

Amazon Interview Experience | Set 287 (On-Campus)

- Difficulty Level : [Hard](#)
- Last Updated : 05 Jul, 2019

Amazon visited our campus for SDE-1. Interview process started with an online coding round followed by 4 face to face interviews. All interview rounds started with brief introduction about me.

Online Round :

A hackerank contest with 22 questions consisting of 2 coding problems and 20 MCQs on C, OS, DBMS, Networking.

Coding Questions :

1. Given a 2d array with only two elements `cherry` & `nothing`. `cherry` represents cherry and `nothing` represents nothing. Can you divide the array into 2 halves with equal cherries. You can only make a single cut either horizontally or vertically.

2. [Sliding Window of size k . Find max in each window.](#)

No need of optimization, brute force was accepted.

F2F 1 (30 minutes , Director + Technical)

1. [You have a 2-d matrix , you have to print matrix in Spiral Order Form.](#) Production code was required.

2. What is the most funniest and craziest data structure you have ever used.

I said Segment Trees. He asked me to explain it. Why to use it, explain it through some example, prove its complexity.

F2F 2 (40 minutes, Technical)

1. [You have a 2-d array \(m*n\) , where every row and column is sorted in increasing order. You have to return an array which is sorted](#) (basically have to sort given 2d array)

Approach 1- insert all elements in map/set . ($O(mn \log(mn))$) .

Approach 2- insert first element of each row in a heap (same as sort k sorted list of equal length), then call extract-min and insert next element from the required row.

Complexity- $O(mn \log(m))$

Follow up question- what if $m \gg n$?

Solution- Transpose the given matrix and follow the same procedure as above.

2. [Given a binary tree containing positive and negative values, you have to find maximum sum that passes through parent.](#) ($O(n)$ solution was required).

Proper code was required for both the questions.

F2F -3 (1 hour , Technical)

Several questions on Operating Systems and Computer Networking.

Operating Systems- Difference between multi -tasking, multi-processing and multiprogramming, Virtual Memory, why to use Virtual memory, issues related to virtual memory , paging, segmentation , multithreading, difference between process and thread.

Computer Networking- What happens when you type www.amazon.com in Web Browser, how server handle requests, how routing works, difference between HTTP and HTTPS, how TCP works.

Coding Question- Given an array, find min element in the range (xi,yi) . Queries can be very large.

First i gave brute force approach ($O(n)$ for each query) and after that I gave a segment Tree solution to him. He told me to prove time and space complexity.

Follow up question- What if we delete some element from segment tree. How do you augment your data structure.

I said that instead of deleting we can update it to INT_MAX value.

F2F-4 (1 hour, Technical)

Given a string consisting of 3 types of brackets ({ , [, () , there are priorities assigned to each bracket. You have to check if given string is balanced and valid.

Definition of valid- Higher priority bracket can't be inside lower priority bracket.

I solved it by a single Stack .

Follow up question-

Find the length of longest valid substring which is balanced and valid.

Then he asked if you have any questions.

Interview tips-

Interviewers don't want most optimized solution. They see how you approach a question , Interact with interviewer if you get stuck , don't jump directly to code, think loud and be confident.

A big thanks to geeksforgeeks and other online judges.

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[All Practice Problems for Amazon !](#)

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