OMIS 30: Intro to Programming (with Python)
Week 8, Class 1

Introduction to Programming
Instructor: Denis Vrdoljak

Learn programming with Python

Office Hours

Instructor	Days available
Yuan Wang (our TA)	M 2:30-3:30p, W 9-10a
Mike Davis (other section's instructor)	Tu 9:30-10:20a, Th 12-1p
Denis Vrdoljak	Tu 3:40-4:20p, W 5-6p

Course Topics

1. ~~Computer setup - intros~~
2. ~~Shell - cd, mkdir, move, rename, copy, pwd, touch, echo, nano, vim~~
3. ~~Grep, bash, scripts~~
4. ~~Python Basics - print, input, math, PEMDAS~~
5. ~~Pseudo-code~~, algorithm design, ~~comments~~
6. ~~Loops~~ & ~~Nested Loops~~
7. ~~Moving files around~~, ~~input~~
8. Dates, times, epoch, ~~time-series~~
9. ~~Arrays, lists, dicts, sets, etc.~~
10. ~~And, or, If, elif,~~ try, except

11. ~~Functions~~
12. ~~Strings~~, ~~upper, lower~~, regex
13. Computation time, flops, sorting
14. JSON, ~~dicts~~, iteritems
15. ~~Pandas~~
16. ~~Jupyter~~, virtual environments
17. Web-apps/web-pages
18. Web-scraping
19. Plotting~~, graphing~~
20. Git

Goals from last week

- Pandas

try/except

Coding in teams

Learning Python - O'reilly

- https://github.com/MrAlex6204/Books/blob/master/Learning%20Python%2C%205th%20Edition.pdf

Homework 8.1

Create a GitHub Account

Appendix

- Reserved keywords in Python:
  - https://pentangle.net/python/handbook/node52.html
  - DO NOT USE THESE as VARIABLE NAMES!
- Built-in Functions:
  - https://docs.python.org/3/library/functions.html
  - Review/Reference Material:
  - https://developers.google.com/edu/python/lists
- Dos/Windows vs Unix/Linux:
  - https://access.redhat.com/documentation/en-US/Red_Hat_Enterprise_Linux/4/html/Step_by_Step_Guide/ap-doslinux.html
  - You should be familiar with the basic commands for navigating around the file structure and modifying/creating files/folders. You should be aware of the harder to remember ones (like grep and vi) so you know what to Google when you need them!

Appendix

- Learning Python - O'reilly Books (5th Edition)
  - https://github.com/MrAlex6204/Books/blob/master/Learning%20Python%2C%205th%20Edition.pdf