Introduction to Python

Course Usage

▼ Types of Students

1. No-code: Religiously follow the sessions!
2. Familiar with another language: Find similar constructs in python!
3. Familiarity with Python: Browse through and revise!

▼ Scope?

- We don’t want to build python experts!
- Enough to execute ML!

Programming Languages

▼ What is a Programming Language?

- Instructions; communicate with the computer!

▼ How do they work?

Human Readable Code → Machine Code → Low-level Transistors (0, 1) [Hardware]

▼ Different kinds of languages

Diff b/w the two:

on the basis of how translation (human → machine code) and execution take place!

▼ Compiler

1. Converts the whole program at once to machine code
2. Then, separate step to run the compiled file!

- Eg: C++

▼ Interpreter

- Conversion + Execution: Line-by-line basis
  - Stops execution if failure is found in one line
- Eg: Python

Intro to Python

▼ Why Python?

- Easiest
  - Verbosity
    - High: a lot of lines of code to express a particular piece of logic
    - Python - low verbosity
  - Syntax
    - Grammar
- Libraries - Compatability
  - Game, Networking, Distributed Systems, Databases (SQL), Data Analysis/ML, DL, etc.

▼ Different Versions

- History & Current Version - https://python.land/python-tutorial

▼ How to access Python?

▼ Easier Option [Recommended]

“Jupyter Notebooks” : code.ipynb

1. Colab Notebooks - https://colab.research.google.com/
2. Kaggle Notebooks - kaggle.com

▼ Complicated Option

1. Download python from - python.org
2. Download vscode (IDE) from - https://code.visualstudio.com/

Support Video for Installation -

1. Windows: https://www.youtube.com/watch?v=cUAK4x_7thA
2. Mac: https://www.youtube.com/watch?v=NirAuEAblvo

VSCode Extensions Required -

1. Jupyter - ipynb
2. Remote Development (SSH, Tunnels)
3. Github Repositories
4. Python

Important Packages -

1. Anaconda - https://www.anaconda.com/
2. pip3

▼ Resources

- https://www.w3schools.com/python/
- https://python.land/python-tutorial#google_vignette
- https://wiki.python.org/moin/BeginnersGuide