CVENT INTERVIEW EXPERIENCE

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Day 1: 14/09/2020

ONLINE APTITUDE TEST
- There were 30 MCQ questions to be done in 60 min.
- There was no negative marking.
- The topics were C/C++, JAVA, OOPS and DBMS.
- The questions included output problems, language specific questions, OOPS theoretical questions, SQL query related questions etc.
- The questions were not much difficult and time was enough, try to achieve maximum accuracy.

ONLINE CODING TEST
- The coding round was on Codility platform.
- 60 min, 1 coding question.
- The platform is a bit different from platforms like Leetcode, InterviewBit, GFG etc.
  - You can run sample test cases as many times, but submit for evaluation only once.
  - You **CANNOT** see whether you passed hidden test cases or not.
  - You are evaluated on hidden test cases only.
  - Your typing activity is recorded.
- Try to be familiar with the platform beforehand.
- Description was long, but time was more than enough for the question.
- The question was a worded, slightly different version of minimum window substring.
- Try to understand the problem well and consider all possible edge cases.
- After this round, 11 students were shortlisted for technical interviews.

The actual question:
You want to spend your next vacation in a foreign country. In the summer you are free for N consecutive days. You have consulted Travel Agency and learned that they are offering a trip to some interesting location in the country every day. For simplicity, each location is identified by a number from 0 to N - 1. Trips are described in a non-empty array A: for each K (0 ≤ K < N), A[K] is the identifier of a location which is the destination of a trip offered on day K. Travel Agency does not have to offer trips to all locations, and can offer more than one trip to some locations.

You want to go on a trip every day during your vacation. Moreover, you want to visit all locations offered by Travel Agency. You may visit the same location more than once, but you want to minimize duplicate visits. The goal is to find the shortest vacation (a range of consecutive days) that will allow you to visit all the locations offered by Travel Agency.

For example, consider array A such that:

A[0] = 7
A[1] = 3
A[2] = 7
A[3] = 3

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A[4] = 1
A[5] = 3
A[6] = 4
A[7] = 1
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Travel Agency offers trips to four different locations (identified by numbers 1, 3, 4 and 7). The shortest vacation starting on day 0 that allows you to visit all these locations ends on day 6 (thus is seven days long). However, a shorter vacation of five days (starting on day 2 and ending on day 6) also permits you to visit all locations. On every vacation shorter than five days, you will have to miss at least one location.

Write a function:

class Solution { public int solution(int[] A); }

that, given a non-empty array A consisting of N integers, returns the length of the shortest vacation that allows you to visit all the offered locations.

For example, given array A shown above, the function should return 5, as explained above.

Given A = [2, 1, 1, 3, 2, 1, 1, 3], the function should return 3. One of the shortest vacations that visits all the places starts on day 3 (counting from 0) and lasts for 3 days.

Given A = [7, 5, 2, 7, 2, 7, 4, 7], the function should return 6. The shortest vacation that visits all the places starts on day 1 (counting from 0) and lasts for 6 days.

Write an efficient algorithm for the following assumptions:

N is an integer within the range [1..100,000];
each element of array A is an integer within the range [0..N - 1].

TECHNICAL ROUND 1
- This round lasted for 30 min.
- The interview stared off with the introductions.
- After the introduction, a coding problem was given:
  Given a 2D array, sorted row-wise and column-wise, find the indices of a given element X. Return the indices of any such X as [i, j] if X is present, otherwise return [-1, -1].
  https://leetcode.com/problems/search-a-2d-matrix/

- I started with the brute force solution and quickly gave him the efficient approach. Only approach was discussed.
- Then he asked me to explain one of my projects and asked some questions around it.
- Then he asked me some questions on the skills mentioned in my resume and some JAVA language specific questions like: can constructors be static, can static class be inherited etc.
- Then he asked a DBMS question: Suppose you have a query that needs to perform inner joins on multiple tables and you can only store only single table at a time in the memory, how would you execute the query ? I gave him some approach but wasn't sure whether it was correct.

TECHNICAL ROUND 2
- The interviewer was very experienced in this round. He started off with the introductions.
- Then he shared a codility link where he wanted me to code and he could see it.
- The question was:
  Given a string of characters, find out whether the string contains all unique characters or not.
  https://www.geeksforgeeks.org/determine-string-unique-characters/

- I clarified whether the string contains only lowercase letters or not.
- I started off with the usual hashmap approach. Then he added a constraint the you can use only constant extra space.
- I told him that we can use a 32-bit integer as a map where 26 bits from the right represent whether the corresponding character had been seen or not.
- He asked me to code this approach.
- Then he added a constraint that how would I change my code if we had uppercase letters as well.
- I told him that instead of 32-bit integer, we could use a 64-bit integer and he was satisfied.
- After the coding round, the rest of the interview was spent on discussing Hashing.
- He asked me the meaning of hashing and slowly asked more and more questions around it. Some of them were:
  - How are keys and values stored in hashmap ?
  - What will happen if multiple keys have same hash value ?
  - What if our hash function is badly written and always returns 1. What would be the time complexity of get and put ? Could you optimise it ?
  - What if we needed the keys in the same order as they were inserted ?
- The interview lasted for around 45 min.

Day 2: 15/09/2020

CCAT - Criteria Cognitive Aptitude Test
- This is a test which most of the companies usually don't take.
- 22 minutes, 50 MCQs related to Aptitude (problem solving & calculations)/ Logical Reasoning/ English/ Analytical skill.
- The questions were easy.
- There was no negative marking, so attempt all questions.
- Try to give a sample test beforehand to get a feel of this test.
- Speed is crucial in this test.

Personality Based Questionnaire
- 140 questions, no time limit, no marking.
- Try be true to yourself in this one.
- Questions are repeated, so it will be better if you are consistent with your answers.