

❖ **Computer programming:**

Computer programming is the process of writing a program for a computer to perform a task.

❖ **Low-Level Language**

- In low level language programming we directly deal with memory addresses and CPU registers.
- These programs directly convert into source code to code which is understandable by CPU.
- The example of low level language is *Assembly Language*

❖ **High-Level Language**

- In high level language programming to refer the memory addresses we use variable and pointers and there is strict syntax which is to be followed.
- Source code firstly compiled and converts into machine code. These machine codes convert into the code which is understandable by CPU.
- High level languages are *C, C++, Java etc...*

❖ **FORTRAN**

- The first algorithmic language was FORTRAN (Formula Translation).
- Algorithmic languages are designed to express mathematical or symbolic computations.
- It designed in 1957 by an IBM team led by John Backus.
- Its control structures included conditional IF statements, repetitive loops (so-called DO loops), and a GOTO statement that allowed non-sequential execution of program code.
- FORTRAN made it convenient to have subprograms for common mathematical operations, and built libraries of them.

❖ **C Language**

- C is a general-purpose computer programming language.
- It developed by Dennis Ritchie in 1972 at the Bell Telephone Laboratories for use with the UNIX operating system.

- The C compiler combines the compatibility of assembly language (low level language) with the feature of a high-level language therefore C is a higher level programming language.
- It is well suited for writing both system software and business package.
- C is a procedure oriented (procedural) and structural programming language

❖ **C++ Language**

- The C++ language, developed by Bjarne Stroustrup at AT&T in the mid-1980.
- C++ extended C by adding objects to it while preserving the efficiency of C programs.
- C++ is an Object Oriented Programming language.
- It has been one of the most important languages for both education and industrial programming.
- Large parts of many operating systems were written in C++.
- C++ is considered one of the fastest languages and is very close to low-level languages, thus allowing complete control over memory allocation and management.

❖ **Java**

- In the early 1990s Java was designed by Sun Microsystems.
- Java as a programming language for the World Wide Web (WWW).
- Java is an object-oriented programming.
- Java programs are translated by a Java Virtual Machine specific to each computer platform, which then executes the Java program.
- In addition to adding interactive capabilities to the Internet through Web “applets,” Java has been widely used for programming small and portable devices, such as mobile telephones.

❖ **Visual Basic**

- Visual Basic was developed by Microsoft.
- It is objects oriented and “event-driven” programming: buttons, menus, and other elements of graphical user interfaces (GUIs).
- Visual Basic can also be used within other Microsoft software to program small routines.
- Visual Basic was succeeded in 2002 by Visual Basic .NET, a vastly different language based on C#.