

1

Question: What is the time complexity of the function that finds the maximum value in an array by iterating over the array once?

- A) $O(n \log n)$
- B) $O(n)$
- C) $O(\log n)$
- D) $O(1)$

Correct Answer: B) $O(n)$

2

Question: What is the time complexity of the binary search algorithm in a sorted array?

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

Correct Answer: C) $O(\log n)$

3

Question: What is the time complexity of the merge sort algorithm?

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

Correct Answer: B) $O(n \log n)$

4

Question: What is the time complexity of the function that calculates the n th Fibonacci number using recursive calls?

A) $O(n)$

B) $O(n \log n)$

C) $O(\log n)$

D) $O(2^n)$

Correct Answer: D) $O(2^n)$

5

Question: What is the time complexity of the function that finds all pairs of elements in an array that sum to a given target?

A) $O(n)$

B) $O(n \log n)$

C) $O(\log n)$

D) $O(n^2)$

Correct Answer: D) $O(n^2)$