

#### #5 (text)

1. QuickSort
2. MergeSort
3. ShellSort
4. Insertion Sort
5. Selection Sort
6. Bubble Sort

QuickSort and MergeSort lead the ranking with their  $O(n \log n)$  efficiency, handling large datasets effectively. ShellSort lands in the middle since its performance depends on the gap sequence, giving it an edge over quadratic algorithms but still lagging behind  $O(n \log n)$  algorithms. Insertion Sort outpaces Selection Sort on nearly sorted data but still shares the  $O(n^2)$  complexity, while Selection Sort's inefficiency in scanning the entire array places it just above Bubble Sort, which is the least efficient due to excessive swapping.