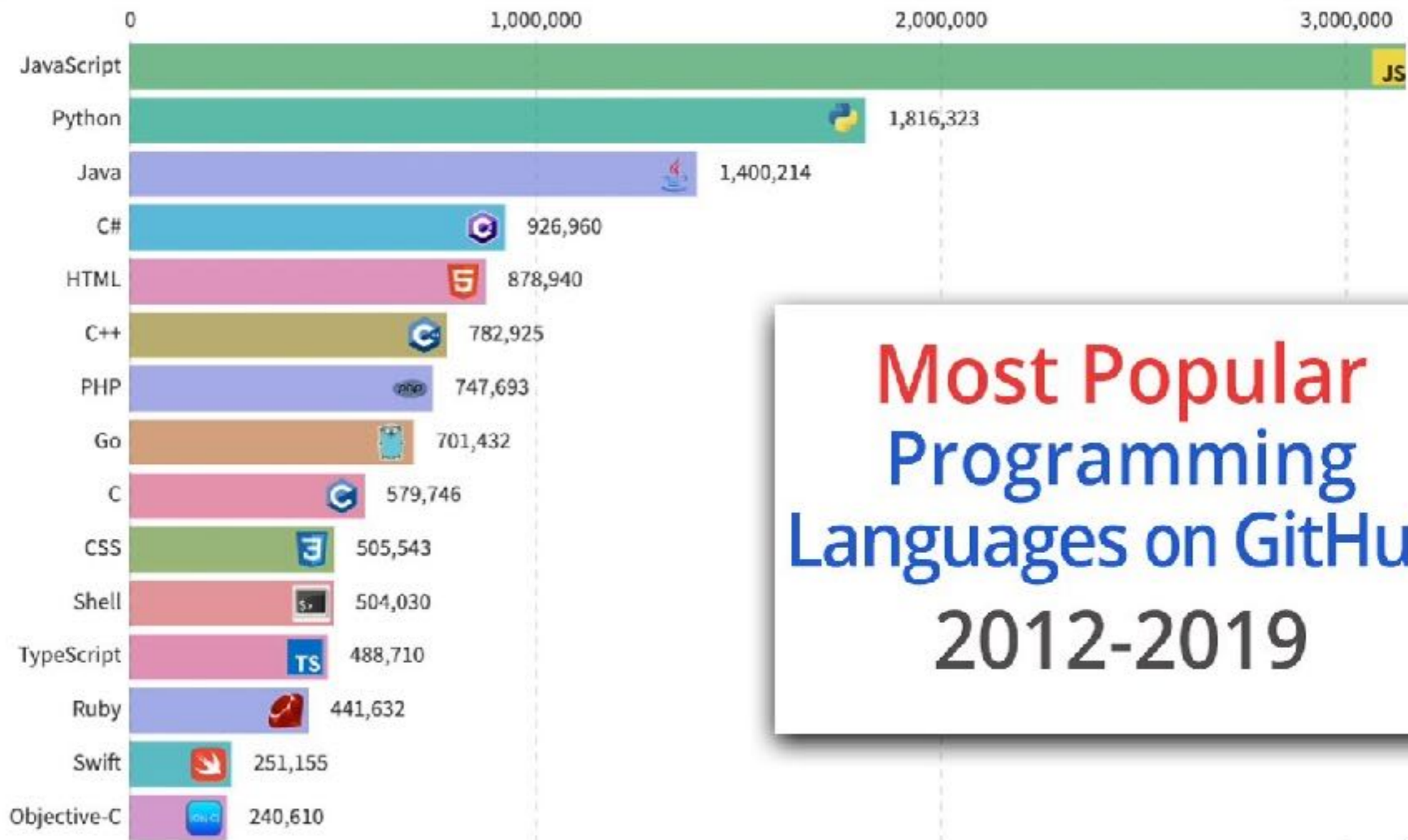


# JavaScript

Programming Language of Web

# Why learn JavaScript?

- Web applications are getting complex, there is a lot of interaction
- The only programming language available in Browser
- JS is being used in backend as well - NodeJS
- The demand for JS developers is pretty high



# Most Popular Programming Languages on GitHub 2012-2019

# What is JavaScript ?

- Along with HTML[skeletal] and CSS[design], Javascript[Logic] is one of the pillars of World wide web
- Javascript helps in data validation, server communication, interaction,
- Lightweight, interpreted, or **just-in-time** compiled programming language with **first-class functions**.
- Do not confuse JavaScript with the **Java programming language**. Both "Java" and "JavaScript" are trademarks or registered trademarks of Oracle in the U.S. and other countries. However, the two programming languages have very different syntax, semantic, and use.

# Basics of Programming

- Variables are containers that you can store values in. `// var a = "hello world" ;`
- Variables hold values of different datatypes // string, number, boolean `// typeof(a)`
- `string = "hello world" ; number = 1233 ; boolean = true / false ; object = {"a" : 1, "b" : 2, "c" :3 }`
- Step by step manipulate variables

# Properties

- Asynchronous nature - non-blocking, single threaded  
[<https://mdn.github.io/learning-area/javascript/asynchronous/introducing/simple-sync-ui-blocking.html>]
- Functions are First class objects, they can be assigned to a variable, be passed as arguments, returned from functions
- Expressive object Notation - JSON
- Event(clicks, input etc) driven programming - responded with callback functions

# Syntax

- `var x = 5; //` use var always, and semi colon too
- Let's test in console // try a function Sum
- “=” is assignment operator not comparison
- `document.getElementById/Class/Tag`

# Let's code

- Alert statement
- console.log
- change color
- on-click
- Function // A block of code doing something //  
`function function_name() {} // anon functions too`



# Tasks

- hide button (display: none;)
- Get html (innerHTML)
- Change html
- Validate ; value > 0
- Calculate number of links on a page
- Simple arithmetic with JavaScripts

# Events

- Event based language
- Button was clicked, input field changed
- `document.getElementById('button_id').onclick = function() {  
alert('Ouch! Stop poking me!');  
}`