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Amazon interview Experience | Set 134 (Off-Campus for SDE)

- Difficulty Level :\nExpert
- Last Updated :\n24 Jun, 2019

I would like to start off by thanking the entire community of GeeksforGeeks for helping me out.

Attempt 1

Round1:
1. Given a number N, find the number of correct combination of parentheses possible.

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Input: N=2 => ()()\r\n  Output: 2 [(()),()()]\r\n\r\n  Input: N=3 => ()()()\r\n  Output: 5 [()()(),((())),(())(),(()(
```

2. Print all root to leaf paths using iterative algorithm in linear time.

Round 2:
1. Given \xe2\x80\x98m\xe2\x80\x99 and \xe2\x80\x98n\xe2\x80\x99 (m < n), print all nodes between levels \xe2\x80\x98m\xe2\x80\x99 and \xe2\x80\x98n\xe2\x80\x99 in level order.
2. Print a matrix in spiral order.

Round 3:
1. Check if two trees are mirror images of each other.
2. Given inorder and preorder traversals, build a binary search tree.
3. Print all the boundary nodes of a given binary tree.
I was rejected after this round. I applied again after few months.

Attempt 2

Written Round(on HackerRank): It contained 3 simple questions on data structures. Duration 60 mins.

F2F \xe2\x80\x93 Round 1:
1. Given a singly linked list and a value \xe2\x80\x98k\xe2\x80\x99 such that k
Input: A -> B -> C -> D -> E , k=2
Output: E -> C -> D -> A -> B

Input: A -> B -> C -> D -> E -> F , k=2
Output: E -> F -> C -> D -> A -> B

2. What is Paging? What do you mean by page faults? How will you handle page faults?

F2F \xe2\x80\x93 Round 2:
1. Given a BST and given that 2 nodes are swapped in the tree. Identify the 2 swapped nodes.
2. Given a BST and 2 nodes. Identify the length between the two nodes of the tree.

F2F \xe2\x80\x93 Round 3:
1. Detailed discussion of current projects.
2. How would you design the meeting invite feature of Microsoft Outlook? Considering each meeting invite as an object and that Web server is the storage space for the invites, design a data structure to receive and send invites to user in an efficient manner. The message objects must be received in a sorted manner based on the time of meeting. I gave an O(NlogN) solution and he was pretty impressed. I was then asked to code it.
3. An array is given whose every ith index is the child node of a[i] as shown in the example below. The root node is represented by -1. Find the height of the tree.I did it in linear time.

```
Input: parent[] = {1 2 -1 2}\r\nOutput: 4\r\nThe given array represents following Binary Tree \r\n         2\r\n
```

F2F \xe2\x80\x93 Round 4:
1. Cultural info and projects discussion. What errors have you performed in your career path? What are the major challenges that you faced?\xe2\x80\xa6and other such questions.
2. Design a parking lot system. She was very much concerned with all the edge cases.
3. How would detect whether a singly linked list is a palindrome or not?I gave a solution with O(n) time and space complexity. But she asked to optimize it further with O(1) space complexity.

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All Practice Problems for Amazon !

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