
🔹 Basic Level (5 Questions)

1. **What is the difference between an array and a linked list?**
2. **Explain stack and queue data structures with real-life examples.**
3. **What is the time complexity of inserting an element in the middle of a singly linked list?**
4. **Convert the following infix expression to postfix: `(A + B) * (C - D)`**
5. **Write a function to reverse a string using a stack.**

🔹 Intermediate Level (5 Questions)

6. **Given a sorted array, write a function to perform binary search. What is its time complexity?**
7. **Explain the difference between BFS and DFS. Where would you use one over the other?**
8. **Implement a function to detect a cycle in a singly linked list.**
9. **What is a hash table? Explain how collision handling works.**
10. **Given an array of integers, find the first non-repeating element.**

🔹 Advanced Level (5 Questions)

11. **What are the advantages of using a trie over a hash map for storing a dictionary of words?**
12. **Design and implement an LRU (Least Recently Used) cache.**
13. **Given an undirected graph, check whether it contains a cycle using DFS.**

14. **Explain time and space complexity of the merge sort algorithm. Implement it.**

15. **You are given an array representing daily temperatures. Return an array that tells you how many days you'd have to wait until a warmer temperature. (Leetcode-style)**