Amazon

Round 1:

It was an online test and consisted of 4 sections

1) Debugging(7)
2) Aptitude questions(16)
3) Workstyle assessment
4) Coding(2)

There were 2 random questions in the coding section from the following

1) Critical connections
2) Favourite genre
3) Clone a list with random pointer
4) Count pair with given sum in an array
5) Merge two sorted list

20 students shortlisted for interview.Interviews happened in Amazon Chime and coding in Amazon live coding platform.

Round 2:

I was asked 2 coding questions

1) Given a game state of Tic-tac-toe as a matrix, you have to find the result of that state like x won, o won, draw or game in progress.
2) Given a binary tree, connect nodes in a level

Asked about time and space complexities.

Round 3:

I was asked 2 coding questions

1) Given a binary tree, find the level in which the sum of the nodes is maximum. In case of 2 levels having the same maximum sum, return the lowest level.
2) Find number of islands

I was asked to explain time and space complexities and walk-through of the code using example test cases.

Round 4:

I was asked to write production level for a coding question with good naming conventions.
Question : Design a data structure which supports the following operations

1) Insert an integer
2) Query with ingeter k - it should return the number of integers strictly less than k read so far.

It can contain duplicates also.
I suggested using C++ ordered set and using the lower bound function. But he expected me to design a binary search tree for this question. With a little help from the interviewer, I was able to come up with the expected solution.
Then he asked questions from OS, DBMS, projects in resume.

1) Normalisation

2) SQL vs NoSQL
3) Types of databases
4) Deadlock
5) Critical section, semaphore, mutex

Round 5:

We had a deep discussion about my internship project for about 40 minutes. Then he gave a coding question to solve.
Find the level in a binary tree upto which it is a complete binary tree.

Topics to be focused:

1) Data structures and algorithms
2) DBMS
3) OS
4) OOPS
5) Amazon leadership principles

Take away:

The interviews mainly focus on testing the coding knowledge. Prepare to code in document and in a limited time. Be interactive and share your ideas throughout.

All the best!

Regards,
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