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Alpha: SelectionSort

The complexity is the same in the best and the worst case based on the same comparison.

Only selection sort have both best and average case with  $O(n^2)$  complexity.

Beta: InsertionSort

Sorted takes a shorter time and comparison( $O(n)$ ), reversed opposite( $O(n^2)$ )

Gamma: BubbleSort

When sorting ordered lists, it took less time (linear time), which fit the feature of bubble sort with  $O(n)$  on a sorted list.

The time complexity becomes  $O(n^2)$  when changing the size of a random list

Delta: QuickSort

Average  $O(n \log n)$  based on various datasets, the sorted takes  $O(n^2)$  on worst case

Epsilon: CheckSort

It takes longer to run than others, which indicates  $O(n!)$  runtime of check sort

Zeta: MergeSort

The complexity is the same in the best and the worst case based on the same comparison  
 $O(n \log n)$