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## *Introduction to Algorithms*

*What is Algorithm?*

*The word Algorithm means “a process or set of rules to be followed in calculations or other problem-solving operations”.*

*Therefore Algorithm refers to a set of rules/instructions that step-by-step define how a work is to be executed upon in order to get the expected results.*

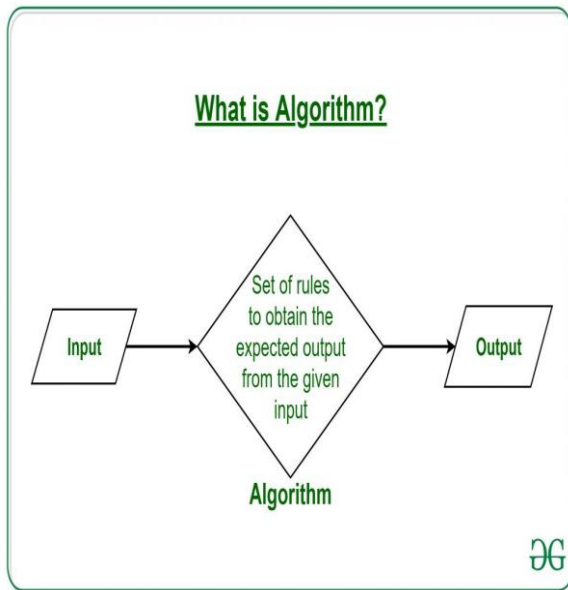
*1) each instructions should be precise and unambiguous.*

2) each instructions should be executed in a finit time.

3) no instructions should repeat infinitely.

This ensures that the algorithm terminates ultimately.

4) after executing the instructions (when the algorithm terminates) 'the desired result are obtained.



It can be understood by taking an example of cooking a new recipe. To cook a new recipe, one reads the instructions and steps

*and execute them one by one, in the given sequence. The result thus obtained is the new dish cooked perfectly. Similarly, algorithms help to do a task in programming to get the expected output.*

*The Algorithm designed are language-independent, i.e. they are just plain instructions that can be implemented in any language, and yet the output will be the same, as expected.*

## **ADVANTAGES AND DISADVANTAGES OF ALGORITHM**

### **ADVANTAGES OF ALGORITHM**

*It is a step-wise representation of a solution to a given problem, which makes it easy to understand.*

*An algorithm uses a definite procedure.*

*It is not dependent on any programming language, so it is easy to understand for anyone even without programming knowledge.*

*By using algorithm, the problem is broken down into smaller pieces or steps hence, it is easier for programmer to convert it into an actual program*

## *DISADVANTAGES OF ALGORITHM*

*Writing algorithm takes a long time.*

*An Algorithm is not a computer program, it is rather a concept of how a program should be.*

*Thank you 😊😊*