Unit 3: Core tools

Python

Lesson 24

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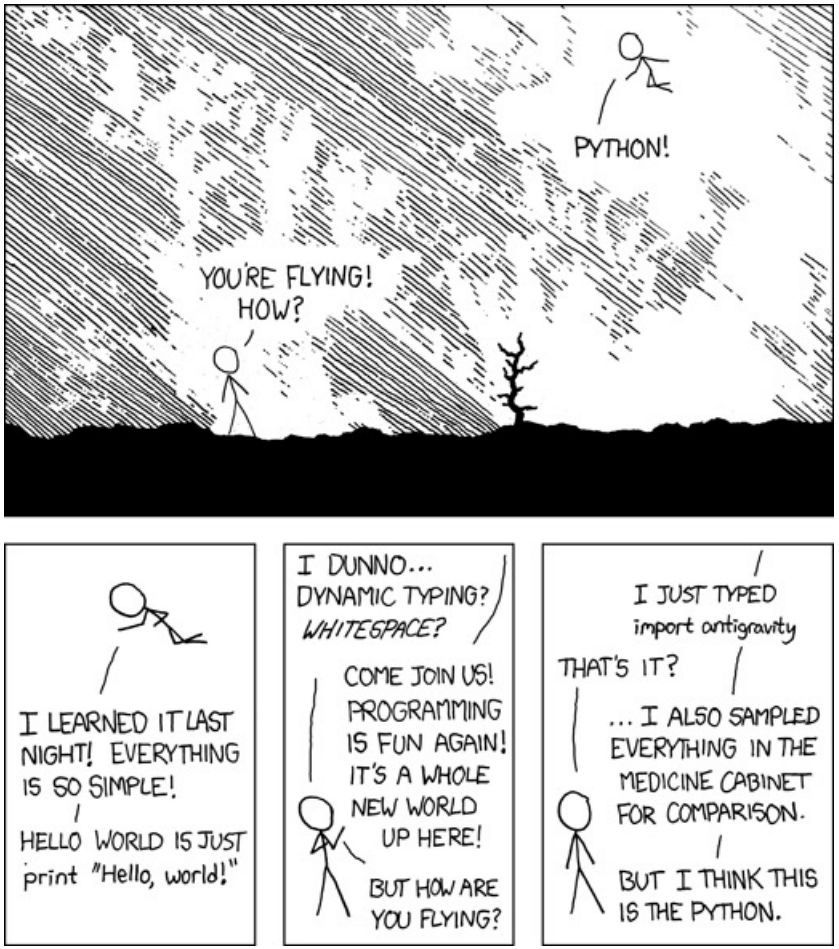

PYTHON!
YOU'RE FLYING! HOW?
I LEARNED IT LAST NIGHT! EVERYTHING IS SO SIMPLE!
HELLO WORLD IS JUST print "Hello, world!"
I DUNNO... DYNAMIC TYPING? WHITESPACE?
COME JOIN US! PROGRAMMING IS FUN AGAIN! IT'S A WHOLE NEW WORLD UP HERE!
BUT HOW ARE YOU FLYING?
I JUST TYPED import antigravity
THAT'S IT?
... I ALSO SAMPLED EVERYTHING IN THE MEDICINE CABINET FOR COMPARISON.
BUT I THINK THIS IS THE PYTHON.

Overview of unit

Objectives:
- Understanding how data science activities necessitate certain kinds of tools
- Fundamentals with core data science tools

1. Why core tools?
2. Project organization
3. Python
4. Best practice: write CLI tools
5. Best practice: write unit tests
6. Best practice: resource referencing
7. Github
8. Jupyter notebooks
9. Jupyter & statefulness
10. Bokeh
11. Advanced bokeh
12. HW 3

Lesson overview

Objectives

- Understand what makes python so great
- Know the core libraries/capabilities you should get familiar with

Outline

- Quick python tour
- Core libraries
- Basic script structure

What makes python great?

- Scripts = programs
- Powerful built-in data types
- Expansive ecosystem of data science libraries

- Powerful for Data science

- universally supported for high level DS

- lots of stuff is wrapped in Python

In this course, commit to using python wherever possible.

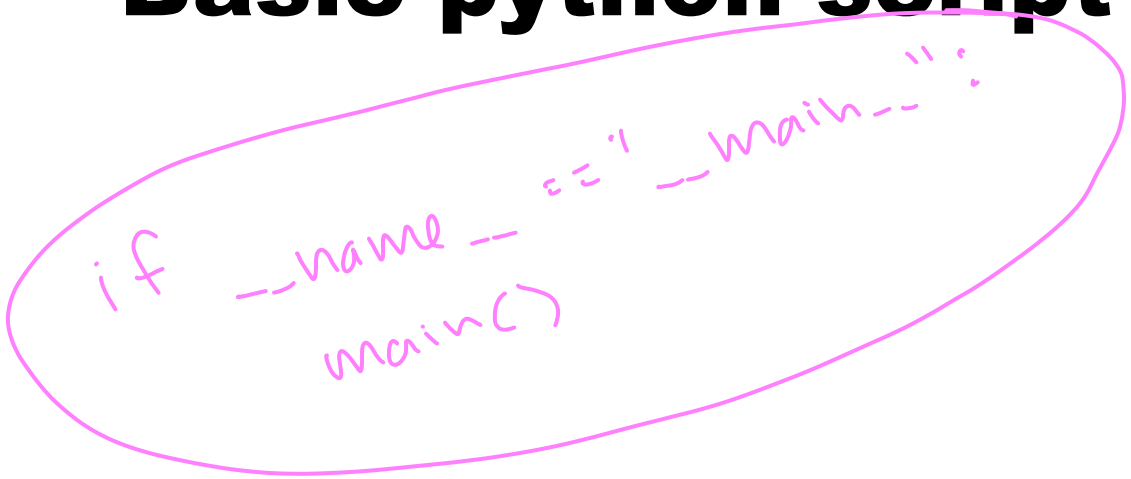
Core libraries to get familiar with

pandas dataframe

- Selection
- Slicing
- Filtering
- Mapping (transformations)

- Matplotlib … or seaborn

Basic python script structure



Nothing in top level

Should be executable

use a main()

See lecture recording

Lesson wrap-up

Takeaways

- Python is awesome
- Strive to use it this semester – it's worth it!
- __name__ == "__main__"

Up next

- Writing tools