ADESINA ALAMEEN B
18/SCI01/099
CSC 310

MACHINE LANGUAGE:-
the language of 0s and 1s is called as machine language. The machine language is system independent because there are different set of binary instruction for different types of computer systems .

LIMITATIONS OF MACHINE LANGUAGES :
It is very tedious and error prone process of writing programs in machine languages .

ASSEMBLY LANGUAGES:
it is low level programming language in which the sequence of 0s and 1s are replaced by mnemonic (ni-monic) codes.
Typical instruction for addition and subtraction .
Example :- ADD for addition , SUB for subtraction etc
Since our system only understand the language of 0s and 1s . therefore a system program is known as assembler . Which is designed to translate an assembly language program into the machine language program.

HIGH LEVEL LANGUAGE :-

high level languages are English like statements and programs . Written in these languages are needed to be translated into machine language before to their execution using a system software compiler .

S/N	Assembly Language	Machine Language	High-Level Language
1	It is machine dependent	It is machine dependent	It is machine independent
2	Performance and accuracy is better than machine language	Performance and accuracy is not as good as on assembly language	Performance and accuracy is better than machine language
3	It is hard to understand and debug but easier than machine language	It is hardest to understand and debug	It is easiest to understand and debug
4	Its communication with the hardware is better than high-level but not as good as machine language	It communicates with the hardware best because it uses 0’s and 1’s	Its communication with the hardware is the worst since it has to be translated or interpreted to assembly or machine language

5	It is more efficient that high-level language	It is the most efficient	Due to longer executable code high-level programs are less efficient
6	Its is also prone to errors but less than machine language	It is prone to errors	It is prone to the least amount of errors
7	It is written in symbols and mnemonic codes	It is written in 0's and 1's	It is written using English like statements
8	It uses an assembler to convert its commands to what the computer will understand	It can be directly understood by the computer	It uses compilers or interpreters to convert high-level language to assembly or machine language
	Examples include: ARM, MIPS, 68000, Z80 etc	…	Java, C#, C++, Python etc