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# Python

# **General purpose high level programming language**

# Who gifted Python?

# Guido Van Rossum

1989

National Research institute in Netherland

Official Birthday - Feb 20 1991



```
1 class
2 {
3     public static void main(String[] args)
4     {
5         System.out.println("Hello World!");
6     }
7 }
8
```

```
>>> a,b=10,20
>>> print(a+b)
30
>>> a,b,c,d,e=10,20,30,40,50
1
```

Python 3.6.3 Shell

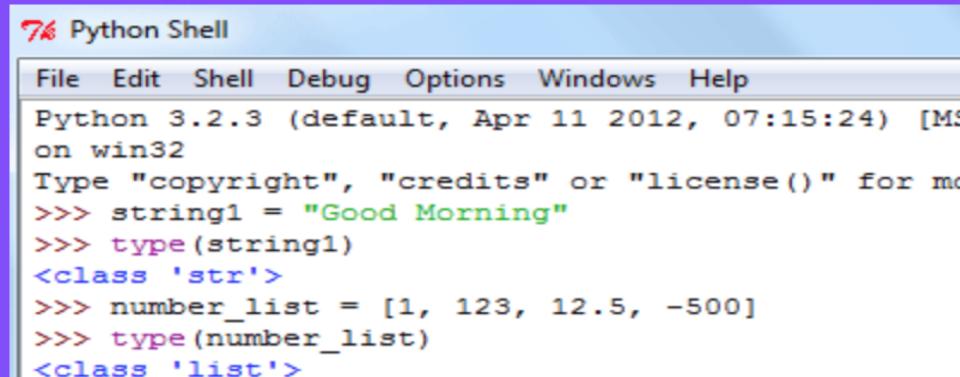
File Edit Shell Debug Options Window Help

Python 3.6.3 (v3.6.3:2c5fed8, on win32  
Type "copyright", "credits" or  
>>> print("Hello world")  
Hello world  
>>> |

## Statically typed programming - C, Java

```
//Program entry
public static void Main(string[] args0)
{
    int a, b, result; //Integer variables
```

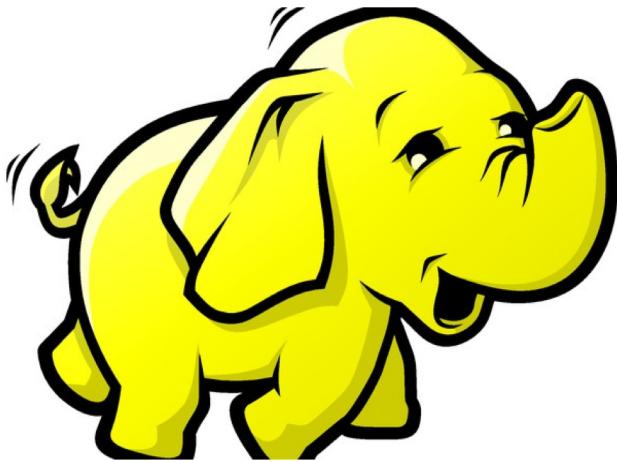
## Dynamically typed programming - Python



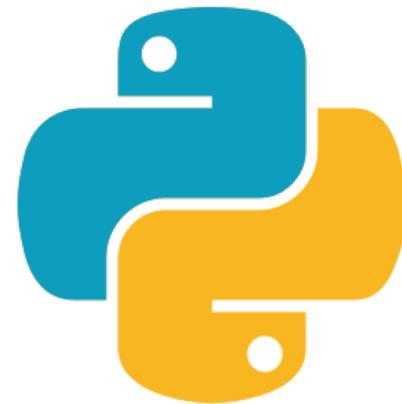
The screenshot shows a Python Shell window with the following content:

```
76 Python Shell
File Edit Shell Debug Options Windows Help
Python 3.2.3 (default, Apr 11 2012, 07:15:24) [MS
on win32
Type "copyright", "credits" or "license()" for mo
>>> string1 = "Good Morning"
>>> type(string1)
<class 'str'>
>>> number_list = [1, 123, 12.5, -500]
>>> type(number_list)
<class 'list'>
```

# HADOOP



# PYTHON



# Why the name Python?

**Monty Python circus**

**BBC from 1969 -1974**



# Borrowed all the concept

- Functional programming from C
- OOPs from C++
- Scripting from Perl and shell script
- Modular features from Modula 3
- Syntax from C and ABC Language

# Why Python?

# 10. Simple & Easy To Learn



Open Source

```
a=3  
b=5  
Sum=a+b
```

High-level



Interpreted



Large community

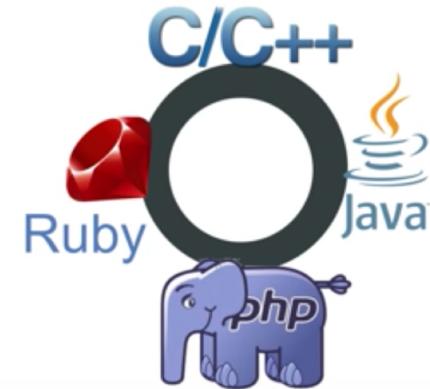
Java

```
public class HelloWorld {  
    public static void main(String[] args) {  
        System.out.println("Hello, world");  
    }  
}
```

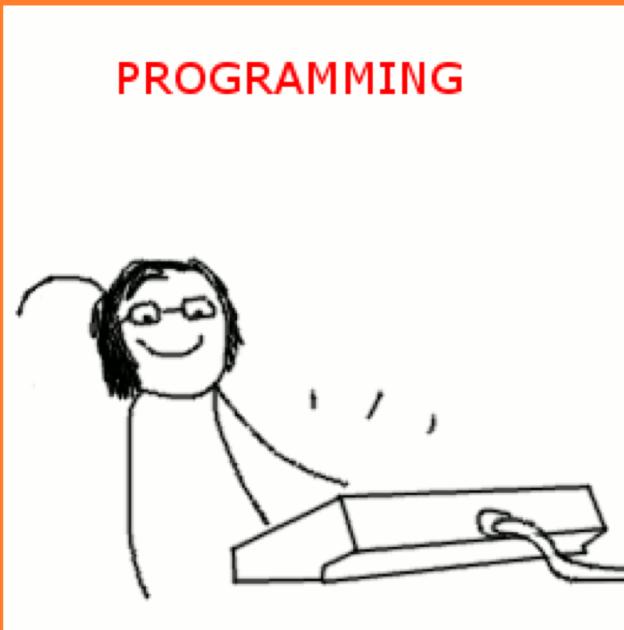
Python

```
print("Hello, world")
```

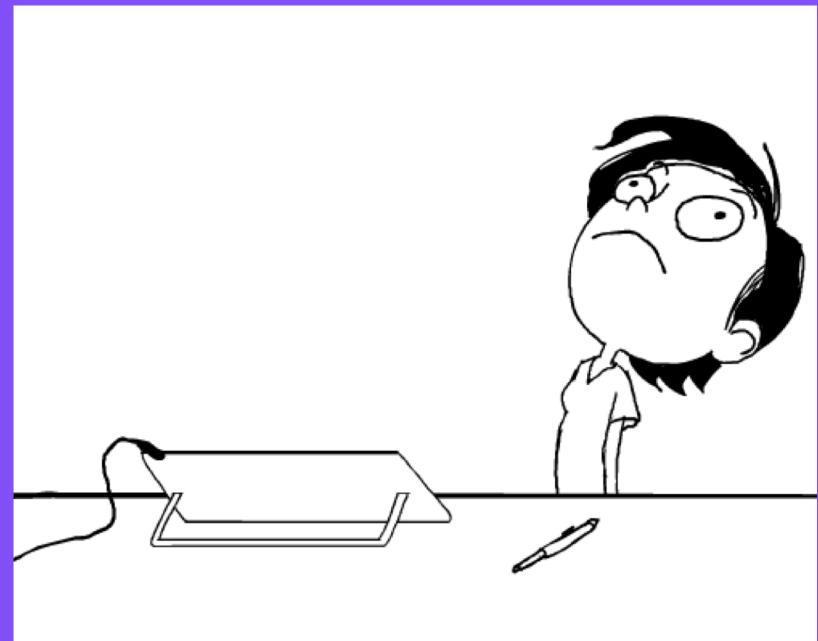
It's that **SIMPLE!**



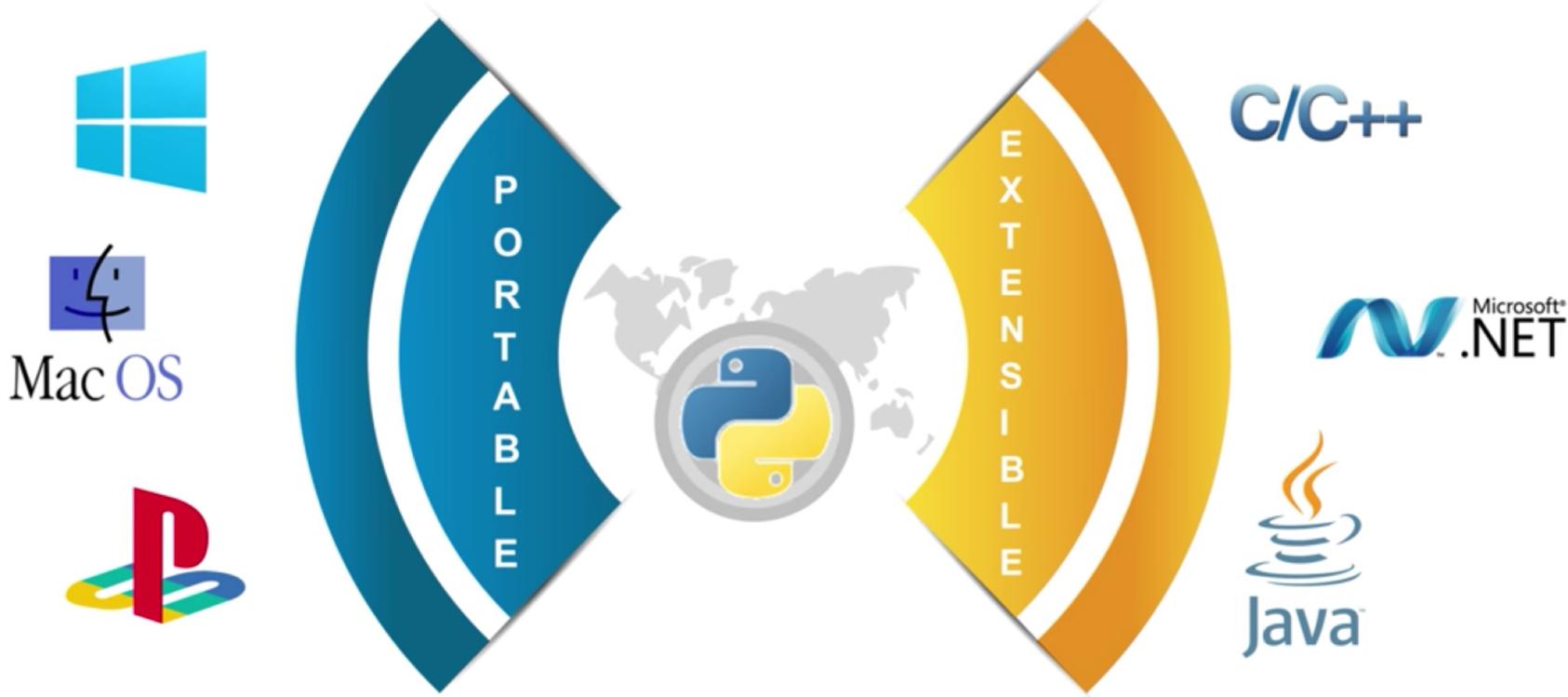
# Programmer



# Non Programmer



## 9. Portable & Extensible



# 8. Web Development



- Develop web applications
- Scrape websites

## Frameworks

**django**

 Flask

 Pylons™

**WEB2PY**

# 7. Artificial Intelligence

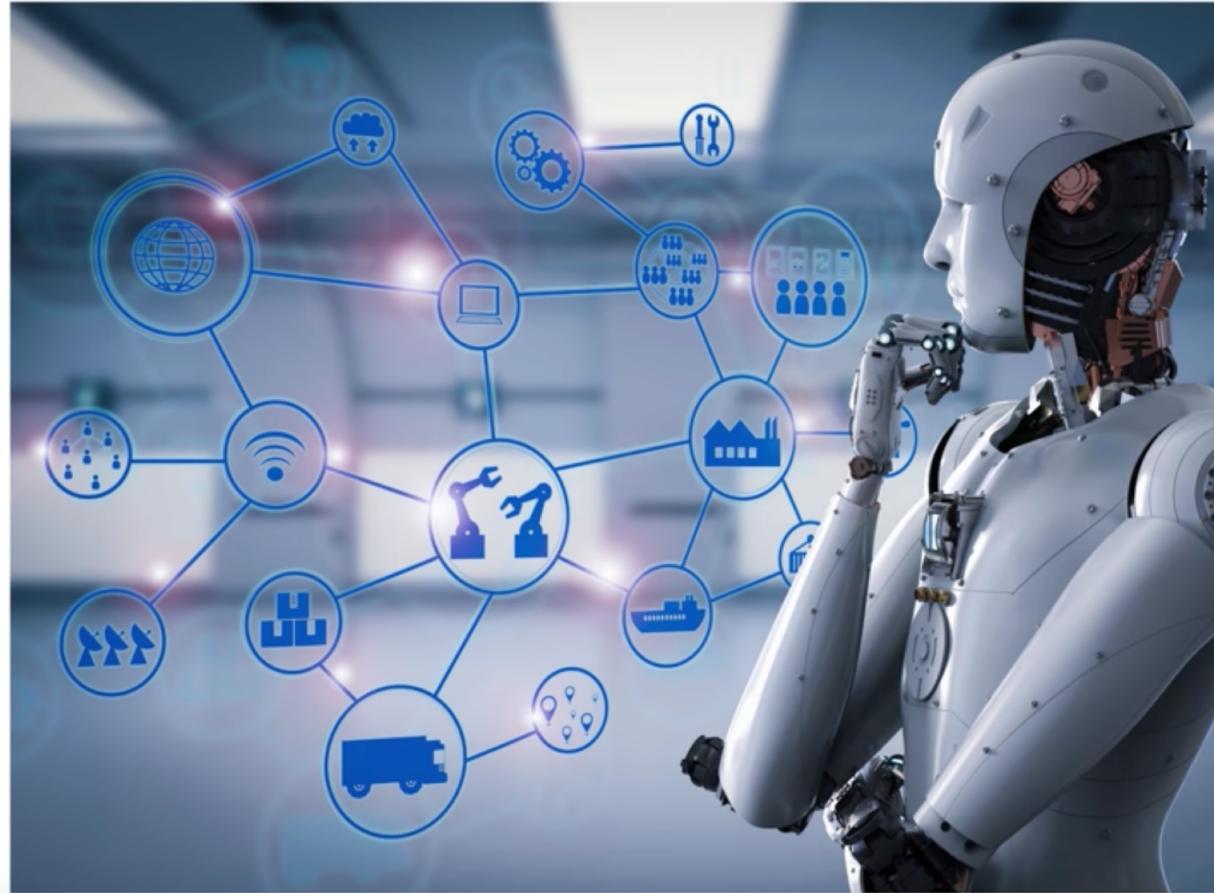
## Libraries

 Scikit-learn

 Keras

 Tensorflow

 OpenCV



# 6. Computer Graphics

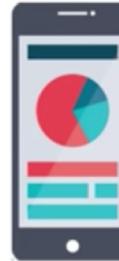
➤ Graphical User Interface

➤ Desktop applications

➤ Game development

## Libraries

*TK*  
Tkinter



# 5. Testing Frameworks

- Python supports testing with cross-platform & cross-browser
- Built in testing framework which covers debugging time and fastest workflows

Tools



Splinter

Framework



# 4. Big Data

- Python handles **BIG DATA!**
- Python supports parallel computing
- You can write **MapReduce** codes in Python

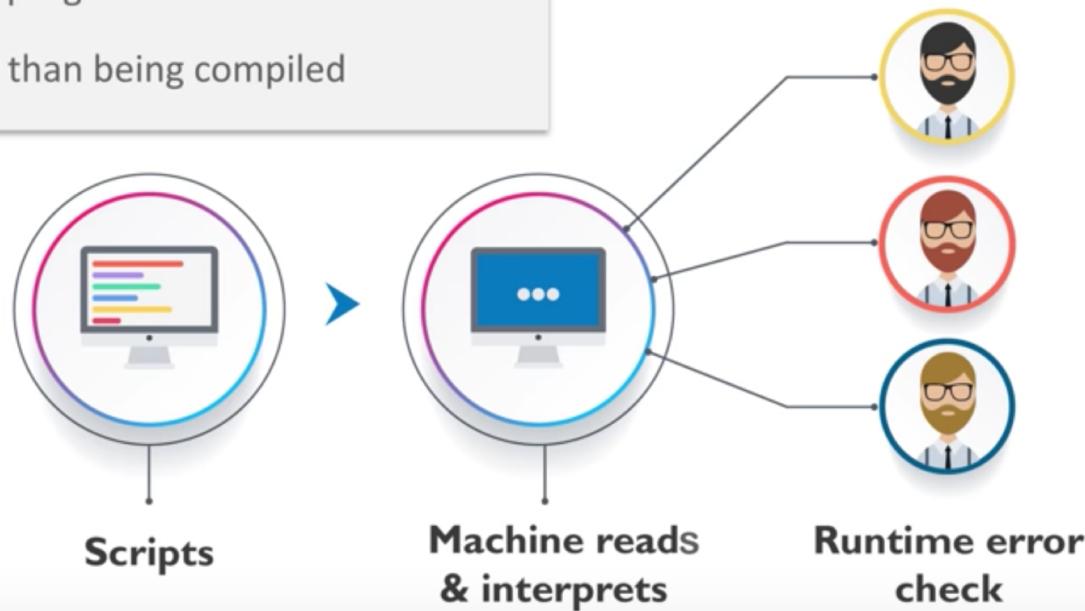
## Libraries



### 3. Scripting: Automation



- It is the most popular **scripting** language in the industry
- **Automate** certain tasks in a program
- They are **interpreted** rather than being compiled



## 2. Data Science



- Well-suited for data **manipulation & analysis**
- Deals with **tabular** data with heterogeneously-typed columns
- Arbitrary **matrix** data
- Observational/ **statistical** datasets

Libraries



NumPy



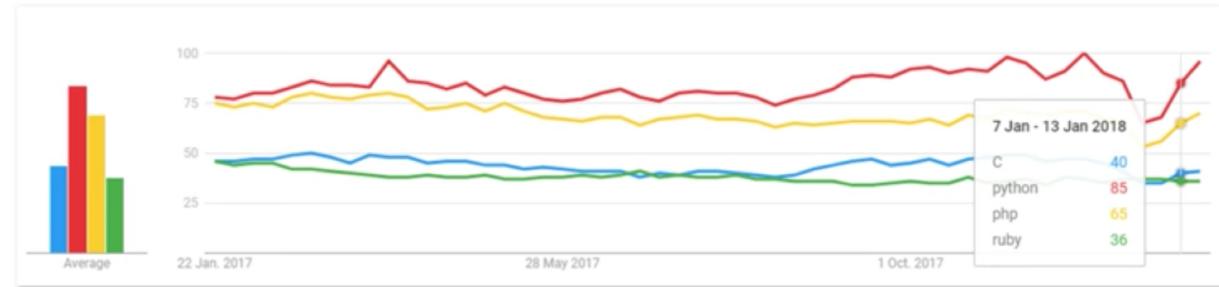
Pandas



seaborn

# 1. Popularity & High Salary

USD \$116,028



Big Giants



Google

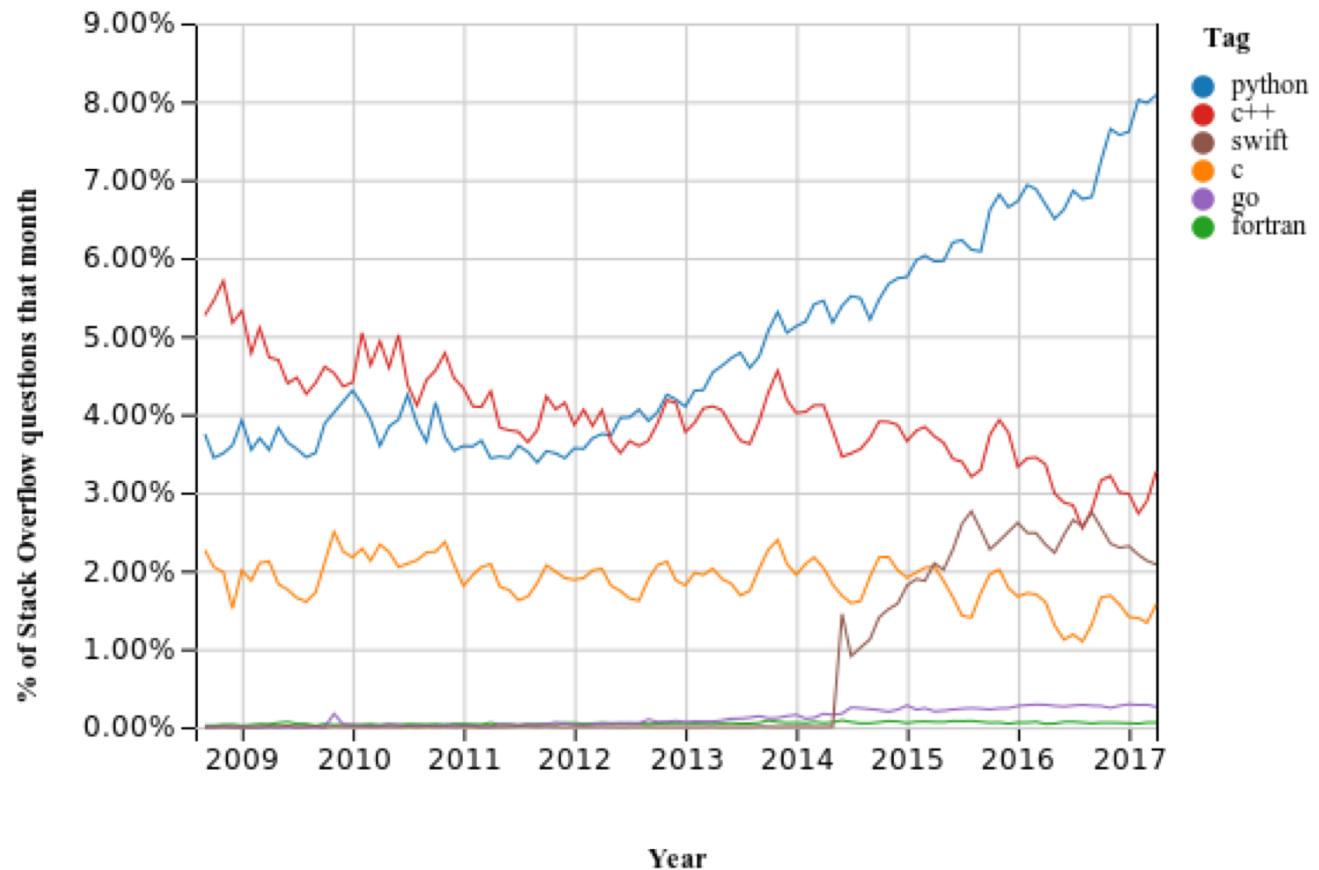


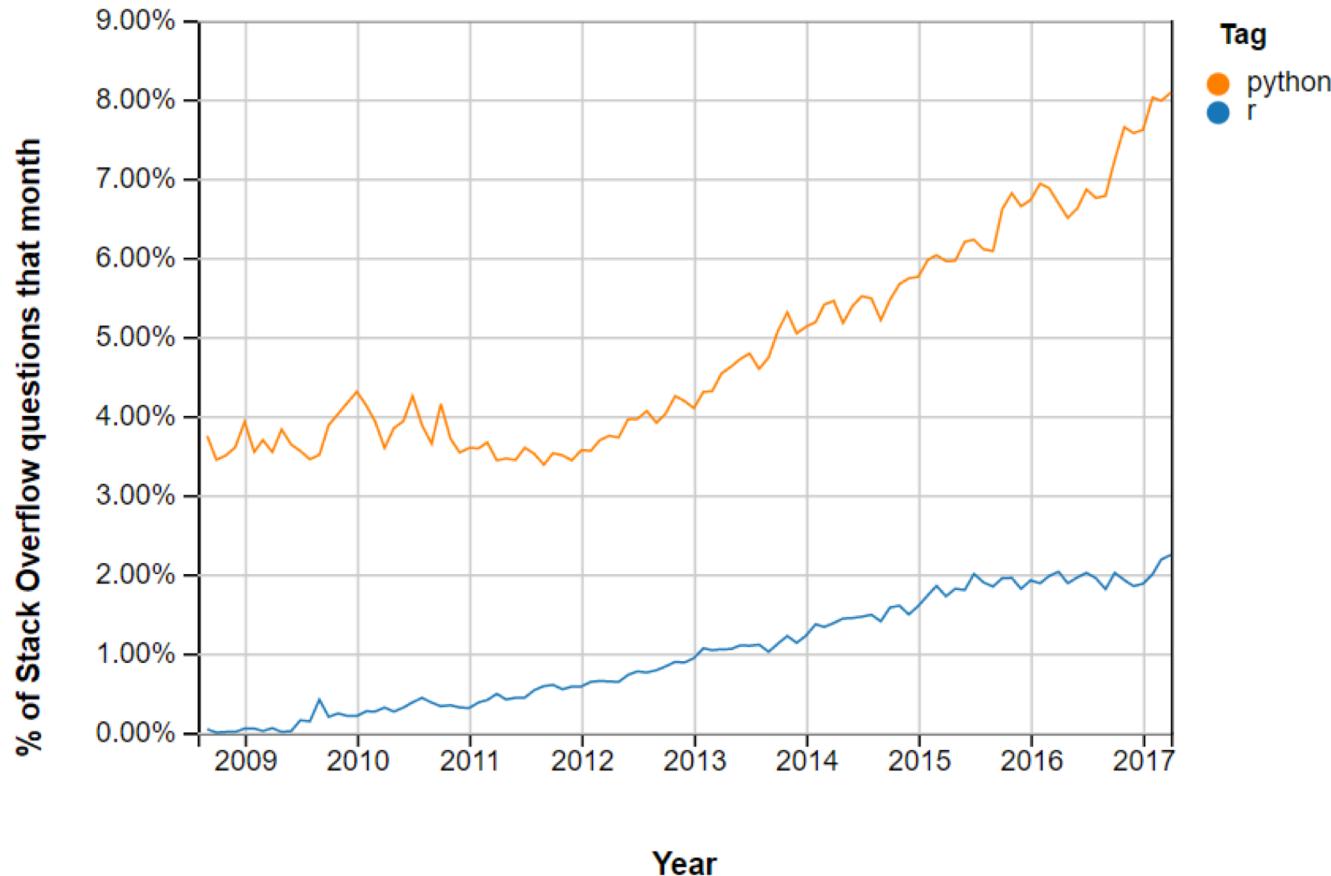
YouTube



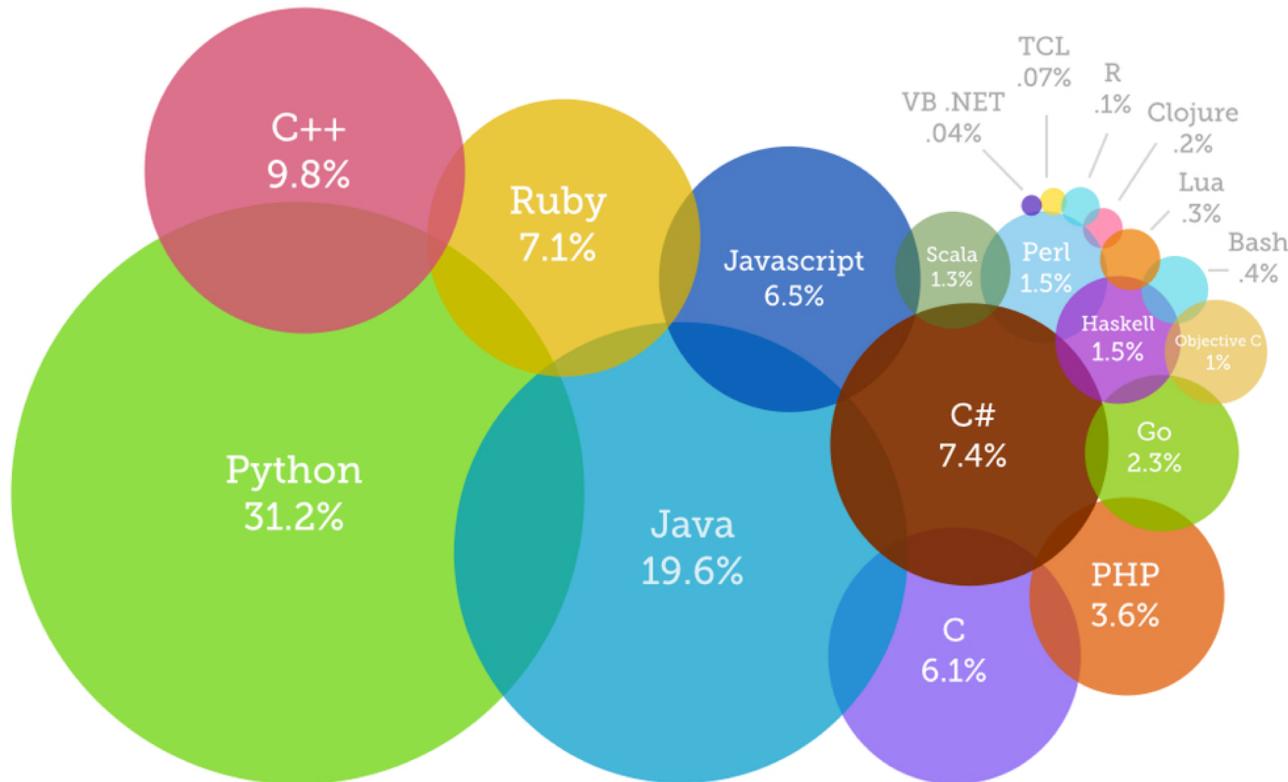
facebook.







## Most Popular Coding Languages of 2015



# Which companies using python?

Who all are using Python?



YAHOO!

Google

YouTube



reddit



IBM



redhat

CANONICAL

NETFLIX

Quora



and the list goes on...

# Flavours of Python



- CPython – Cython
- JPython – Jython
- IronPython
- PyPy - Performance using JIT
- RubyPython
- Anaconda
- Stackless( Python for concurrency)

# Version of Python

- Python 1 introduced in Jan 1994
- Python 2.0 introduced in Oct 2000
- Python 3.0 introduced in Dec 2008

Any new version should provide support for old version program  
Exception in python

Python 3 is not backward compatibility with Python 2

Python 2 support is not supported after 2020

# Disadvantages of Python

- Weak in mobile computing
- Get slow in speed
- Run time errors
- Underdeveloped Database access layers

trying to learn any  
programming language 100%

come on

just a little  
bit more

almost there

oh crap...

# Anaconda Installation

# Environment to run Python

- **Immediate mode - cmd-  
python**
- **Script mode - python file.py**
- **IDE - Integrated  
Developement environment-  
spyder, pycharm, jupyter  
notebook**



For coding  
refer GitHub repository

# THANK YOU