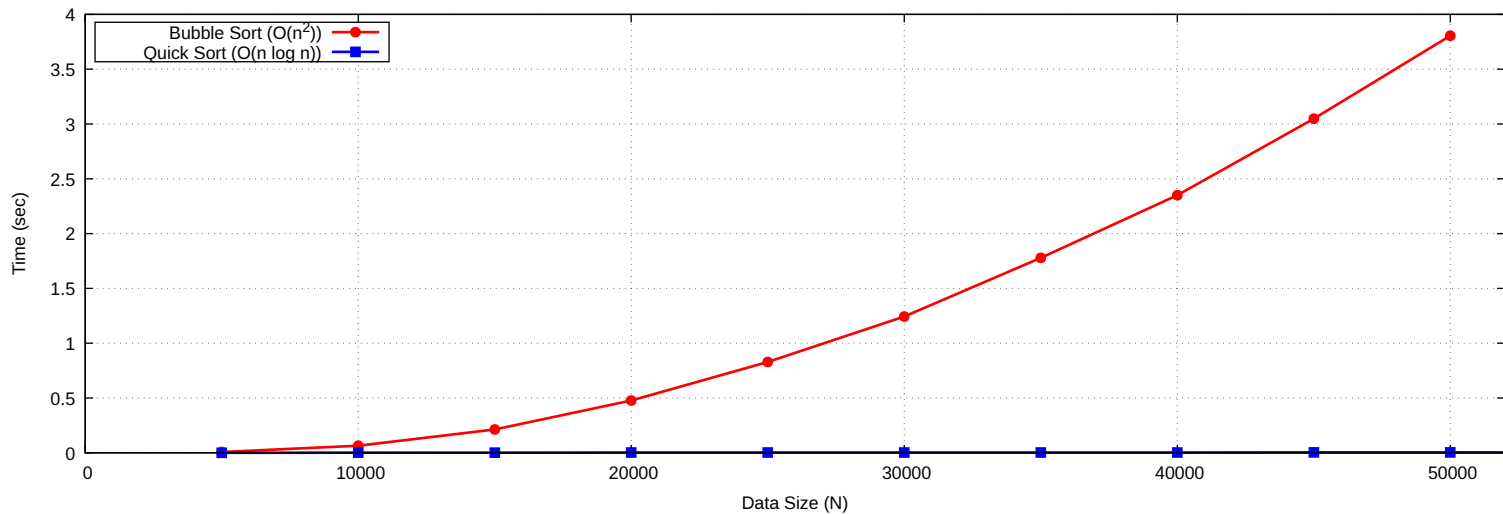


Sorting Algorithm Performance Analysis

1. Comparison: Bubble Sort vs Quick Sort ($N \leq 50,000$)



2. Scalability: Quick Sort (Full Range up to $N=5M$)

