

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 experimentation

#### **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

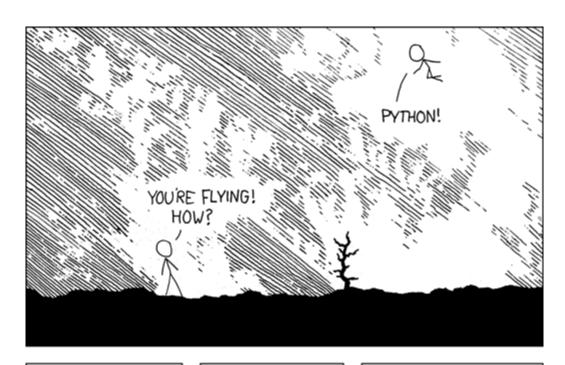
- Python is a nice (if you like whitespace), lightweight language
- Python 0.9: February 20, 1991
- Python 3.6.4: December 19, 2017
- In top 5 of Tiobe Index, alongside Java and
- an active, heterogeneous community

## 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





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
1'5 1T?

THAT'S IT?

... I ALSO SAMPLED EVERYTHING IN THE MEDICINE CABINET FOR COMPARISON.

BUT I THINK THIS
16 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