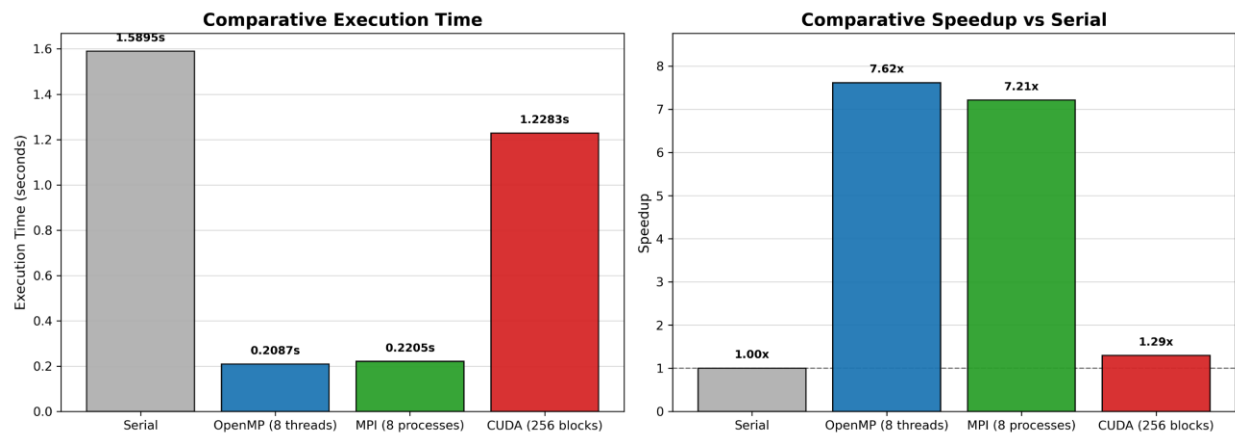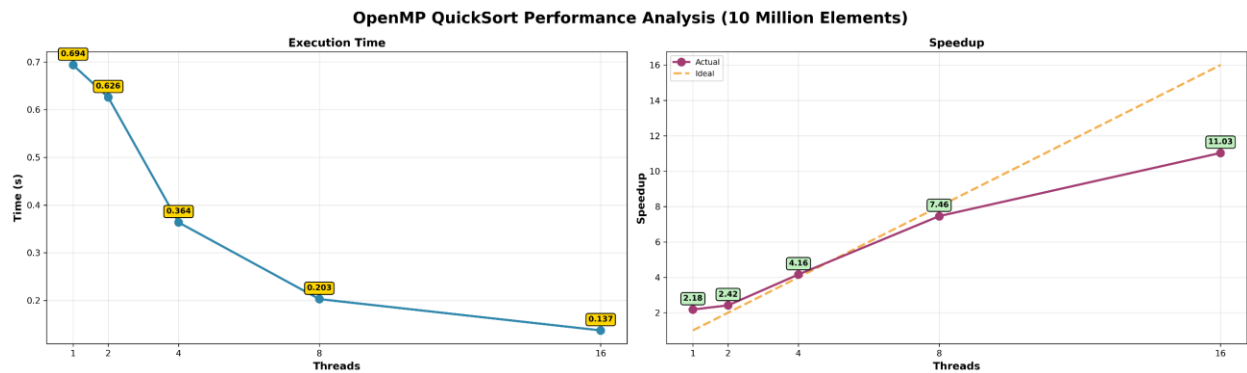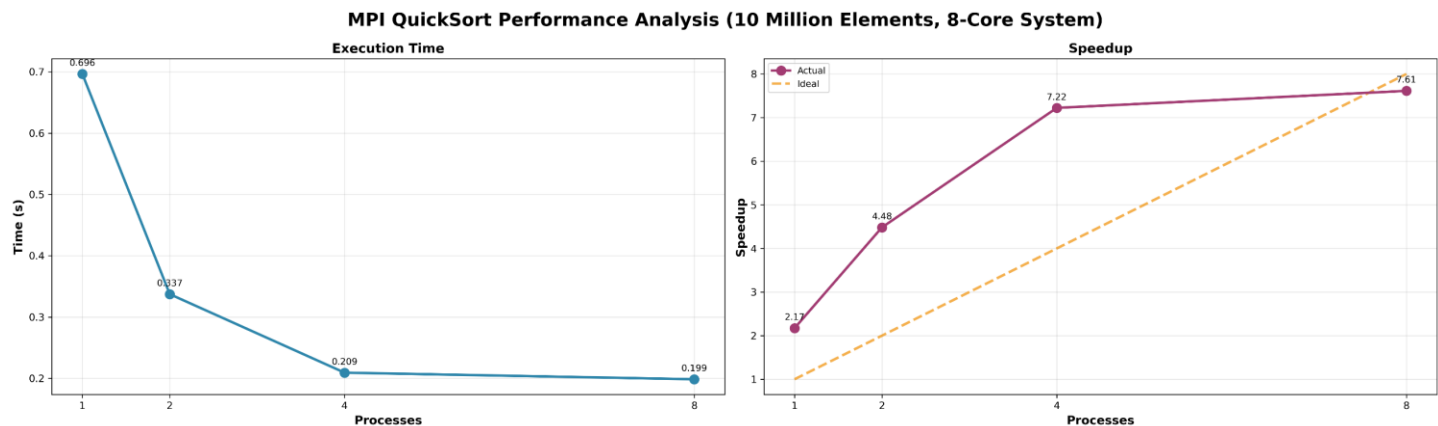# Comparative Analysis

OpenMP- Number of threads vs Execution time & Number of threads vs Speedup

MPI - Number of processes vs Execution time & Number of processes vs Speedup

CUDA - Configuration parameters vs Execution time & Configuration parameters vs Speedup

CUDA Quick Sort Performance Analysis (NVIDIA RTX 4060 Laptop, 1 Million Elements)

Block Size vs Execution Time

- 0.292s
- 0.172s
- 0.087s
- 0.047s

X-axis: Block Size (Threads per Block) — 64, 128, 256, 512
Y-axis: Execution Time (seconds)

Block Size vs Speedup

- 1.55x
- 0.84x
- 0.42x
- 0.25x

X-axis: Block Size (Threads per Block) — 64, 128, 256, 512
Y-axis: Speedup (times)