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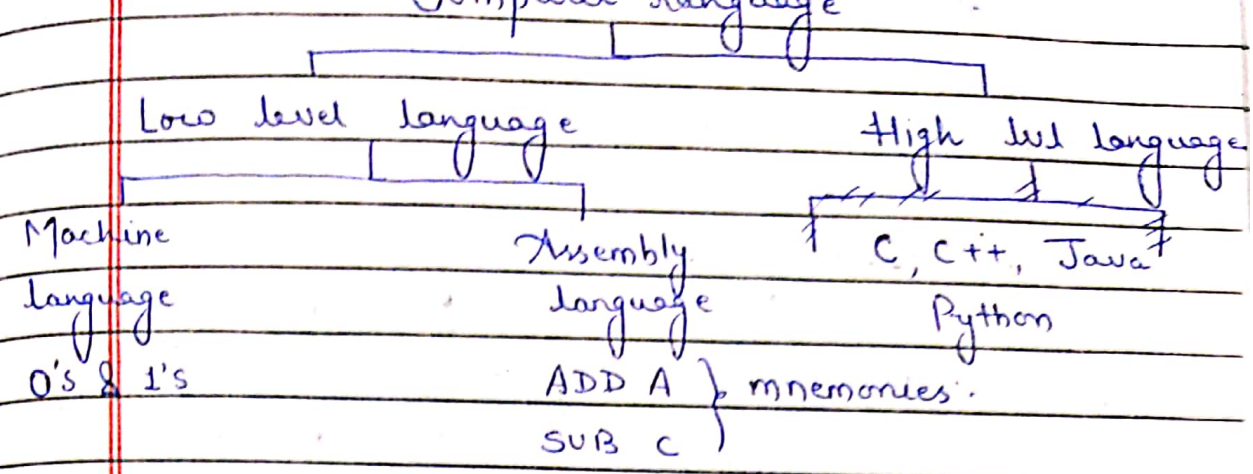

Computer language:-

Language is a mode of communication. A computer language is a group of instruction that are used to create computer program.

1) Low level Language:-

A low level language include only 0's & 1's. This language was used in 1st and 2nd generation of computers. ~~It~~ low-level-language is very easily understood by our computer but hardly understood by human.

i) Machine language:-

It's a type of low-lvl-language. It is developed by only using binary no. (0&1), so that

all the instruction are the statement in this language use the sequence of 0 & 1.

ii) Assembly Language :-

A.L
(Assembler)
ML

It uses symbols which are popularly known as mnimonics in computer termology. In assembly language mnimonics is easily understood by human as compared to machine language.

2) High level language :-

These are the advance development language. In the evaluation of computer language. These language are designed to make the programing easy and less error. It uses words and command along with symbol & no. The keyword used in high lvl language are similar to english word and can be easily understood by human.

⇒ Difference

Low level language	High level language
1) Hardly understood by user	Simply understood.
2) Friendly with programmer	Friendly with human.
3) Program execution tym is less.	execution tym is more.
4) These are complex to maintain.	Simple to maintain.
5) Not portable from one device to another	Portable from one device to another.

⇒ Compiler :-

Part 1 :- Source Program → Compiler → Object program

L·L·L

Part 2 :- Object program → Assembler → Target program

L·L·L

Phase 1 :- Analysis phase (frontend)
Phase 2 :- Synthesis phase (backend)

1) A compiler is a translator that convert the high level language in M·L·L. If cannot fix any error

if present in program.
2) It generates an error msg for the programmer
3) All the compilation process completed in two part: In first part source course is converted into Object program with the help of compiler and in 2nd part object program converted into target program by assembler.
4) First phase is also called analysis phase or front end and 2nd is also called synthesis phase or backend.

=> Interpreter:-

1) It is also used to convert H.L.L to M.L.L line by line.

Compiler	Interpreter
1) It translate complete H.L.L into machine code at once.	It translate one state-ment of programming code into machine code at a time.
2) Error show at the end together.	Error are shown line by line.

3) Execution time is less.	Execution time is more.
4) It doesn't require source code for later execution.	It requires source code for later execution.
5) More efficient	Less efficient.
6) CPU utilization is more.	CPU utilization is less.

Assembler :-

1) It is also used to convert L.L.L to M.L.L.

2) These are basicly used to generate binary code on the basis of phases assembler divided into two part ;

a) One pass assembler :-

These assembler perform the whole conversion of assembly code to M.Code in one go.

b) Multi pass / Two pass assembler :-

These assembler first process the assembly code & store values in the opcode table and symbol table and then in the second step they generate the machine code

using these code.

i) Opcode Table (OP Table) :-

They store the value of mnemonics and their corresponding values.

ii) Symbol Table :-

They store the value of programming language symbol used by the programmer and their corresponding values.

iii) Location Counter :-

It stores the location of current instruction.

Algorithm :-

An algorithm is a step wise solution of any given problem in which finite no. of steps are present

Characteristics :-

a) Input :-

We can pass 0 or more input value to an algorithm.

b) Output :-

We will give 1 or more output at the end of the algorithm.

c) Unambiguity :-

The instruction in an algorithm should be clear and simple.

d) Finiteness :-

The algorithm should contain a limited no. of instructions that means the instruction should be countable.

e) Effectiveness :-

Each instruction in an algorithm effect the overall process.

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f) Language Independent :-

The instruction in an algorithm can be implemented in any of the language with the same output.