

Cvent - 2023

Hi all I'm Shubham Paliwal and this is my Interview Experience. There is some advice also for you all in the middle and at the last. All the best for your placements.

Round - 1 Technical : 45Mins

It consists 30 MCQ, 15- from C/C++, 5- Core Java, 5- aptitude(Age, mixtures), 5- DBMS

Apprx 35/77 got into next round

Round - 2 Coding Round: 20Mins

1 question : Given 2 string S : ant , T = bat , find the number of minimum characters you need to insert in S and T to make them equal. Return space separated integers.

For example : S = ant , T = bat, string after making them equal will be : bant (with minimum insertion)

Output will be : 1 1 , 'b' inserted to S, 'n' needed to insert to T

Example 2:

S : tomjerry, T : and

After making s and T equal will be : tomandjerry

So output is : 3 8

Logic : Think in reverse way if we can find the longest sequence of characters that are common to both S and T then subtracting that from length(T) will give us the minimum characters we need to add to S and subtracting from Length(S) will give us the minimum characters we need to add to T.

So question is reduce to find longest common subsequence between S & T

APPROX : 12/35 selected for next round

Round - 3 : Interview round

Interviewer: Harsh Tandon

It started with my Introduction after giving my brief intro I requested interviewer for their intro, on which we had some talk like he was a Full stack developer at the company and for deploying their work they are

using AWS and the Tech stack they using, JAVA & JS were primarily languages in the stack which are my proficient languages too. That made pretty much for me. Then he gave me the question to solve.

Question : given source array [6,2,5,8,9,10,11]

And the target array : [6,8,10]

Check whether the target array is the subsequence of the array or not.

He told me to not answer anything until I fully understand the question.

So I read the question extra carefully. The very first thought came to me was how come the question is so simple. Think again, maybe you are getting it wrong, so I double checked it and then I asked to tell my approach in like 5 mins after the Interviewer gave me the ques.

Approach : 1 pointer for the target array and loop for the source array if number matches then move target pointer to next. Go until target pointer < length of target array or loop variable is < length of source array .

At the end check whether the target pointer crossed the end of the target array or not.

Tc : $O(n)$ Sc : $O(1)$, n - length of source

He asked me to code so I coded it from scratch , while coding I was trying to communicate with the interviewer, for example I asked to hard code array as input? or take user input?

Advice : Speak things aloud so the interviewer will have track of what you are doing now. Are you still on the track or not? You have to share your screen while coding in online interviews right so try to use meaningful Identifiers like variable and method names (instead of a,b,c,d). And comment the operations that don't seem pretty obvious

If you have broken your task into subtasks then comment out the current subtask to make it more understandable. This shows your experience in coding and how much you are fit for the job and whether you have what they want or not.

So coding this logic took somewhat 5-6 mins then he asked about taking the example of the case when an array contains duplicates , will my logic work? I dry run it on the pc and explain it to him.

He was pretty satisfied with my code. Then he asked some questions like Do u know about ACID properties of DBMS?

I said yes , then tell me about 'I' in the ACID.

Next question was : what do you know about $\log(n)$ time complexity? Explain

So I described the complexity And the cases where we encounter it like in the problems where we apply divide and conquer approach, best example is Binary Search and some other examples of it.

It concluded there.

Approx 7/12 selected for the Final round

Round - 4 , Interview Round - 2

INTERVIEWER : Aman Sehgal

So It started with sir asking about how was your day going and how are you feeling by reaching at this level ?

I said day is pretty competitive 😊, where he scolded me a little "competitive? U just give 1 Interview round right? I mentioned OA rounds too 🙄.

So then we didn't get much to talk, neither did he take my Intro and all because there was a sound problem from my side sir was asking so I removed the headset then suddenly he gave me a question.

QUESTION : given paragraph : "bob hit the ball pretty hard and the ball hit the ground".

Banned = ["hit", "hard"].

You have to remove these banned words in the paragraph and return the array.

Output : "bob the ball pretty and the ball the ground".

Note : the banned words can be 10 millions in count .

So I suggested the 1st approach using hashmap to store banned words and extract words from paragraph one by one and keep on checking whether it is one of the banned words.

He said okay but as u mentioned this might not be the optimized approach(well I mentioned this before telling my approach of hashmap. Coz my focus was on the note that some catch is there).

So I took a few more minutes and figured out we can save a million count storage by using Trie.

Which will take search time $O(n)$ where n is the length of the largest word in the array "banned", and average length of words is 6. So it is not big, nearly constant.

After this he immediately asked me to implement the approach.

So I went ahead to write code. My first task was to implement a trie. Which I guess I have rarely done ever. I knew we could have only 26 letters at each node. so each node can have max 26 letters given that only English alphabet letters are used to form words in the banned array.

Implementing it was not an easy task. I was stuck in my mind the Infinite problem of what to define first ? Map for next characters or the object they will store map again for 26 letters each will have an object. So I separately created the class letters to store them.

Then I use the object of this letters class in trie.

Where I implemented addWord and Search word methods. During coding I forgot that I have lost communication with the Interviewer and it's been like 20 mins I'm coding. While I was near the end of the trie implementation sir said to me: "chlo leave it tumse nahi ho raha syd, it's almost an hour"... I was like damn no not this. I resisted and said just 2 mins sir I'm near the end and I keep on coding.

Then I went to the logic of the question where I first added Banned words in trie. And this time I was speaking the logic I'm implementing, traversing paragraph string, extracting words, searching in the trie and using StringBuilder, Coz adding to String in java takes $O(n)$ time and StringBuilder class takes $O(1)$ times, speaks all the thoughts you are getting in your mind that shows what decisions you are taking while coding out your logic and what type of programmer you are.

Then after writing like 120 lines of code when I finished up. He asked me to run it. That too on online compiler "oneCompiler"

So before doing that I asked to do one compile check by myself . He said sure, go ahead. I fixed some silly bugs there.

See this is best practise to compile check your whole code by yourself before submitting it for compile check, to minimize the syntax bugs, nearly all freshers makes it but checking and fixing it shows that we can debug it straightaway. We can use this compile one by yourself in coding rounds too, it does not take much time in fact it saves time and many times I end up finding out the logical bugs too in some cases which I didn't think about before.

Then I run the code on the compiler, which showed 3 compile errors which I fixed in a min and rerun it and code worked

Then he asked me about the implementation of the trie 'coz only that part went when I wasn't speaking much. After explaining that part and what will root have initially, and what isEnd doing initially.

he said ok fine from my side.

I thought the round will get over now. But he had more plans for me.

He asked me a puzzle,

Puzzle -1

Suppose 100 doors are in a row all closed. And when a person walks through the door toggles the gate.

1st walk : person toggles all doors and opens them

2nd walk: toggles all 2nd , 4th , 6th... doors

3rd walk : toggles all 3rd , 6th, 9th..doors

After 100 walks how many doors will be open

So I tried to solve this problem for shorted case, 10 doors and found that only door number with odd # factors will be open at the end. 1, 4, 9 each of them has an odd number of factors.

He said okay nice but tell me the number.

Well tired from this coz I can't find out # of factors for all numbers in 11-100. I asked sir Can I code to find it? 😊 he said no...find the pattern among them...u r close...

So luckily I remembered the logic of calculating number of factors for any number: do prime factorization for example

$$N : p1^{(a1)} \times p2^{(a2)} \dots$$

Where, $p1, p2, \dots$ are prime numbers.

So number of factors will be :

$$\text{Say } y = (a1+1) \times (a2+1) \times \dots$$

So for this y to be odd all terms in multiplication should be odd too, as $+1$ is there in all terms so $a1, a2, a3 \dots$

Each power term should be even.

Now look again at

$$N : p1^{(a1)} \times p2^{(a2)} \dots \text{ here all powers are even I reached till this point}$$

When he said to me yes look, they will form a square only...

So only numbers(N) which are perfect squares will be left open until 100? How many perfect squares are there ?

Exactly 10 is the ans.

Now puzzle -2

4 persons are there and they have 1 torch,

A - takes 1 min to cross bridge

B - takes 2 min

C - takes 7 min

D - takes 10 mins

They have to cross the bridge at night. How will they do that?

So I said 10 min 😊 straight away coz sir forgot to mention how many people can go at a time from the bridge.

After that he mentioned this line that max 2 people can cross at a time else the bridge will fall.

So I solved this puzzle

Soln :

1st A,B will cross the bridge - 2 mins spent.

Then A will come back bringing the torch 1 more min spent

Then C,D will cross taking 10 more mins

Then B on the other edge of the bridge will take the torch and come to the side of A in 2 more mins.

And then A and B will go to other side of the bridge total taking = $2+1+10+2+2 = 17$ mins

So he seemed quite satisfied with my answers for the puzzles too.

This all took somewhat 1.5hr.

Then he asked the last question, anything u wanna ask me?

That's where I came into action and tried to communicate more with the Interviewer and fill up the communication gap developed during coding.

Coz if I had wind up my Interview there by saying "No sir I don't have anything to ask" it could have gone sideways. I asked many of the things that I had in my mind, like advice for a freshy entering into Industry, your experience when you were freshy and how'd you survive and the best way to make your industry life easy and not boring and hectic like many complaints. Etc.

See at last u only want to leave a positive impression of urs on the interviewer, right?

I know some interviewers are like we aren't allowed to give u feedback the hiring team will give u etc. They are not allowed to tell you about your interview.

But if you manage them to talk to you apart from the Interview stuff.

Then that will leave an impression that he manages an Interviewer talk to him like two known peoples having discussion on some memories of the one and listening to the experience this tells about your social skills.

Some Advice for the readers:

Summarizing all I will say my never to give up attitude instead of listening "leave it Shubham you might not be able to do it". I did the code and it executed perfectly. The social skills and way to write code left the mark on the Interviewers that they selected me.

- It's obvious that you are supposed to solve the question you are assigned to.

But instead of just ending up your interview after solving the question. You can take it to the next level by communicating well and sharing your thoughts 'coz that makes the interview exciting.

- I will say Interview rounds are not only meant for the technical stuff only if you feel that the Interviewer is chill and you can communicate for 5-10 more minutes with the Interviewer at least that will give you some experience, isn't it?

- Try giving coding contests on platform like leetcode, GFG , InterviewBit, anything which suits you to get the experience of the coding rounds and the way to manage time and keep calm and cool yet quick during the round.

- One of my friend told me just before my 1st interview round that you don't have to answer the question immediately as you hear it, even if you know the answer, take a few seconds to let your brain frame the answer in the perfect way possible and then speak. Be calm, that's more imp and that really helped me in both rounds. Thanks to him .