Amazon On-Campus Interview Experience (Aug-Sept 21)

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Online Assessment (2.5 hour)

1. Section 1: Debugging Assessment - 10 Problems - 20mins

2. Section 2: Coding Assessment - 2 Problems - 70 mins
Max Units on a Truck
https://leetcode.com/problems/maximum-units-on-a-truck/
Second one was a variation of
https://www.geeksforgeeks.org/minimum-cost-connect-cities/

3. Section 3: Work Style Assessment (Based on Amazon Leadership Principles) - 50 MCQ - 20 mins

4. Section 4: Aptitude Assessment - 24 MCQ - 35 mins

Technical Round 1

The interviewer first asked for a brief introduction and then went on to discuss my projects for about 10-12 mins.
Thereafter he started with the coding questions

1. https://www.geeksforgeeks.org/find-missing-number-arithmetic-progression/
Since the solution can be obtained from many different approaches, I gave 3 approaches optimizing my code on each iteration
(Don't forget to gather minute details for example whether the missing element can be the first or the last one)

2. https://www.geeksforgeeks.org/design-a-stack-that-supports-getmin-in-o1-time-and-o1-extra-space/

I started out by giving the **O(1) time and O(n) space** solution and reached the desired(**O(1) space**) solution with some help and discussion with the interviewer.

Technical Round 2

This round proceeded in the same way as the previous

Questions:

1. https://www.geeksforgeeks.org/next-greater-element/
   I straightaway gave the optimized approach as I was confident of clearly explaining it to the interviewer.
2. https://www.geeksforgeeks.org/maximum-sum-nodes-binary-tree-no-two-adjacent/
   This one was a little difficult for me to approach as I had not seen this question before. I started out by explaining my thought process for my first approach and running it through some examples but it didn't work on some edge cases.
   Although with a fair amount of discussion, I was able to give a working code, it could still have been better but we were running short on time and the interviewer was satisfied with my solution so we closed the session there.

Technical Round 3

The interviewer straight up gave me a choice whether to start with project discussion or DSA. We started with the DSA part

Question:

1. **How to validate an HTML document**
   Although a pretty popular question asked in Amazon, I was initially stumped because this was a new question for me.
   I spent roughly 20-25 minutes gathering all the requirements and manually validating various examples.
   The interviewer rejected my first approach and I was asked to improve my space complexity.
   After some thought and a minor hint by the interviewer I was able to figure out the optimum DS to be used was a DAG and started thinking in that direction.
   Halfway through writing the code and my time was up but the interviewer seemed satisfied as I had expressed my thoughts/approach clearly and was continuously communicating with him.

Although our time was up and he wasn't keen on discussing my projects further (I asked and he said this would in no way hurt my chances :D), he was kind enough to have a little conversation with me about the culture at Amazon, his responsibilities etc.