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REPORT FOR ASSIGNMENT-2 (GROUP 34)

Answer for comparison (1p):

All the algorithms used in the assignment are in-place algorithms but heap-sort and insertion-sort have smaller memory footprint as compared to quick-sort. Quick-sort will have a higher memory requirement(stack) due to its recursive nature.

The time complexity of each algorithm varies and since we do not have control over the input data in most real cases, heap-sort will return the most consistent results in any case. Insertion-sort when compared with quick-sort performs better in case of small input arrays, because the overhead of recursive calls is not present in case of insertion-sort. However, as the size of the input grows, insertion-sort performs the worst among the three.

If the input array is already sorted, then insertion-sort offers the best running time. However, if the input array is not sorted, then heap-sort performs better than the other two.

END OF REPORT