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Amazon Interview Experience | Set 283 (On-Campus)

- Difficulty Level :\nMedium
- Last Updated :\n05 Jul, 2019

Recently I got interviewed at Amazon on campus. The process was :

Online Round :
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A hackkerank contest with 22 questions inclusive of 2 coding problems and 20 MCQ\xe2\x80\x99s on OS,Aptitude,DBMS .

Coding Questions :
1. Given a 2d array with only elements \xe2\x80\x98#\xe2\x80\x99 & \xe2\x80\x98.\xe2\x80\x99 . \xe2\x80\x98#\xe2\x80\x99 represents cherry and \xe2\x80\x98.\xe2\x80\x99 represents nothing . Can you divide the array into 2 halves with equal cherries . You could only make a single cut either horizontal or vertical .

2. Sliding Window of size k . Find max of each window.

Round 1 :
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Problem 1: Search in rotated and sorted array .
Interviewer wants all corner cases covered code .And also Max optimized time complexity .
I gave a O(2*logn) solution he got satisfied .

Problem 2: Given a number k , Find no. of ways to make this number using sum of numbers from 1 to k-1 . Also You cannot take same number more than once in a combination and also all permutations of a combination count as one way .

For eg: if k= 6, Then all permuations of (1,2,3) count as one way only.
I got shortlisted after this round .

Round 2
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It consists of a single problem only but a detailed discussion on that .

Problem : Range Minimum Query .i.e Given an array and a range query (xi,yi) find min element in the range (xi,yi) . These queries can be very large .

First i gave bruteforce approach and after that I gave a segment Tree solution to that with time and space complexity .

He then asked what if we have to update an element and then followed by updating a range .

After that he asked what if we delete an element . How do you modify your solution to cope-up with that .
I suggested him to update the element with INT_MAX and maintain a mapping array .
After that he asked what if we add an element in the array ? .
I suggested him to reconstruct segment tree based on that . He suggested to construct it like a binary root instead of array representation and store the range . There can be some re-usable subtrees . How can i found those subtrees and how to use them and what will be the time complexities.

Lastly i was told to code range minmium query with node having following properties (min,start,end,node* left,node* end) ;

He got impressed .:)

Round 3
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It also consist of only a single problem .
Problem : Given set of coordinates find top k elements whose distance from origin in maximum .

I gave naive approaches and heap approach . Later he asked me to think more then i come up with Quick-Sort Partition function approach .
He asked me to code it .

Round 4
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It was easiest of all so far .
It consist of problem : Given 2 linked list subtract them and store the result in bigger one and return that .
Basically he wants us to cover all corner cases for this .

After that a discussion on projects took place.

Thanks Geeks For geeks for huge programming problems database . Doing a great Job \xf0\x9f\x99\x82 .

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