ALGORITHM

Algorithm is a set of well-defined instructions in sequence to solve a problem .it is a step by step procedure for solving a problem.

Definition Algorithm is a sequence of instructions to be carried out in order to solve a problem.

Example

Step 1: Start

Step 2: Let a=10, b=20

Step 3: c= a+b

Step 4: Print c

Step 5: Stop

Characteristi*cs* of an Algorithm: - An algorithm must have following characteristics:

1. Finiteness. An algorithm should have finite number of steps.
2. Input: An algorithm may have many inputs and no input*s* at all.
3. Output. It should result in at least one output
4. Definiteness: Each step must be clear, well defined - and precise.
5. Effectiveness: Each step must be Simple.

Advantages of Algorithms:-

1) It is easy to understand
2) Algorithm is a stepwise rep*re*sentation of a solution to a given Problem.
3) In Algorithm the problem is broken down into smaller steps.
4) It is not dependent on any Programming language..
5) It reduced the complexity of Problem

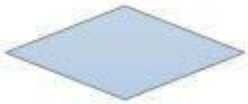
Disadvantages of Algorithms:-

1) Algorithms are Time Consuming.
2) Big tasks are difficult to put in Algorithms.
3) Difficult to show branching and looking.

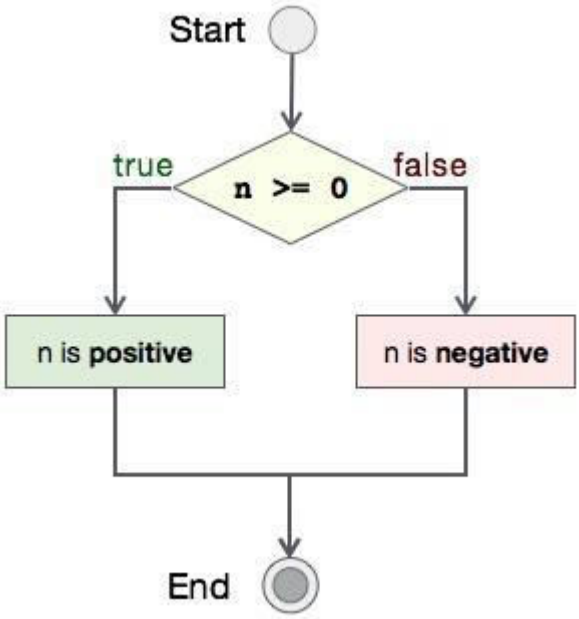
FLOWCHART

Flowchart: The Graphical representation of any program is called flowchart. A flowchart is a diagrammatic representation of an algorithm. The process of drawing a flowchart for an algorithm is known as "flowcharting."

There are some standard Graphics that are used in flowchart as following:-

Symbol	Name	Function
	Start/end	An oval represents a start or end point
	Arrows	A line is a connector that shows relationships between the representative shapes
	Input/Output	A parallelogram represents input or output
	Process	A rectangle represents a process
	Decision	A diamond indicates a decision

Draw a flowchart to check whether number is positive or negative.



Advantages of flow charts:-

1. It represents the data flow.
2. It provides a clear overview of the entire program.
3. It helps in the debugging Process.
4. It provides documentation of a process.

Disadvantages of flow charts:-

1. Flow charts are time consuming.
2. It is difficult to draw the proper symbols.
3. If modifications are required, then flowchart may require re-drawing completely.

Algorithm	Flowchart
1. Algorithm is step by step Procedure to solve the problem. 2. Algorithm is complex to understand. 3. In algorithm plain text are used. 4. Algorithm is difficult to construct. 5. Algorithm does not follow any rules. 6. Easy to debug errors. 7. It is difficult to make algorithm as compare to flow chart. 8. **Example** **step 1** start **step 2** let Number1 = 2, Number2=3 **step 3**Sum=Number1+Number2 **step 4** Print Sum **step 5** stop	1. It is graphical representation of an algorithm 2. Flowchart easy to understand. 3. In flow chart symbol/shapes are used. 4. Flow chart is simple to construct. 5. Flow chart follows rules to be constructed. 6. Difficult to debug errors. 7. It is easy to make flow chart 8. **Example**