

Amazon Interview Experience | Set 305 (On-Campus for Internship)

- Difficulty Level : [Hard](#)
- Last Updated : 28 Jun, 2021

Eligibility Criteria: CGPA ≥ 7.5 (with no history of arrears)

Round 1: Technical Test (1 hour 30 min)

An online test held on HackerRank which consists of 20 [MCQs](#) and 2 coding questions.

- **Coding Question 1:** [Find next greater number with same set of digits](#)
- **Coding Question 2:** [Merge two sorted arrays with \$O\(1\)\$ extra space](#)

MCQs

They were pretty simple and straight forward. 5 questions were from general aptitude like probability, permutation and combinatorics. Rest of the questions were from Data Structure, Algorithm and C and C++ output questions. Reading [GeekQuiz](#) helped me a lot.

Around 300 students took the test out of which 21 were shortlisted. I was also one of them. We were interviewed the following day.

Face-to-Face Interview 1 (~1 hour)

The interviewer asked me to introduce myself. After I gave my introduction, he went straight to the questions.

Question 1: [A program to check if a binary tree is BST or not](#)

Given a binary tree, we need to check if it's a binary search tree. He wrote the following function

```
bool isBST(Node *root)
```

I asked him if I could modify the function template to include min and max values. He said that I can modify the function template. So I gave my approach as described. After reviewing the solution, he asked me to explain it with an example. I drew a small tree and explained it to him. He was satisfied and we moved on to the next question.

Question 2: [Maximum sum such that no two elements are adjacent](#)

Given an array of positive and negative numbers find the maximum sum in the array such that no two elements are adjacent.

As soon as he gave the question I said it is a Dynamic Programming problem. He asked me to write code. I wrote the code by using a dp array of size n (size of array) and I gave a top-down approach. He thoroughly checked if my code could handle all the corner test cases. He asked me to run the code for array of size 1 and 2. I explained it to him. He was satisfied and we moved on to the next question.

Question 3: [Find a given word in a matrix of characters.](#)

Given a $N \times M$ matrix and string s , check if the string is part of the matrix. We can move to top, left right and bottom from a given cell.

Initially after giving the question I said we should use Depth First Search. But he gave me a case where it won't work and asked me to modify the approach. I said BFS and he asked me to write code. I wrote the code by handling all edge conditions. But I missed the visited array part. He read my code and gave me a case where it would run into an infinite loop. Now, I found out what was missing and said I have to include the visited array. He was satisfied and asked me to add that part to the code.

After this, the interview was over. He asked me if I had any questions for him. I asked him a few questions and we were done.

Out of 21 students, 12 students were selected for the second interview. Fortunately, I was also selected.

Face-to-Face Interview 2(~1 hour)

The interviewer read my resume and asked me to introduce myself. After I gave my introduction, he went to the question.

Question 1: [Count Possible Decoding of a given Digit Sequence](#)

Let 1 represent 'A', 2 represents 'B', etc. Given a digit sequence, count the number of possible decoding of the given digit sequence. The question can be found [here](#).

I gave my approach using Dynamic Programming. He asked me to reduce the space complexity. I gave an approach like finding n th Fibonacci number. He was satisfied. Then, he asked me to generate all the possible decoding instead of counting them. I gave my approach using backtracking and he was satisfied.

Question 2: Identify the classes required to play chess game.

This was like a general question. I said four classes like 'pieces, board, clock, player and game. He asked me to identify the attributes and functions of each of the class and how they interact with each other. I told them. He was satisfied.

Finally, he asked me if I had any questions for him. I asked him a few questions and we were done.

That was all for the interviews.

General Tips:

Don't be nervous when speaking to the interviewer. And don't think for a long time. Speak out your thoughts so that they can help if you go wrong. Preparing from GeeksforGeeks helps a lot.

Best of Luck!

If you like GeeksforGeeks and would like to contribute, you can also write an article and mail your article to review-team@geeksforgeeks.org. See your article appearing on the GeeksforGeeks main page and help other Geeks.

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