26/9/23

1. Algorithmic Phase → Derivation of an Algm.
2. Coding Phase → Conversion of an algm.

* Easy (Because of logic) ⇒ Coding Phase
* Difficult (Analysis of Problem) ⇒ Algorithmic Phase

1. i) Difficult to bring the mental facilities for searching right solution.
   ii) It requires the ability to articulate the solution concisely into step-by-step instruction.

Ways to write an algorithm

* Informal * formal * Graphical/Pictorial
* Mathematical representation.

Algorithm development process consists of five major steps.

1. Obtain the description
2. Analyse the problem
3. Develop high level algorithm
4. Refinement of the algorithm by adding more details
5. Review the algorithm.

Characteristics of an algorithm

* The instruction should be precise.
* The instruction should be unambiguous.
* The instruction should not be repeated

infinitely.

* Algorithm should terminate.
* It is written in sequence; (normal English)
* Desired result is obtained after the algorithm terminates.

Representation of an algorithm.

1. Natural language
2. Flowchart
3. Pseudo code
4. Programming lang

Basic building blocks of an algorithm :

1. Statement
2. State
3. Control flow
4. Functions

1. Statement

i) Statement is a sequence of instruction to accomplish the task or solve a problem

ii) An instruction describes an action.

iii) when the instructions are executed a process evolves which accomplishes the intended task (or) solve the problem.

iv) Algorithm consists of a finite number of statements.

v) It must be in an ordered form.

vi) Time taken to execute all the statement should be finite and within a reasonable limit.