DATA STRUCTURES AND ALGORITHMS QUIZ

Quiz on Data Structures and Algorithms - Expert Level

1. What is the time complexity of searching for an element in a balanced binary search tree?

A) O(1)

B) O(log n)

C) O(n)

D) O(n^2)

2. Which data structure is best suited for implementing a queue?

A) Array

B) Linked List

C) Stack

D) Heap

3. Which sorting algorithm has the best average-case time complexity?

A) Quick Sort

B) Bubble Sort

C) Insertion Sort

D) Selection Sort

4. What is the worst-case time complexity of the merge sort algorithm?

A) O(n)

B) O(log n)

C) O(n log n)

D) O(n^2)

5. Which algorithm is used for finding the shortest path in a graph with negative edge weights?

A) Dijkstra's Algorithm

B) Bellman-Ford Algorithm

C) Prim's Algorithm

D) Kruskal's Algorithm

6. Which data structure is used for implementing a priority queue efficiently?

A) Stack

B) Linked List

C) Binary Search Tree

D) Heap