# Introduction to Python
## Empirical Industrial Organization

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## Python

- Python is the most popular language for (big) data analysis both in academia and industry, see e.g. http://pypl.github.io/PYPL.html
- interactive data analytics: immediate feedback and intuitive data processing in Jupyter notebooks (and also IPython console and interpreters in various Integrated Development environments)

# Python

- powerful libraries

# Python
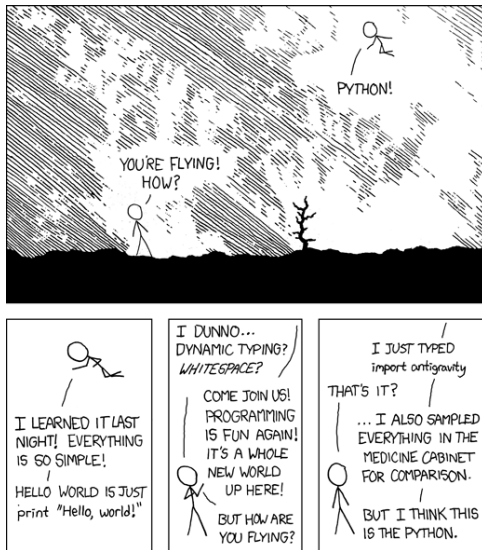
- Open source: free, powerful, and a very dynamic community to develop new packages
- Cross-platform: for Windows, OS X, and Linux
- Intuitive language: Closest to mathematical language and pseudocode
- Dynamically typed: One does not need to declare variable types statically (in new versions of Python one can optionally declare the types of variables, which is an advantage in large code bases, but this is outside of the scope of this lecture)

## Python Installation

- for initial lectures: run code online in Jupyter notebooks on Sargent and Stachurski's website: https://python.quantecon.org/index_postgrad.html
  - click on "Launch notebook" to run a notebook
  - run the code
  - you can edit the code and rerun it
  - to save the code, you need a Google account
- you can create you own online Jupyter notebooks on Google Colaboratory
  https://colab.research.google.com/
- for later lecture, it's easier to run you code locally, so please install Anaconda Python 3.7 on your laptops, https://www.anaconda.com/distribution/

# Python Basics

- work through the notebooks on https://python.quantecon.org/index_learning_python.html
- solve the exercises at the end of the notebooks

# Scientific Libraries for Python

- work through the notebooks on
  https://python.quantecon.org/index_python_scientific_libraries.html
- solve the exercises at the end of the notebooks