

## Microsoft - Backend Developer

### Interview Process

- Getting the Interview
- Phone Screen
- Recruiter Screening
- Online Coding Assessment
- Onsite Interviews
- Results

### Interview Questions

1. Find the intersection of two sorted arrays.
2. Merge overlapping intervals in an array.
3. Given a string A. Return the string A after reversing the string word by word.
4. Given an integer A, convert it to a Roman numeral and return a string corresponding to its Roman numeral version.
5. Implement an iterator over a binary search tree. Your iterator will be initialized with the root node of a BST.
6. Find the middle element of a singly linked list in one pass.
7. Given two binary strings, return their sum (also a binary string).
8. Given a binary tree, find its maximum depth.
9. Find out all triplets with zero-sum.
10. A string S consists of lowercase characters. Determine the minimum characters that need to be appended at the end to make the string into a palindrome.
11. Convert a binary tree into a doubly-linked list.
12. Reverse a linked list from position m to n. Do it in-place and in one-pass.
13. Given an integer n, return the nth digit of the infinite integer sequence [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, ...].
14. Find the minimum depth of a tree.
15. Add two numbers represented as LinkedList.
16. Given an integer array and a positive integer k, how will you count all distinct pairs with a difference equal to k?
17. How will you perform preorder traversal in a binary tree?
18. How can you implement a binary search tree?
19. Write a program to find out if a given String is a Palindrome or not.
20. Write a program to print the missing elements in a given 2-Dimensional array.
21. Write a program to find the identical nodes for a given Binary Search Tree.
22. Write a code to determine if a given Binary Tree T is a Binary Search Tree or not.
23. For a given directed Graph G, write a code to perform Breadth-First Search.
24. What factors will you consider while designing the security framework for Windows OS?

25. How does API modeling come into play while building mobile applications?
26. What design aspects will you consider while building a platform like Instagram?
27. How would you go about designing a Chatbot service?
28. What database aspects will you consider while designing an e-commerce application?
29. What server aspects will you consider while building a gaming application?