Workshop

Python for Economics

Saeed Saffari

Email: m.saeed1024@yahoo.com
GitHub: github.com/saeed-saffari

Faculty of Economics
Al-Zahra University

Spring 2021

Why Programming?

- Looking for Common language between Human and Machine
- Different Works, Different Languages

- Why Python?
  - Close to Human Language
  - Easily Connect to other Languages
  - General usage
    - Wide range of fields
    - Great Communication

Why Programming in Economics?

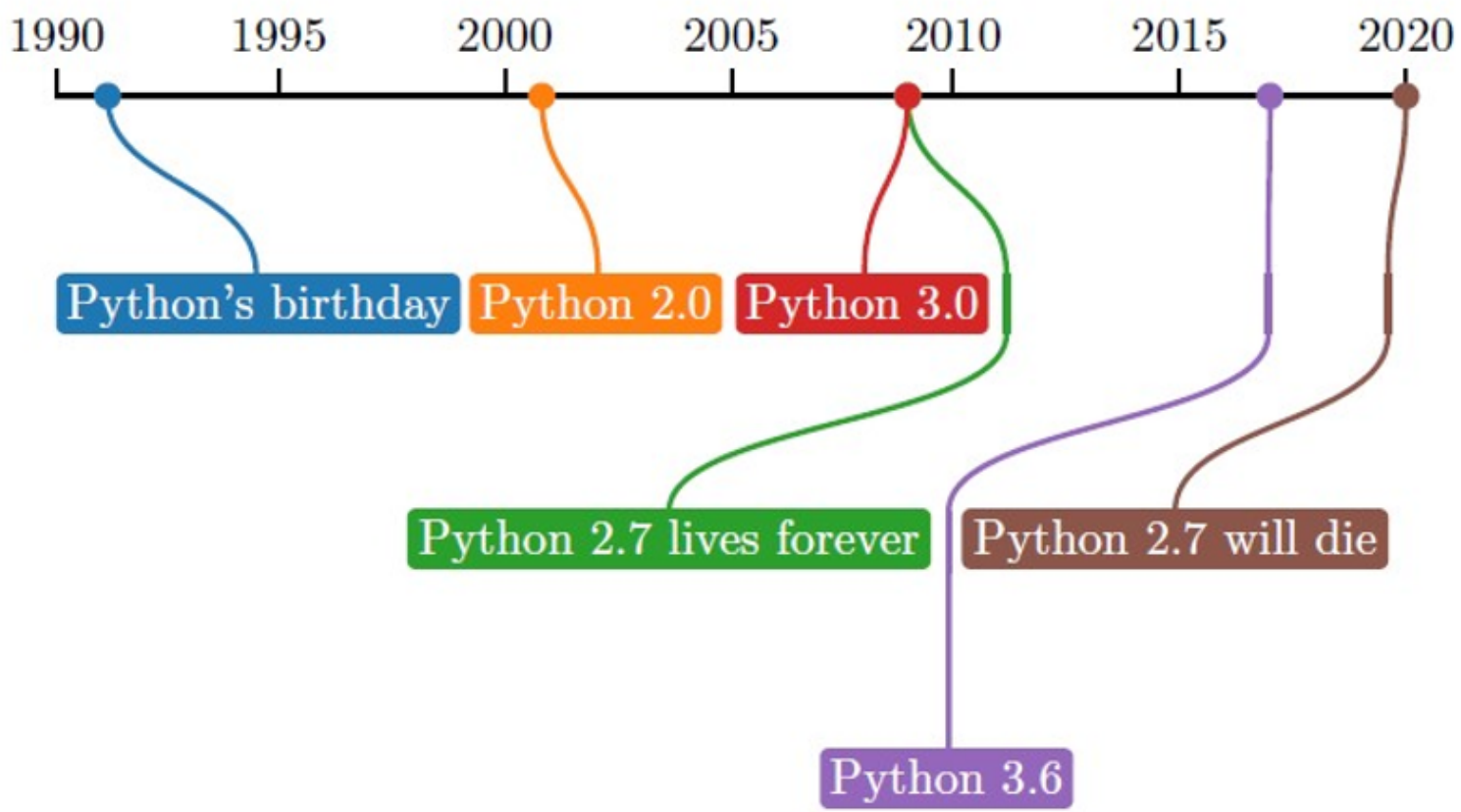
- Analysis of Economic Data
  - High volume of generated data
  - Impossibility of data management in software such as Excel
  - Read data from an online database
- Quantitative Methods
  - Influence of different mechanisms on an economic
  - The complexity of economic issues facing economists
  - Lack of analytical solutions to problems

Programming Languages

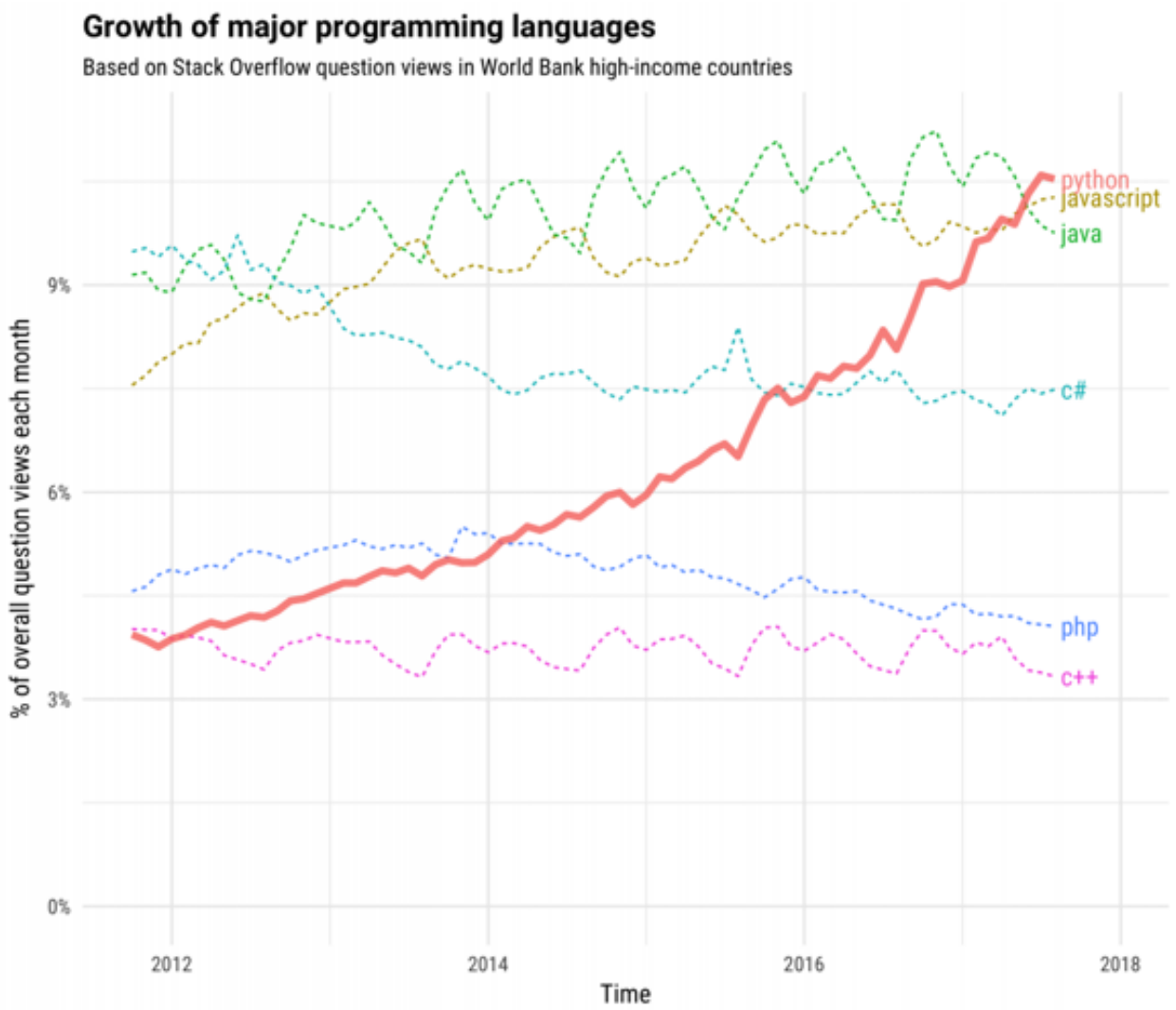
Comparing the way Python works with common programming languages

- C/C++ and Fortran:
  - Time-consuming coding
- MATLAB:
  - Lack of proper economic packages
  - Lake of design, efficiency compared to Python
  - Not open source
- R
  - Useful in statistics with high variety of packages
- Stata
- Julia

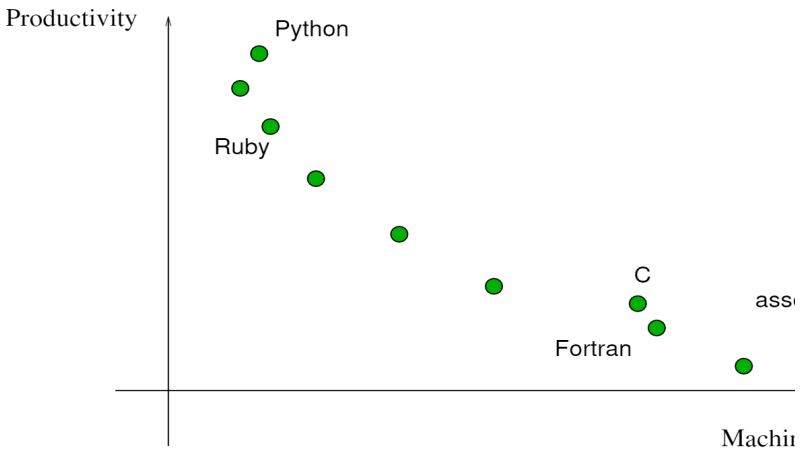
Overview of the Python development by versions and dates:

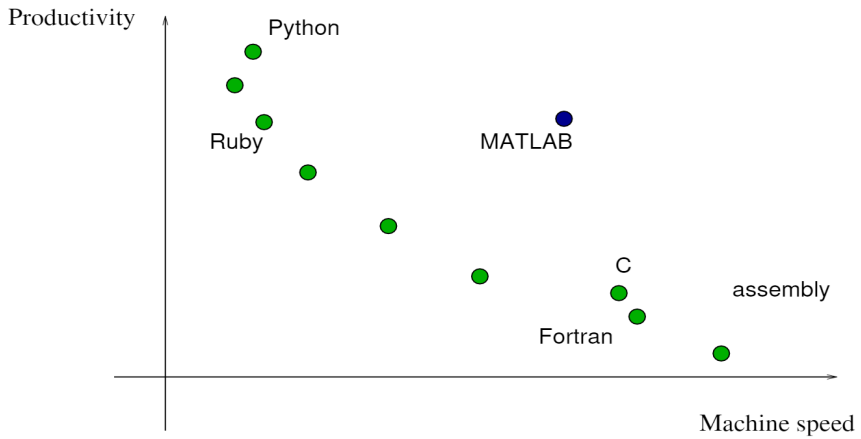


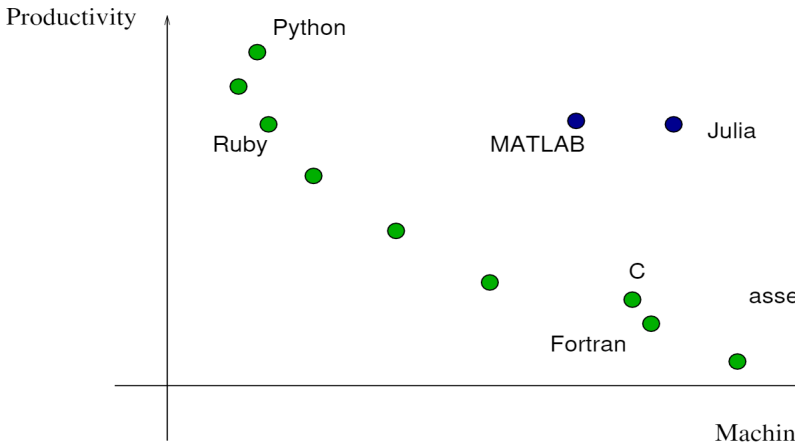
Python has become extremely popular

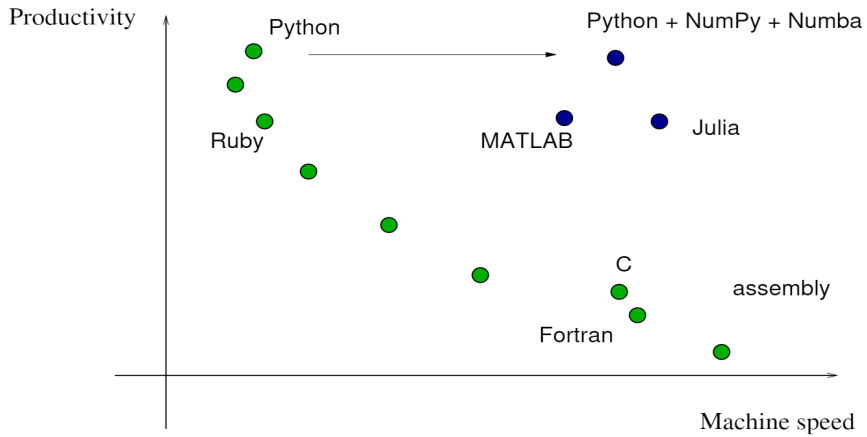


Trade-Offs


Productivity
Python
Ruby
C
Fortran
Machi


Productivity
Python
Ruby
MATLAB
C
assembly
Fortran
Machine speed


Productivity
Python
Ruby
MATLAB
Julia
C
Fortran
Machin


Productivity
Python
Python + NumPy + Numba
Ruby
MATLAB
Julia
C
assembly
Fortran
Machine speed

Workshop Content

- Python Setup
- Object and Data Structure Basics
- Python Statements
- Methods and Functions
- Modules, Packages
- Libraries
  - NumPy
  - Matplotlib
  - Pandas
  - SymPy and SciPy
  - ...

How to Start?

- **Read, Read, Read! Write, Write, Write!**
- GitHub and Stack Overflow
- Editors
- Anaconda
- Search Skill

Thank you

- ANY QUESTION...?