

<b>Deterministic Algorithm</b>	<b>Non-deterministic Algorithm</b>
A deterministic algorithm is one whose behavior is completely determined by its inputs and the sequence of its instructions.	A non-deterministic algorithm is one in which the outcome cannot be predicted with certainty, even if the inputs are known.
For a particular input, the computer will give always the same output.	For a particular input the computer will give different outputs on different execution.
Can solve the problem in polynomial time.	Can't solve the problem in polynomial time.
Can determine the next step of execution.	Cannot determine the next step of execution due to more than one path the algorithm can take.
Operation are uniquely defined.	Operation are not uniquely defined.
Like linear search and binary search	like 0/1 knapsack problem.
Deterministic algorithms usually have a well-defined worst-case time complexity.	Time complexity of non-deterministic algorithms is often described in terms of expected running time.
Deterministic algorithms are entirely predictable and always produce the same output for the same input.	Non-deterministic algorithms may produce different outputs for the same input due to random events or other factors.
Deterministic algorithms usually provide precise solutions to problems.	non-deterministic algorithms often provide approximate solutions to the problems.
Deterministic algorithms are commonly used in applications where precision is critical, such as in cryptography, numerical analysis, and computer graphics.	Non-deterministic algorithms are often used in applications where finding an exact solution is difficult or impractical, such as in artificial intelligence, machine learning, and optimization problems.
Examples of deterministic algorithms include sorting algorithms like bubble sort, insertion sort, and selection sort, as well as many numerical algorithms.	Examples of non-deterministic algorithms include probabilistic algorithms like Monte Carlo methods, genetic algorithms, and simulated annealing.