Day-4

- ## Computer Programming Paradigm

    1. Imperative: Basic paradigm, it is set of instructions which changes the state of machine at every instructions.
    2. Procedural: this is same as imperative but gives feature to reuse the code whenever needed.
    3. Object-oriented: It is used for operations on objects and classes. They communicate with each other. It enforces data security inheritance and code reusability.
    4. Parallel processing : It is approach in which divides the instructions into multiple processors to increase performance.
    5. Logical Programming: In logical programming the main emphasize is on knowledge base and the problem. The execution of the program is very much like proof of mathematical statement
    6. Functional Programming: It works as reusable functions and which will always will return the same results when passed same result. Data is loosely coupled.
    7. Data driven: Programming related to database and data management.

- ## Compiler, Interpreter, Byte Code, Machine Code, Assembler
    - Compiler: A compiler is a special program that translates a programming language's source code into machine code, bytecode, or another programming language.
    - Interpreter: It is similar to compiler , but it translates one statement at a time and does not generate object file.
    - Byte code: Java bytecode is the instruction set for the Java Virtual Machine.
    - Machine code: Machine code, also known as machine language, which is understood by CPU , bunch of zeroes and ones.
    - Assembler: The Assembler is used to translate the program written in Assembly language into machine code. Assemblers communicate between human and computers.