Algorithm

An algorithm is a step-wise or step-by-step finite sequence of instructions, to solve a well-defined computational problem.

Its a finite set of a instructions for performing a particular task.

An algorithm can be expressed in english like language called Pseudo-code, or in a programming language or in a flow-chart.

Every algorithm must define the following criteria→

Input: There are zero or more values that are externally supplied.

Output: Atleast one value is produced.

Definiteness: Each step must be clear and unambiguous.

Finiteness: If we trace the steps of an algorithm, then for all cases the algorithm must terminate after a finite number of steps.

Effectiveness:- Each step must be sufficiently basic.

* If algo. doesnt give an output, then its known as a procedure.

Efficiency of an Algorithm:-

Efficiency of an Algorithm classifies to develop efficient algorithms for the processing of the data.

→ The time and space it uses are two major measures of the efficiency of an algorithm.

→ The time is measured by counting the key operation.

→ Space required by an algorithm is measured by counting the maximum memory needed by the algorithm.

→ The complexity of an algorithm is the function $f(n)$ which gives the running time, execution time and/or the storage space required by an algorithm in terms of input size n of an algorithm.