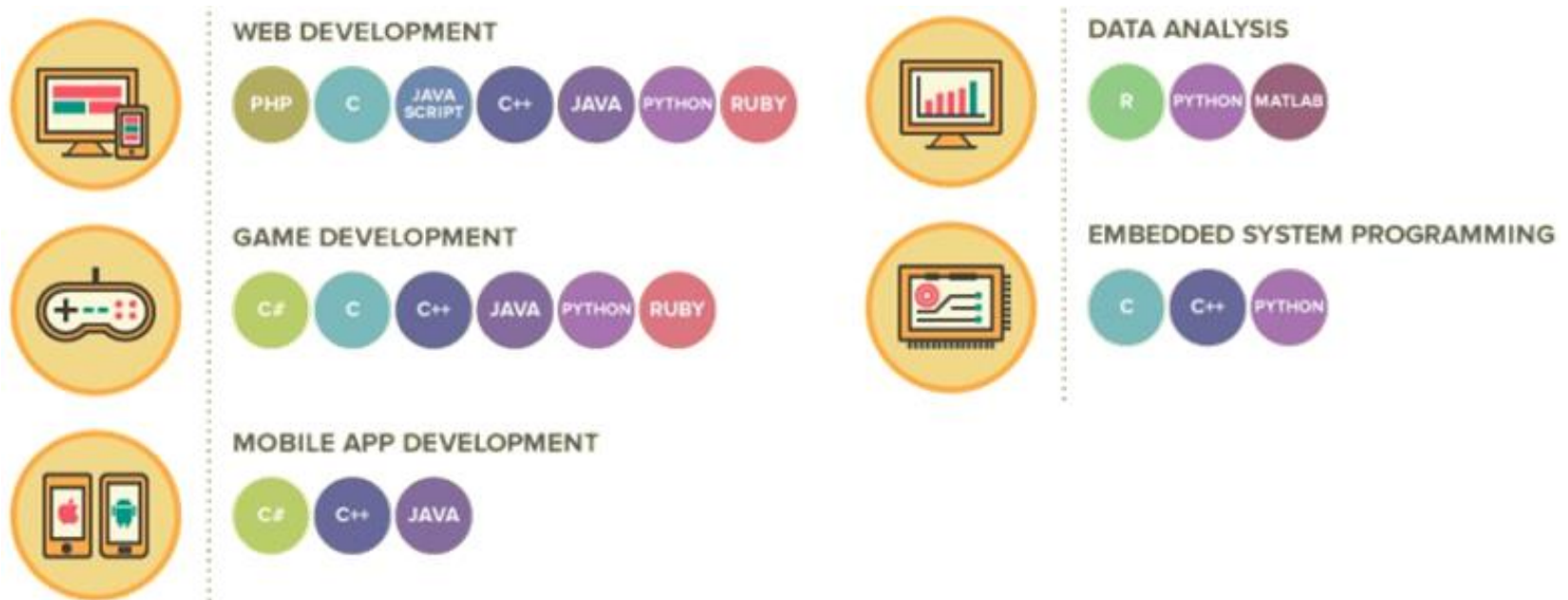
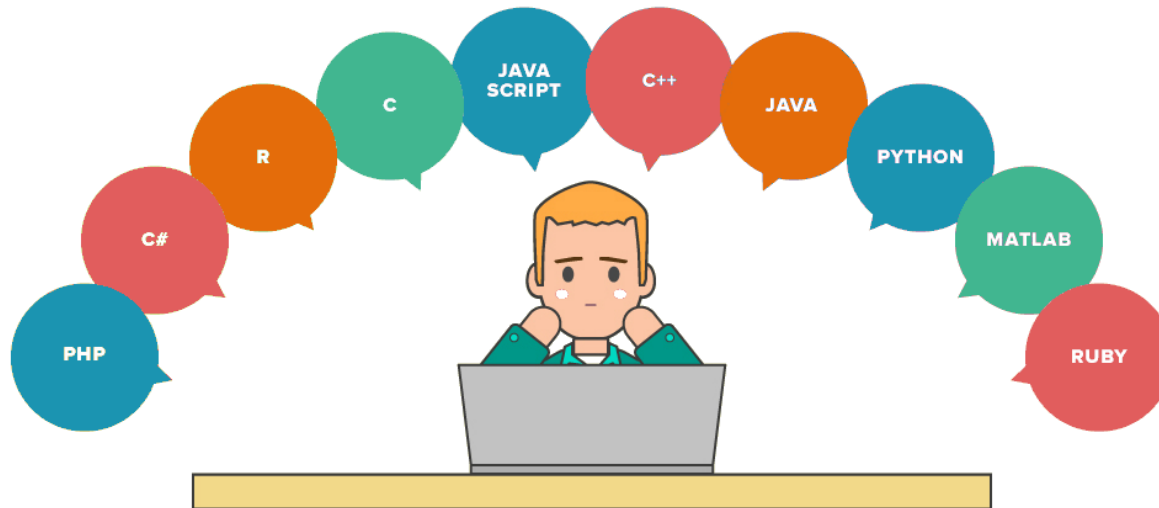
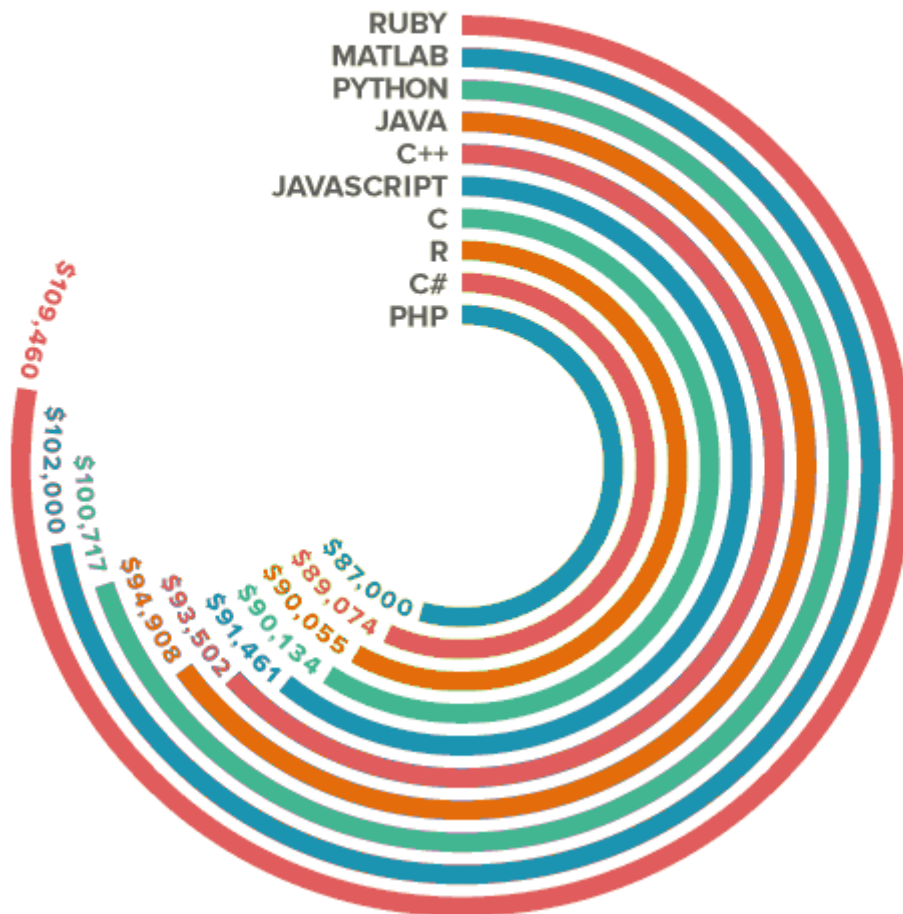


WHICH PROGRAMMING LANGUAGE PICK?



Source: <http://blog.udacity.com/2015/05/pick-your-first-programming-language.html>

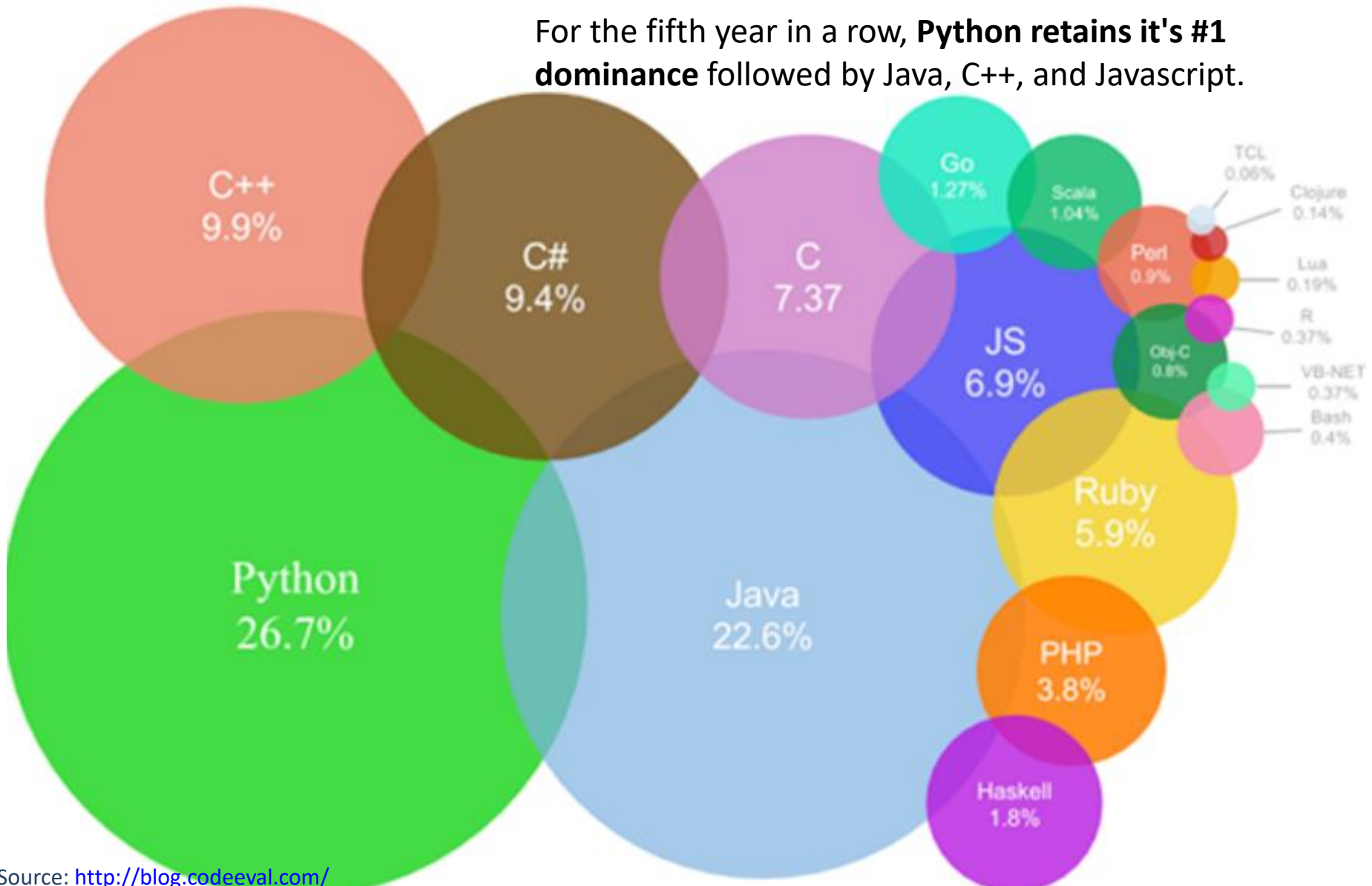
WHICH PROGRAMMING LANGUAGE PICK?



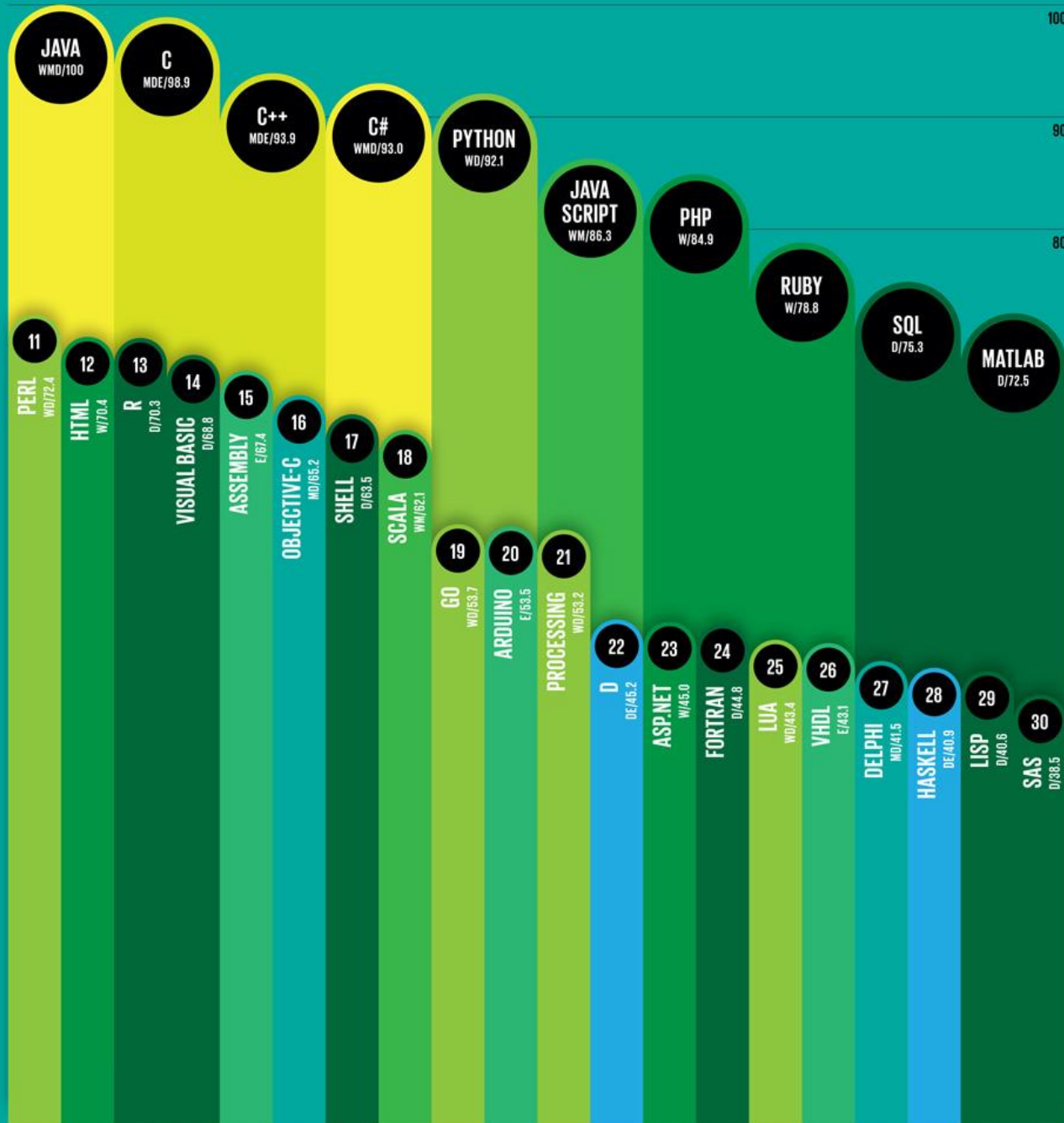
Source: <http://blog.udacity.com/2015/05/pick-your-first-programming-language.html>

PROGRAMMING LANGUAGE POPULARITY

For the fifth year in a row, **Python** retains it's **#1 dominance** followed by Java, C++, and Javascript.



Source: <http://blog.codeeval.com/>



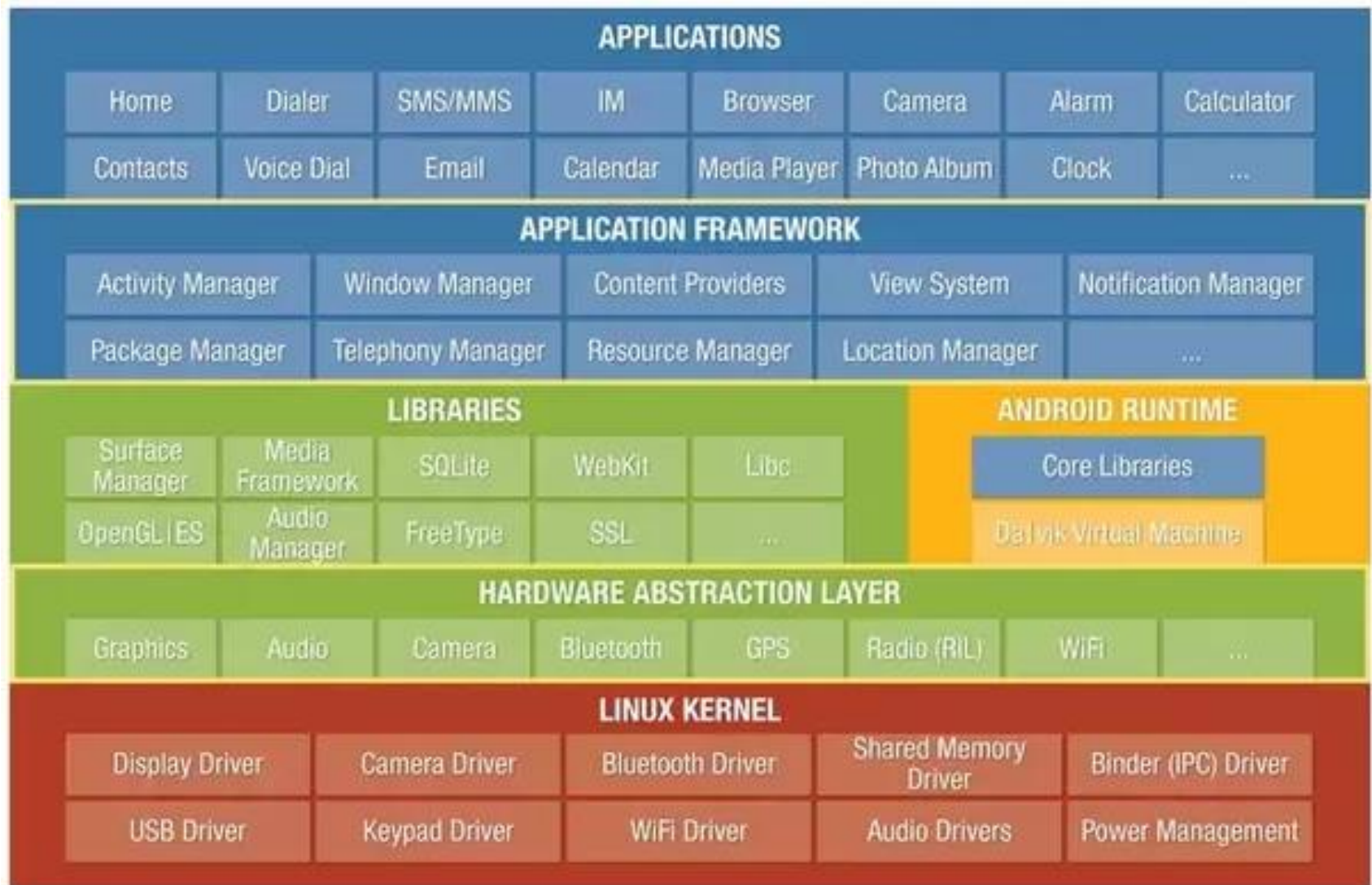
Working with computational journalist Nick Diakopoulos, IEEE Spectrum has weighted and combined 12 metrics from 10 sources (including IEEE Xplore, Google, and GitHub) to rank the most popular programming languages.

Source: <http://spectrum.ieee.org/>

Feb 2016	Feb 2015	Change	Programming Language	Ratings	Change
1	2	⬆	Java	21.145%	+5.80%
2	1	⬇	C	15.594%	-0.89%
3	3		C++	6.907%	+0.29%
4	5	⬆	C#	4.400%	-1.34%
5	8	⬆	Python	4.180%	+1.30%
6	7	⬆	PHP	2.770%	-0.40%
7	9	⬆	Visual Basic .NET	2.454%	+0.43%
8	12	⬆	Perl	2.251%	+0.86%
9	6	⬇	JavaScript	2.201%	-1.31%
10	11	⬆	Delphi/Object Pascal	2.163%	+0.59%
11	20	⬆	Ruby	2.053%	+1.18%
12	10	⬇	Visual Basic	1.855%	+0.14%
13	26	⬆	Assembly language	1.828%	+1.08%
14	4	⬇	Objective-C	1.403%	-4.62%
15	30	⬆	D	1.391%	+0.77%
16	27	⬆	Swift	1.375%	+0.65%
17	18	⬆	R	1.192%	+0.23%
18	17	⬇	MATLAB		
19	13	⬇	PL/SQL		
20	33	⬆	Groovy		



EXAMPLE: LANGUAGES USED IN ANDROID ARCHITECTURE

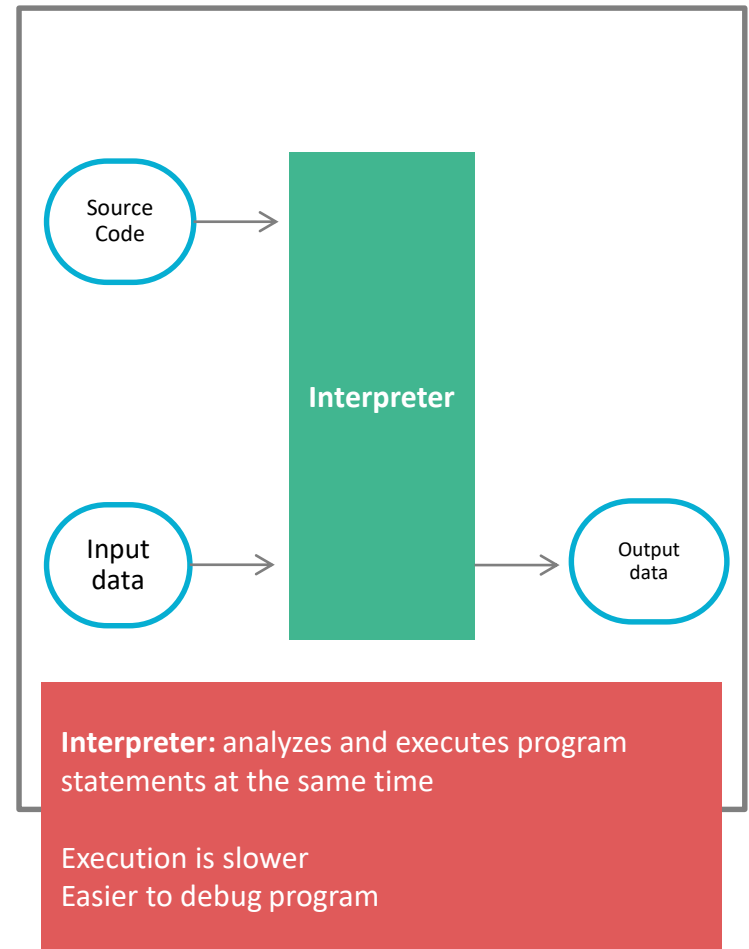
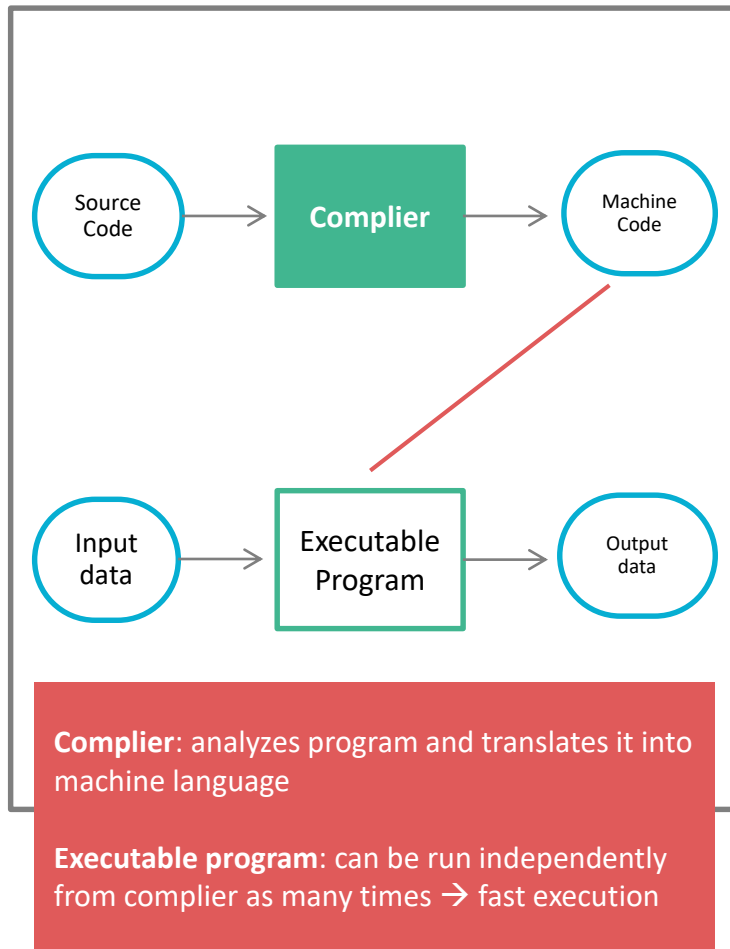


DIFFERENT PROGRAMMING LANGUAGES



PROGRAM VS SCRIPT

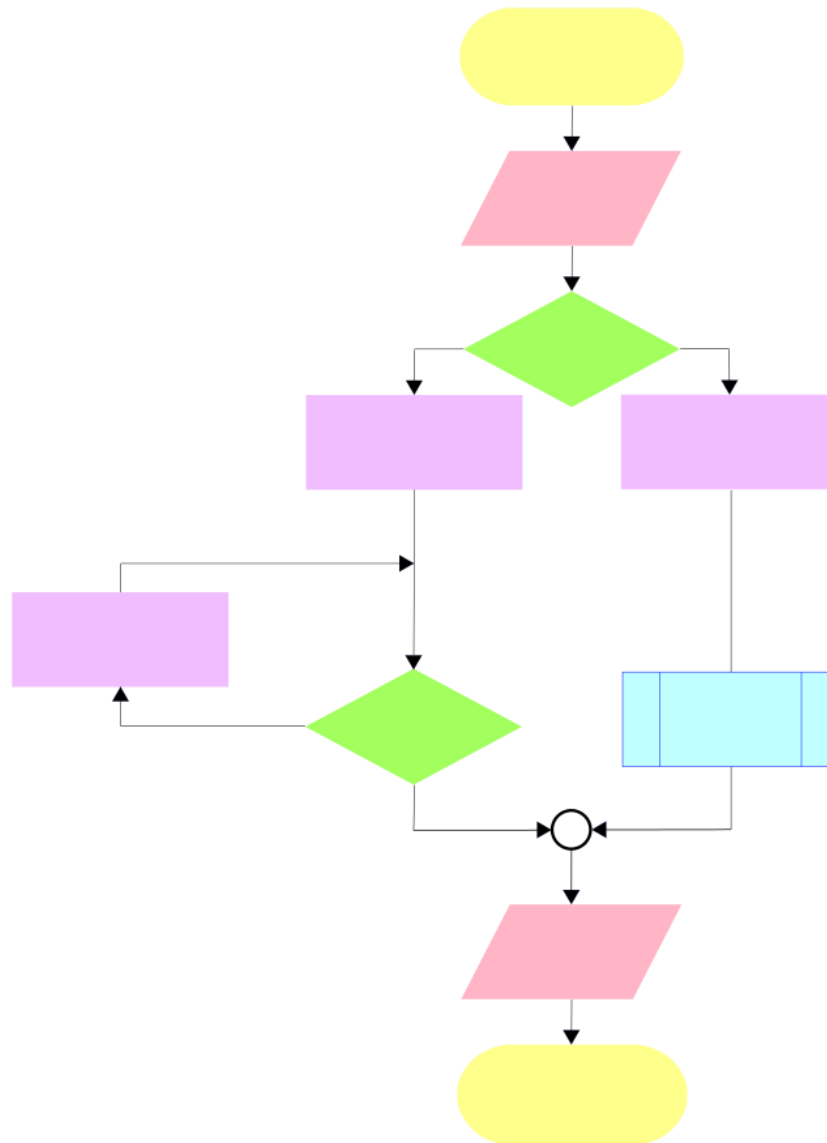
Compilers/Interpreters



COMPILED VS INTERPRETED

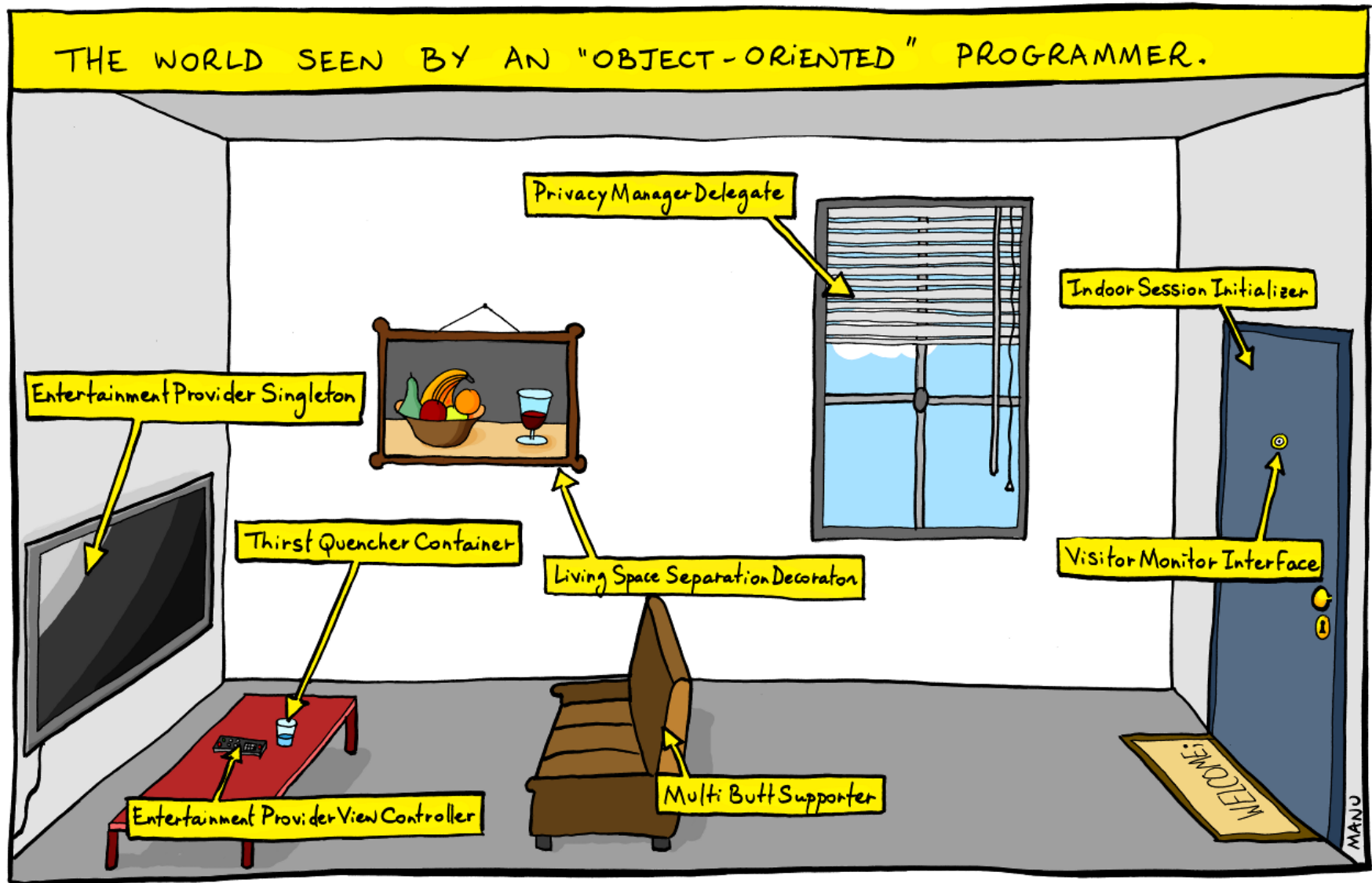
Compiled		Interpreted	
PROS	CONS	PROS	CONS
ready to run	not cross platform	cross-platform	interpreter required
Often faster	Inflexible	Simpler to test	often slower
source code is private	extra step	easier to debug	source code is public

PROCEDURAL PROGRAMMING



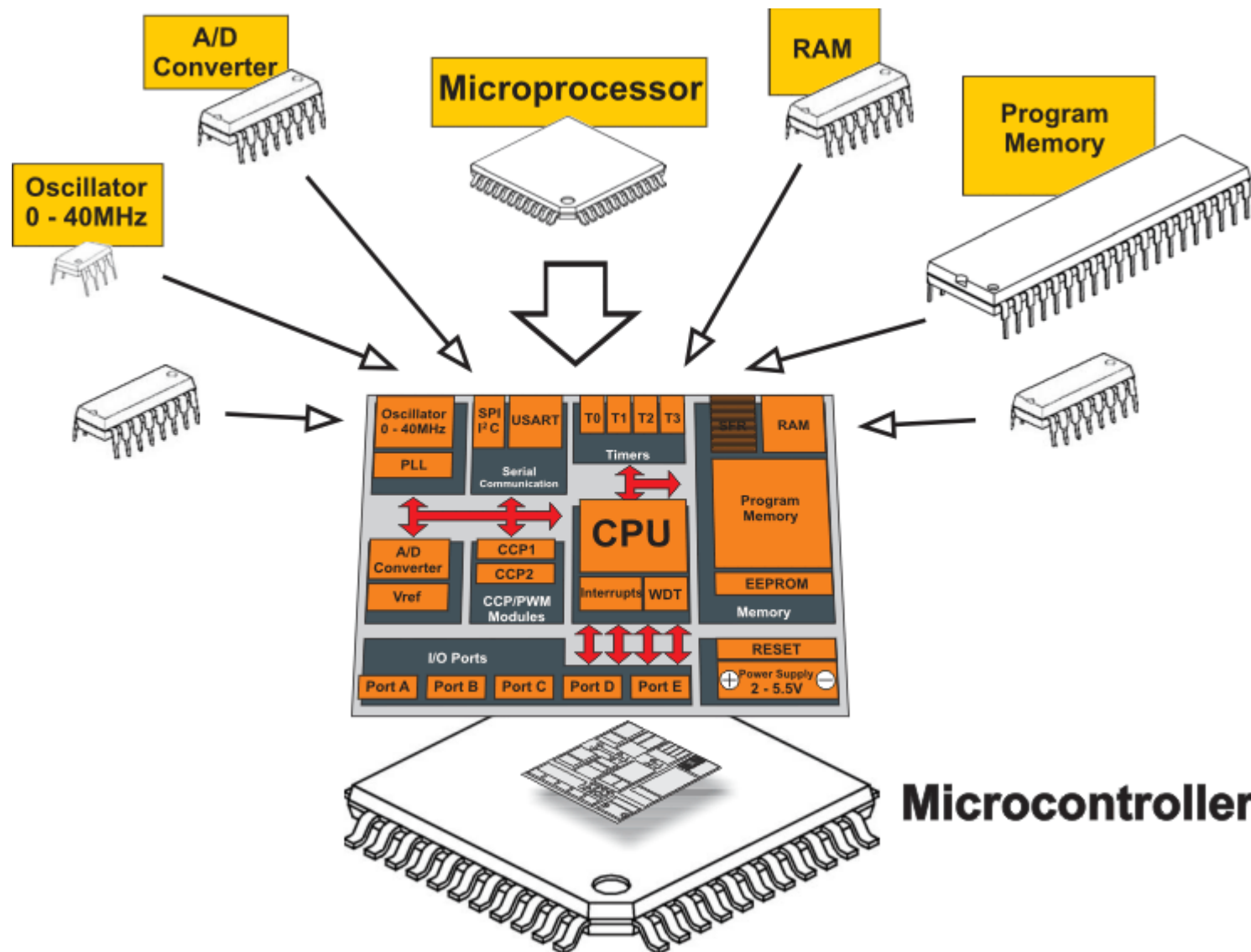
Source: https://commons.wikimedia.org/wiki/File:Flowchart_procedural_programming.svg

OBJECT ORIENTED PROGRAMMING



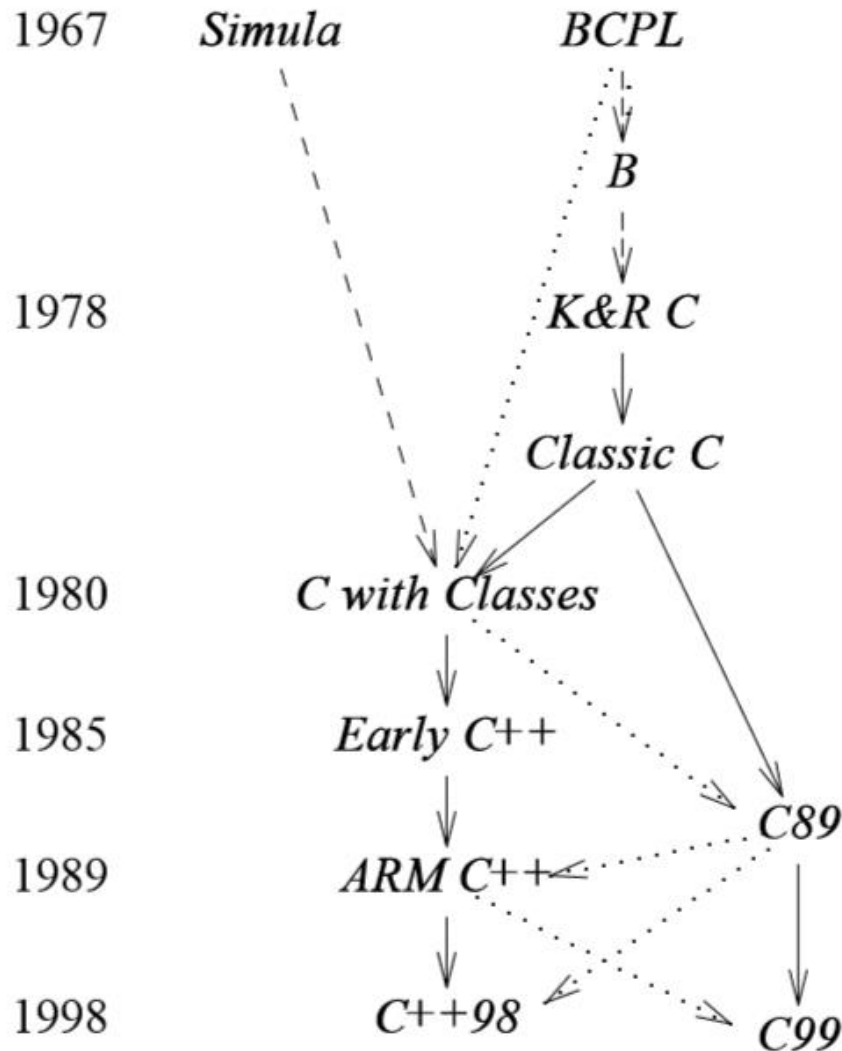
Source: http://www.bonkersworld.net/images/2011.09.07_object_oriented_programmer_world.png

C APPLICATION AREA

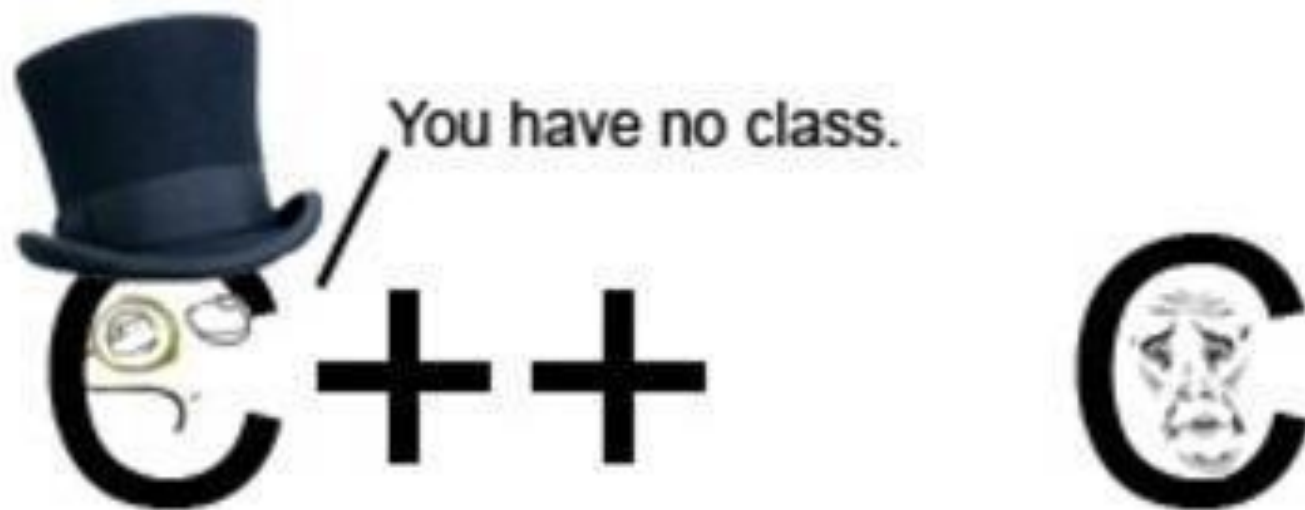


Source: <http://learn.mikroe.com/ebooks/picccprogramming/chapter/introduction-to-the-world-of-microcontrollers/>

C HISTORY



A solid line means a massive inheritance of features, a dashed line borrowing of major features, a dotted line borrowing of minor features.



The C++ standard is 1151 pages; that includes 430 pages of language definition and 770 pages of standard-library description. The size of the language definition is within 5% of the language descriptions of Java and C# (measured by page count).

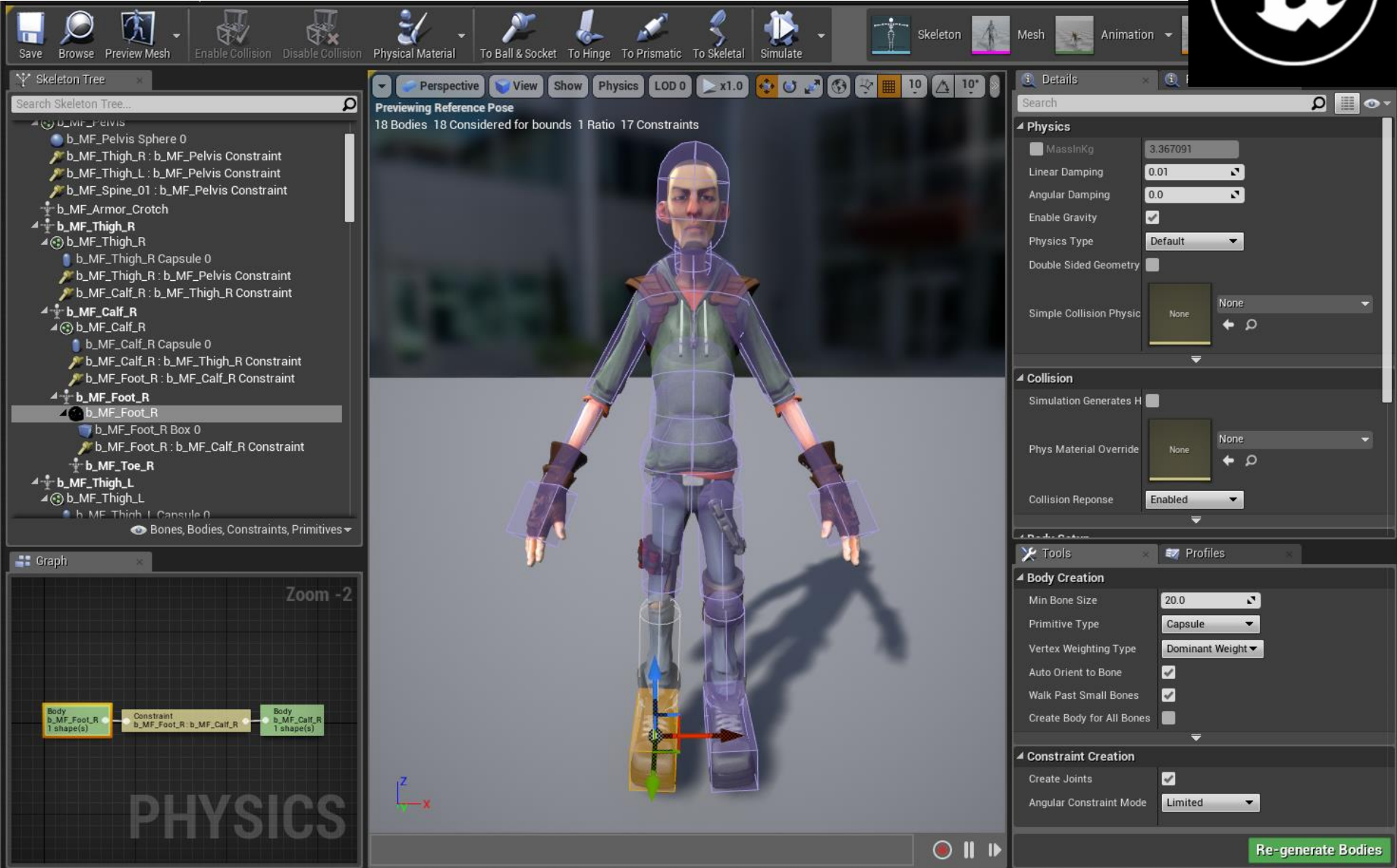
Source: http://www.stroustrup.com/bs_faq.html#merge



C makes it easy to shoot yourself in the foot;
C++ makes it harder, but when you do it blows
your whole leg off.

(Bjarne Stroustrup)

izquotes.com



JAVA

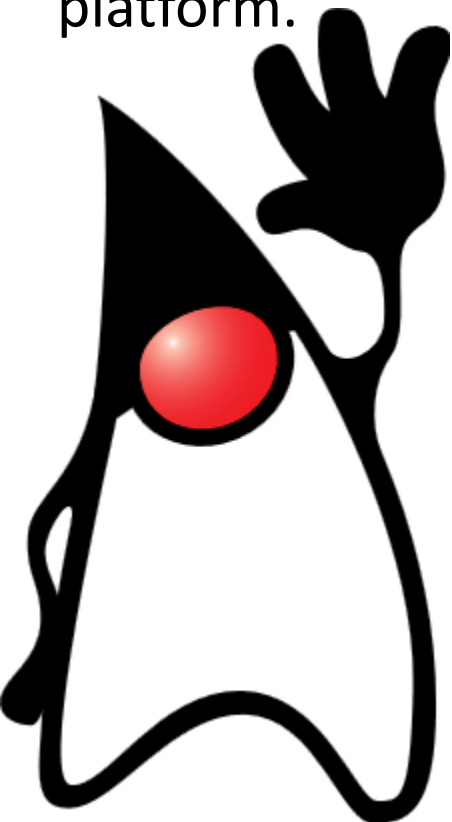
is a general-purpose computer programming language that is concurrent, class-based, object-oriented, and specifically designed to have as few implementation dependencies as possible. It is intended to let application developers "**write once, run anywhere**" (WORA).



Java applications are typically compiled to bytecode that can run on any **Java virtual machine** (JVM) regardless of computer architecture.

JAVA

Java was originally developed by James Gosling at Sun Microsystems (which has since been acquired by **Oracle Corporation**) and released in 1995 as a core component of Sun Microsystems, Java platform.



The language derives much of its syntax from C and C++, but it has fewer low-level facilities than either of them.

I TOLD HIM I CAN'T OPEN THE JAR



HE TOLD ME INSTALL JAVA





C → **C++** → **C++++**
C++
C#

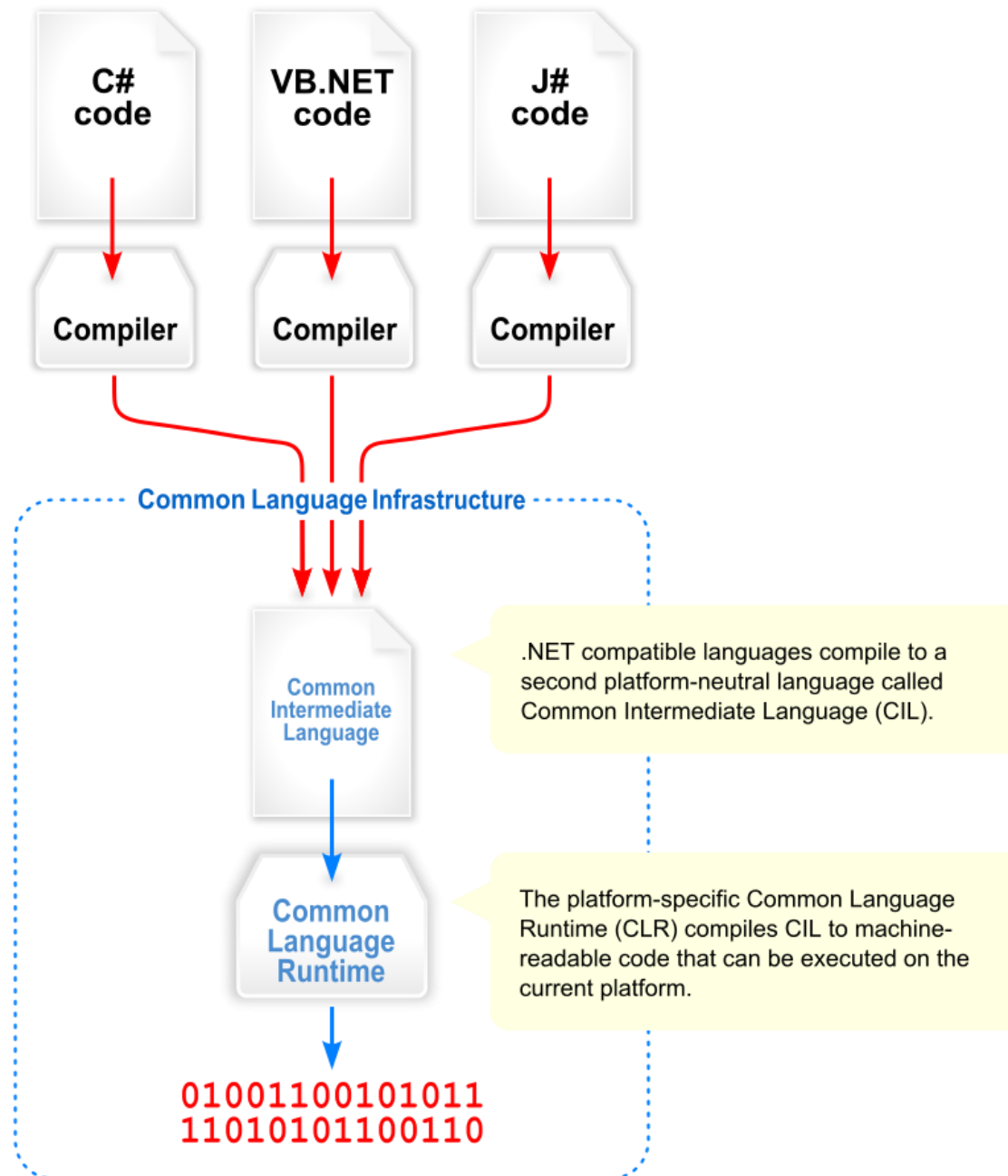


C#

C# is a multi-paradigm programming language encompassing strong typing, imperative, declarative, functional, generic, object-oriented and component-oriented programming disciplines. First appeared in 2000.

It was developed by **Microsoft** within its .NET initiative and later approved as a standard by Ecma (ECMA-334) and ISO (ISO/IEC 23270:2006). Its development team is led by Anders Hejlsberg. The most recent version is **C# 6.0**, which was released on July 20, 2015.





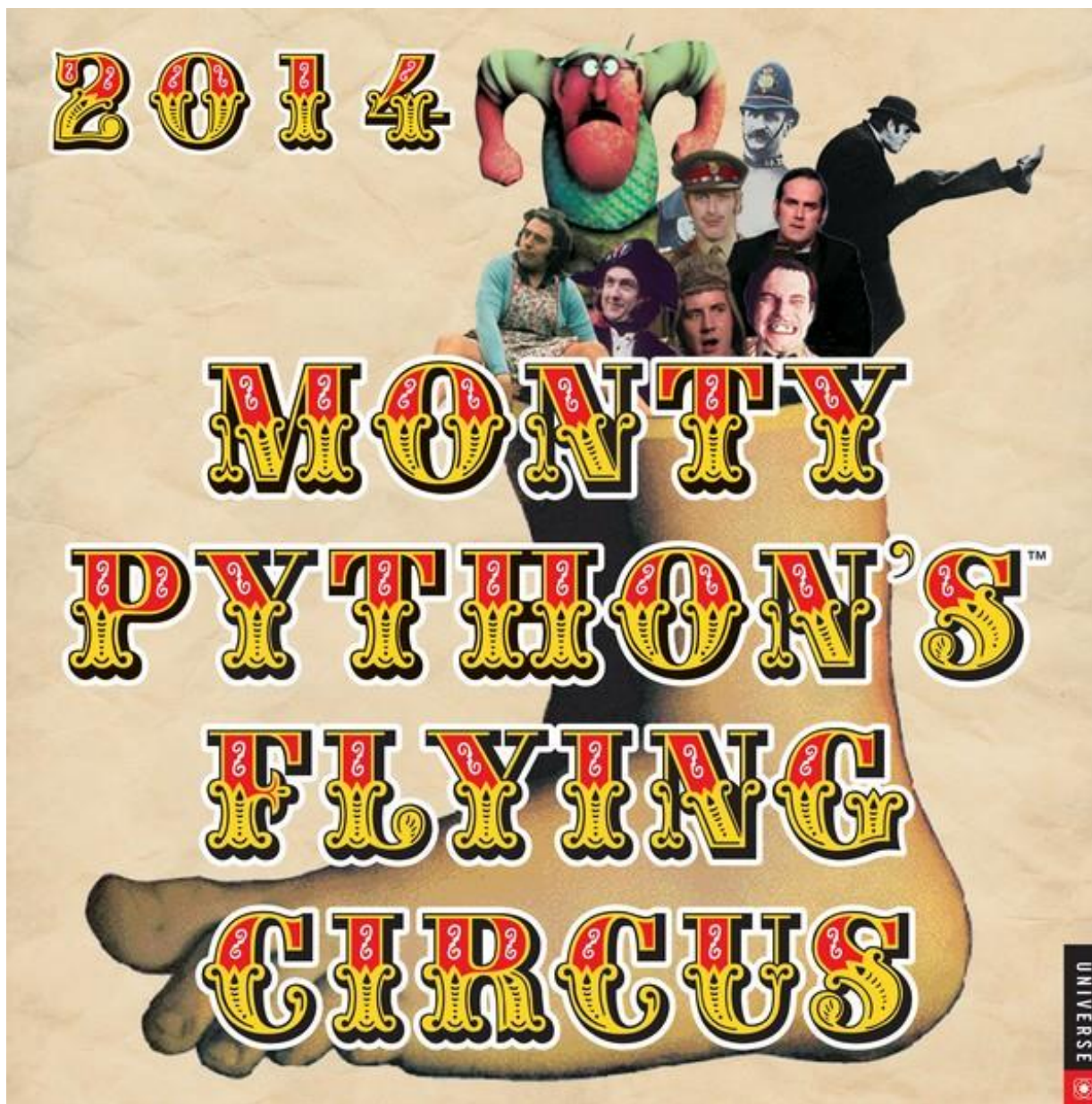
Xamarin





PYTHON





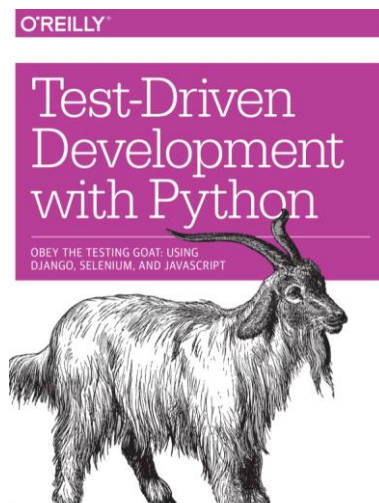
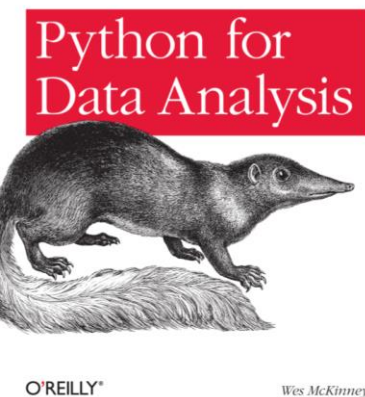
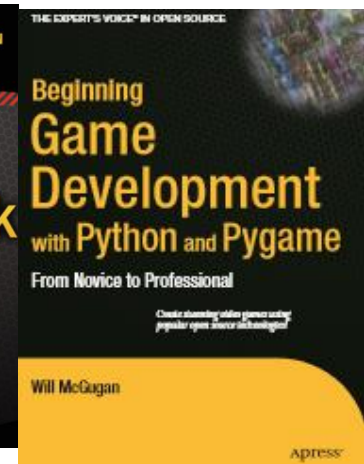
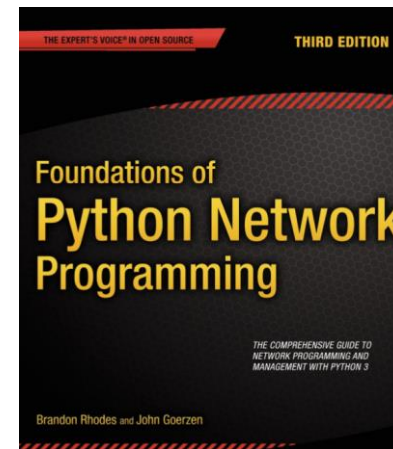
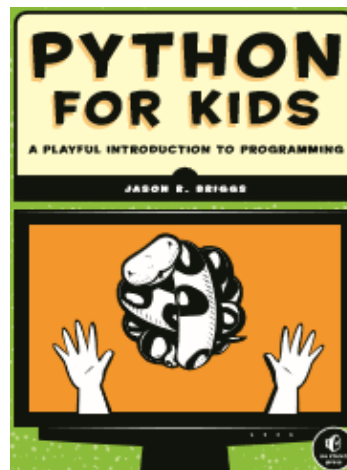
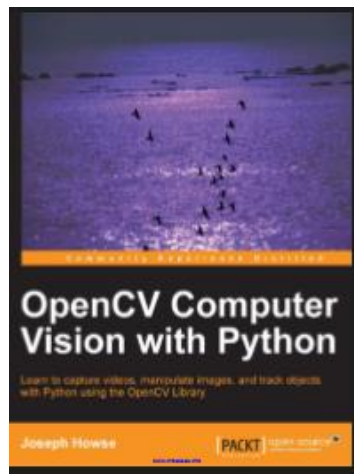
Python is a widely used high-level, general-purpose, interpreted, dynamic programming language.



Its design philosophy emphasizes code **readability**, and its syntax allows programmers to express concepts in fewer lines of code than possible in languages such as C++ or Java.

The language provides constructs intended to enable clear programs on both a small and large scale.

PYTHON – USAGE EXAMPLE



JAVA SCRIPT



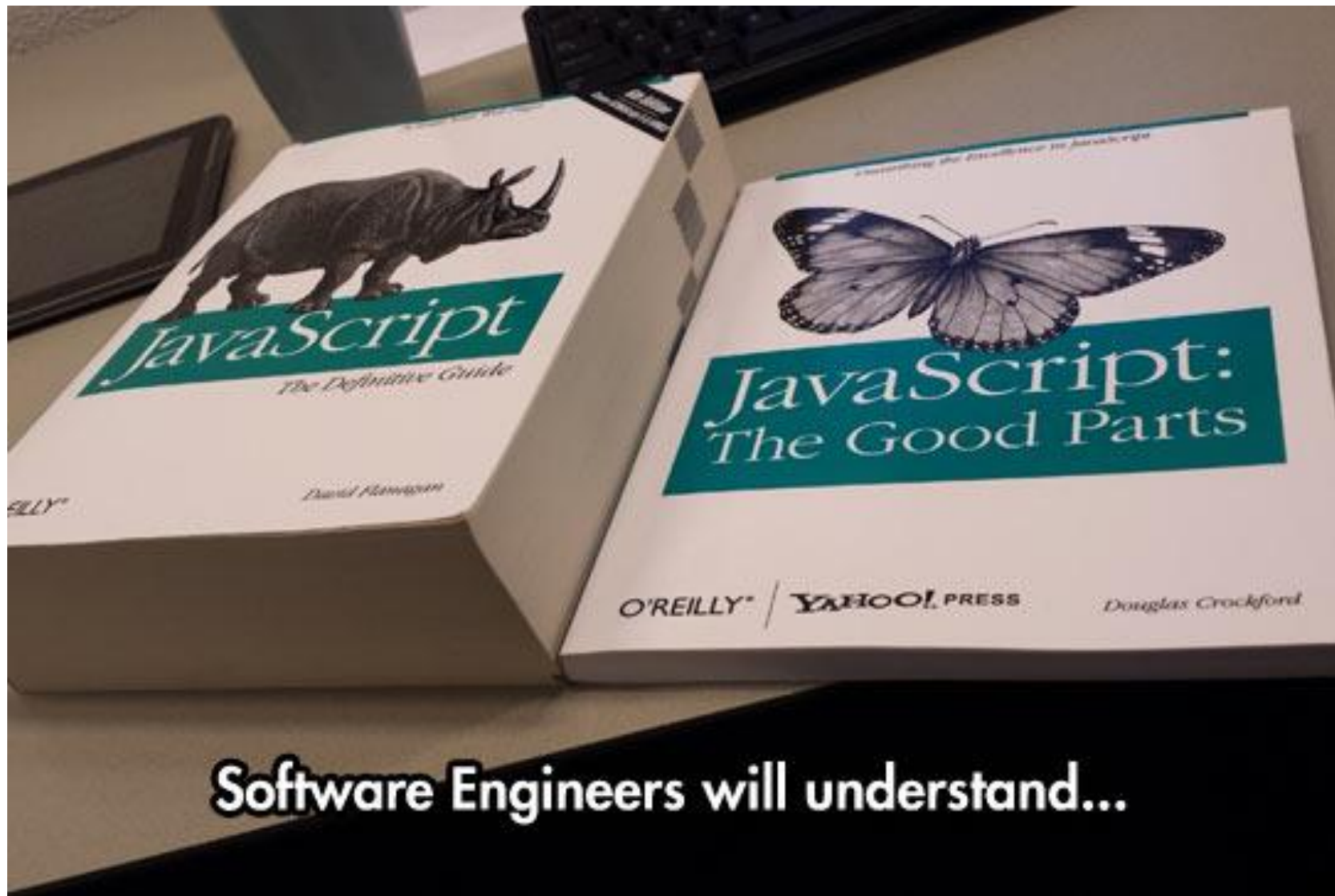
Source: <https://www.wykop.pl/wpis/29445583/ufik78news-javascript-programowanie-webdev-00-link/>

JAVA *is to*
JAVASCRIPT
as HAM *is to*
HAMSTER

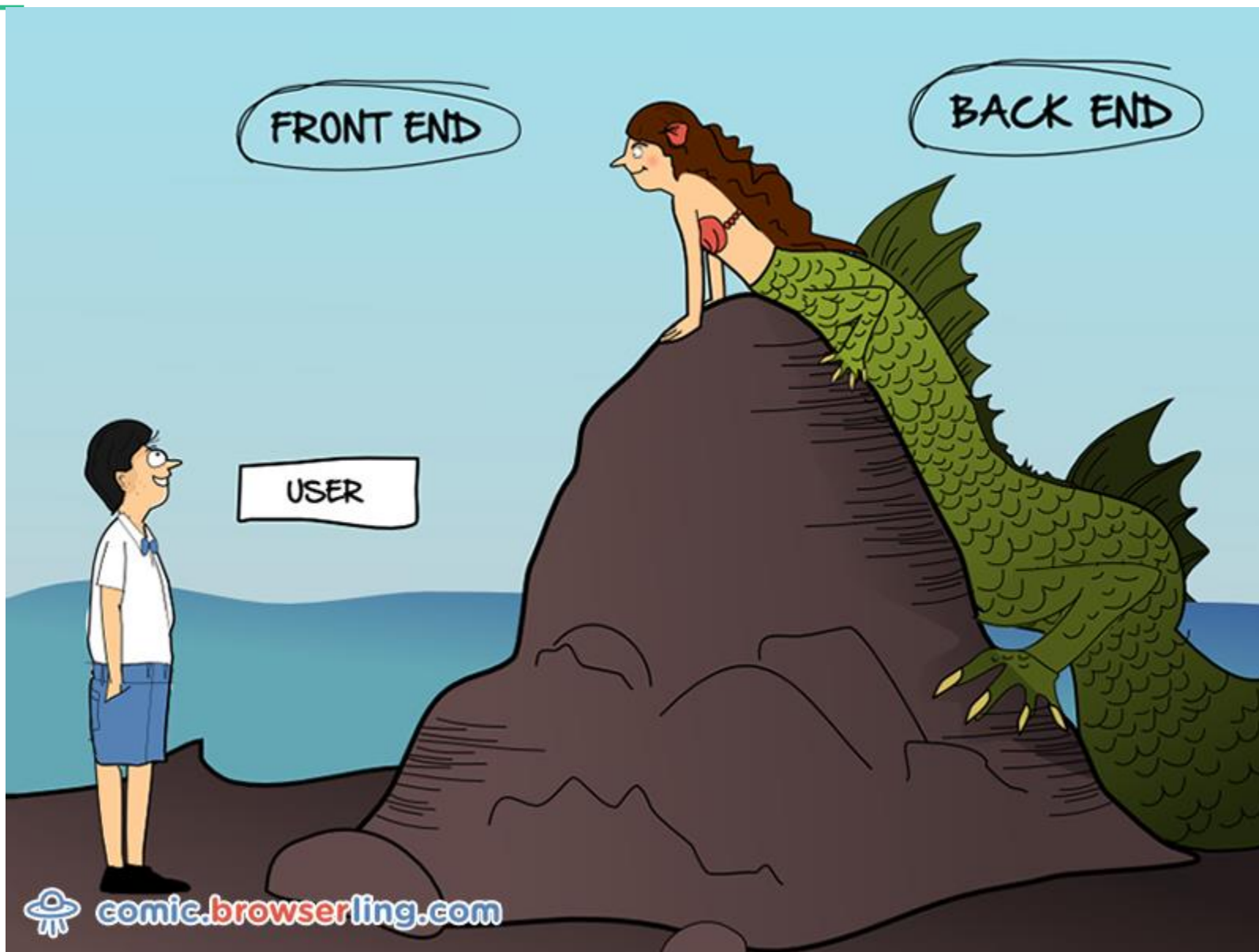


ILLUSTRATION BY SEGUE TECHNOLOGIES

JAVA SCRIPT



Software Engineers will understand...

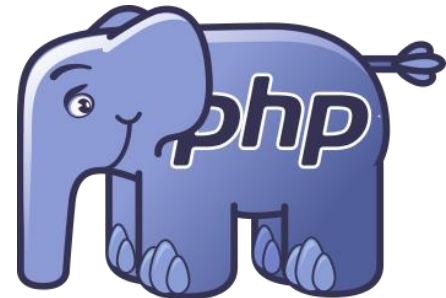


PHP

PHP is a **server-side scripting language** designed for web development but also used as a general-purpose programming language. Originally created 1994, the PHP reference implementation is now produced by The PHP Group. The standard PHP interpreter is **free software** released under the PHP License.

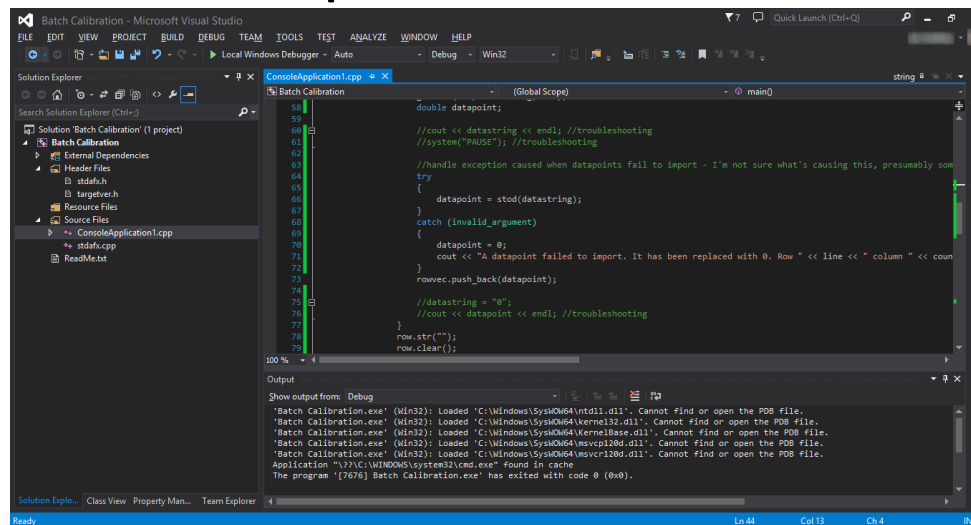
PHP has been widely ported and can be deployed on most web servers on almost every operating system and platform, free of charge.

The PHP language evolved without a written formal specification or standard until 2014, leaving the canonical PHP interpreter as a de facto standard. Since 2014 work has gone on to create a formal PHP specification.

The PHP logo, consisting of the lowercase letters 'php' in a bold, italicized, black sans-serif font.

TOOLS FOR DEVELOPERS

An **integrated development environment (IDE)** is a software application that provides comprehensive facilities to computer programmers for software development. An IDE normally consists of a **source code editor**, **build automation tools** and a **debugger**. Most modern IDEs have intelligent code completion, a class browser, an object browser, and a class hierarchy diagram, for use in object-oriented software development.



TOOLS FOR DEVELOPERS

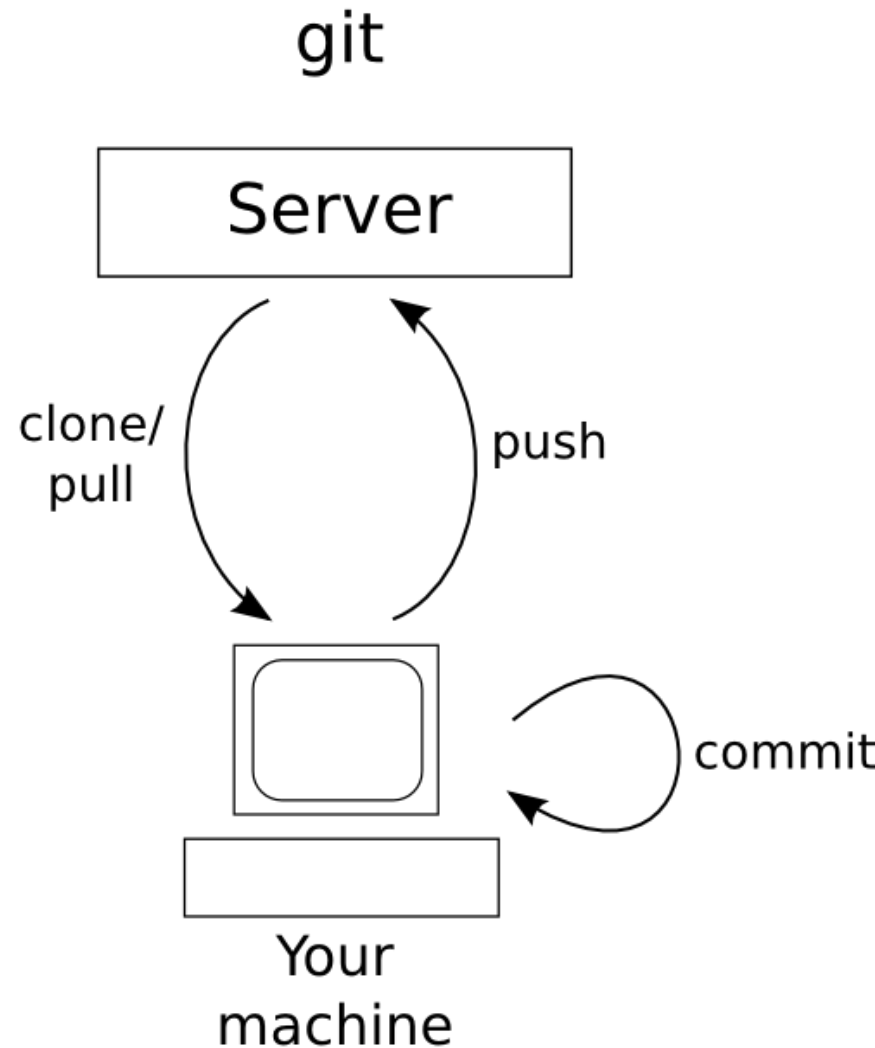
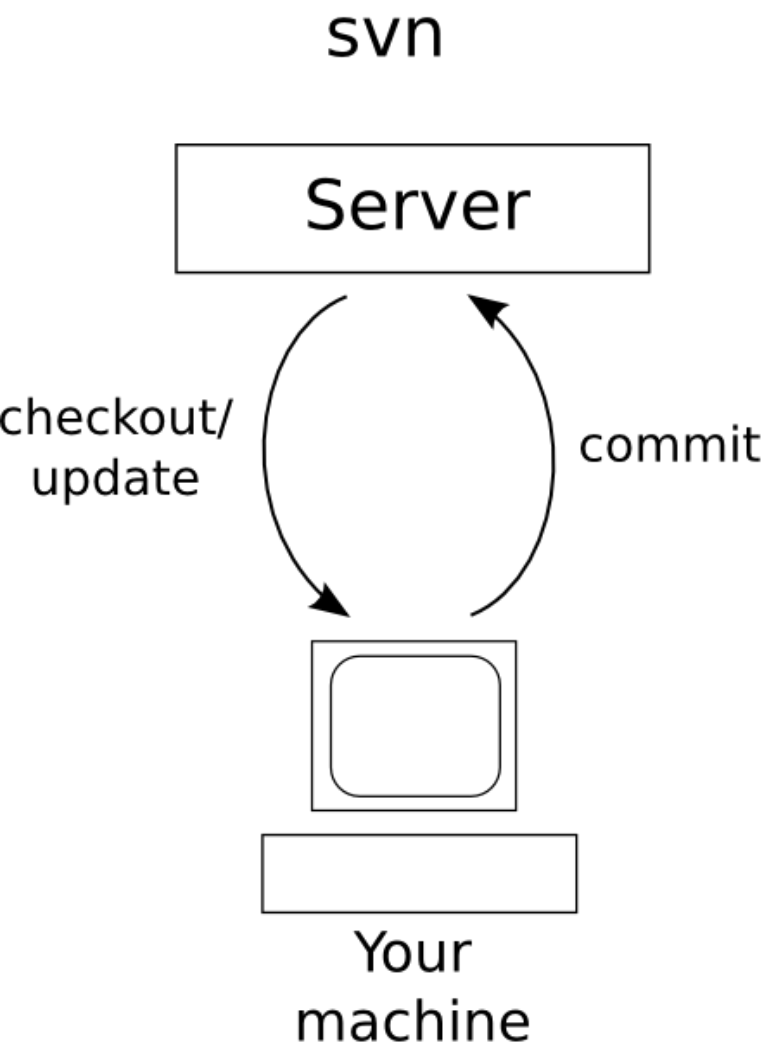
For **sharing code** with others developers use version control system.

Example: **Git** is a version control system that is widely used for software development and other version control tasks. It is a distributed revision control system with an emphasis on speed, data integrity, and support for distributed, non-linear workflows.

Git was created by Linus Torvalds in 2005 for development of the Linux kernel, with other kernel developers contributing to its initial development.

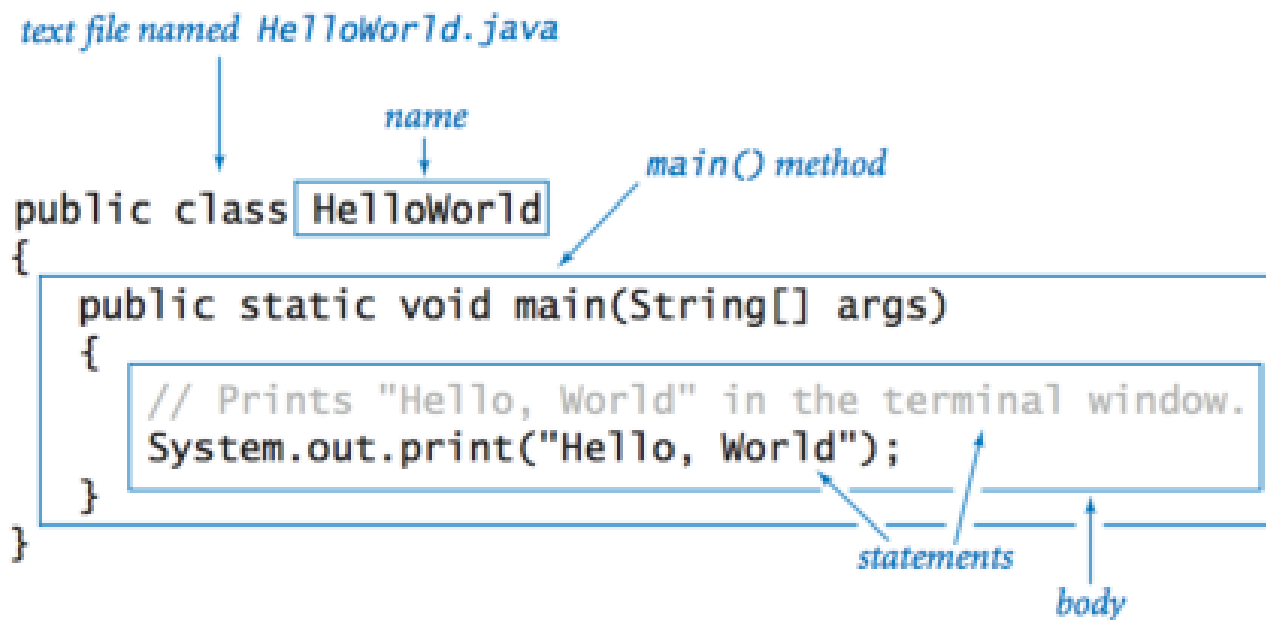


GIT VS SVN



JAVA CHEATSHEET

Hello, World.



Source: <https://introcs.cs.princeton.edu/java/11cheatsheet/>