

InfoEdge Interview Experience

(July 22nd 2022 – July 29th 2022)

(Online Assessment)

This round had two DSA problem

Q1. There are n people with egos. They think that they will follow pairs with certain type of people whose lowest score is greater than their highest score. Given a range of scores for a person $[a, b]$ where $a < b$ and another person's range $[c, d]$ where $c < d$. First person will only follow second if $b < c$. Your job is to find the longest line where one follows the other person.

One person can follow only person and only one can be followed by one person. Return the length of the longest line.

Q2. Tan needs to make binary trees that has exactly 3 nodes. One root and two children. Condition is that root node value is equal to half of the sum of its child nodes. Given n integers find how many such triplets can be formed.

I was able to do just the first question. Later 4 sections had total 26 questions and each section had separate time bound and you could move to the next section only after submitting the current section. It had questions on DBMS, Linux, Computer Network and output type questions.

They selected 25 students in this round.

Round 1

He gave me his introduction and asked for mine. He started asking questions like what is AVL tree, BST and RB trees, difference between them. Some questions on OOPs like difference between abstraction and encapsulation which I answered correctly.

Then we moved to first question which was to print this pattern using only one loop and since it was the easiest question, he had asked in the entire day I was supposed to do it in 5 mins.

1

2 3

4 5 6

7 8 9

I gave the logic but because of the timer thing I could not get it right on the IDE. I kept asking for several more minutes but I just could not do it. So, we moved to the next question.

Q. From a given root node print all the paths to leaf nodes. I gave my answer just after reading the question that we can do it using DFS and backtracking. He asked me to write the code. I wrote the code on the IDE and created a sample tree and executed the program in one go. Which he found very nice. I think it some what made up for the lacking in previous question.

At the end asked for feedback for the things he think I did well and things that I need to improve on. He said everything is fine but how come you could not do the easy one but did the second one in one go. I said that we can go back to first question again if we have time, I will do it this time.

Round 2

He gave me his introduction and asked for mine. He gave me 1 question

Q. Given a stack s_1 , move the elements from s_1 to another stack s_2 in same order without using extra space.

I asked if I use recursion will it be considered as extra space. He asked does recursion take space and I answered that it does. Then I said if we do $s_1 = s_2$, s_1 and s_2 will point to the same object. In some way that means that s_2 has the same elements as s_1 . He said that's not the way he wants it and gave me a hint that the objective was to optimise space. I then thought of $O(n^2)$ and gave the solution that n times we will empty s_1 to s_2 keep the top element from s_2 and empty s_2 to s_1 and then push the top element back in s_2 and from here we will keep adding top. He asked me to write the code. He didn't ask me to run it.

Then he asked me my favourite subject. I said some parts of OS and DBMS. He asked me what happens if two users write on the same file and then how to avoid it. I said using lock I gave the answer exactly like this [Reader Writer problem](#) with the code. He asked, so the user2 will have to wait for a long time. I said once the lock has been acquired, we can't take it away mid execution so the user2 will have to wait but we can give priority to users and keep them in heap so the one with higher priority can access critical section next. Maybe not the correct answer but then we moved to DBMS.

He asked if our database is big how will we handle that. I said indexing. He asked types of indexing and how it is implemented? Then he asked what else, I said partitioning. What types of partitioning and how they are implemented? Then I mentioned sharding. He didn't ask me much about it and gave me a question to implement horizontal partitioning. I gave a solution of using multiple database server either use hashing technique or maintain a table of which server contains which range. He asked difference between self-join and inner-join.

I asked for feedback, to which he said keep going you are doing well.

Round 3

He gave me his introduction and asked for mine. He asked questions about my projects and internship how it worked, what I did and how JWT works and how is REST implemented. I could answer the questions but deep knowledge was missing. He asked me how TCP and UDP work and then gave a question how sockets would work if user1 was connected to server1 and user2 was connected to server2. I could not answer the question because I did not have the clear understanding. This part was below average.

Then we moved to aptitude part

Q1. We have 9 coins, one is faulty (different weight) and find the faulty one using a weighing scale only twice. [solution](#)

I asked what kind of a weighing scale it was like a digital or traditional one. He said traditional. I asked the difference in weight is it lighter or heavier. He asked would it matter to which I replied that yes because to be able to discard one of the options we need that and he said it is lighter.

Q2. [question link](#) an addition to the question was taking or adding water to a vessel was a transaction so we needed to count the number of transactions so if we add the 1l from 4l jar to 7l jar it will be two transactions.

Q3. This question had multiple events taking place like having 14 apples dropping some getting pears and exchanging oranges and in last it was asked how many pears do I have?

As soon as I completed the question, I asked are all the transactions valid in sense that I gave away 3 apples in exchange of an orange so do I have to check if I really did have 3 apples to give away. He said it happened exactly as written. Then I said since I have been asked about pears, I don't have to concern myself with apples or oranges. I re-read the question and only two lines had pears in them in which I took one and in the next I gave away one so the answer was zero.

Q4. Delete nth node from the last without making another node.

I said the first part is very familiar only the second part is new that I can't create another node. I used the concept that a node is created when I use the new() keyword if I write Node new = head; this won't create extra node. I told the two ways by counting length and by using slow fast pointer. We kept discussing until I reached the answer that we can't use dummy node because I will have to initialise it so the final answer was to maintain the previous node and use it to delete the node but if previous node is null then we will return head = head.next;

I asked for the feedback where he mentioned the inconsistency in my resume regarding the dates and course which thankfully got cleared in the end. He asked if I had any questions. I asked him from today to the day I join infoedge what should I learn to prepare myself. He asked me to focus on fundamentals.

HR round

Introduction

Challenges faced

A situation based question