Python for Data Science - Part I

By Souro (A Technologies)

Revisions

- We give a computer a set of instructions
  - Programming (*program the computer to do tasks*)
- Instructions -> Code
  - Each Line: Line of code
- Instructions in a special language
  - Programming language
- Instructions has rules
  - Syntax rules, Syntax Error

Python

- High-level
  - Multi-purpose, Widely used
    - ML, Web, GUI, Multimedia …
- Guido van Rossum, 1991
  - Further : Python Software Foundation
- Designed with emphasis:
  - Easy to learn, Coding “literacy”
  - Code readability
  - Concepts in fewer lines of code
- Well suited for Beginners
  - Also for experienced programmers
- Automatic memory management
- Rich expansive library support *(“batteries included” philosophy)*
- Free and Open-source
- Interpreted language
  - Check the code line by line
  - Internally converts into intermediate form (bytecodes)
  - Then translate, native language, specific computer to run

Python 2 & 3

- 2 major versions *(2.0:2000, 3.0:2008)*
  - Quite different
  - 3 perfect for broad range
- Python 2 latest : 2.7 *(Last)*
- Python 3, 3.9 ...
- Encoding:
  - 2 -> ASCII (English Language)
  - 3 -> Unicode (UTF-8), Other Foriegn Languages
- print, divide, xrange/range, error handling, __future__

Programming Practicals

- Python 3.X.X
- Installation and Setup
- Interpreter
  - OS Wise: https://www.python.org/downloads/
  - Online (I prefer: ideone.com)
- IDE
  - I prefer: PyCharm
- Notebook
  - I prefer: Jupyter
- Virtual Environment
  - Python (I prefer)
  - Anaconda

Thank you … Questions?