Sorting Algorithms

1. Bubble Sort

In bubble sort algorithm, elements are compared one by one and if the first element is bigger than the second one, then both elements are swapped. In this manner, the complete array is sorted.

Time Complexity: O(n²)
Space Complexity: O(1)

2. Selection Sort

Selection sort is a sorting algorithm where the smallest element is selected and it is swapped with an element at the i position.

Time Complexity: O(n²)
Space Complexity: O(1)

3. Insertion Sort

In insertion sort, we compare the element from right to left and the key element is inserted at the right position.

Time Complexity: O(n²)
Space Complexity: O(1)

4. Merge Sort

- Divide the array into 2 equal halves.
- Sort the 2 subarrays separately using recursion.
- Merge the 2 sorted subarrays to create an overall sorted array.

Time Complexity: O(n log n)
Space Complexity: O(n)

5. Heap Sort

6. Count Sort

7. Quick Sort