

Awesome Python for Math People and Stuff

Part 1

So what is Python?

- Programming Language
 - Dynamic
 - Strong
 - Simple
 - Easy
 - Runs on your computer
- A Philosophy
 - The Zen of Python
 - <http://www.python.org/dev/peps/pep-0020/>

Major features

- Object Oriented
 - Classes
 - Inheritance
 - Polymorphism
- Interpreted
 - No independent compilation step
 - No lengthy recompiles
 - Speed of Development
- Extensible
 - ctypes, c extensions
- Kitchen Sink

Python Facts

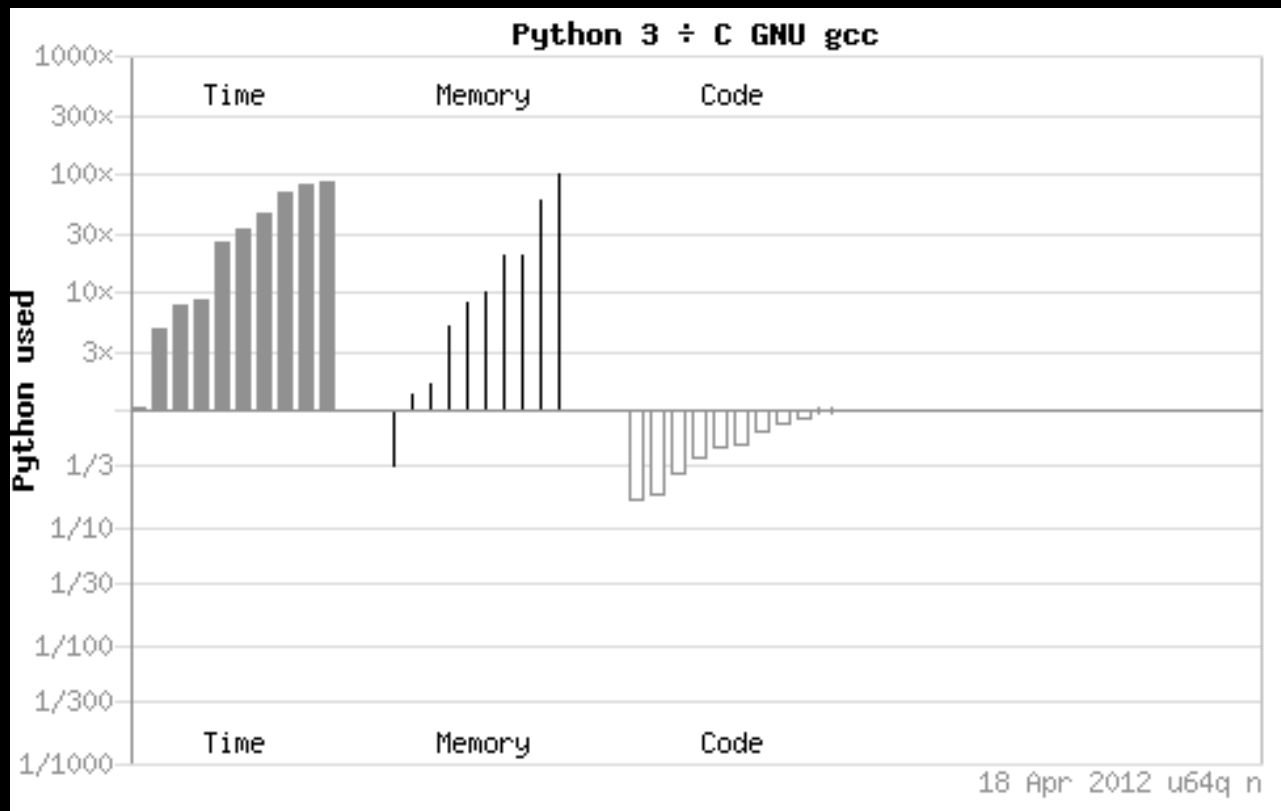
- Created by Guido van Rossum in the late 80s
- Completely open source
- Several implementations
 - CPython
 - Jython
 - Iron Python
 - PyPy

What's Python Good For?

- System administration
- Graphical User Interface
 - PySide, PyQt, PyGTK, Tkinter, etc...
- Web Sites
 - Django, Flask, Bottle, web2py, etc...
- Scripting of host applications
- Rapid Application Development
- Science stuff
 - Scipy, Numpy, Obspy, Biopython, etc...

What's Python Not Good For?

- Performance
 - Really shitty performance
 - THE GIL



Feature List

- No compiler or linker
- Automatic memory management
 - Reference counting
 - Garbage Collection
- Interactive
- Metaprogramming
- Ctypes
- Cross Platform
- Kitchen Sink
- Open Source

Development Environments

- Emacs
- Vim
- PyCharm
- Netbeans
- Komodo
- PyDev
- Wing IDE
- IDLE