

# Introduction to Python

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# Python: An Historical Sketch

Python is a widely-used, interpreted, object-oriented programming language designed to be general-purpose.

**First release:** 1991 (v0.9.0). Currently: v3.10.0

Created by Guido Van Rossum, which identified the language's goals as:

- ⦿ *Easy and intuitive, but powerful*
- ⦿ *Open Source*
- ⦿ *Understandable*
- ⦿ *Suitable for all kinds of everyday tasks*

# Python Today/1

Today Python is one of the most utilized programming languages (according to different rankings, stably among the 5 most common ones).

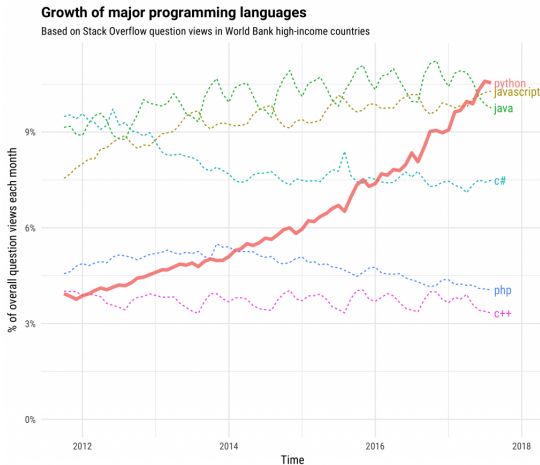
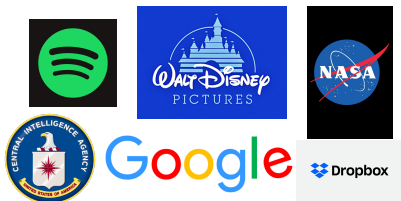


Figure: Python Growth. Source: Stack Overflow

Who uses Python?



...and many more companies, organizations and institutions

# Why Choosing Python?

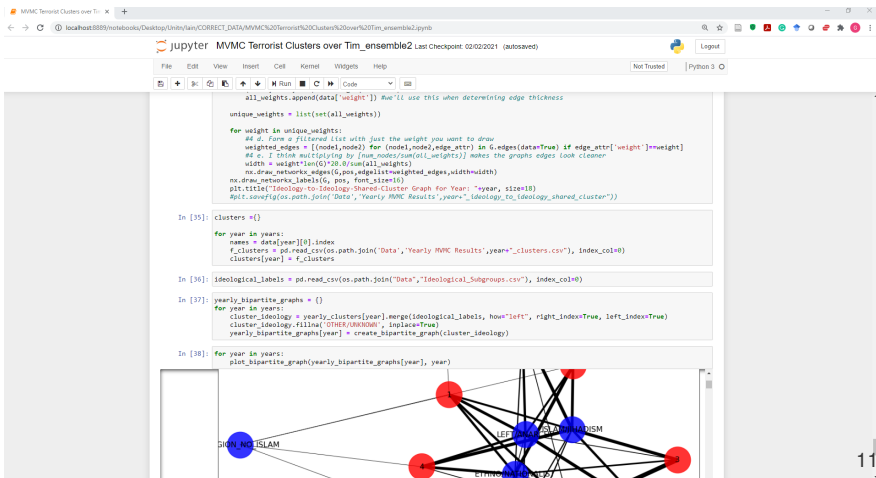
Scholars (especially those in the social sciences) often face the Hamletic doubt: *should I learn R or should I learn Python?* TL;DR

answer: **is it really necessary to choose one?**

Python	R
General-purpose language / broad approach to data science	Specifically designed for statistical analysis
Often new advances in ML are first developed in Python	Often new advances in stats are first developed in R
Supports all kinds of data formats	Designed mostly for Excel, csv, text files
Heavily relies on libraries/packages	Data analysis functionalities are mostly built-in
Big community of developers with many different expertise	Community more focalized on statistical methods/theory

# Presenting Jupyter Notebook/1

JN is a web-based application for interactive computing that allows code development, documentation and execution.



# Presenting Jupyter Notebook/2

Let's open it.

- ⦿ Open your Anaconda Prompt
- ⦿ type `jupyter notebook`
- ⦿ Click *new* on the top right of the screen

# Pros and Cons of Jupyter Notebooks

## Pros:

- ⦿ Write, run, analyze everything in the same place
- ⦿ Great illustrative power (good for teaching/presentations)
- ⦿ Documentation + code together

## Cons:

- ⦿ Hard to test on long/asynchronous tasks
- ⦿ Cells can run out of order
- ⦿ No inspection of variables





**Sean J. Taylor** @seanjtaylor · 11h

Every notebook I work on long enough becomes a horror show.



12



10



187

