# python for the Enterprise





#### Organizer



@jessicamckellar http://jesstess.com **Developers** 

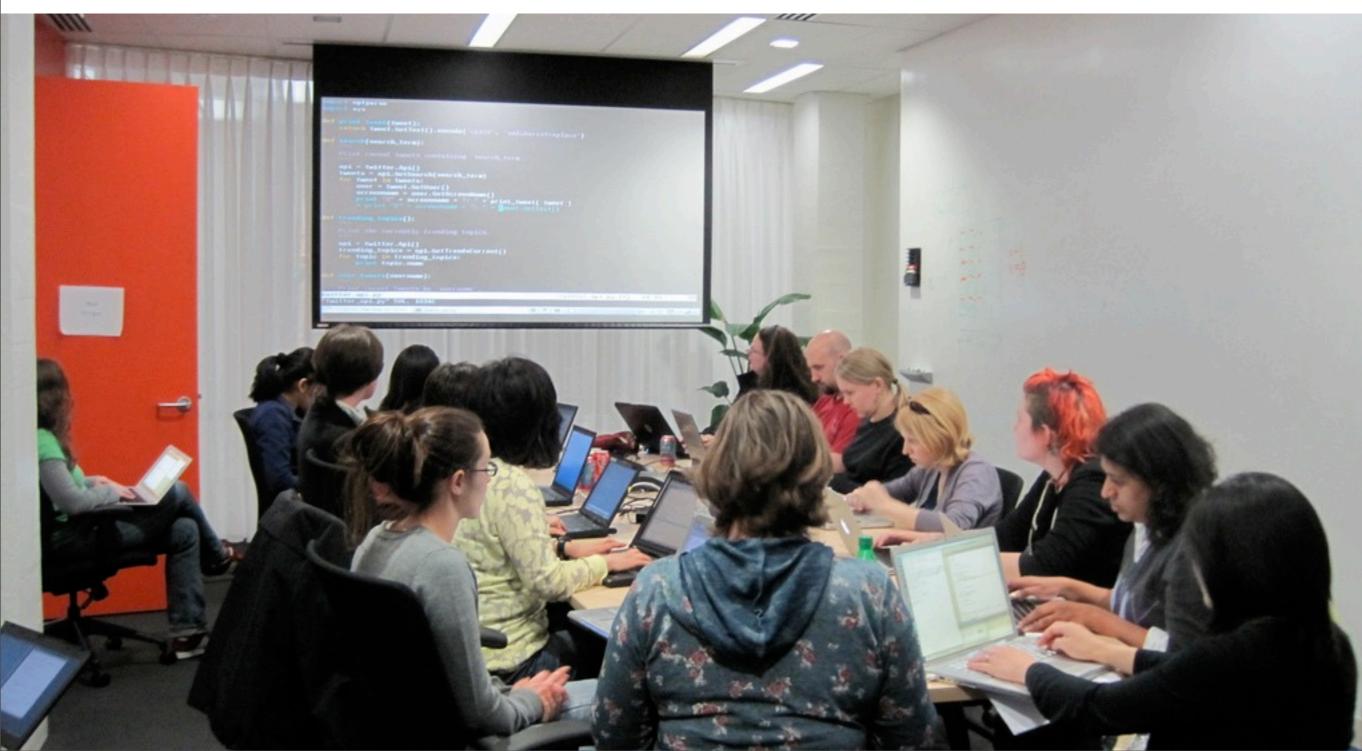
Enterprise teams

# python for the Enterprise

Language

Community

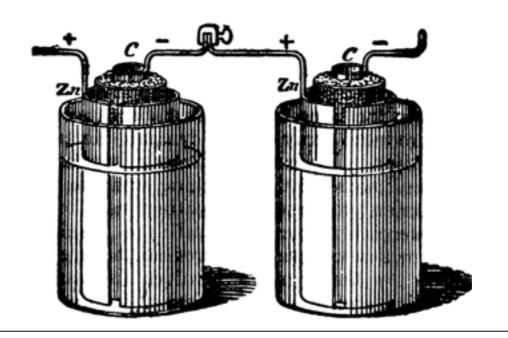
### The python language





### Why Python?

- Open source, rigorous contribution policies
- Famously "batteries-included", infinite libraries
- Exceptional attention to security, stability and backwards compatibility
- Time-based releases, always improving



#### What's new in 3.4

#### **New library modules**

- asyncio: New provisional API for asynchronous IO.
- enum: Support for enumeration types.
- selectors: High-level and efficient I/O multiplexing, built upon the select module primitives.
- statistics: A basic numerically stable statistics library.

#### **New built-in features**

- PEP 442: Safe object finalization.
- PEP 445: Configurable memory allocators.
- PEP 446: Make newly created file descriptors non-inheritable.

#### **Major improvements to Library Modules**

- Single-dispatch generic functions.
- SHA-3 (Keccak) support for hashlib.
- TLSv1.1 and TLSv1.2 support for ssl.



. .





### Software Integrity Report

Target Level 3 ACHIEVED



**Project Name:** Python

Version: 3.4dev

**Project Description:** http://python.org/

**Project Details:** 

**Lines of Code Inspected:** 396,738

**Project Defect Density: <0.01** 

**High-Impact and Medium-Impact Defects: 1** 

# DEFECT DENSITY BY PROJECT SIZE COMPARISONLines of CodePythonOpen SourceProprietary100,000-499,999Less than .01.60.66

### python is good for...?





Just about everything!



The whole dang site: <a href="https://github.com/reddit/">https://github.com/reddit/</a>

#### django

The Web framework for perfectionists with deadlines.

Django makes it easier to build better Web apps more quickly and with less code.





Cycling Outfit -- I kind of want to make

a copy of this outilt.



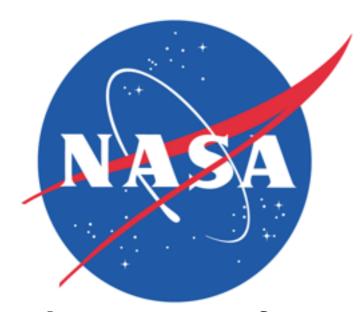


https://www.djangoproject.com/

#### Science



Collaborative drug discovery



Glue language for many platforms

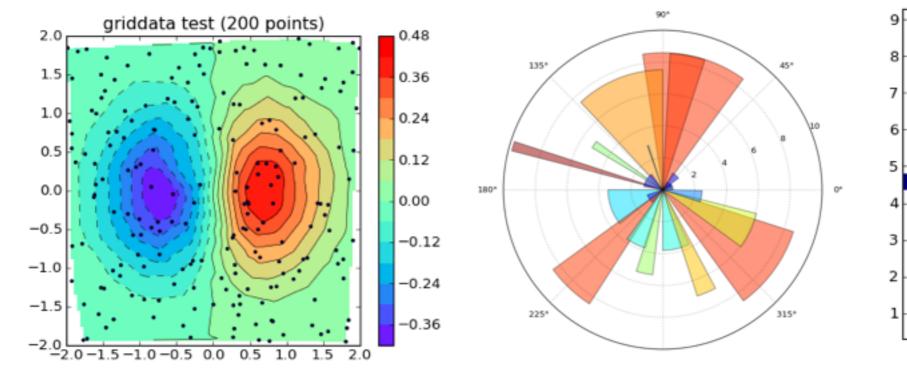


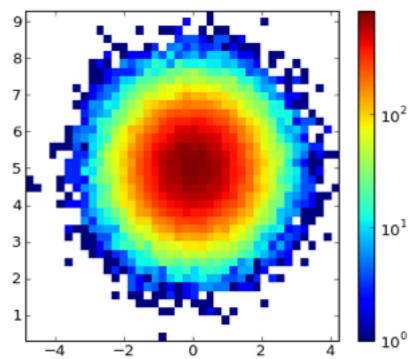
Forecasting

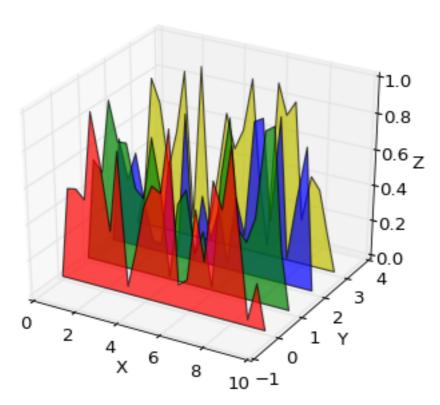


Large-scale physics simulations

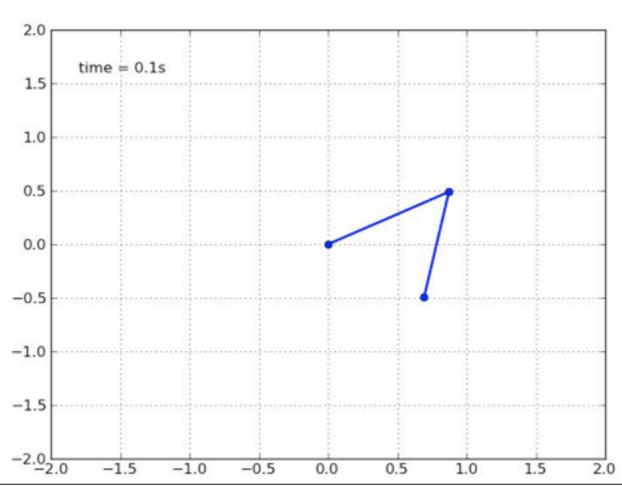












# Why is Python so popular in the sciences?

- Killer libraries (NumPy, SciPy, IPython, SymPy, scikit-learn, matplotlib, pandas...)
- Scientific Python distributions (Enthought)
- Language interoperability
- All of the things developers love about Python





#### http://pygame.org



Sunday, October 27, 13

#### Graphics





"Python plays a key role in our production pipeline. Without it a project the size of Star Wars: Episode II would have been very difficult to pull off. From crowd rendering to batch processing to compositing, Python binds all things together." - Tommy Burnette, Senior Technical Director

#### Finance



Python powers the New York Stock Exchange's web based transaction system.





"CORE" CRM and ERP platform



Desktop client

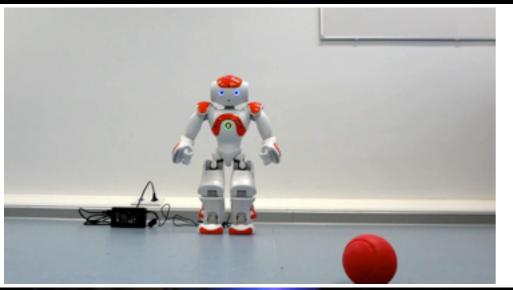


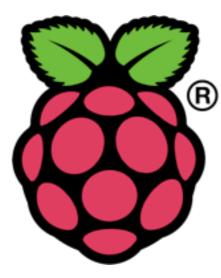
High-level programming environment for Symbian



Installer and configuration utilities

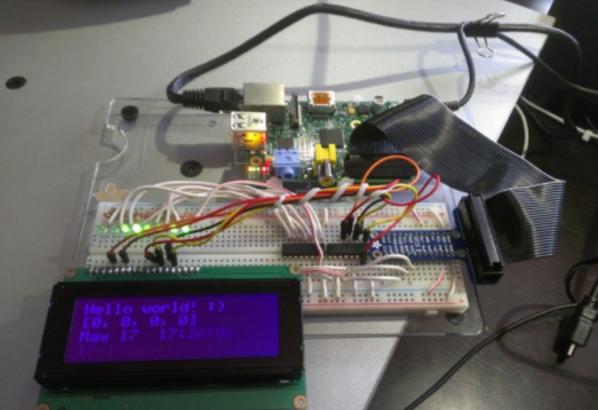
# Hardware





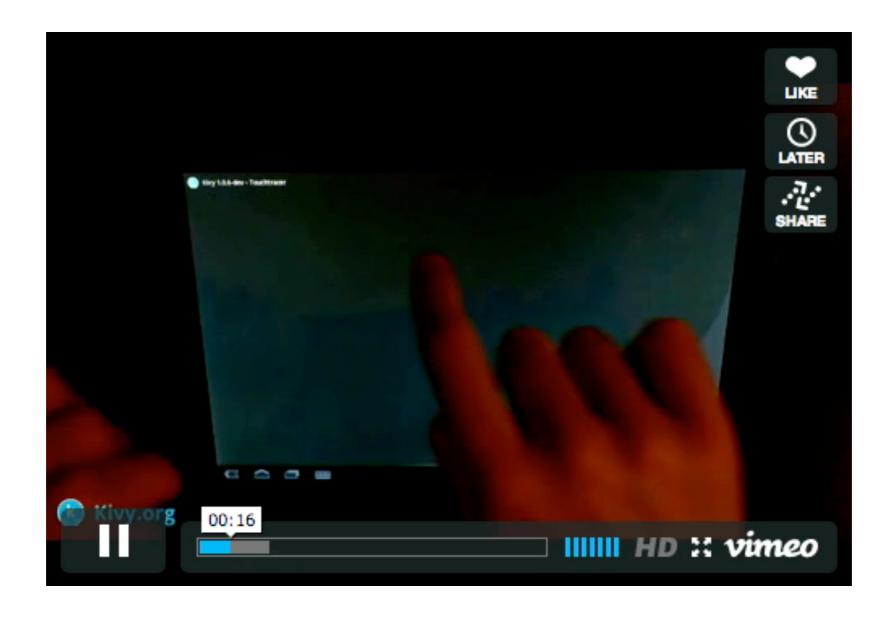






Sunday, October 27, 13

#### Even mobile



A multi-touch Android app written in Kivy.



# How is python ubiquitous in so many domains?

### Python is fast enough...

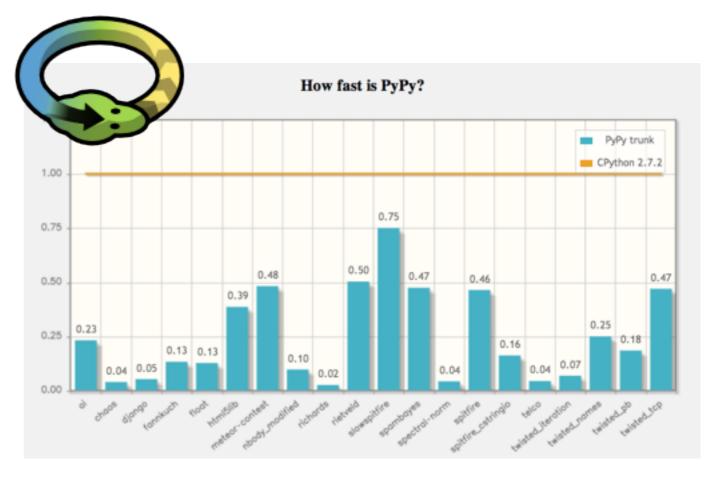
 CPython: the default / reference implementation for the Python bytecode interpreter

Written in C!



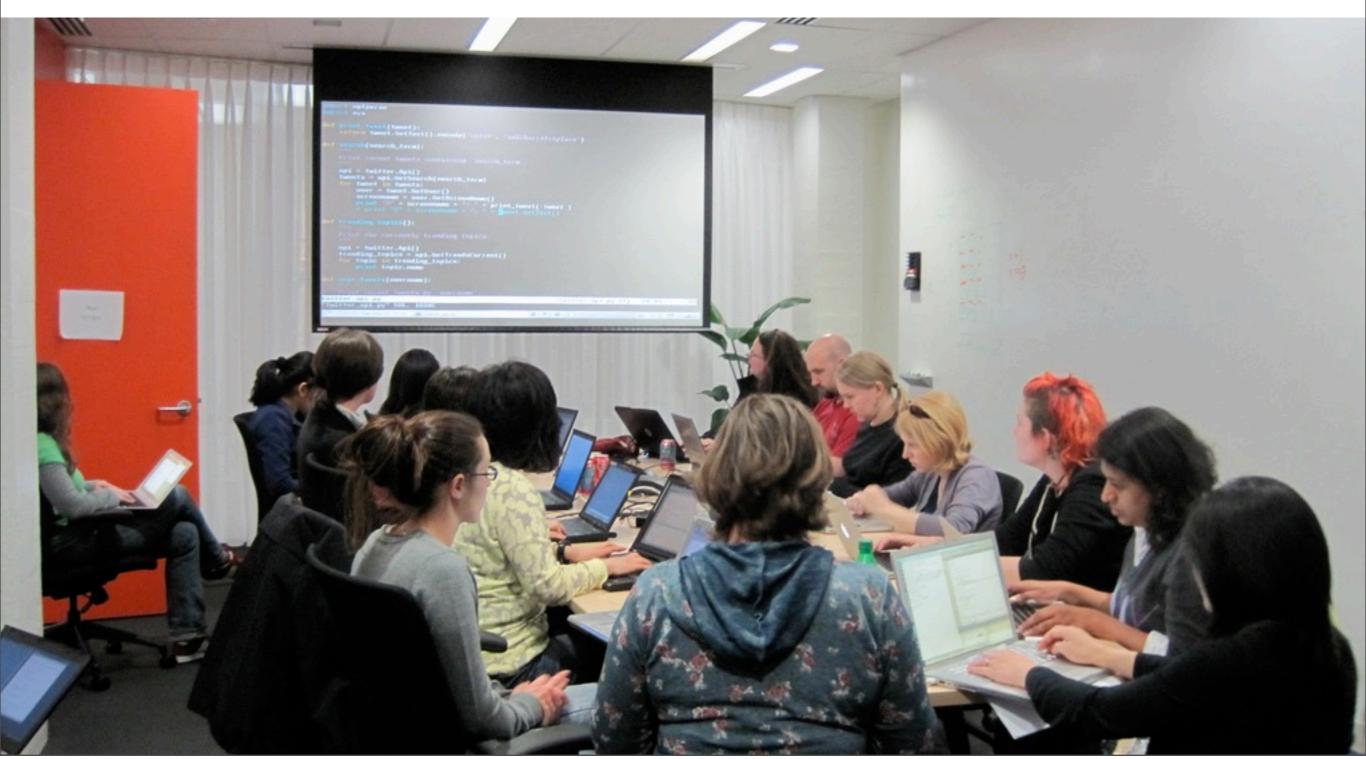
# ...and the ecosystem makes it even faster

- PyPy: a Python implementation with a Just-In-Time compiler
- C extensions
- Highly-optimized domain libraries

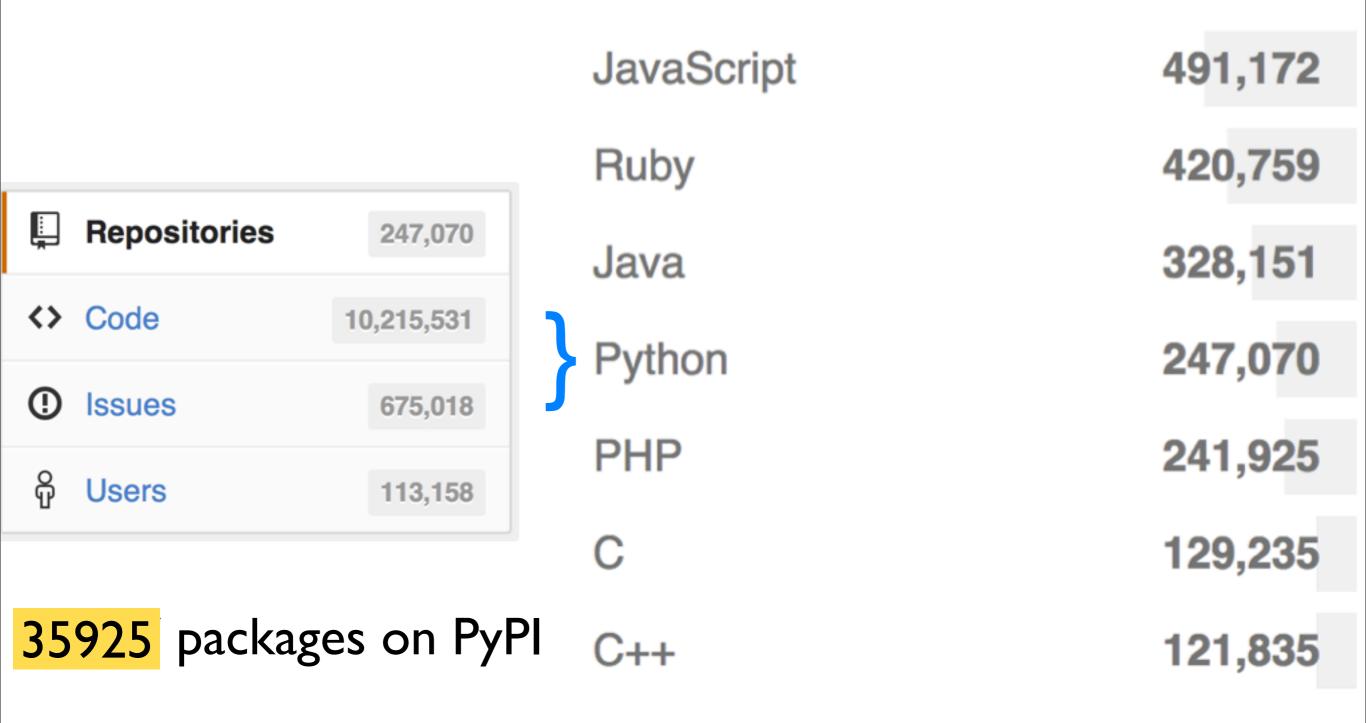




### The python community



### Python is popular



## PyPL Popularity of Language Index

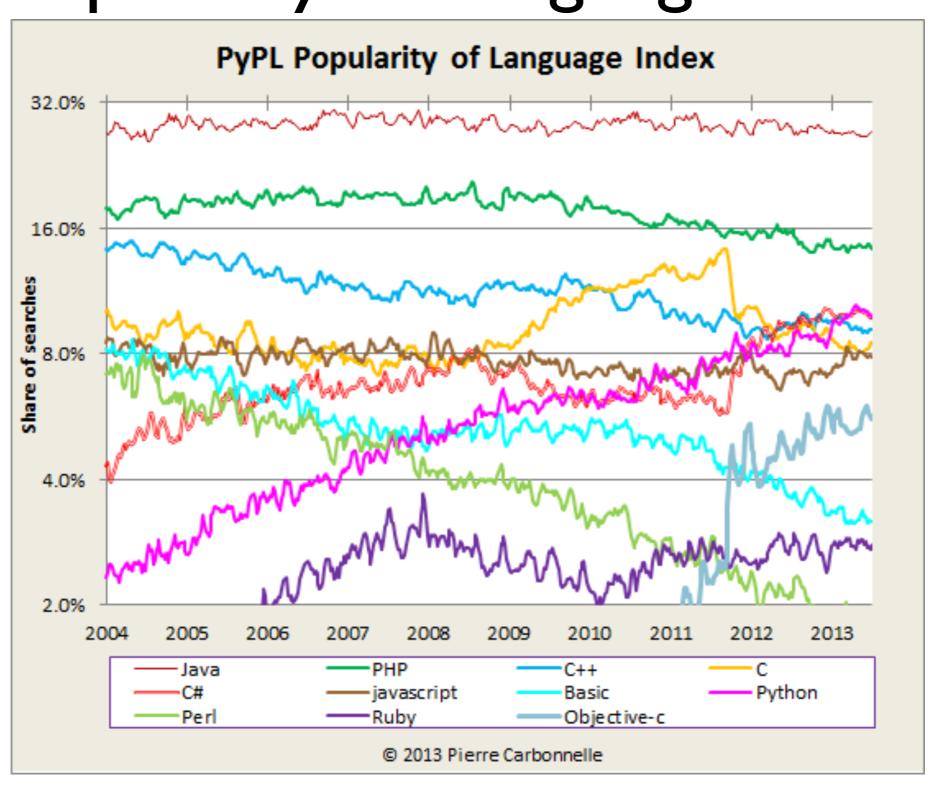
	Position	Position	Delta in	Programming	Share in	Twelve month	
	Sep 2013	Sep 2012	position	language	Sep 2013	trends	
	1	1		Java	27.0 %	-1.2 %	
	2	2		PHP	13.9 %	-0.0 %	
	3	3		C#	10.0 %	+0.4 %	
7	4	6	<u> ተ</u>	<u>Python</u>	9.9 %	+1.7 %	
	5	4	<b>\</b>	C++	9.0 %	-0.7 %	
	6	5	<b>→</b>	C	8.5 %	-1.4 %	
	7	7		<u>Javascript</u>	7.1 %	+1.3 %	
	8	8		Objective-C	5.6 %	+0.4 %	
	9	9		Visual Basic	3.1 %	-0.6 %	
	10	10		Ruby	3.0 %	+0.2 %	



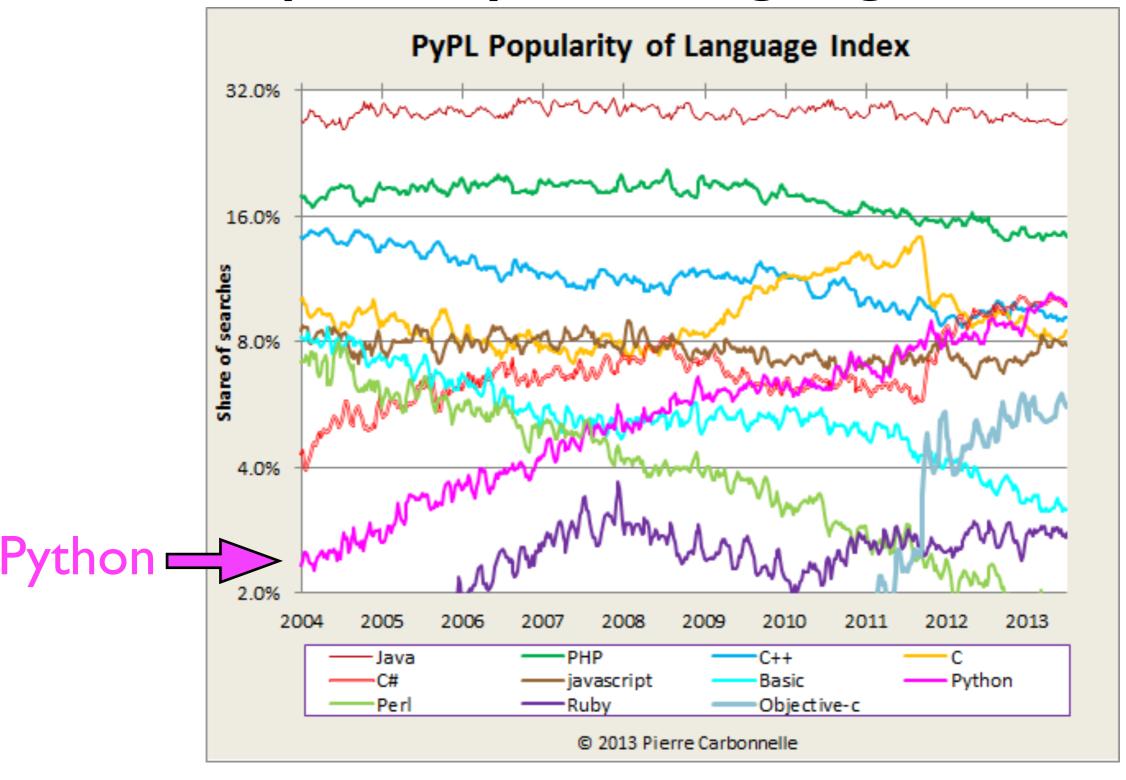


https://sites.google.com/site/pydatalog/pypl/PyPL-PopularitY-of-Programming-Language

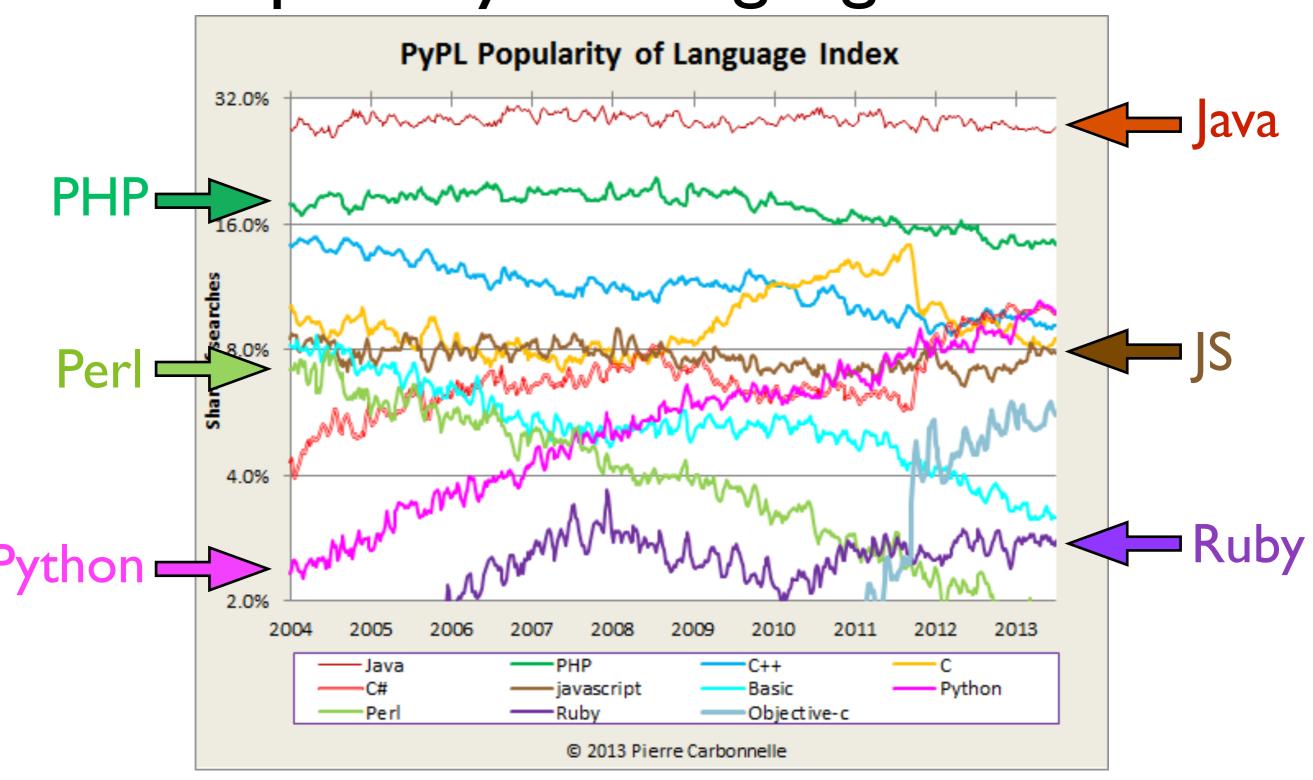
## PyPL Popularity of Language Index



## Popularity of Language Index



# PyPL Popularity of Language Index



#### 4. THE TWENTY-SIXTH REID LIST

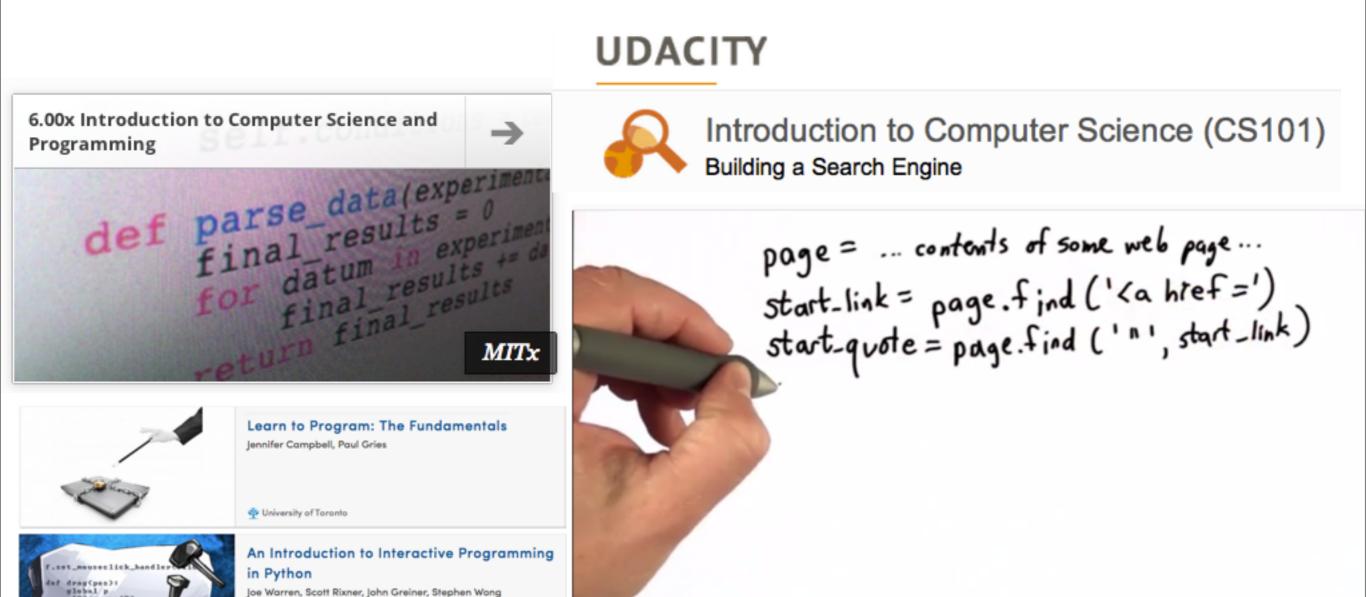
#### Table 4. The programming language(s) used and the frequency of occurrence

**Programs** 

		<u>i iogiailis</u>
	<u>Language</u>	<u>using it</u>
	Java	197
	C++	82
$\Rightarrow$	Python	43
	C	18
	Scheme or Racket	11
	Java with another language	9
	Visual Basic	7
	Ada	5
	C/C++	4
	Ada or Python	2
	Alice and Java	2

http://isedj.org/2012-10/N4/ISEDJv10n4p24.pdf

### Coursera + Udacity + edX > 300,000 online learners



1:46 / 4:24

🖔 Rice University

#### **Python Meetup Groups**

Meet other local Python Programming Language enthusiasts!



> 200 communities on <a href="http://wiki.python.org/moin/LocalUserGroups">http://wiki.python.org/moin/LocalUserGroups</a>

### Regional Python conferences

PyCon in North America

EuroPython in Europe

EuroSciPy in Europe

Kiwi PyCon in New Zealand

PyCon Asia Pacific in Singapore

PyCon AR in Argentina

PyCon AU in Australia

PythonBrasil in Brazil

PyCon Canada in Canada

PyCon China in China

PyCon DE in Germany

PyCon ES in Spain

PyCon Finland in Finland

PyCon FR in France

PyCon India

PyCon Iran

PyCon Ireland

PyCon Italia in Italy

PyCon Japan

PyCon Philippines in the Philippines

PyCon PL in Poland

PyCon Russia in Russia

PyCon Singapore in Singapore

PyCon Taiwan in Taiwan

PyCon UK in the United Kingdom

PyCon Ukraine in Ukraine

PyCon Uruguay in Uruguay

PyCon Venezuela in Venezuela

PyCon ZA in South Africa

PyData conferences

SciPy in the United States

SciPy.in in India

### Regional Python conferences

PyCon in North America





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PyCon India
PyCon Iran

PyCon Ireland

Con Italia in Italy

Con Japan

Con Philippines in the Philippines

Con PL in Poland

Con Russia in Russia

on Singapore in Singapore

n Taiwan in Taiwan

LIK in the United Kingdom

Early

ne in Ukraine

bird tickets

aguay in Uruguay

now!

nezuela in Venezuela

in South Africa

PyData nferences

SciPy in the United States

SciPy.in in India



"Making scientists more productive by teaching them basic software engineering skills."

- Version control
- Regular expressions

The shell

Databases

Testing

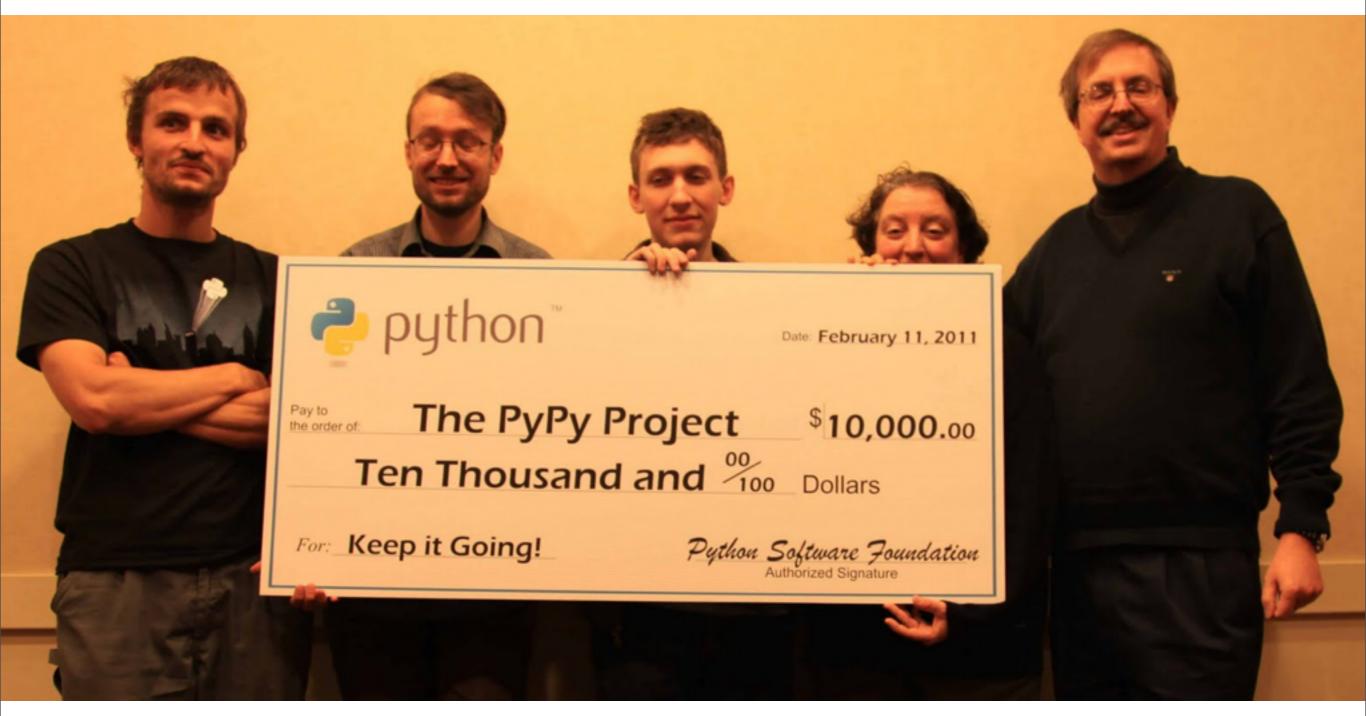
Automation



# The Python community's killer feature:



### Grants program



http://python.org/psf/grants/

### Sprints program



http://pythonsprints.com/

#### Outreach and Education















# is popular, effective, and constantly investing in the language and community

**Developers** 

Enterprise teams

# python for the Enterprise

Language

Community



**Developers** 

Enterprise teams

# Thank you! Questions?

Language

Community

