***Problem 11. Programming Languages***

* Perform a research (e.g. in Google or Wikipedia) and provide a short list with information about the most popular programming languages. How similar are they to C#? How do they differ from C#?
* Write in a text file called “programming-languages.txt” at least five languages along with 2-3 sentences about each of them. Use English.

The most popular programming languages:

* C:

It supports [structured programming](http://en.wikipedia.org/wiki/Structured_programming), [lexical variable scope](http://en.wikipedia.org/wiki/Lexical_scope) and [recursion](http://en.wikipedia.org/wiki/Recursion_%28computer_science%29), while a [static type system](http://en.wikipedia.org/wiki/Static_type_system) prevents many unintended operations. By design, C provides constructs that map efficiently to typical [machine instructions](http://en.wikipedia.org/wiki/Machine_instruction), and therefore it has found lasting use in applications that had formerly been coded in [assembly language](http://en.wikipedia.org/wiki/Assembly_language), including [operating systems](http://en.wikipedia.org/wiki/Operating_system) as well as various [application software](http://en.wikipedia.org/wiki/Application_software) for computers ranging from [supercomputers](http://en.wikipedia.org/wiki/Supercomputer) to [embedded systems](http://en.wikipedia.org/wiki/Embedded_system).

* C++

It is designed with a bias toward [system programming](http://en.wikipedia.org/wiki/System_programming) (e.g., for use in [embedded systems](http://en.wikipedia.org/wiki/Embedded_system) or [operating system kernels](http://en.wikipedia.org/wiki/Operating_system_kernel)), with performance, efficiency and flexibility of use as its design requirements. C++ has also been found useful in many other contexts, including [desktop applications](http://en.wikipedia.org/wiki/Application_software), servers (e.g. [e-commerce](http://en.wikipedia.org/wiki/E-commerce), [web search](http://en.wikipedia.org/wiki/Web_search_engine) or [SQL](http://en.wikipedia.org/wiki/SQL) servers), performance-critical applications (e.g. [telephone switches](http://en.wikipedia.org/wiki/Telephone_switches) or [space probes](http://en.wikipedia.org/wiki/Space_probes)), and entertainment software.[[3]](http://en.wikipedia.org/wiki/C%2B%2B#cite_note-applications-3) C++ is a [compiled](http://en.wikipedia.org/wiki/Compiled_language) language, with implementations of it available on many platforms and provided by various organizations, including the [FSF](http://en.wikipedia.org/wiki/GNU_Compiler_Collection), [LLVM](http://en.wikipedia.org/wiki/Clang), [Microsoft](http://en.wikipedia.org/wiki/Microsoft_Visual_C%2B%2B) and [Intel](http://en.wikipedia.org/wiki/Intel_C%2B%2B_Compiler).

* C#

It is a [multi-paradigm programming language](http://en.wikipedia.org/wiki/Multi-paradigm_programming_language) encompassing [strong typing](http://en.wikipedia.org/wiki/Strong_typing), [imperative](http://en.wikipedia.org/wiki/Imperative_programming), [declarative](http://en.wikipedia.org/wiki/Declarative_programming), [functional](http://en.wikipedia.org/wiki/Functional_programming), [generic](http://en.wikipedia.org/wiki/Generic_programming), [object-oriented](http://en.wikipedia.org/wiki/Object-oriented_programming) ([class](http://en.wikipedia.org/wiki/Class_%28computer_science%29)-based), and [component-oriented](http://en.wikipedia.org/wiki/Component-based_software_engineering) programming disciplines. It was developed by [Microsoft](http://en.wikipedia.org/wiki/Microsoft) within its [.NET](http://en.wikipedia.org/wiki/.NET_Framework) initiative and later approved as a standard by [Ecma](http://en.wikipedia.org/wiki/Ecma_International) (ECMA-334) and [ISO](http://en.wikipedia.org/wiki/International_Organization_for_Standardization) (ISO/IEC 23270:2006). C# is one of the programming languages designed for the [Common Language Infrastructure](http://en.wikipedia.org/wiki/Common_Language_Infrastructure). C# is intended to be a simple, modern, general-purpose, object-oriented programming language.[[7]](http://en.wikipedia.org/wiki/C_Sharp_%28programming_language%29#cite_note-ECMA-334-9) Its development team is led by [Anders Hejlsberg](http://en.wikipedia.org/wiki/Anders_Hejlsberg). The most recent version is C# 5.0, which was released on August 15, 2012.

* Java

It is a functional [computer programming language](http://en.wikipedia.org/wiki/Programming_language) that is [concurrent](http://en.wikipedia.org/wiki/Concurrent_computing), [class-based](http://en.wikipedia.org/wiki/Class-based_programming), [object-oriented](http://en.wikipedia.org/wiki/Object-oriented_programming),[[11]](http://en.wikipedia.org/wiki/Java_%28programming_language%29#cite_note-FOOTNOTEGoslingJoySteeleBracha20141-11) and specifically designed to have as few implementation dependencies as possible. It is intended to let application developers "[write once, run anywhere](http://en.wikipedia.org/wiki/Write_once,_run_anywhere)" (WORA),[[12]](http://en.wikipedia.org/wiki/Java_%28programming_language%29#cite_note-12) meaning that code that runs on one platform does not need to be recompiled to run on another.[[13]](http://en.wikipedia.org/wiki/Java_%28programming_language%29#cite_note-design_goals-13) Java applications are typically [compiled](http://en.wikipedia.org/wiki/Compiler) to [bytecode](http://en.wikipedia.org/wiki/Java_bytecode) that can run on any [Java virtual machine](http://en.wikipedia.org/wiki/Java_virtual_machine) (JVM) regardless of [computer architecture](http://en.wikipedia.org/wiki/Computer_architecture). Java is, as of 2015, one of the most popular programming languages in use, particularly for client-server web applications, with a reported 9 million developers.[[14]](http://en.wikipedia.org/wiki/Java_%28programming_language%29#cite_note-14)[[15]](http://en.wikipedia.org/wiki/Java_%28programming_language%29#cite_note-15) Java was originally developed by [James Gosling](http://en.wikipedia.org/wiki/James_Gosling) at [Sun Microsystems](http://en.wikipedia.org/wiki/Sun_Microsystems) (which has since [merged into Oracle Corporation](http://en.wikipedia.org/wiki/Sun_acquisition_by_Oracle)) and released in 1995 as a core component of Sun Microsystems' [Java platform](http://en.wikipedia.org/wiki/Java_%28software_platform%29). The language derives much of its [syntax](http://en.wikipedia.org/wiki/Syntax_%28programming_languages%29) from [C](http://en.wikipedia.org/wiki/C_%28programming_language%29) and [C++](http://en.wikipedia.org/wiki/C%2B%2B), but it has fewer [low-level](http://en.wikipedia.org/wiki/Low-level_programming_language) facilities than either of them.

* JavaScript

It is most commonly used as part of [web browsers](http://en.wikipedia.org/wiki/Web_browser), whose implementations allow [client-side scripts](http://en.wikipedia.org/wiki/Client-side_scripting) to [interact with the user](http://en.wikipedia.org/wiki/User_interface), control the browser, communicate [asynchronously](http://en.wikipedia.org/wiki/Ajax_%28programming%29), and alter the [document content](http://en.wikipedia.org/wiki/Document_Object_Model) that is displayed.[[5]](http://en.wikipedia.org/wiki/JavaScript#cite_note-FOOTNOTEFlanaganFerguson20061-5) It is also used in server-side network programming with runtime environments such as [Node.js](http://en.wikipedia.org/wiki/Node.js), game development and the creation of desktop and mobile applications.