Amazon Experience

Round 1

Duration: 1hr 30 mins   *11 students were selected for interview*

- 20 MCQ on DS, Algo, DBMS and c++
- 2 Coding questions
  1. Given an array of integers. Find the subarray and subsequence with maximum sum. Both subarray and subsequence must consist of atleast one element.
  2. Given a 2-D grid, a source marked at 'M', destination marked as 'P', empty slots as '.' and slots with building as 'B'. Find the shortest path from 'M' to 'P' while travelling via empty slots only.

Round 2 (Technical Interview I)

Duration: 40-50 mins

Started with my introduction and some questions from resume. Brief discussion about projects. Why did you switch from maths to computer science.

Q1. Given 2 rectangles, you have to find whether they intersect.
(Motive of this question was to check how you define your own data structure and how you take input. He then checked my code for number of edge cases)

Q2. Maximum subarray problem.
(I told him we had this question in qualification round. He then asked me to explain my code and other alternatives)

Q3. Given an array of size 10TB and only 2GB RAM. How would you sort this array.

He then asked if I have any questions and I asked a few.

Round 3 (Technical Interview II)

Duration: 40-50 mins

Introduction here was just for formality (/.\) He took a while to search for questions in his laptop.

Q1. Given a special binary tree where a node can have multiple parents. *(No, its not n-array tree)* Find the path from root to leaf such that sum of nodes is maximum. *(Again, its not the longest path).*
I used Hashmap and postorder traversal.

Q2. Given a binary tree where along with 'left' and 'right' node pointers, a node also has a 'next' pointer. Initially 'next' pointers of all nodes are nullptr. Set 'next' pointer of a node to its right node.

I gave him a solution using level order traversal. He then asked me to do better in terms of space complexity. I later came up with O(h) space complexity (space for recursion or implicit stack) and wrote the code for it.

Again, I asked few questions in the end

6/11 students got the offer.