

Shaurya Singhal - MCA - Infoedge

Round1: Online Assessment (OA) 22nd July 2022, 94mins

OA was conducted on deselect.com with AI-Based Proctoring and had 6 sections, each with a time limit. After submitting a section, you can't come back to it later.

Section 1: One Coding Question, 25 mins

<https://www.interviewbit.com/problems/disjoint-intervals/>

Section 2: One Coding Question, 45 mins

<https://www.interviewbit.com/blog/lexicographically-smallest-string/>

Instead of finding smaller, it was **lexicographically-largest-string and contains both lower and upper alphabets**.

Section 3: MCQs based on DSA, Output of program, 6 Questions, 6 mins

Section 4: MCQs based on Linux, 6 Questions, 6 mins

Section 5: MCQs based on DBMS and SQL, 6 Questions, 6 mins

Section 6: MCQs based on Networking/Cyber Security, 6 Questions, 6 mins

I was able to pass all test cases in the first one and 6 out of 10 in the second Coding Question.

25 students were selected for the further round

Round 2: Technical Round 1, 26th of July 2022, 4:25 PM, 1hr 48min long

First 45 mins

The interviewer was already looking at my Portfolio Website when I joined, he start the interview by saying he liked my portfolio and various features that he hasn't seen in the past 10 Years on anyone's portfolio. I also stated it took me 1Yr to think and implement various features which I explained in detail later on.

He also asked, did I design my own website? I told him, I learned Figma for that and used the learning to build and design a portfolio. I showed him the Figma file for the same present on my github. He seemed impressed.

He really liked the GitHub section of my portfolio and asked how I implemented those stuffs. I told him I used both APIs of GitHub(rest API and graphql API) and used web scrapping to fetch the Github contribution SVG which is implemented/fetch via the endpoint of the server I hosted in one of my projects. I went to my GitHub to the exact piece of code and showed my exact implementation for the same, he liked my code styling and clean coding.

Next 45 mins

I thought that will be the end of my interview, but it was just the start 😊. Next, he asked me 2 Coding Questions.

Ques. Given a vector of pairs representing the edges of a tree. If a user gives two nodes, return the relationship of them. (Are they siblings/cousins, parent-child, grandparent-grandchild in $O(1)$ time ?).

Approach:

I pointed out there can be other relations like Aunt as well, he asked me to include that as well and asked me to think, explain and code the approach.

I took my time and keep on explaining my thinking/approach. I told him that we should store 3 values at each node namely **{i, j, parent}**, `i` representing the level of the node, `j` being the position of that node in ith level, and parent is the parent of the node. Then I explain why this is the correct approach, later based on values stored after a single dfs on the tree, we can process the query in $O(1)$, and return the desired relationship. He asked if `j` really required to be stored, I explained yes we should because it will help in detecting Aunt relation, He said yes he might have missed it. Seems impressed with the approach. He asked me to code in my editor.

He asked to skip storing j for now because of time, so I coded dfs and stored each {i, parent} corresponding to every node in a vector and returned the query answer based on those triplets. He said he liked how fast I was able to think of the solution and code it.

Ques. Print given pattern for N=10 in a single loop.

Input: N = 8

Output

```
1
2 3
4 5 6
7 8
```

Approach:

I coded and explained the approach quickly, by shifting focus on printing new line characters in an AP fashion and printing numbers one after the other. He liked the approach, I coded it fast and ran cases of N=1, 2,8,10,11. He seemed pleased.

Again I thought that is the end of the interview, again I was wrong 😊

Rest of time

He asked me rapid-fire questions on DBMS

1. Do you know Normalization, candidate key, or primary key? I Explained
2. Use case of Merge Sort and Quick Sort? I Explained
3. LRU cache theory, Page Faulting? I Explained

4. Do you have a question for me? I looked at the LinkedIn profile of the interviewer before the interview and he has experience working as a java backend developer, so I asked him about how Java backend and Node backend tech both are used at Infoedge connected together to work in harmony. He explained that there are multiple distributed servers some running Java and some Node and how they both handle different parts of Infoedge.

We both said thank you for the wonderful time and ended the interview.

Round 3: Technical Round 2, 27th July 2022, 12:45 pm, 45 min Round

This round began with an introduction of the interviewer and then mine and asked about round 1 interview, I told him it was around 2 hr long and was a great discussion and then the interviewer straightaway started with the DSA problem

<https://www.geeksforgeeks.org/clone-a-stack-without-extra-space/>

I hadn't solved this problem earlier. I asked some questions to clarify the problem. I was not able to think of the approach but was constantly communicating my thought process and what was blocking me. The interviewer gave a small hint. I was not able to solve this problem. Later I found out it was a simple question and it is just one of those days where the solution didn't get clicked. Then he asked me more questions, of which I explained all of them with so much detail that it could compensate for the coding question.

Q. How to search faster in Databases? I told indexing

Q. which DS is/are used for indexing? I told B trees and B+trees

Q. If you have to design DS for indexing what would you keep in mind? I explained I will ensure that the tree remains balanced and the depth of the tree is as small as possible. and explained more about it.

Q. What is a transaction? I explained and told about ACID properties as well.

Q. How will you ensure that if two transactions are happening simultaneously, and one of them is rolled back, what DS will you use to maintain the consistency of DB? I answer log files and explained how rollback will happen and checked if the schedule happened was serializable and recoverable or not using a transaction timing diagram.

I knew I was fluent while answering the CS Fundamental questions, but was still in doubt because of that coding question which I should have solved. Well a learning experience for me.

Got selected for the next Round 😊

Round 4: Technical Round 3, 5th Aug 2022, 7 pm, 15 min Round 😊

Started directly with a coding question. A simple one

Q. Given a dictionary of key-value pairs and a long string replace words with values if present in the dictionary.

Input

string: I love my country state

Dict: {"country": "India"}, {"state": "Delhi"}

Output

I love my India Delhi

Approach:

Store dictionary as a hashmap, tokenized the string using space as a delimiter, and created an output string.

Coded the same. She seemed pleased.

Q. What is a static variable?

Approach: I explained it both in a functional and class sense and use case of it.

Q. Question for me?

I asked about her position @Infoedge and what skillset she brings to the team. She explained, we said thank you and ended the interview in 15 mins!!

Round 5: HR Round, 6th Aug 2022, 1 pm

1. Introduce yourself
2. Experience in previous rounds
3. Why Infoedge?
4. Strength of yours?
5. Where do you stay current? Whether comfortable with coming to Noida
6. Any questions

Result: Selected

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