Quick Sort

Page 1 : Introduction

- Quick Sort is an "in-place" sorting algorithm, meaning it doesn't require additional memory proportional to the input size.

Page 2 : Algorithm

- The choice of the pivot is crucial. It can be the first, last, or any element from the list.

Page 3 : Algorithm(Contd.)

- Partitioning is the process of rearranging the list based on the pivot.
- Smaller elements go to the left, and larger elements go to the right.

Page 4 : Algorithm(Contd.)

- Recursive calls are made on the subarrays until they become small enough to be considered sorted.

Page 5 : Time Complexity

- The average and best-case time complexity of Quick Sort is $O(nlogn)$, making it efficient for large datasets.

- However, in the worst-case scenario, the time complexity can degrade to $O(n^2)$ if the pivot selection is unfavorable.