engineer 20 years industrial experience in US. Praxair, Siemens, Cornell University, Becton Dickinson.

What is Python?

Python is an interpreted, object-oriented, high-level general purpose programming language

Why Python?

- Simple, easy to learn
- Free
- Many libraries support
- Versatile: Scientific programming, GUI, Database, Web, Robotics

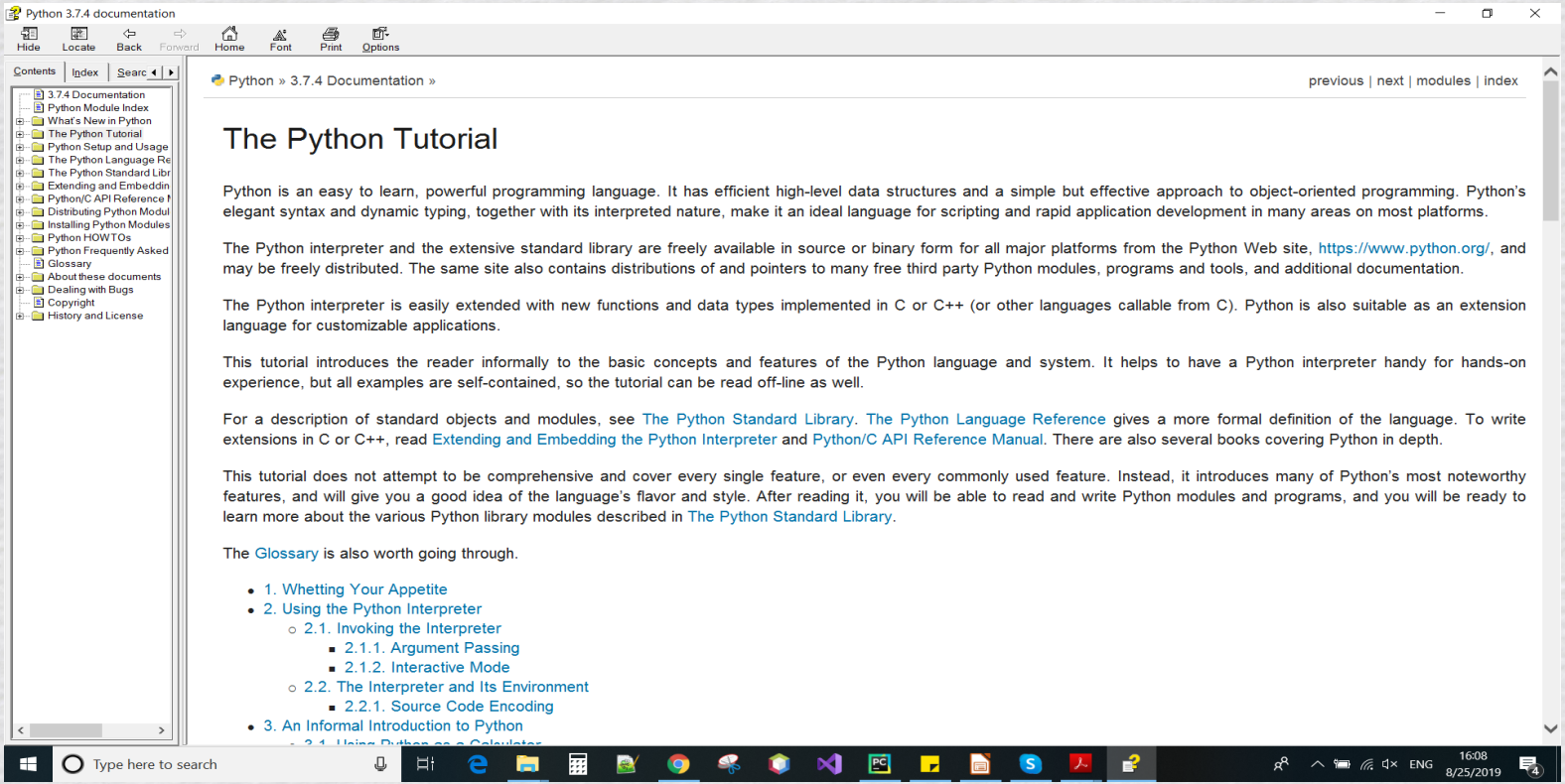
What you need

- Laptop, Windows 10
- Python 3.7 https://www.python.org/downloads/
- IDE (Integrated Development Environment) https://www.jetbrains.com/pycharm/
- High School Mathematics
- Paper and Pencils

References

- https://www.python.org/
- https://www.learnpython.org/en/Welcome
- https://stackoverflow.com/
- https://www.w3schools.com/python/default.asp

Python 3.7 Manual



Course Outline

Fundamentals:

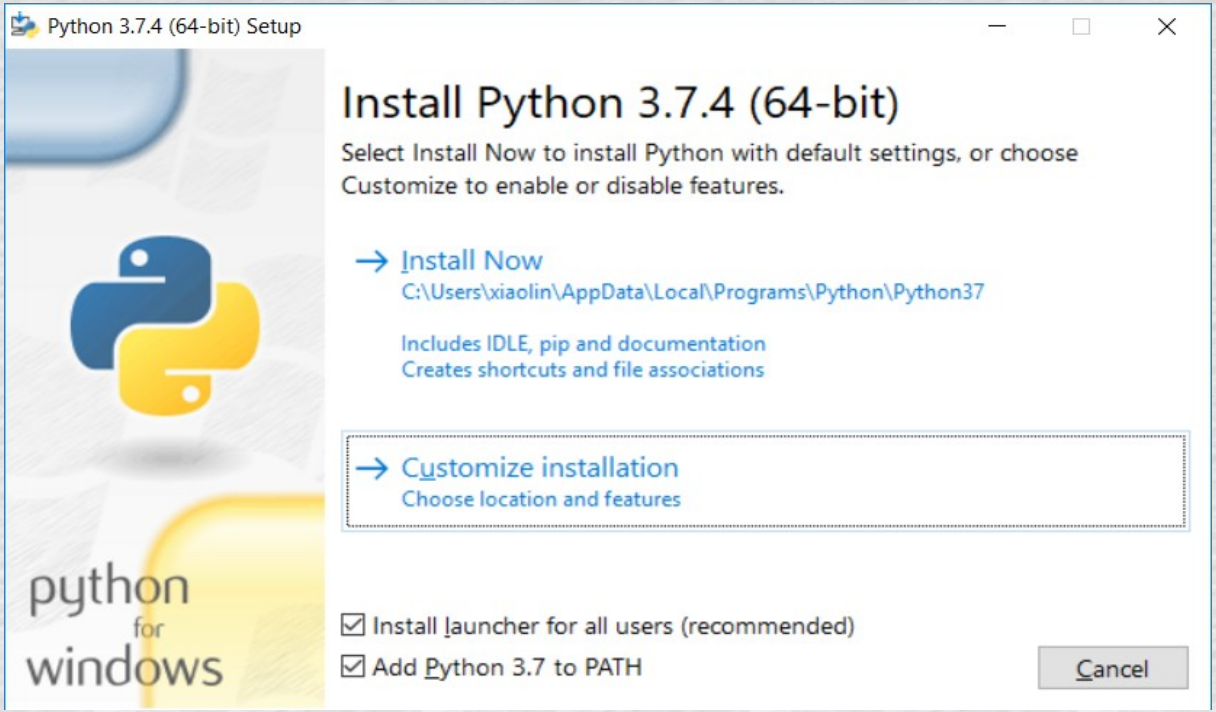
- Use pycharm IDE
- Python interactive environment, use it for arithmetic
- Types, variables, strings
- Functions
- Expressions
- Decision branching
- Loops
- More functions,
- Arrays (List)
- Algorithms
- Classes

Projects:

- Graphics – plotting curves
- Encryption/Decryption
- Puzzles
- Simulations

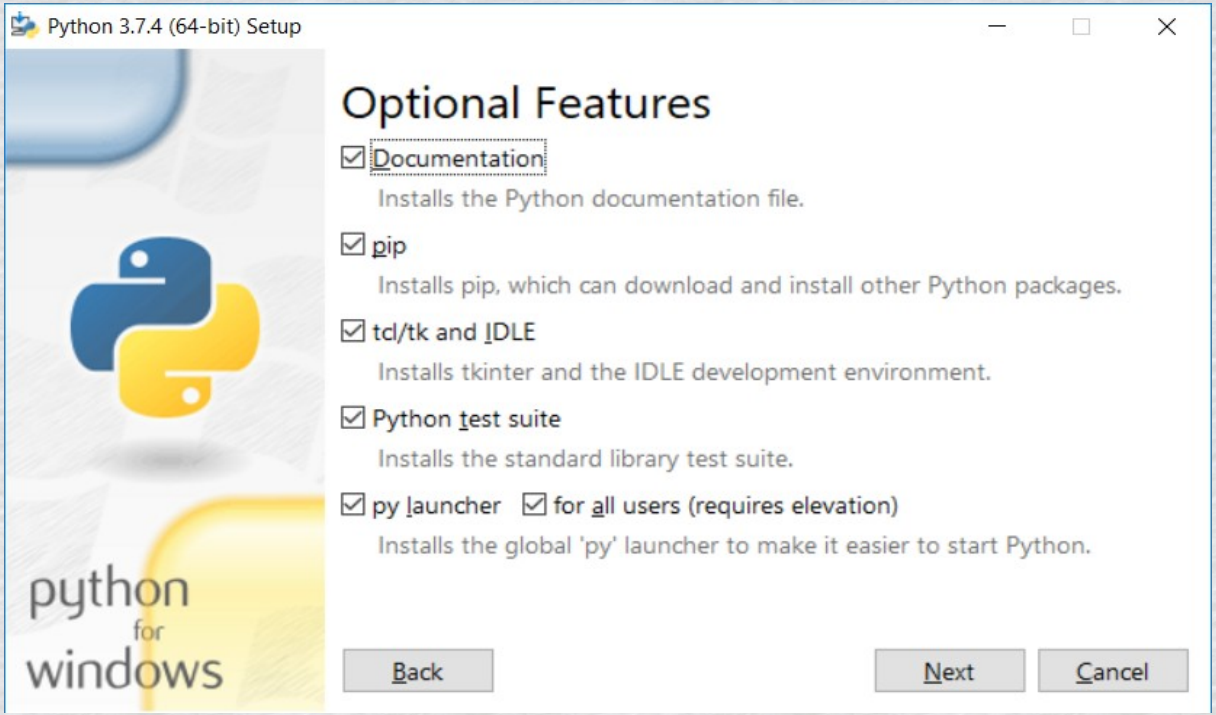
Install Python

https://www.python.org/downloads/



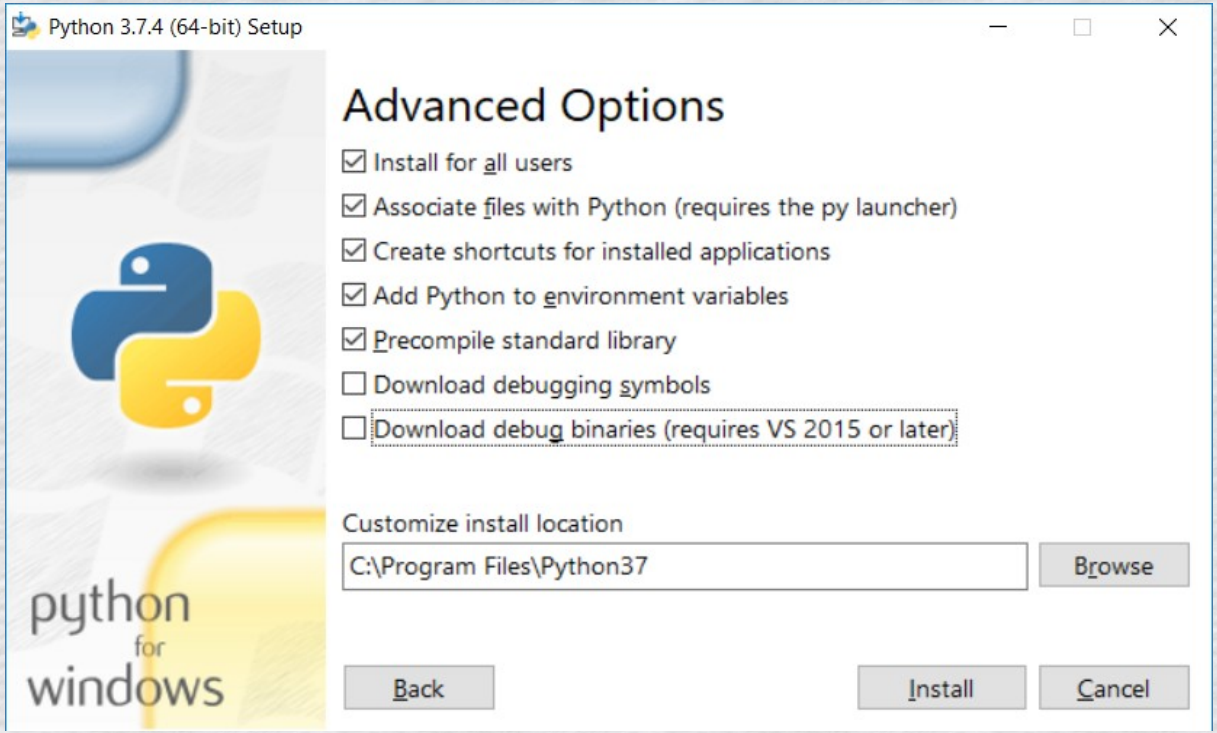
- Setup file: python-3.7.4-amd64.exe
- Check Python 3.7 to PATH
- Select Customize installation

Install Python



Select all optional features on this screen

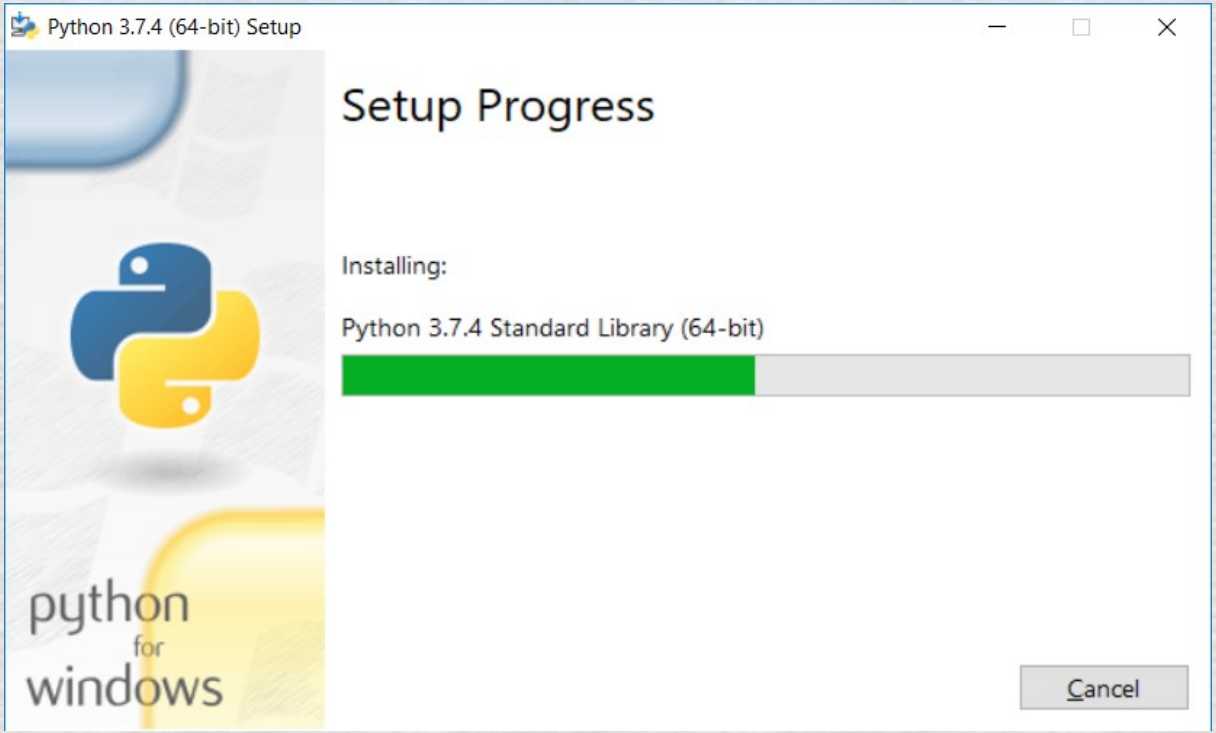
Install Python



Check the options as indicated.

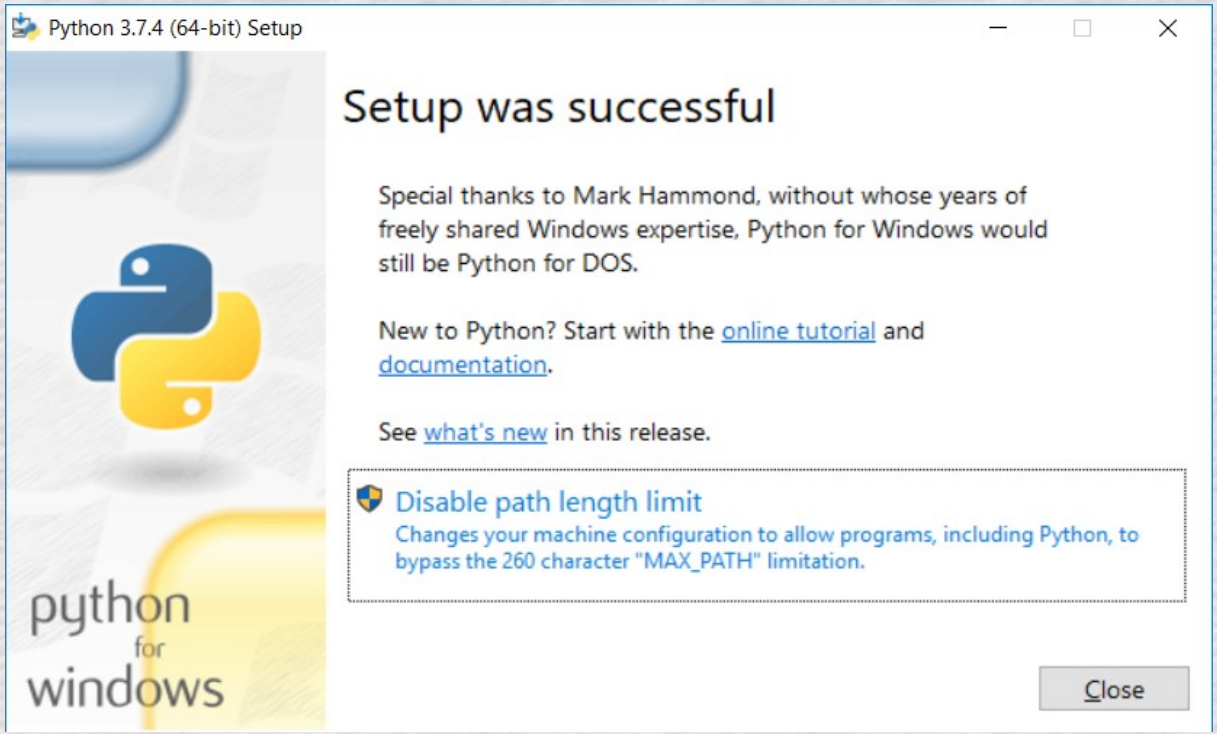
Make sure the install location is c:\Program Files\PYthon37

Install Python



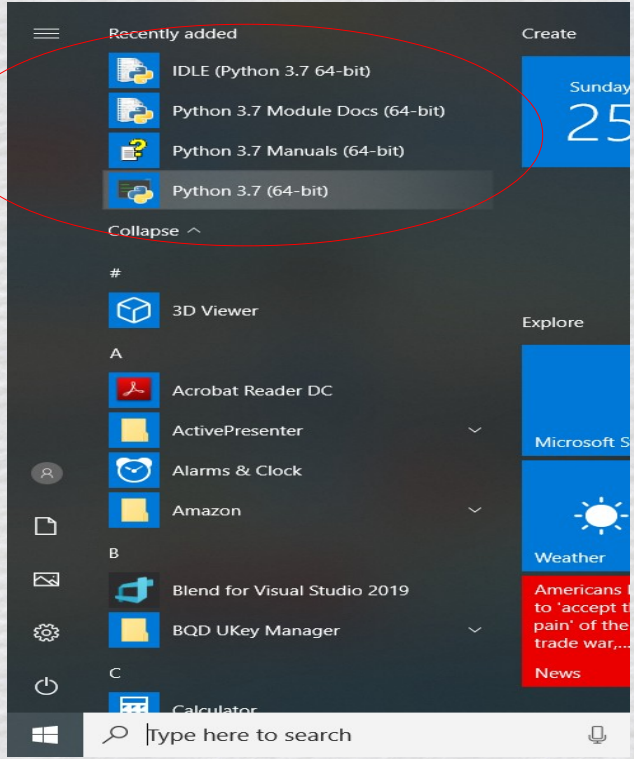
Wait for installation to complete

Install Python



Disable path length limit

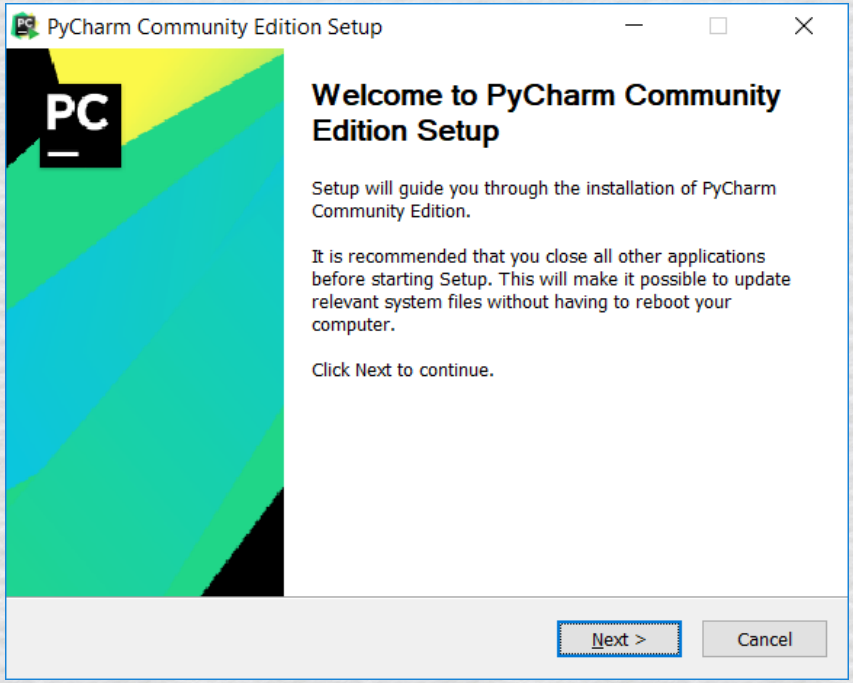
Install Python



Check start up menu after install is done

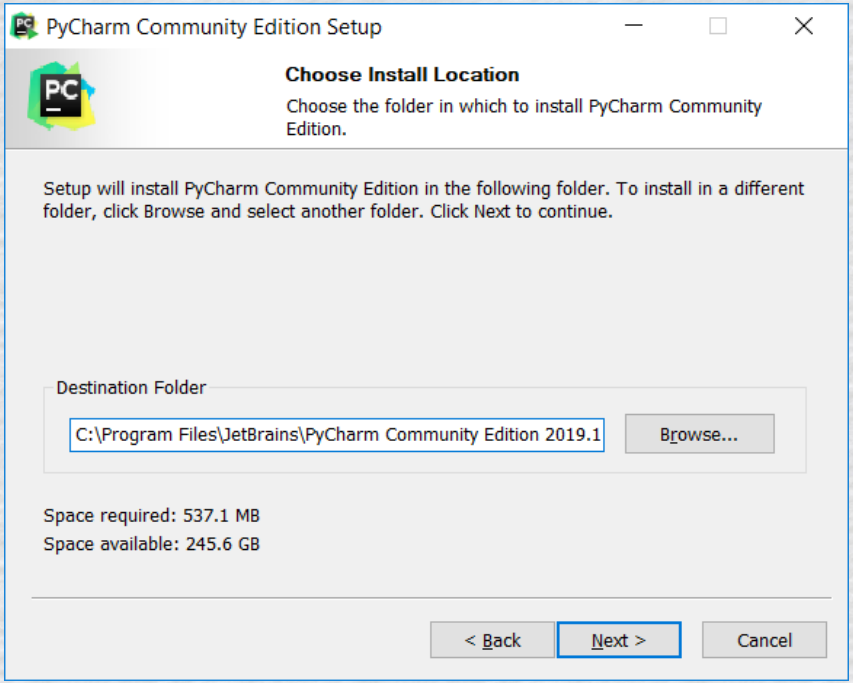
Install Pycharm Community Edition

https://www.jetbrains.com/pycharm/download/#section=windows

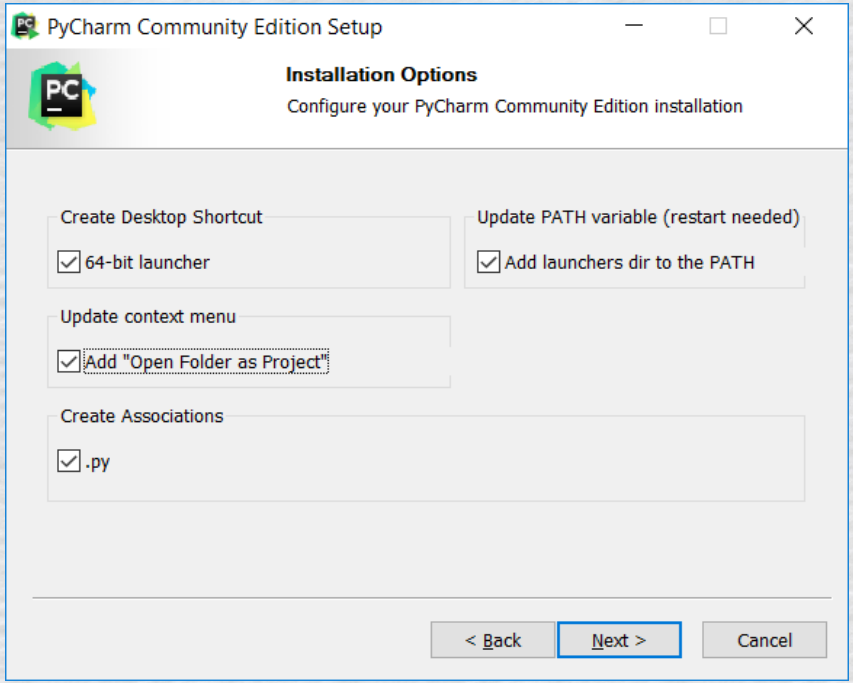


Setup file: pycharm-community-2019.1.3.exe

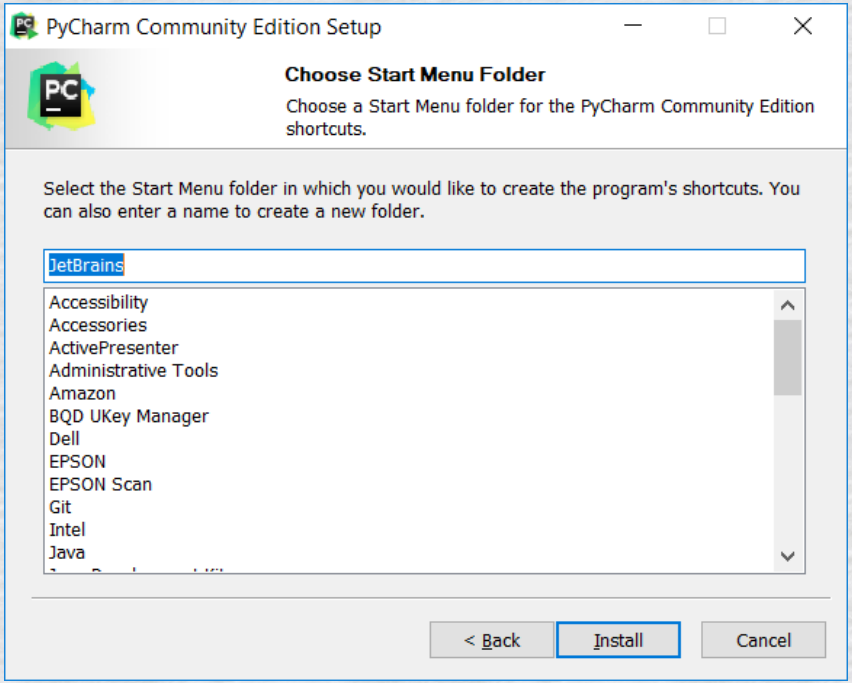
Install Pycharm Community Edition



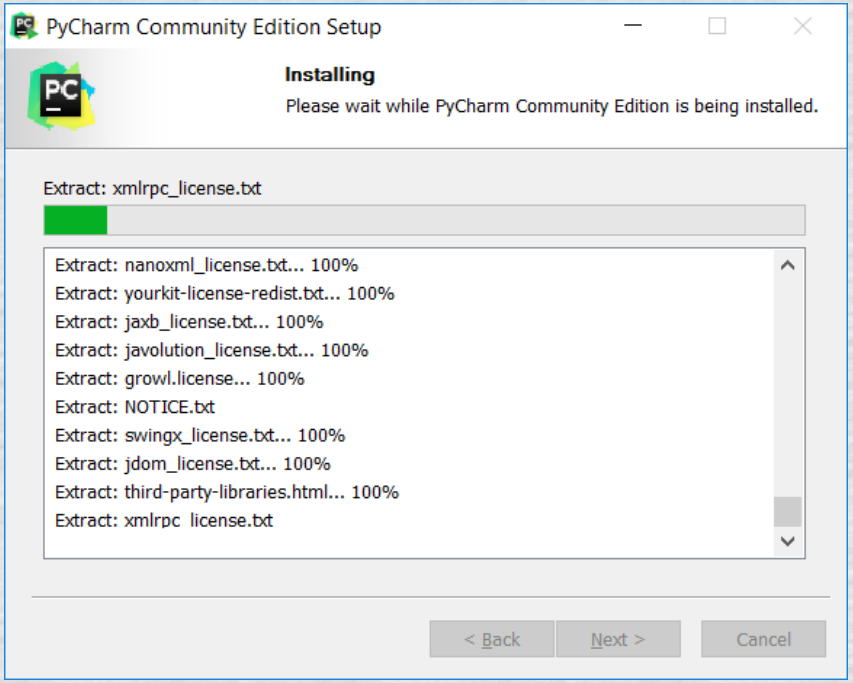
Install Pycharm Community Edition



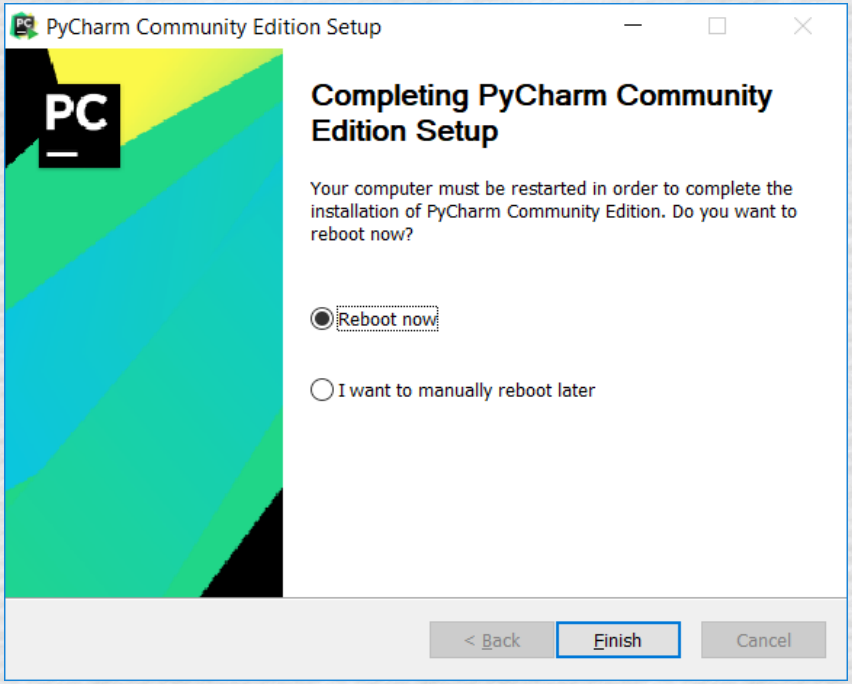
Install Pycharm Community Edition



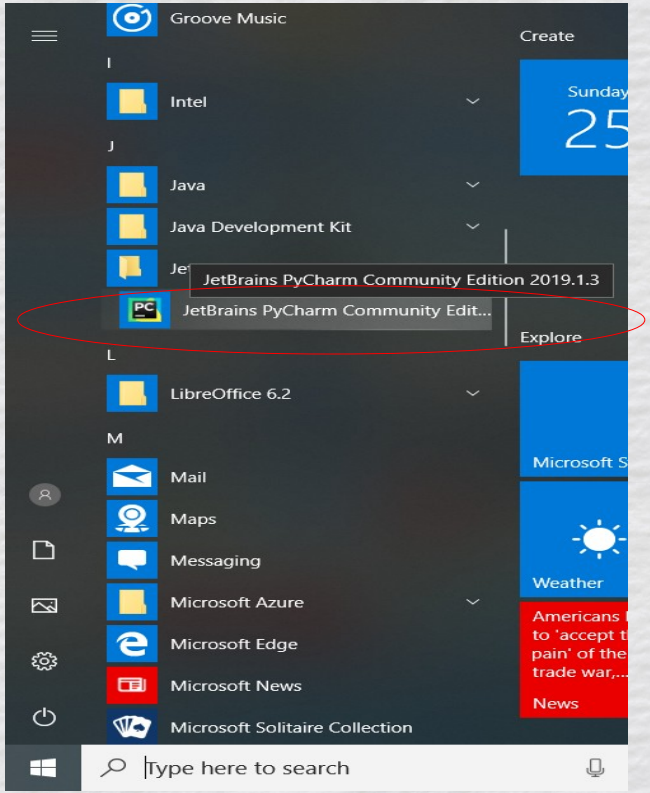
Install Pycharm Community Edition



Install Pycharm Community Edition



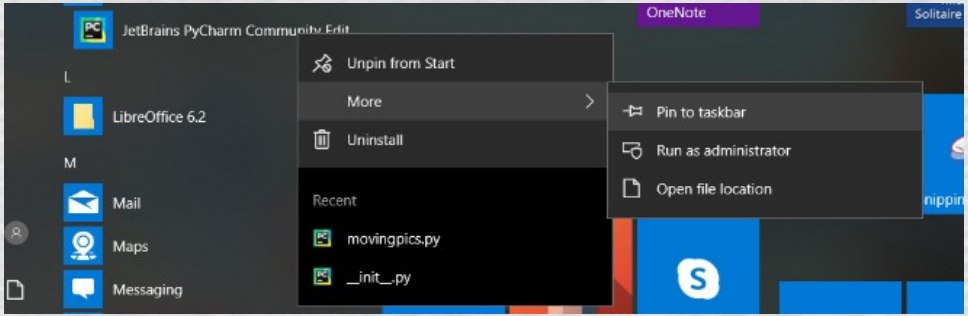
Install Pycharm Community Edition



Check pycharm in start menu after install is done

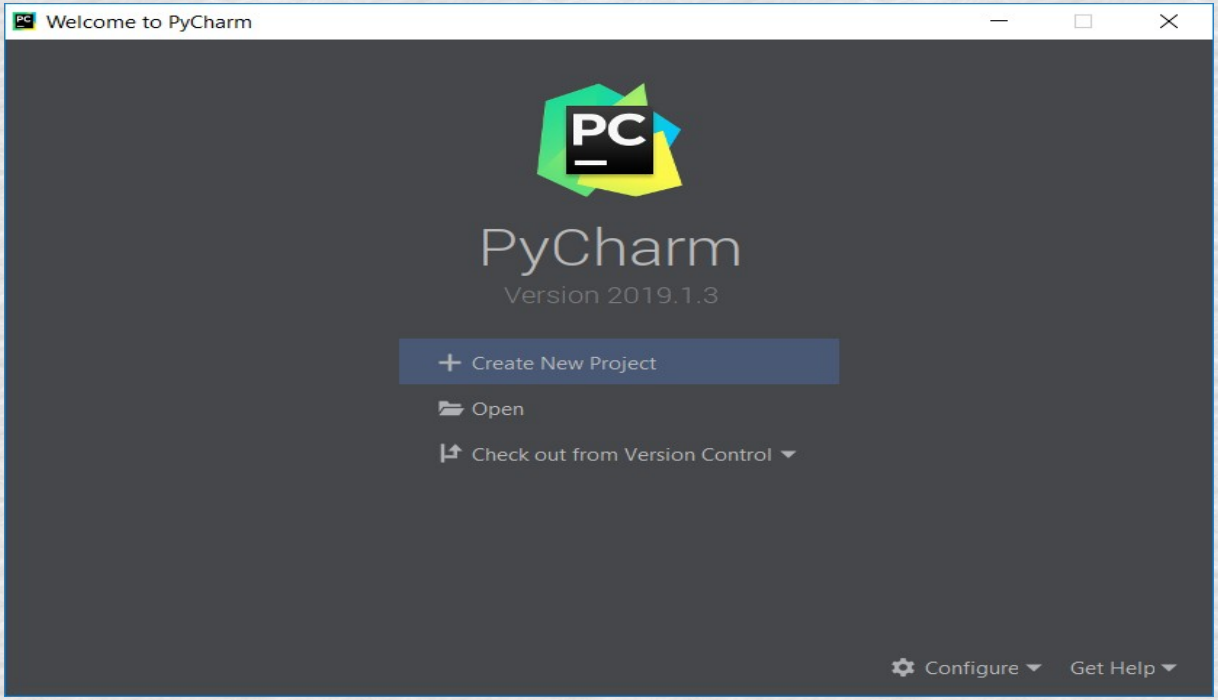
Install Pycharm Community Edition

Pin the application to taskbar



Install Pycharm Community Edition

Lanuch PyCharm



Install Pycharm Community Edition

Congrats! You can continue to lesson 2.