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Amazon Interview Experience | Set 261 (For SDE1)

- Difficulty Level :\nMedium
- Last Updated :\n04 Jul, 2019

I had around 1 year and 9 months of experience.

Telephonic Interview :
It started with a brief introduction of mine and my work. Then he asked me a coding question

1) Given a linked list eg : 1->2->3->4->5->6, make the following changes 1->6->2->5->3->4
Easy but it was lengthy. Had to write production level code.

After 2-3 hours, I got an invitation for in house interview at Amazon campus:

Round 1 : Face 2 Face
It started with a discussion about my previous work and projects. After the discussion he asked the following technical questions:
1) Given a pre-order traversal, construct a binary search tree.

Simple solution. Asked me to code it.

2) Given an alien dictionary, find the order of the alphabets in the dictionary.
Only the approach was required. I explained him the approach and he was satisfied. Here is the link to the code anyway:
https://www.geeksforgeeks.org/given-sorted-dictionary-find-precedence-characters/

3) Connect n ropes with minimum cost

I was asked to write production level code for the above problem.

Round 2 : Face to Face
Again the interview started with a discussion about my projects and then he asked a technical question.
1) Given m sorted arrays with n elements, merge these arrays into one sorted array of size m*n
I did hear about this question before but never really saw the optimized solution so I gave a O(m*m*n) solution. He asked me to optimize it, but I wasn\xe2\x80\x99t able to do so, hence he asked me to code the O(m*m*n) solution. I took a lot of time to code it as I wanted to handle all the edge cases. Finally I coded it. He didn\xe2\x80\x99t find any issues but he asked me to make it better. And then I suggested using heaps to get the minimum of all the m arrays.

Lot of questions on why heap and why not BST. Asked me to prove it mathematically.
But he was satisfied once I gave the solution using heaps.

Round 3 Bar Raiser : Telephonic
Discussion on my previous projects and asked some behavioral questions like why are you leaving your current company, conflicts with your manager etc

Technical questions:
1) Find the maximum element in an array which is first increasing and then decreasing

2) Find the Pythagoras triplet in an array
Gave an O(n3) solution then made it O(n2logn). He asked me to optimize it even further.
Finally came up with O(n2) solution.

3) Given a very large binary number which cannot be stored in a variable, determine the remainder of the decimal equivalent of the binary number when divided by 3
I had no clue about this question. He gave me a hint, with which I was able to solve it. But later, he asked me to find the remainder for any number k. Again he gave a hint and I was able to solve it.

Basically when we append a digit to a binary number, the previous binary number gets doubled, hence the remainder also gets doubled.

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\r\nFor example :     101  -> 5\r\n          1010 -> 2*5 + 0 = 10\r\n              1011 -> 2*5 + 1 = 11\r\n        \r\n
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By keeping track of the remainder of the previous binary number, the current remainder can be determined.

Round 4 Hiring Manager: Face to Face
Behavioral questions along with some questions about my previous projects.
Then he gave me a technical question:
1) Given a number say \xe2\x80\x981234\xe2\x80\x99, return the number in words i.e One thousand two hundred and thirty four

Was able to cover all the scenarios. He was satisfied with my approach

Suggestions:
Think loud and be confident. It\xe2\x80\x99s okay if you don\xe2\x80\x99t know the answer at first. They mostly see how you solve questions for which you don\xe2\x80\x99t know the solution.

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All Practice Problems for Amazon !

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