

Comparison

1. Bubble sort.

- avg. or worst case time complexity $O(n^2)$
- If array is already sorted then $O(n)$

2. Quick sort.

- worst case time complexity $O(n^2)$
- Best case time complexity $O(n \log n)$

3. Insertion sort.

Modified insertion sort time complexity $O(n \log n)$
Otherwise, worst case time complexity is $O(n^2)$

* { Bubble sort, Insertion sort & quick sort algorithms
do not need extra space so in-place
algorithms

4. Merge sort

Time complexity $O(n \log n)$

Need extra space

So out of place algorithm