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Amazon Interview Experience SDE-1

- Difficulty Level :\nHard
- Last Updated :\n13 Nov, 2019

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Round 1: Pen Paper based DSA Round.

I was asked to solve two problems. The focus was to write a complete production ready optimised code managing all the edge cases. You were not allowed to write pseudo codes:

1. [Reverse a Linked List in groups of given size](#)
2. [Connect n ropes with minimum cost](#)

The HR gave me the feedback that the Interviewers are really impressed with the clean and optimised code that I wrote managing all cases.

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Round 2: F2F \xe2\x80\x93\xc2\xa0Pen Paper based DSA Round.

Interviewer introduced himself and asked me tell him about myself. Then we straightaway jumped into problems. The focus was same. Pseudo codes were not allowed. Was asked to write complete production ready code in preferred language managing all test cases.

1. [Trapping Rain Water](#)
2. [Boundary Traversal of binary tree](#)

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Round 3:\xc2\xa0F2F \xe2\x80\x93\xc2\xa0Pen Paper based DSA Round.

There were two people in the interview panel. Each one of them introduced themselves and asked me one question each. Write complete code. Pseudo codes were not allowed.

1. [Water drops in a pipe problem](#). We discussed on different cases. I gave a stack and maths based solution.
2. [Minimum candies distribution problem](#). I gave an approach but was not able to code the whole solution properly in the given time. The interviewers asked me to stop as they were running out of time.

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Round 4:\xc2\xa0F2F \xe2\x80\x93\xc2\xa0Pen Paper based DSA Round.

The interviewer introduced himself and went straightaway for the question. He emphasised the same thing that he is looking for production ready complete code. Only one question was asked in this round. Lots of discussion on optimising the solution which took a lot of time.

1. Print the nodes of the binary tree in such a fashion that you print the leaves first. When you print the present leaves in the tree, these leaves would be deleted which may result in new leaves. After first round of leaves deletion you have to print new sets of leaves that were created due to previous deletion. Now print these leaves and delete them which would result in newer leaves.

Again print these newer leaves and proceed so on, till you process the whole tree.

The required complexity to solve this problem was O(n).\xc2\xa0 I gave O(n^2) solution using multiple recursion but was then able to optimise it to O(n). After giving the approach I was asked to write working code for the same.

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Round 5:\xc2\xa0F2F \xe2\x80\x93\xc2\xa0Computer Science Fundamentals.

I was asked to answer questions on Computer Networking, Operating Systems, DBMS, NoSQL, In-memory Caching, CDN (Content Delivery Network) and its use cases. Nothing fancy. If you had studied these subjects in your college you could easily answer the questions. Some of the questions were based on the technology I had worked on.

Round 6:\xc2\xa0F2F \xe2\x80\x93\xc2\xa0Engineering/Hiring Manager Round.

After brief introductions the interviewer started questions based on the projects I have done in my organisation.

- He asked me to draw the whole flow of the project(HLD) and explain each micro-services we had. I explained him the end to end architecture and the flow and why we were using certain technologies.
- I explained him how we were using NGNIX SSD caching capabilities which he was not aware of.
- I explained him my contribution in the project.
- Who made various design decisions and technology stack decisions and why.
- How hard was it to convince the team when you chose a certain technology to work with.
- I assume the focus was also on numeric figures or rather how well I was involve in the project. I was asked QPS, response times, type of http request being used, number of instances of the micro-services running, etc. Thankfully, since I am closely involved with the architecture of my project, I was able to answer almost all of them.

These are some of the discussion points I could recall.

Round 7:\xc2\xa0Video Conference \xe2\x80\x93\xc2\xa0Bar Raiser Round.

After brief introduction, the interviewer told me that I need to answer the question based on my experience in my present organisation. The focus seemed to be to answer the question in STAR methodology.

- He asked me to describe the most challenging technical problem that I faced in my project and how I solved it/still working on it, which benefited or would benefit the team. Was it the most difficult and rewarding challenge that you faced? We had further discussions on it.

Then he asked me to write production ready code in a screen-shared word doc. I was required to manage all cases and sub-cases.

1. Sorted insert node in *Doubly Circular* Linked List.

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After two weeks time, I was informed that I am a hire for them!

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My Personal Notes\n*arrow_drop_up*

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