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Common Modern Languages

and the people who love them…

C

- Commonly used in anything that requires fast execution time
  - System software (drivers, operating system code, etc…)
  - Graphic Processing and Gamming (gamming engines, multimedia encoding/decoding, image processing, etc…)
  - Many (if not most) operating systems are written in C
- Famous programs running C code (or C Derivative)
  - Microsoft Windows
  - Mac OS
  - Linux Kernel
  - Adobe Photoshop
  - MySQL

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C++

- (C Plus Plus) Great for higher level applications
  - Its relationship to C allows you to dabble in some low level functionality but have the ability to work in the object oriented world as well
- Often used in COM, Network, and Service layers
- Famous programs written in C++
  - Google
  - Amazon.com
  - Firefox / Chrome
  - Maya
  - KDE

C#

- (C Sharp) Implemented in desktop, web, and mobile applications
- A pure object oriented language with very modern features
- Its forgiving style and easy memory management allows developers (in many instances) to write programs as fast as they can type
- Generally found in conjunction with a framework such as .NET and Mono
- Commonly used in ASP.NET Web programming, Web Services, and Windows Embedded

Perl

- Probably the most popular scripting language of all time
- It is an object oriented language that runs interpreted, which means it is completely platform independent
- Used most commonly in backend jobs (file processing, system administration), web (CGI) scripting, network programming, and "quick and dirty" programs

HTML

- (HyperText Markup Language) Formatting language used by applications to display content, such as web sites
- Really not a "programming" language…
- Tags are used to identify objects (elements)
- Tags contain declarations and attributes
- Can be used with CSS (Cascading Style Sheets) to dictate formatting
- Used predominantly on the web to format content
- XML (Extensible Markup Language) is similar to HTML, except it is used to encode information into a standard object oriented format

JavaScript

- Client side scripting language that is most often used in unison with HTML to create dynamic and interactive web content
- HTML elements can be declared as objects and manipulated in a similar way as a C++ object
- Although Java is in the name, the language shares little resemblance
- Seen mostly in web and mobile development
- Many times JavaScript is used in combination with or embedded in another language

PHP

- (PHP Hypertext Preprocessor) Server side scripting language that dynamically generates HTML content for the web
- Its easy integration with MySQL has made it a staple in today's web development toolkit
- Even-though this language has been around for a long time, its popularity is still on the rise
- Part of the "Poor Man's" Web Arsenal (LAMP)
- Language syntax is based on Perl

Objective-C

- Pronounced *'Object-ive See'*
- Used in the Apple frameworks for Mac OS applications as well as iPhone, iPad and other Apple devices
- It is the foundation for the Cocoa and Cocoa Touch framework (GUI Framework for Mac OS and iOS)
- Language exploded in early 2010 as Apple mobile devices became wide spread
- Probably was not designed to be as popular as it became
- Developer controlled memory management

Java

- Very similar to C# (or C# is similar to Java) also just as popular
- Some developers complain about its execution time being slow, issues with cross platform promises, and forced exception handling
- Very powerful and in wide spread use in desktop, web, and mobile applications
- Despite some of its shortcomings, it is still preferred by many developers today
- Popular with Blackberry and Android Development

SQL

- (Structured Query Language) '*See-Quill'* is a Language that allows users to extract and manipulate data that is contained in a database
- This language varies slightly between databases, but maintains certain similarities
- Major SQL Flavors
  - Microsoft SQL Server
  - MySQL
  - Oracle
  - PostgreSQL
  - Sybase
  - DB2 (IBM)

TCL

- (Tool Command Language) A scripting language (interpreted) that was designed to be embedded in applications
- It has evolved into a stand alone language over the years with GUI libraries added later on
- Most common in embedded applications
- Its fast performance makes its ideal for repetitive operations
- Commonly used in the Finance, Healthcare, and Robotics industries

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and last but least…

Visual Basic

- Visual (Beginner's All-purpose Symbolic Instruction Code)
- Microsoft's implementation of the BASIC language, which was a language designed for "non-computer science" people, according to its creators
- Although this is somehow still popular, it thankfully seems to be on a decline in recent years
- VB also has a scripting language based on it called VBScript
- Most commonly found in web (ASP.NET), desktop, COM, and database applications

Other things worth noting

- AJAX (Asynchronous JavaScript and XML)
  - Not a language, but an implementation of JavaScript and XML
- SOAP (Simple Object Access Protocol)
  - Not a language. Message structure used to exchange data in Web Services
- UNIX Shell
  - Command-line interpreter that executes shell commands in real time or from a text file
- Python
  - Multipurpose scripting language that prides itself on clean looking syntax
- Ruby
  - OOP Language inspired by Perl, SmallTalk, and LISP
  - Design philosophy is based on human needs rather than the needs of the computer system
- COBAL
  - Still used in mainframe software

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The End?