Python Resources

These are the things you need to learn before we begin the Data Science + Machine Learning workshop.

1. Python History, Characteristics, and Features
2. Input / Output
3. Variables, Data Types and Basic Syntax
4. Selections
5. Loops
6. Lists, Dictionary and Tuples
7. Function Definition and Calling
8. Classes and Objects (Object Oriented programming in Python): not necessary, but preferable.
9. Modules and Libraries
10. Pandas, if time permits. (We will also go through this)

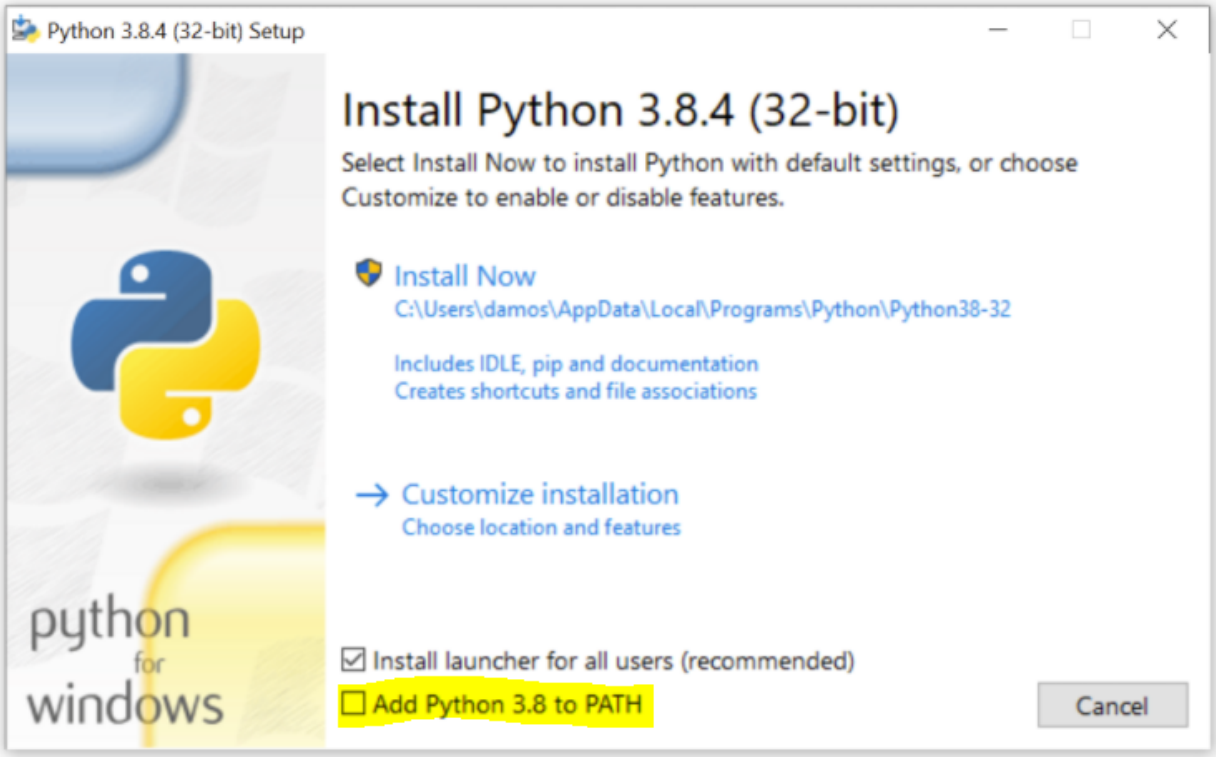
Installation Guide

To get started, you need to get Python 3.8.8 on your system.

Download Link - https://www.python.org/downloads/release/python-388/

Follow the steps in the guide below and install Python3 as instructed. For any doubts, contact the person mentioned at the end of this document.

Important: When you get the following screen, make sure you select “Add Python 3.8 to PATH”.



For Windows Users: https://realpython.com/installing-python/#windows

For macOS Users: https://realpython.com/installing-python/#macos-mac-os-x

For Linux Users: https://realpython.com/installing-python/#linux

Note: Even though the guide says “get the latest release”, it is highly recommended that you get Python version **3.8.8.** The link has been mentioned above.

Additional tools required

(These won’t be required to learn Python but will be mandatory later, hence, it is advised that you download them now)

Jupyter Notebook: https://jupyter.readthedocs.io/en/latest/install.html

Learning Resources

1. Hands-on approach and coding through examples
(This way is faster but not too explanatory.)

a. W3 Schools:
https://www.w3schools.com/python/python_intro.asp b.
HackerRank: https://www.hackerrank.com/domains/python

2. Courses (These will take more time but will be a lot more detailed.)
a. https://www.youtube.com/playlist?list=PL-osiE80TeTt2d9bfVyTiXJA-UTHn6WwU b.
https://www.youtube.com/watch?v=_uQrJ0TkZlc&t=16778s

You can use any other source that you may find convenient.

Practice Problems

You can use any online coding platform like Hackerrank, Codeforces, CodeChef etc.

Here is a beginner friendly page:
https://www.practicepython.org/

Suggested Pattern of Study (Week before the winter school starts)

1. Day 1:-

a. Python History, Characteristics, and Features b. Input / Output c. Variables, Data Types and Basic Syntax 2. Day 2:-

a. Selections b. Practice Problems 3. Day 3:-

a. Loops b. Practice Problems 4. Day 4:-

a. Lists, Dictionary and Tuples b. Practice Problems 5. Day 5:-

a. Function Definition and Calling b.

Modules and Libraries c. Practice Problems 6. Day 6:-

a. All the additional material. 7. Day 7:-

a. You have everything covered. Have fun at the upcoming workshop!

For any further doubts, please contact:

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