Sorting Algorithms: A Comparison of Techniques

Sorting is a fundamental computer science problem. Popular algorithms include:

1. Bubble Sort: Repeatedly swaps adjacent elements if they're in the wrong order. $O(n^2)$.

2. Quick Sort: Divides the array into partitions based on a pivot. $O(n \log n)$ on average.

3. Merge Sort: Recursively divides and merges sorted subarrays. $O(n \log n)$.

Choosing a sorting algorithm depends on input size, stability, and memory constraints.