Sorting Algorithm Performance Analysis

(a) 1000 Data Points

Legend: QuickSort Recursive, QuickSort Iterative, MergeSort OMP

Y-axis: Execution Time (ms)
X-axis: (O0, O1, O2, O3, Ofast)
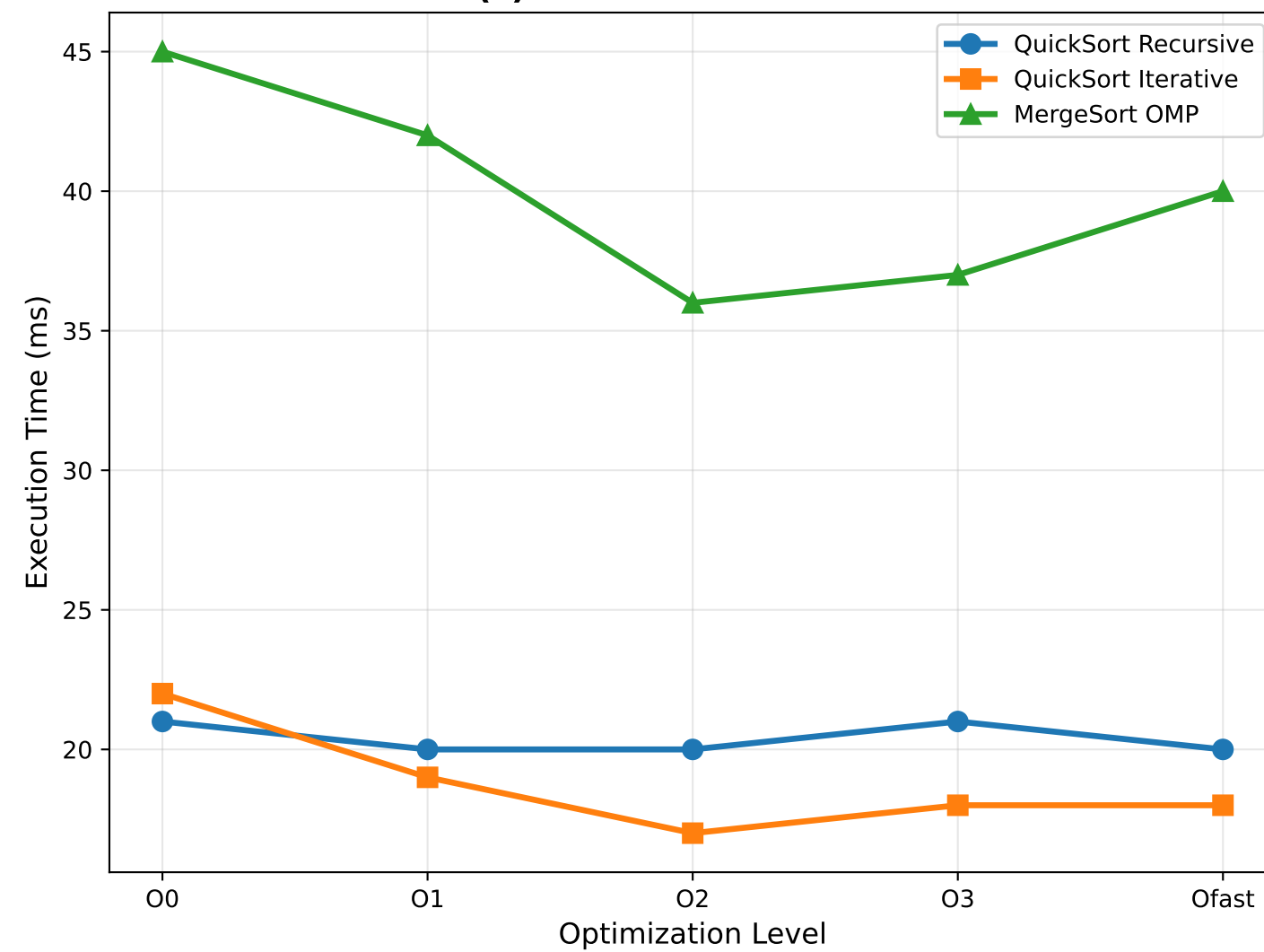
(b) 10000 Data Points

Legend: QuickSort Recursive, QuickSort Iterative, MergeSort OMP

Y-axis: Execution Time (ms)
X-axis: (O0, O1, O2, O3, Ofast)

(c) 100000 Data Points

Legend: QuickSort Recursive, QuickSort Iterative, MergeSort OMP

Y-axis: Execution Time (ms)
X-axis: Optimization Level (O0, O1, O2, O3, Ofast)
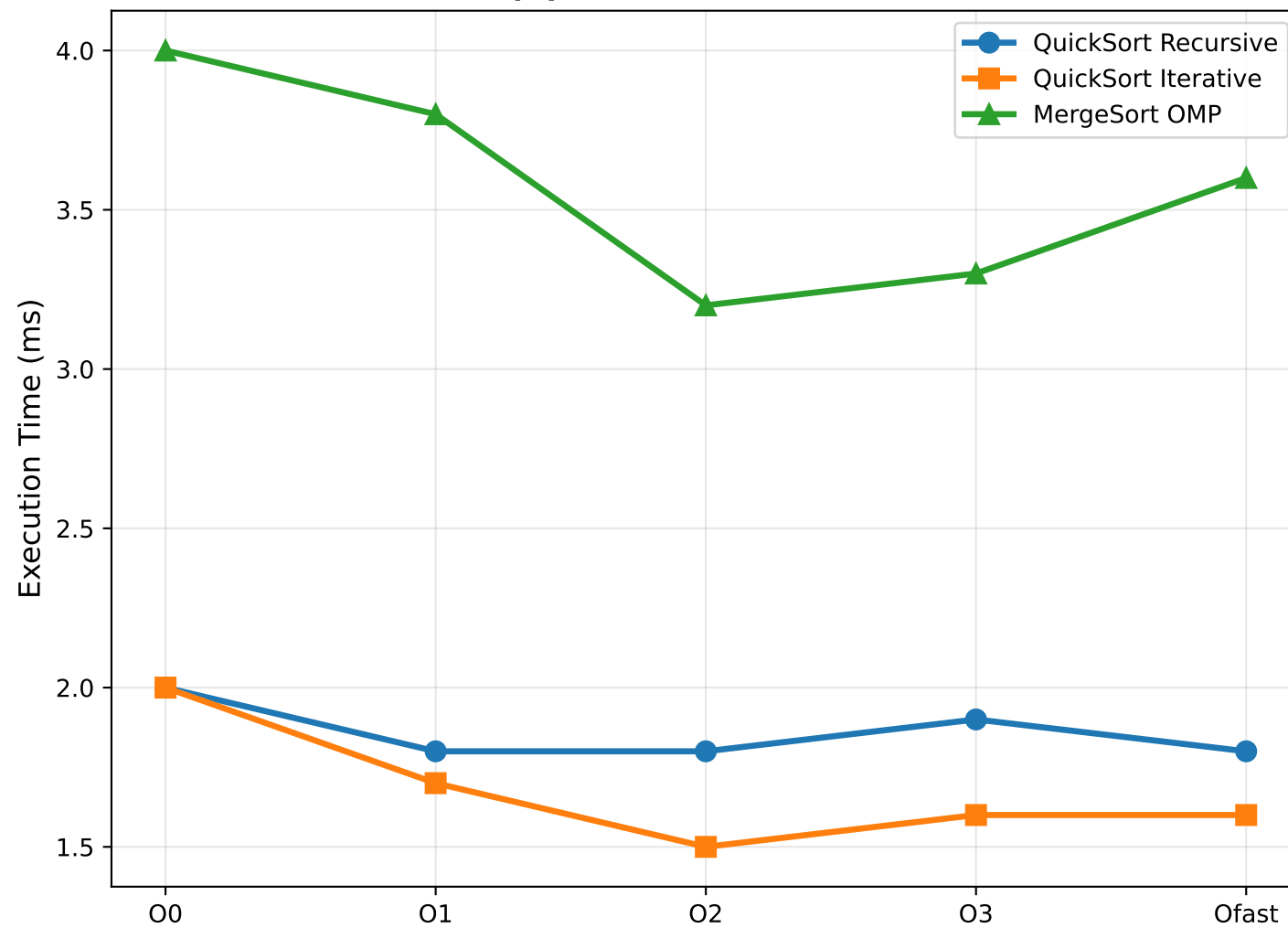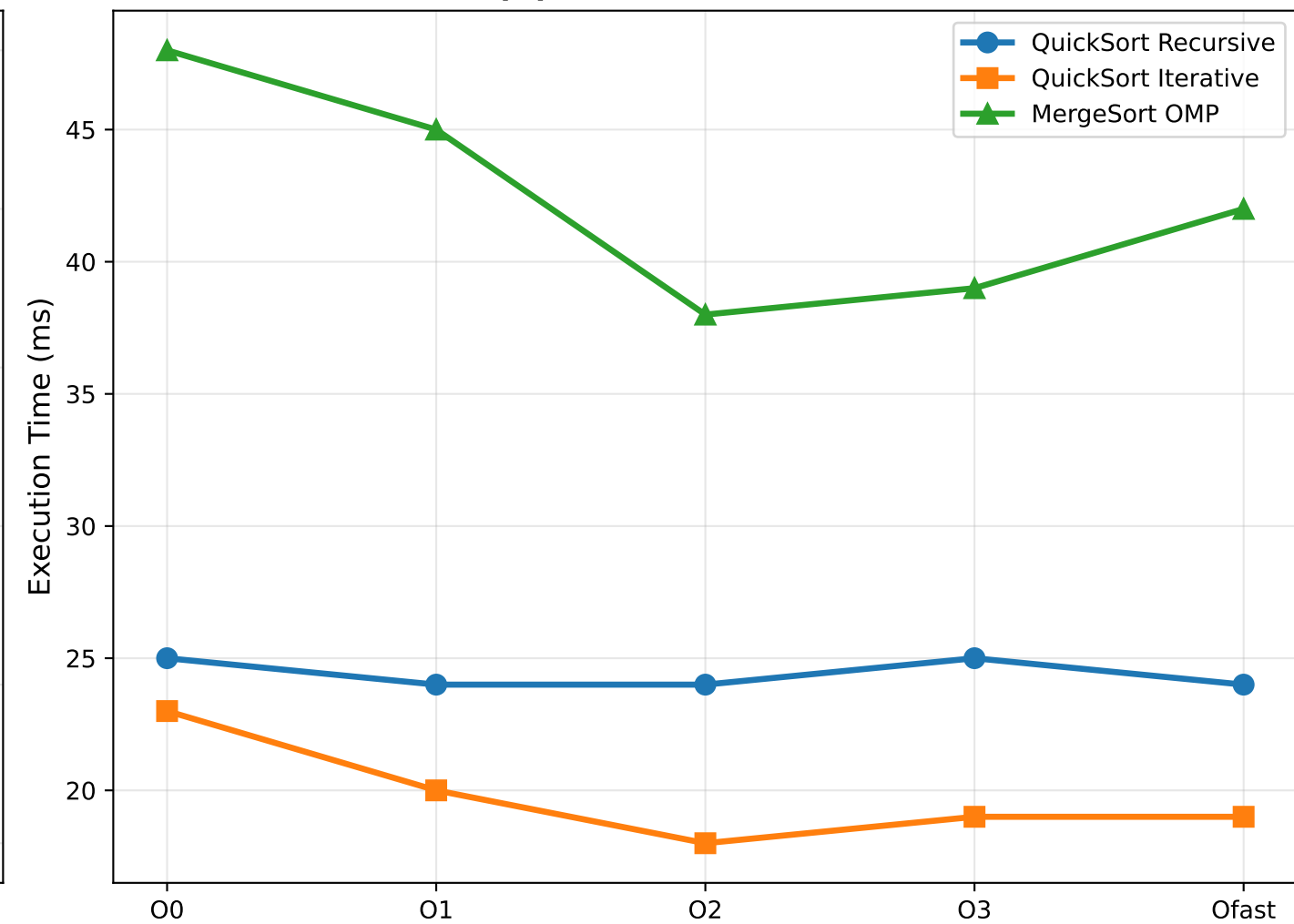
(d) Data Size Impact (O2 Optimization)

Legend: QuickSort Recursive, QuickSort Iterative, MergeSort OMP

Y-axis: Execution Time (ms)
X-axis: Data Size (10^3, 10^4, 10^5)