SCIENTIFIC PYTHON.

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Before we start...

The interactive part of this Powercourse requires a supplementary repository (which builds a large docker image) and some external datasets. Please take this moment to start cloning the repository and running `make start`.

Powercourse Python Data Science repository

https://github.com/RineshRamadhin/Powercourse-Python-Data-Science

Requirements: Docker, terminal, browser

Setup


We
cool
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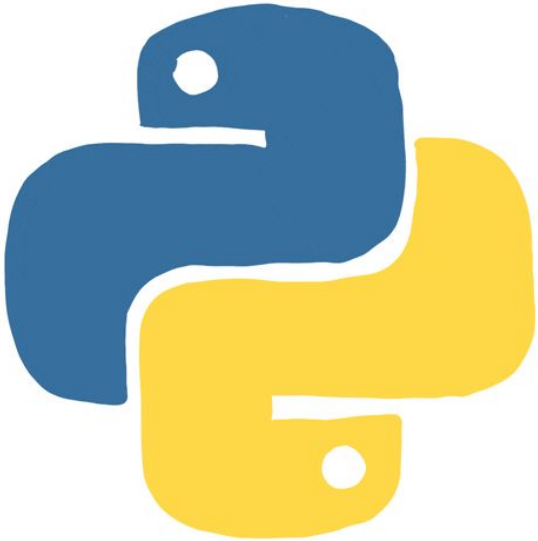
Data

What now?!

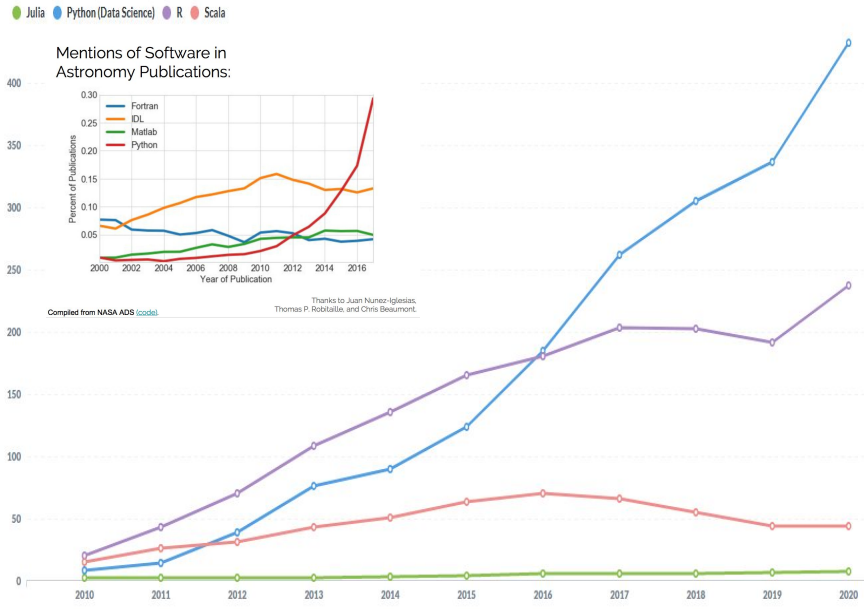
- Why Python?
- The scientific ecosystem
- Interactive Python (IPython)
- Data manipulations
- Interactive examples



Scientific Python

Some reasons

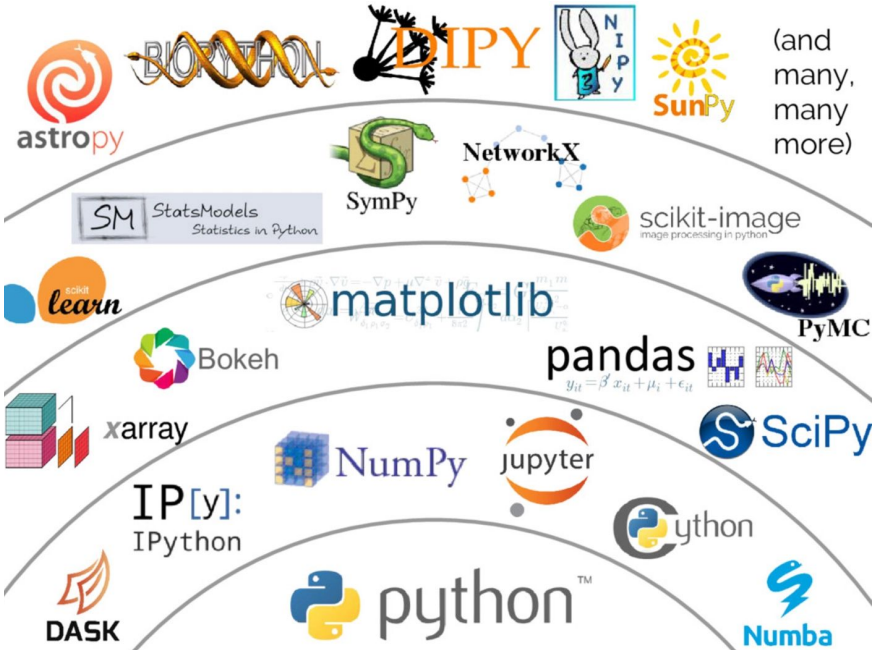
- Simplicity & dynamic nature
  - High-level, interpreted language
  - Platform independent
- Widely used in scientific and numeric computing
  - Large ecosystem, interoperability
- Scripting support
- Large community 🚀
  - Most popular for data science (by far)



Why Python?

Batteries Included

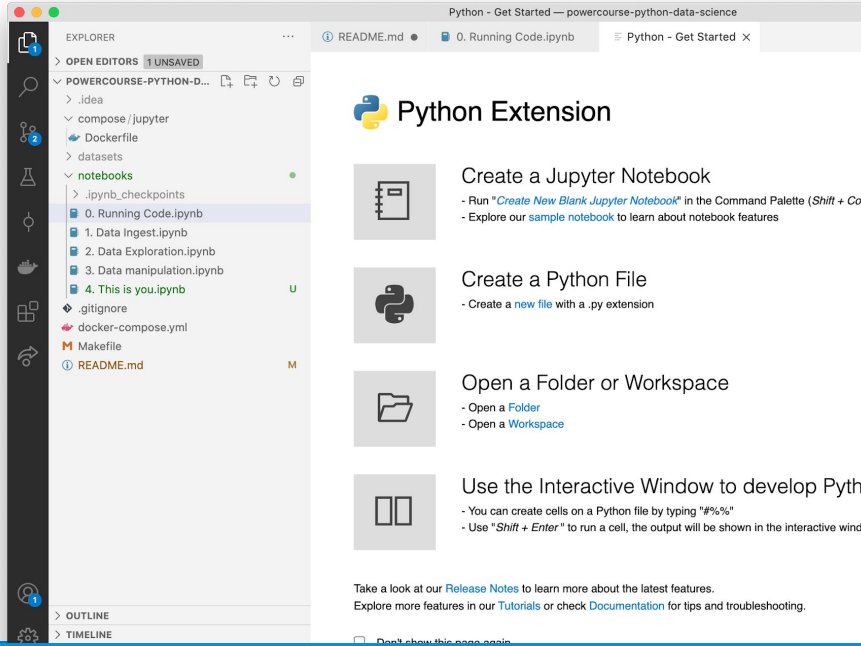
- Already comes with a lot of scientific requirements
  - Scraping, working with file systems, csv, etc.
- Giant Scientific Python (SciPy) Ecosystem
  - NumPy for array-computing, Pandas for DataFrames, Matplotlib for data visualization, Scikit-learn & TensorFlow for Machine Learning, etc.
- Data science specific tools...



The scientific ecosystem

You can do it yourself

- REPL (Read–eval–print loop)
- Feature rich
  - Syntax highlighting, tab completion, built-in docs, Unix support, history
- **Input & output caching**
- Google Colab, Jupyter notebook & Labs
- Support in IDE's and VSC
  - PyCharm, VS Code, GitHub, etc



Interactive Python (IPython)

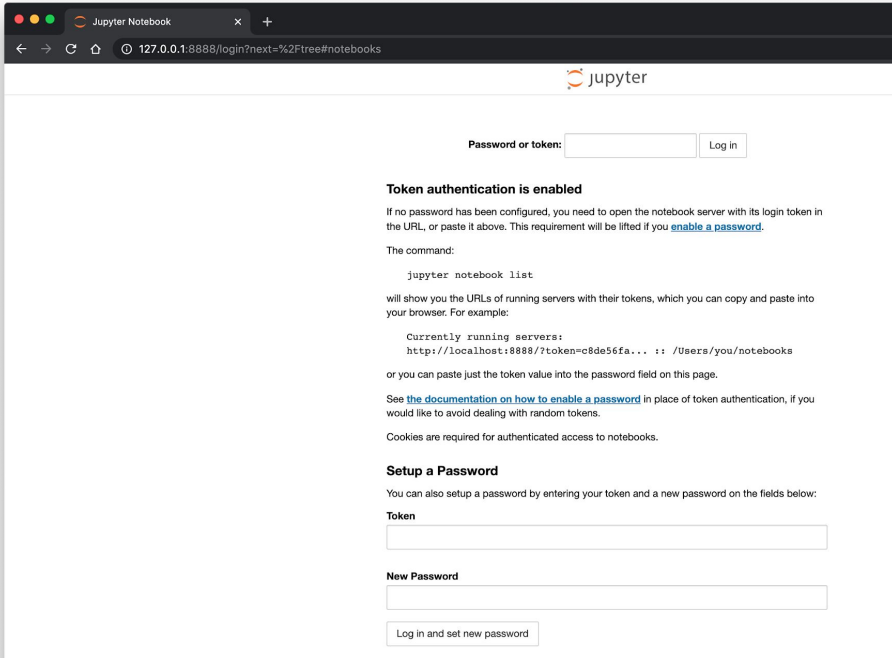
print(getmembers(pd, isfunction))

- Python is powerful 💪
  - Data type manipulations
  - Grouping
  - Aggregation
  - Transformation
  - Filtration
  - Pivot Tables
  - Joining Data

Data manipulations

Now do it yourself

- Repo ready?
- Google Colab also possible to try out.
  - https://colab.research.google.com/notebooks/intro.ipynb



Interactive examples

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QUESTIONS?.

Not all at once.

THANK YOU.

You were here.

alles voor een glimlach©