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**Python:**

* author is Guido van Rossum (created in 1989)
* newest version is 3.8 (came out last week on Monday), incompatible changes between version 2 and 3, support ended for version 2
* programming language with growing popularity
* multiplatform, open source and free
* easy and readable syntax (33 number of keywords (C++ has 95) ), PEP8 conventions
* Zen of Python, “import this”
* **dynamically typed**, no type declarations -> good for prototyping
* supports object oriented programming, everything is an object
* mainly used for web backend (Django, Flask), data science (Pandas, Numpy Scipy, … ), maschine learning, but also e.g. hacking and many more
* great for automation
* today used by Google, YouTube, Facebook, Instagram...
* big friendly community, [pyvo.cz](https://pyvo.cz/), <https://www.facebook.com/groups/pyonieri/>
* … youtube, google, stackoverflow
* powerfull standard library
* batteries included (many libraries and extensions in C/C++)

Python has an **interpreter** -> creates byte code (compiles) -> runned by virtual maschine, and implementation of these can differ

(in contrast to e.g. C++ which has compiler creating maschine instructions)

* no binary file like .exe on Windows is created, “python script\_name.py” (path/to/python)
* you need to have Python interpreter installed
* interpreter makes interactive work possible -> good for learning, prototyping, data science

**Spyder editor:**

Tools -> Preferences -> Current working directory

Tools -> Preferences -> Editor -> Code Introspection/Analysis -> Real time code style analysis

**IPython:**

* enhanced interactive console
* magic functions, better history, multiline editing, ...