**Sorting Algorithms:**

Bubble Sort: O(n^2) for average and worst cases.

Quick Sort: O(n log n) for average, O(n^2) for worst case.

**Performance Comparison:**

Bubble Sort is inefficient for large datasets due to its O(n^2) complexity.

Quick Sort is preferred due to its better average time complexity of O(n log n) and generally performs faster in practice.