

Lesson 1 Quiz (5 minutes)

Question 1

Which of the following is a Divide and Conquer algorithm?

- A) Bubble Sort
- B) Selection Sort
- C) Heap Sort
- D) Merge Sort

Answer: Merge Sort

Question 2

Find the pivot element from the given input using median-of-three partitioning method.

8, 1, 4, 9, 6, 3, 5, 2, 7, 0.

- A) 8
- B) 7
- C) 9
- D) 6

Answer: D) Explanation: Left element=8, right element=0,
Centre= $\lceil \text{position}(\text{left} + \text{right}) / 2 \rceil = 6$.

Question 3

What is the worst case time complexity of a quick sort algorithm?

- A) $O(N)$
- B) $O(N \log N)$
- C) $O(N^2)$
- D) $O(\log N)$

Answer: C) Explanation: The worst case performance of a quick sort algorithm is mathematically found to be $O(N^2)$.