**Programming Language(Machine language,Assembly language,High level language)**

**Programming Language-**The operations of a computer are controlled by a set of instructions(called a computer program).

The communication between two parties,whether they are machine or human beings,always need a common language or terminology.The language used in the communication of computer instruction is known as the **programming language.**The computer has its own language and any communication with the computer must be in its language or translated into this language.

Three levels of programming language are available.They are-

1)Machine Language(Low level language)

2)Assembly (or Symbolic )language(Low level language)

3)Procedure-Oriented language(High level language)

**Low Level Language:** A low-level language is a programming language that provides little or no abstraction of programming concepts and is very close to writing actual machine instructions. Two examples of low-level languages are **assembly** and **machine code**.

**Machine Language-**As computers are made up of two-state electronic device they can understand only pulse and no-pulse(or ‘1’ and ‘0’)conditions.Therefore all instruction and data should be written using binary codes 1 and 0.The binary code is called the machine code or machine language.Machine language are usually reffered to as first generation language.

**Assembly language-**It is also known as symbolic language.It is a low level programming language using the human readable instruction of the CPU. It is written as move ad,cd.

move ax,50.

In an assembly language,the 0’s and 1’s of machine language are replaced with abbreviation or mnemonic code.The assembly language,also reffered to as the second generation programming language.

**Advantage of assembly language over a machine language-**

1)It is easier to develop a computer application using assembly language in comparison to machine language.

2)It operates very efficiently.

**High level language-**High level language further simplified programming tasks by reducing the number of computer operation details that had to be specified.Programmer can write code in simple english language.It is very user friendly as compared to low level language.Example C , C++ , pascal , fortran ,cobol,basic,prolog,java etc are more abstract,easier to use,and more portable across platforms,as compared to low level programming languages. A **high-level language (HLL)** is a programming language such as C, FORTRAN, or Pascal that enables a programmer to write programs that are more or less independent of a particular type of computer. Such languages are considered high-level because they are closer to human languages and further from machine languages

High level languages can be classified into the following three categories

1)Procedure-oriented Language(3rdgeneration)

Example-BASIC,COBOL,C,C++,FORTRAN,JAVA

2)Problem-oriented Language(4th generation)

Example-query language

3)Natural language(5th generation)-used to develop artificial intelligence and expert system.

Example-LISP,PROLOG