NIDHI VERMA (MCA 2019-22)

AMAZON INTERVIEW EXPERIENCE

(6-months Internship)

Round 1 (Online Assessment)

Date: Aug 03, 2021
Platform: AMCAT

First-round consisted of 4 sections:

1. **Code Debugging** (7 questions - 20 mins)
   All the questions were of easy level.

2. **Problem Solving** (2 questions - 70 mins)
   Problem1
   In Amazon's sort centre, a computer system decides what packages are to be loaded on what trucks. All rooms and spaces are abstracted into space units which are represented as an integer. Each type of truck, they have different space units. For each package, they will be occupying different space units. As a software development engineer in sort centres, you will need to write a method:

   Given truck space units and a list of product space units, find out exactly TWO products that fit into the truck. You will also implement an internal rule that the truck has to reserve exactly 30 space units for safety purposes. Each package is assigned a unique ID, numbered from 0 to N-1.

   Assumptions: You will pick up exactly 2 packages. You cannot pick up one package twice. If you have multiple pairs, select the pair with the largest package.

   Input: The input to the function/method consists of two arguments: truck space, and an integer representing the truck space. Package space, a list of integers representing the space units occupying by packages.

   Output: Return a list of integers representing the IDs of two packages whose combined space will leave exactly 30 space units on the truck.

Example
Input : truckSpace = 90 packagesSpace = [1, 10, 25, 35, 60]
Output : [2, 3]

Explanation: Given a truck of 90 space units, a list of packages space units [1, 10, 25, 35, 60], Your method should select the third(ID-2) and fourth(ID-3) packages since you have to reserve exactly 30 space units.

Problem2
https://www.geeksforgeeks.org/count-of-ways-to-split-a-given-number-into-prime-segments/

3. **Work Style Assessment** (approx. 40-50 questions - 20 mins)
4. **Aptitude** (24 questions - 35 mins)

35 students were shortlisted

Round 2 (Technical Round 1)

Date: Aug 30, 2021
Platform: Amazon Chime

The interview started with the interviewer's introduction and later on, I was asked to introduce myself. Next, I was asked if I was familiar with the tree data structure. I said, 'yes'. So I was asked to define the tree data structure, all the tree traversal techniques, and the real-life application of each tree traversal technique.

After the above discussion, I was given 3 DSA problems:

1. Print the right view of the binary tree.
   https://www.geeksforgeeks.org/print-right-view-binary-tree-2/

2. Print all the subsets of a given integer array having unique elements.
   https://leetcode.com/problems/subsets/

3. Follow up: Print all the subsets of a given integer array containing duplicates.
   https://leetcode.com/problems/subsets-ii/

Time and Space Complexities for all the problems were discussed.

In the end, I was asked if I had any questions. So I asked about the responsibilities of an SDE I. The interviewer gave me a brief overview of the same. After this, the interview ended.

Round 3 (Technical Round 2)

Date: Aug 31, 2021
Platform: Amazon Chime

This interview was taken by an SDE II. The interview started with his introduction and mine. I was asked about my technical interests. This discussion went on for approx 10 mins. After that, I was asked a DSA problem:

https://www.geeksforgeeks.org/maximum-product-cutting-dp-36/

I hadn't solved this problem before so I started with a naive solution first having an exponential time complexity. Later on, I was asked to optimize it. I explained my approach having $O(n^2)$ time complexity. I was facing some difficulty while implementing my code correctly so the interviewer offered some help. After that, I was able to optimize it to some level. Overall it took me around 40 mins to solve this problem. With 10 mins remaining, the interviewer gave me 2 code snippets and I was asked to tell their time complexities which I answered correctly.

In the end, I was asked if I had any questions. So, I asked about the tech stack used in Amazon Prime Services. The interviewer told me about all the technologies used in quite detail –How does the show/movie recommendation system work; the graph algorithms that are used for the recommendation system, and how the meta information of any show is stored. Overall I enjoyed the whole interview process and found the interviewer to be very friendly and interactive which made me less nervous throughout the whole process.

After all the 3 rounds were done, a total of 12 students were selected (5 - Internship, and 7 - Internship+FTE).

Tips:
1. Clarify the question first. Gather all the requirements. You don't want to start writing code for a problem that was never given to you.
2. Revise the concepts of time and space complexities very well.
3. Research about Amazon's Leadership principles thoroughly.
4. Keep your tone positive and confident.

All the best :)