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**17/SCI01/074**

**CSC 310**

**ASSIGNMENT**

**Machine language**

Machine language is formed of 0 and 1 and it is not human readable language. So only machine can understand. So whatever language you use to write code that code is converted into machine level language for making it machine understandable.

The machine language consists of strings of binary numbers i,e., 0's and 1's and this is only the language that is understood by the computer system.

**Assembly language**

Assembly language is a language which is used in writing codes for microprocessor. It is also a kind of low level language and they are also not that human readable until u know their syntax and implementation. Like if u wrote some code in assembly language for microprocessor 8086.

The language which allows instructions to be represented by letters rather than numbers is called assembly language. It is also known as Symbolic Language. The program which is written in this language is known as assembly language program or symbolic program. This language uses Mnemonics in the place of 0's and 1's to represent opcode.

**High level language**

High level languages are very much developer/human understandable and these are the types of languages which are widely famous now. Example : Python, Javascript, etc

High level language is that language which uses English words or mathematical symbols in the place of mnemonic code. Each and every instruction written by the programmer in high-level language is get translated into many machine language instructions.

Machine language is the lowest-level programming language (except for computers that utilize programmable microcode). Machine languages are the only languages understood by computers.

**Why Humans Don't Use Machine Language**

While easily understood by computers, machine languages are almost impossible for humans to use because they consist entirely of numbers. Programmers, therefore, use either a high-level programming language or an assembly language. An assembly language contains the same instructions as a machine language, but the instructions and variables have names instead of being just numbers.

Programs written in high-level languages are translated into assembly language or machine language by a compiler. Assembly language programs are translated into machine language by a program called an assembler.

Every CPU has its own unique machine language. Programs must be rewritten or recompiled, therefore, to run on different types of computers.