PYTHON 3 BASCICS *Session 1*

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About the Author

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happy   surprised   scared

angry   disgust   sad

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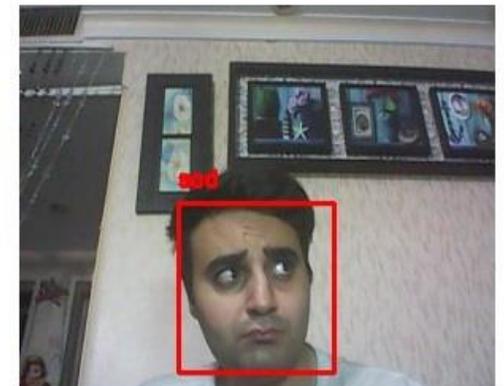
History of Python

» Created in 1990 by Guido van Rossum

» Named after Monty Python

» First public release in 1991

» comp.lang.python founded in 1994

» Open source from the start

Python Overview

» Scripting Language

» Object-Oriented

» Portable

» Powerful

» Easy to learn and use

» Mixes good features from Java, Perl and Scheme

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Major Uses of Python

» System Utilities

» GUIs (Tkinter, gtk, Qt, Windows)

» Embedded Scripting

» **Web development**

» **Machine Learning**

» **Image Processing**

» **Artificial Intelligence**

» **Data science**

» **Video game development**

» **Web scraping**

» Database Programming

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Who Uses Python Today?

» Uber

» Goldman Sachs

» PayPal

» Netflix

» **NeedTarget**

» Google

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Language Features

» Object-Oriented

» Interpreted

» Interactive

» Dynamic

» Functional

» Highly readable

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Comparison

Java

» Typically 3-5 times shorter than equivalent Java programs

» Run-time works harder than Java's

» Components can be developed in Java and combined to form applications in Python

» Python can be used to prototype components into Java implementation

Perl

» Come from similar backgrounds

» Python is more applicable than Perl

» Perl emphasizes support for common application-oriented tasks

» Python emphasizes support for common programming methodologies

C++

» Differences are similar to Java's

» Often 5-10 times shorter than equivalent C++ code

» Python shines as a glue language; used to combine components written in C++

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Code Compare

Java

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

Perl

```
#!/usr/bin/perl

# Modules used
use strict;
use warnings;

# Print function
print("Hello World\n");
```

C++

```
#include <iostream>
int main() {
    std::cout << "Hello World!";
    return 0;
}
```

Python

```
print("Hello, World")
```

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On Charts
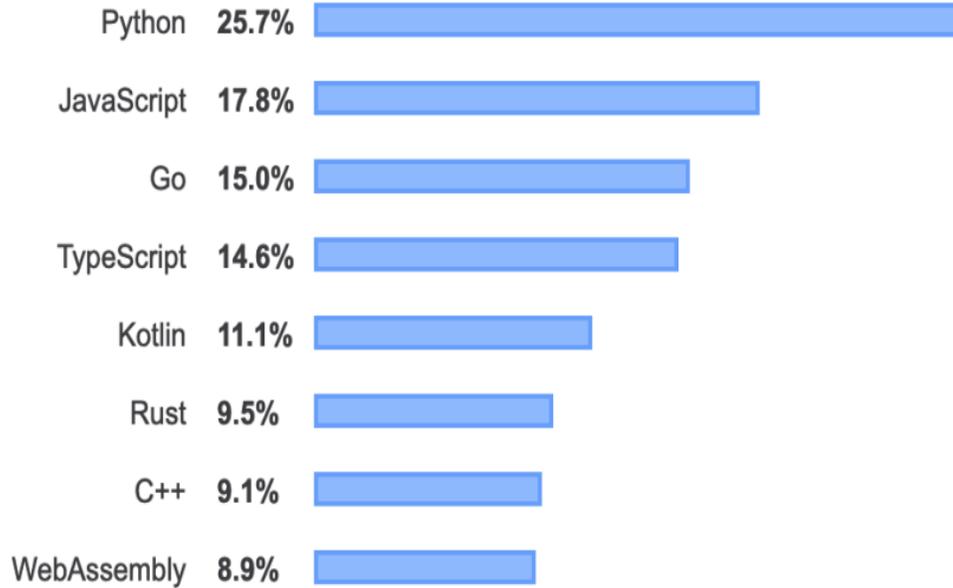
Programming Languages Popularity (2020)
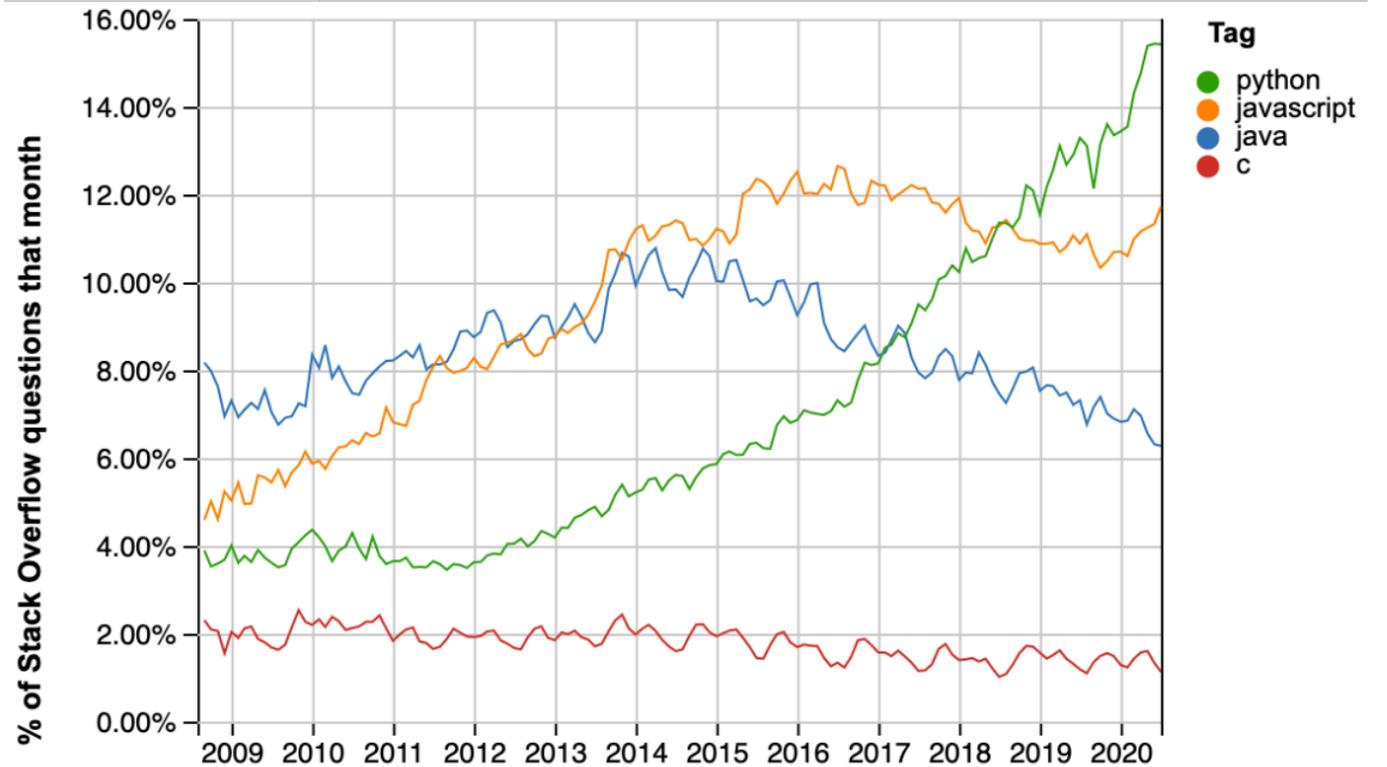
Stack Overflow questions 2009-2020

Which Version ?

Python 2 or 3?

Use Python 2.7.x for projects using:

Significant amounts of pre-existing Python 2.x code that can't easily be ported to Python 3.x

Python 2.x modules with no Python 3.x equivalent

Use Python 3 (3.1 or higher) for:

Everything else!

In particular:

Brand new projects

Code making significant use of **Unicode**

Code intended to be **used after 2016/2017**

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End of Session #1

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Thank You

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