

VIPUL KUMAR

Paytm SDE 1 Interview Experience

DAY 1

Round 1: Online Coding Test

Platform: CoCubes

Number of Questions: Three

Time Period: 70 minutes

Date: 18th August 2020

Languages Accepted: C/ C++/ Java/ C#

Question 1. (3 marks) (Level: Easy)

Given a positive integer 'n', return the sum of the series $(1) + (1+2) + (1+2+3) + (1+2+3+4) + \dots + (1+2+3+4+\dots+n)$.

Example:

$n = 0 \Rightarrow \text{Output} = 0$

$n = 1 \Rightarrow \text{Output} = 1$

$n = 2 \Rightarrow \text{Output} = 4$

$n = 3 \Rightarrow \text{Output} = 10$

Question 2. (3 marks) (Level: Hard)

Given an array of integers, calculate the maximum sum of contiguous subarray with only unique elements.

Note: Do it in $O(1)$ space.

Example:

Input:

{1,2,3,4,5,3,10}

Output: // {4,5,3,10}

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Question 3. (5 marks) (Level: Medium)

Given 2 trees, T1 and T2, check if whether T2 is a subtree of T1.

1). If either of trees is NULL, return -1

2). If T2 is not a subtree in T1, return 0

3). If T2 is the subtree in T1, return the number of nodes in T2.

NOTE:

- 1). Please don't try to move your cursor outside the chrome window. This is will be considered as a violation and will be counted as a cheating case.
- 2). Try to avoid using Python for CP (competitive programming), as some platforms doesn't allow it. Better use C++/ Java, as all platforms allow them.
- 3). The platform doesn't allow you to compile your program with custom input cases.
- 4). Although, I didn't use STL in any of my questions. But, I checked that `#include<bits/stdc++.h>` was working fine and I tried to print a vector too. Everything was working fine.
- 5). The platform only checked few basic test cases, not all the corner cases. You have to check each corner case yourself.

Result briefs:

Out of 56 students appeared for the test, 30 students got shortlisted for the next interview rounds.

My Result:

Attempted all three questions. All basic test cases for all three questions passed. Question 2 took a bit long to cover few corner cases. Finally, all my three questions were correct. I qualified this round. Don't waste time on one question try to work smartly choose questions according to their weightage and level.

DAY 2

Date: 22nd August 2020

Pre placement Talk: 9am – 10 am

Number of interviews: 3 technical interviews, No HR round

Platform: Google Meets, Collabedit, Leetcode

Round 2: Technical Interview 1 (1:30pm - 2:15pm)

- 1). Interview started with a brief introduction.
- 2). First question I was asked about my project. Please tell us about one of your project about which you are most proud of. Then, he asked me questions related to algorithms used in my project. The, he asked about the scalability of database, how I can improve.
- 3). Then, he shared a link to collabedit, where my coding skills were assessed.
- 4). After each question, time and space complexity were asked corresponding to each solution.

Question 1. A Variation of Dutch National Flag Algorithm. (Medium)

In a basket, there are 'n' balls. Each ball is of colour Red(R)/ Green(G)/ Blue(B). You have to pick the balls one by one. After drawing all the balls, you have to arrange the sequence in such a manner that sequence becomes RR...RRGG...GGBB...BBB.

Link: <https://leetcode.com/problems/sort-colors/>

Question 2. Decode ways (Medium)

A message containing letters from A-Z is being encoded to numbers using the following mapping:

'A' -> 1

'B' -> 2

...

'Z' -> 26

Given a non-empty string containing only digits, determine the total number of ways to decode it.

Link: <https://leetcode.com/problems/decode-ways/>

Round 3: Technical Interview 2 (3:00pm – 3:45pm)

- 1). Interview started with a brief introduction. Then, she asked me about my favourite subject. 'Data Structures' was the answer to this question.
- 2). Then, she shared a link to collabedit, where my coding skills were assessed.
- 3). After each question, time and space complexity were asked corresponding to each solution.

Question 1. Add Two Numbers (Medium)

You are given two non-empty linked lists representing two non-negative integers. The digits are stored in reverse order and each of their nodes contain a single digit. Add the two numbers and return it as a linked list.

Link: <https://leetcode.com/problems/add-two-numbers/>

Question 2. LRU Cache (Medium)

Design and implement a data structure for Least Recently Used (LRU) cache. It should support the following operations: **get** and **put**.

get(key) - Get the value (will always be positive) of the key if the key exists in the cache, otherwise return -1.

put(key, value) - Set or insert the value if the key is not already present. When the cache reached its capacity, it should invalidate the least recently used item before inserting a new item.

Link: <https://leetcode.com/problems/lru-cache/>

Round 4: Technical Interview 3 (8:15pm – 8:45pm)

- 1). Interview started with a brief introduction.
- 2). Then, he shared two links to Leetcode questions to assess my coding skills.
- 3). As the time allotted in this round was only 30 minutes as compared to earlier rounds which were 45 minutes long. The interviewer told me that I have to simply submit these two questions, he wanted minimal explanation.

Question 1. 3Sum (Medium)

Given an array `nums` of n integers, are there elements a, b, c in `nums` such that $a + b + c = 0$? Find all unique triplets in the array which gives the sum of zero.

Note:

The solution set must not contain duplicate triplets.

Link: <https://leetcode.com/problems/3sum/>

Question 2. All Nodes Distance K in Binary Tree (Medium)

We are given a binary tree (with root node `root`), a `target` node, and an integer value `K`.

Return a list of the values of all nodes that have a distance `K` from the `target` node. The answer can be returned in any order.

Link: <https://leetcode.com/problems/all-nodes-distance-k-in-binary-tree/>

Note:

- 1). All the three rounds were elimination rounds.
- 2). Result of each round was announced within 10 minutes - 1 hour of interview.
- 3). Final results were declared same night by 11pm.
- 4). I didn't get any questions from OOPS, DBMS and OS. But it totally depends upon your interviewer. My friends got few questions from Threading, Polymorphism and SQL Queries.

Results Briefs: Out of 30 students who cleared Round 1, only 6 students got FTE.

Final Results: I got selected by Paytm as FTE.

‘Hardwork is 100% important, but luck is 200% important’

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Happy to help!!!