Data Structures and Algorithm

Chapter - 8.1

Sorting Algorithms

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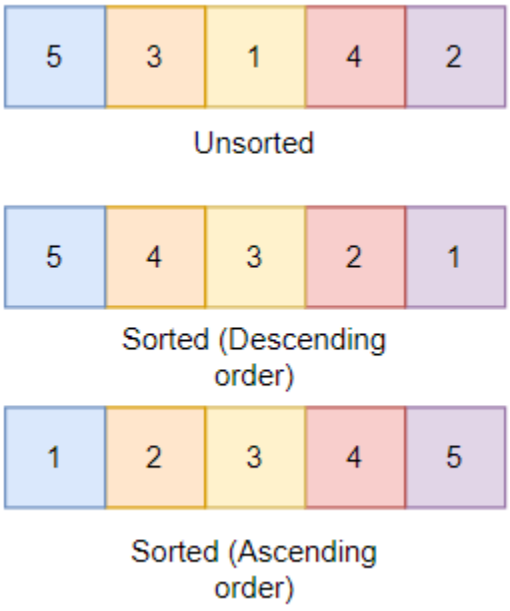
What is Sorting Algorithm?

A Sorting Algorithm is used to rearrange a given array or list of elements according to a comparison operator on the elements. The comparison operator is used to decide the new order of elements in the respective data structure.

The sorting algorithm specifies the way to arrange data in a particular order. Most common orders are in numerical or lexicographical order.

The importance of sorting lies in the fact that data searching can be optimized to a very high level if data is stored in a sorted manner. Sorting is also used to represent data in more readable formats.



Important terms of Sorting Algorithm

Increasing Order

A sequence of values is said to be in increasing order if the successive element is greater than the previous one.

Decreasing Order

A sequence of values is said to be in decreasing order if the successive element is less than the current one.

Non-Increasing Order

A sequence of values is said to be in non-increasing order if the successive element is less than or equal to its previous element in the sequence.

Non-Decreasing Order

A sequence of values is said to be in non-decreasing order if the successive element is greater than or equal to its previous element in the sequence.

Kinds of Sorting Algorithm

There are lots of searching algorithms out there. Some most famous searching algorithms are-

→ Selection Sort

→ Bubble Sort

→ Insertion Sort

→ Merge Sort

→ Quick Sort

→ Heap Sort
