Algorithm & Flowchart.

Program = Algorithm + Data structure

↓

{ Linked list
  Array
  Binary

* Algorithm ⇒ • An algorithm is a procedure for solving a problem based on conducting a sequence of specified actions.
  - The algorithm is used to refer the logic of a program.
  - It is a step-by-step discription of how to arive at the solution of a given problem.
  - It is defined as a sequence of instructions, that are execute in the specified sequnce to obtain desired result.

Characteristics of good algorithm :-

- Steps should be state in a concise way
- The result of each step is uniquely defined and only depend on the result of the previous step.
- The algorithm should stop after the finite number of instructions are executed.

Page No.
Date

Advantages of Algorithm -

- It is a stepwise representation of the solutions to a given problem, which make it easy to understand.
- It is not dependent on any programming language, so it is easy to understand for anyone even without programming knowledge.
- Every step in an algorithm has its own logical sequence so it is easy to debug.
- By using an algorithm, problem is broken down into smaller pieces. Hence, it is easier for programers to convert it into an actual program.

Disadvantages of Algorithm:-

- Writing an algorithm takes a long time.
- An algorithm is not a computer program.
- It is whether a concept of how a program should be.
- An algorithm should be efficient to work otherwise the program will go long.

Q Make an algorithm for substraction program-

Step 1 - START
Step 2 - Declare variables a, b, c.
Step 3 - Initialize variables
a = 20, b = 10
Step 4 - store the result / data in c.
if (a+b) > 0 - Printf.
Step 5 - display c.
Step 6 - stop.

Algorithm

① Area of triangle
② Area of rectangle
A = l x b.

① Step 1 ⇒ START
Step 2 → Declare b, h, a.
Step 3 ⇒ Initialize variables
b = 10 , h = 10
Step 4 ⇒ store the result / data in a.
Step 5 ⇒ display a.
Step 6 ⇒ STOP.

② Area of rectangle ⇒
Step 1 ⇒ START
Step 2 ⇒ Declare l, b, a.
Step 3 ⇒ Initialize variables
l = 20 , b = 10
Step 4 ⇒ store the result in / data in a