

Javascript



Python

Courtesy : Unsplash

Bridging  
The  
Language Gap

A Tale of  
Python  
& Javascript

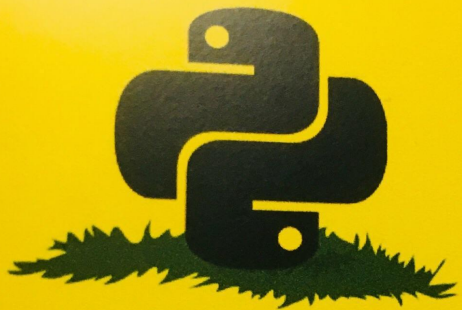


# Hello!

I am Shuvam.

You can find me at  
[@shuvam360](#)

Courtesy : Wetfish Online



DONT THREAD ON ME

```
Roses are red  
Violets are blue  
Unexpected '{' on line 32
```

And **memes**  
are important.  
...

But **that's**  
beside the  
point

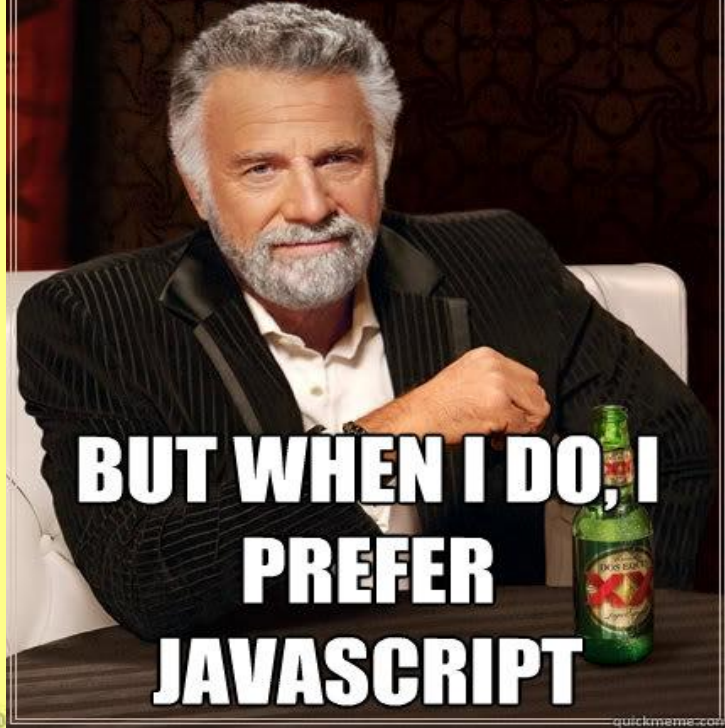
**PYTHON VS RUBY?**



**TOO MAINSTREAM.  
I USE COFFESCRIPT**

quickmeme.com

**I DON'T ALWAYS CODE**



**BUT WHEN I DO, I  
PREFER  
JAVASCRIPT**

quickmeme.com

**Disclaimer** : Not trying to start a Civil War...



Feb,  
1991

Guido Van Rossum  
publishes Python  
0.9.0.

In 1994, Python 1.0  
introduces `lambda`,  
`map`, `filter` & `reduce`.

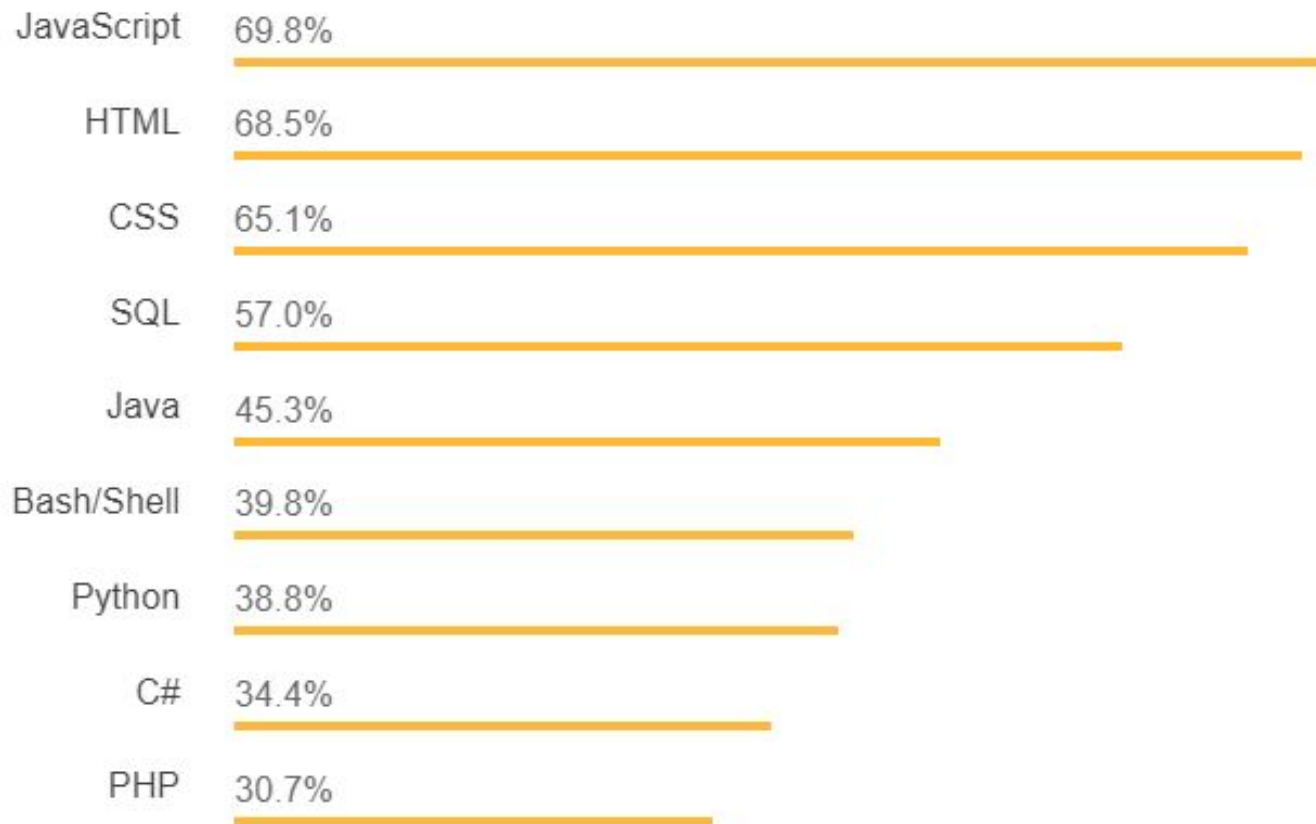


**MO**

May,  
1995

**Brendan Eich** creates  
Mocha.

Mocha goes on to  
become **Javascript**.



Courtesy : StackOverflow



Chrome

Firefox

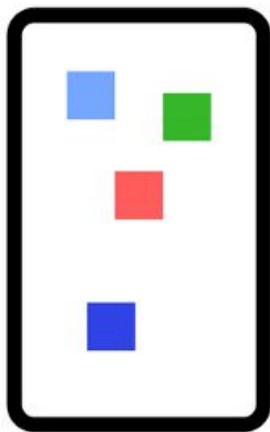






# A Javascript Engine

Memory Heap

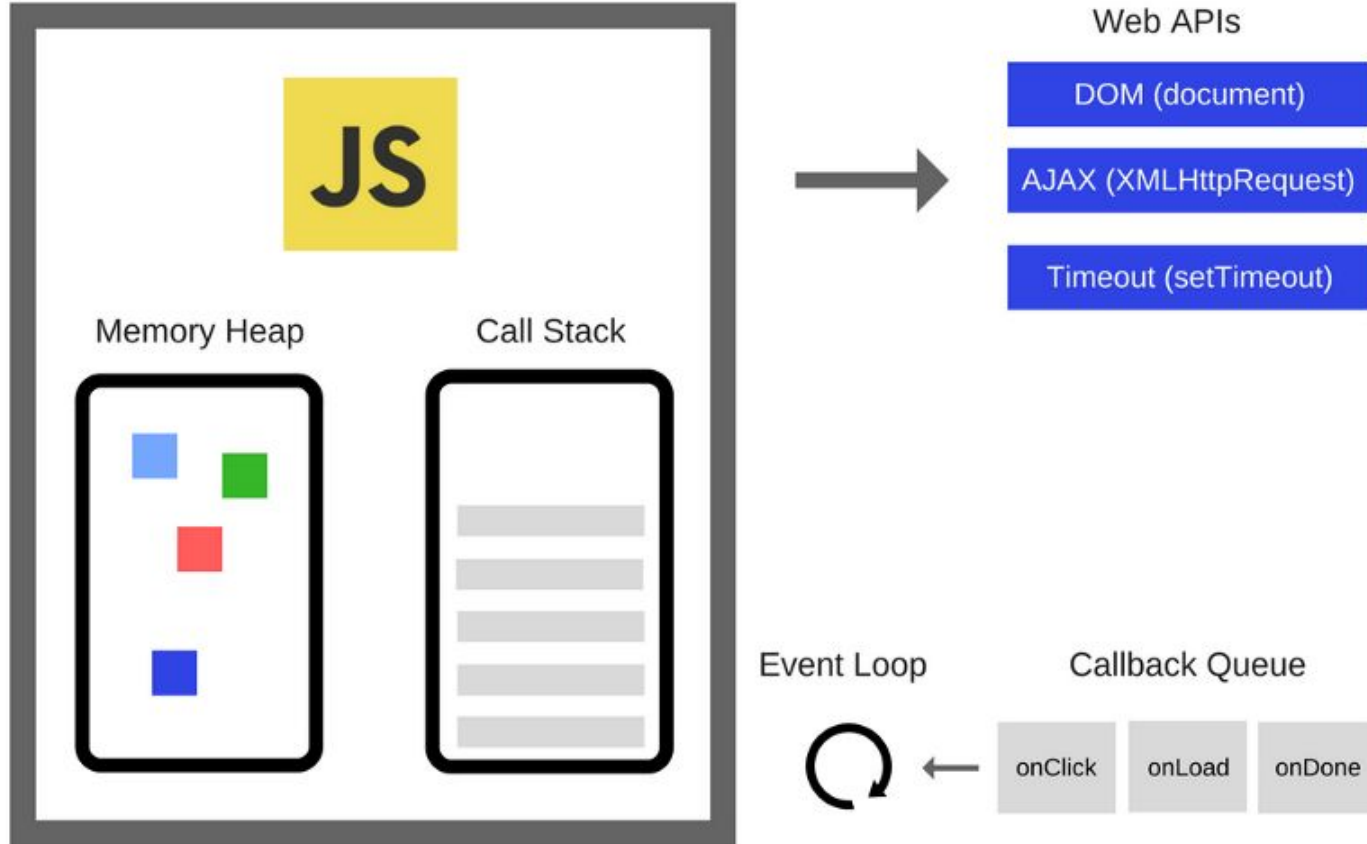


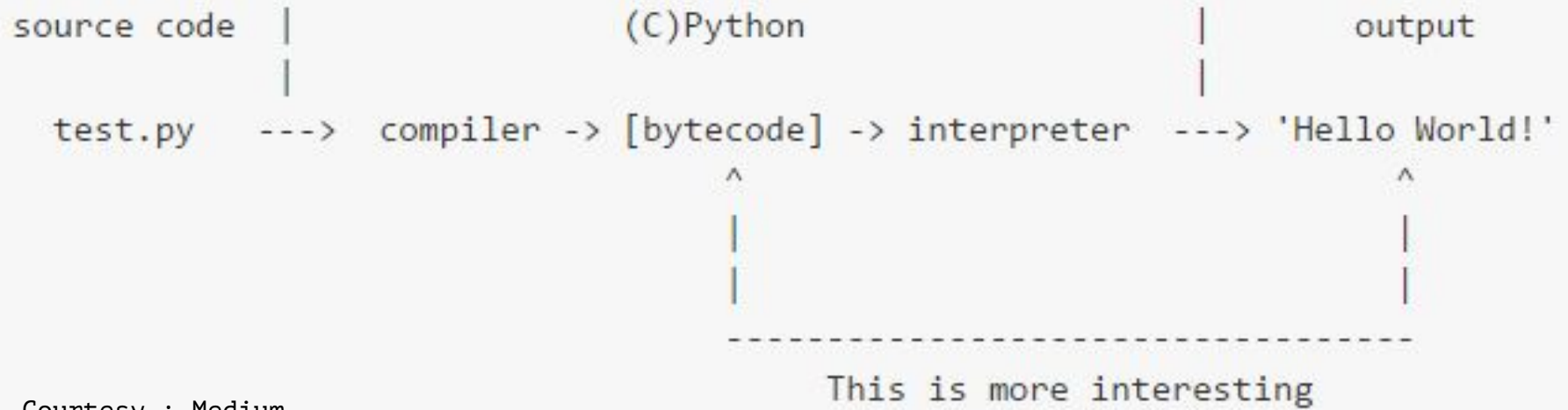
Call Stack



That little big  
piece of Piece of  
software that  
helps your browser  
do crazy shit.

PS - Also helps  
the ads pop up!!





Courtesy : Medium

Python Execution Cycle  
:)

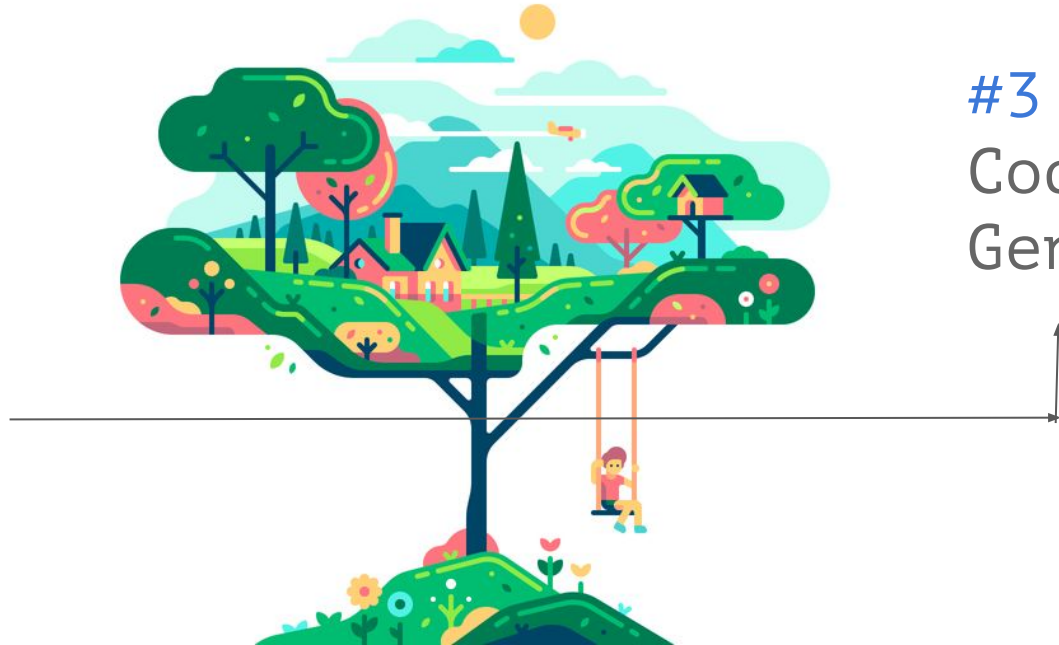
# The Abstract Syntax Tree

#1

Generating  
AST

#2

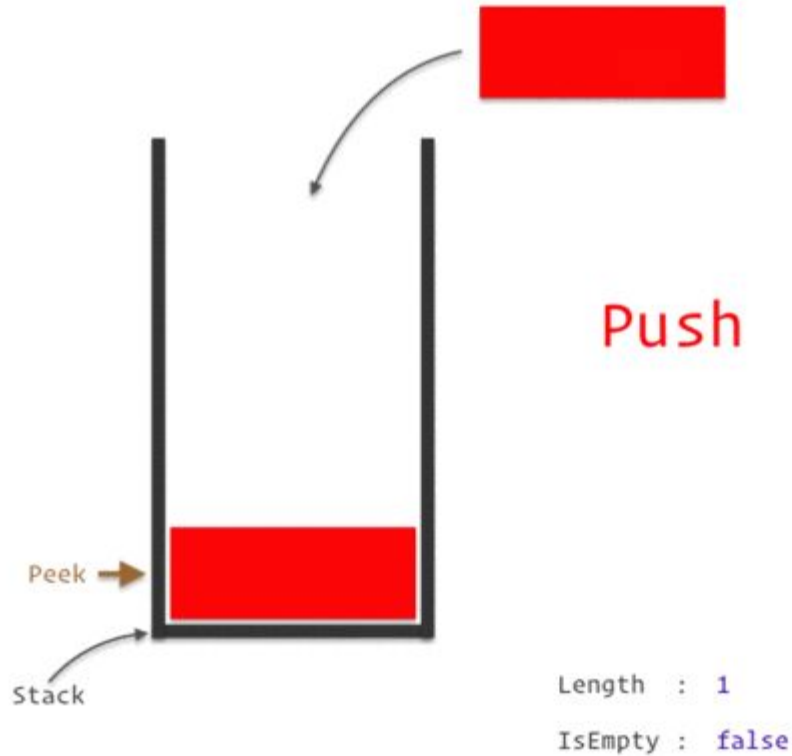
Semantic  
Analysis



#3

Code  
Generation

# The Stack Machine



Python internally keeps track of a **Value Stack**, which stores all the values for the upcoming operations.

```
import underscore as _ • var _ = require('_');  
  
def my_function(argument1, argument2):  
    if argument1:  
        del argument2  
    elif argument2:  
        print(argument2)  
  
if somevar is someothervar And x is not b: pass  
    • if (somevar == someothervar &&  
      x != b) {}
```

//Bridge 1

Mixing

Python

&

Javascript

Python Functions

REST API

..



AJAX

Call with Javascript



code.py

```
def getresponse():  
    response = "Hello..."  
    return response
```

server.py

```
from flask import Flask, request  
from flask_cors import CORS  
from code import getresponse  
  
app = Flask(__name__)  
CORS(app)  
response = getresponse()  
  
@app.route('/hello')  
def get_response():  
    return getresponse()  
  
if __name__ == "__main__":  
    app.run()
```

index.js

```
xmlhttp.open("GET",  
    "http://192.168.43.202:8000",  
    true);
```



# Embedding Python in Javascript

Writing the code  
in a variable and  
passed to an API  
(made with Flask)



The code is  
written in a .py  
file, executed  
and value  
returned

//Bridge 2

Translating  
The  
Languages



# Jiphy

By Timothy Crosley

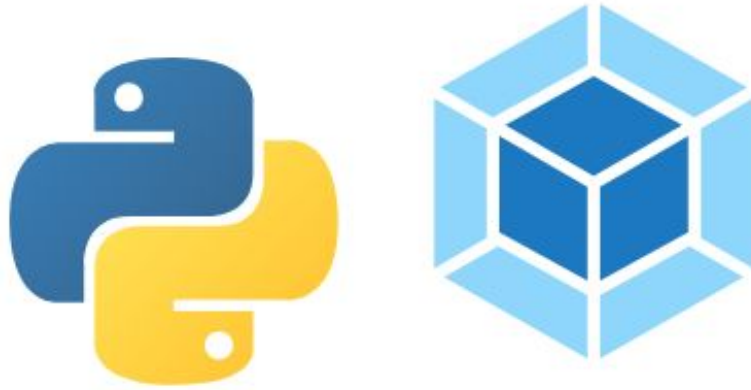
- Converts both ways.
- Allows Intermixing.
- Converts lines 1:1



# Pyjs

## The Pyjamas Project

- Declarative style of `desktop` widget programming
- Supports basic Python types, emulated in JavaScript, such as List, Dictionary, Tuple, string;
- Handles all `cross-browser` issues



# Python & Webpack

## Transpiling to JS

Courtesy : Know Your Meme



JavaScript  
Python

Thank You

- @shuvam360

