2018-04-15, 14:00, Input Session

> Python 101 - Data processing with Python
> Martin Czygan, Data Pathologist, UB Leipzig

Hackathons

- Hackathons are not usually about one language or technology
- More about: ideas, exchange, collaboration and experimenation

Impressions

- great way to meet curious people
- opportunity to peek into unknown technologies
- awareness, inspiration
- escape work, also: do better work (or worse, sometimes worse is better)
- Python works well for prototyping

Python

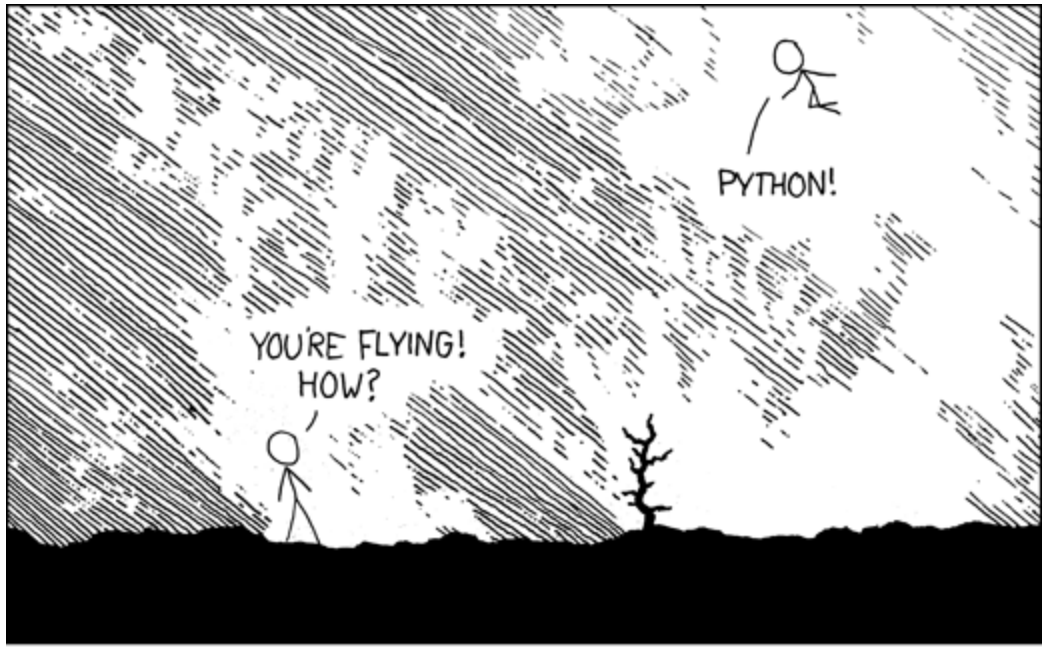
- Python is a nice (if you like whitespace), lightweight language
- Python 0.9: February 20, 1991
- Python 3.6.4: December 19, 2017
- In top 5 of Tiobe Index, alongside Java and
- an active, heterogeneous community

Python hard facts

How many lines of code does it take to ...?

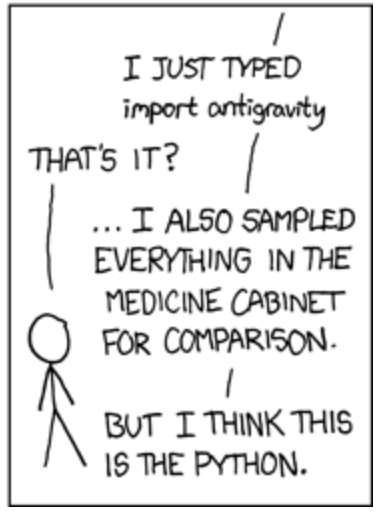
- build a web application: 6
- iterate over XML RSS feed items: 3
- parse a URL into a programmable spreadsheet: 1
- state of the art deep learning object detection in images: 16

xkcd.com/353


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.

Now for real

Let's look at ways to access, inspect, transform, analyze and present data.

Jupyter Notebooks

- CDV18 datasets
- Working with XML
- RSS feeds
- OAI harvesting
- CSV and Excel files
- Python and Art