

# Mohd Shoaib Rayeen, Batch 2017–2020

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## PropTiger Experience

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### Round 1 – Online [ Time: 2 hrs 30 Minutes ]

- 30 MCQs on Complexity, DS, Algo, DBMS
- 4 Coding Questions –
  1. Given A Matrix of R x C, You have to return the sum of all rows ( except that column which has the lowest sum ) in given structure.

For Example:

```
10 , 12 , 33 , 55
91 , 43 , 18 , 4
31 , 15 , 90 , 1
```

In this example, you have to leave the last column while calculating the sum of all rows.

2. Given A Matrix of R x C which contains 0s and 1s, You have to return the minimum number of rope that can cover all 1s. One rope can cover all 1s which are either in the same row or the same column.

For Example:

```
0 , 1 , 0 , 0
1 , 1 , 1 , 1
0 , 1 , 0 , 0
0 , 1 , 0 , 0
```

The Output should be 2.

3. Find Minimum Steps to reach from (1,1) to (M,N)
4. Convert Infix Expression to Postfix Expression.

**Result: 13/31 Students were called for Interview I**

## Round 2 – Technical Interview I

- Discussed How Alexa Works.
- Discussed about Favourite Subject.
- Write code for Level Order Traversal of Binary Tree.
- Write code to reverse A Singly Linked List.
- Given N people with standing in a circle, one person can cut its next person. You have to print about Killer and whom the killer killed and return the original position of the last person. You have to use the best data structure and also write code to implement it.
- How would you define many to many relations in ER Diagram and in the table. Based on your answer, you have to write one query which involves and validates your answer.

**Result: 7/13 Students were called for Interview II.**

## Round 3 – Technical Interview II

- What is JSON? How do you send JSON over Network?
- What is AWS Lambda? How does Alexa send data to Lambda and how does lambda respond?
- How does Alexa simulate Natural Language Processing, Machine Learning and Speech Recognition?
- Little discussion on Voice Apps.
- Why do you choose Nodejs over Python or vice versa?
- What is Log? How does it maintain on the server? Have you used it? How did you implement it?
- Discussed about 3 projects.
- Asked about locking mechanism.
- What is thread? Why do you choose thread over process?
- What is multithreading? How would you overcome with the race condition? Write code for that part of Buffer Cache Simulation where you have used lock and why do you use it?
- What is Semaphore?
- What is Serializable and Deserializable?
- You have given an array of size N. You have to replace every element with the sum of all elements except that element.
  - For Example: { 5 , 2 , 3, 4 }
  - Output : { 9 , 12 , 11 , 10 }
  - You can't use '-' operator and any bitwise operator. You have to do it in  $O(n)$  Space and  $O(n)$  Time.
- What is Hashmap? Why is it used? You are given a Hashmap of Size 5. How would you insert elements in this? How do you resolve collision in Hashmap? Asked me about Quadratic Probing.
- You have given N distinct tickets. You have to find the origin from which you can traverse all the tickets. You have to print

the path. Tickets are stored in a structure. You have to do it in  $O(n)$  Time and  $O(n)$  Space.

For Example: 4 tickets

Bangalore -> Goa

Mumbai -> Bangalore

Goa -> Punjab

Delhi -> Mumbai

Output: Origin : Delhi

Path: Delhi -> Mumbai -> Bangalore -> Goa -> Punjab

- What is Deadlock? How do you detect Deadlock? How would you resolve Deadlock?
- You have some contacts and some groups. You can create a group with some of contacts. You can send messages to other contacts and groups. For group, you have to keep track who has seen the message.
  1. Draw an ER Diagram for the same.
  2. How would you write query for all operations?
  3. How would you implement the seen function?
- What is KNN? What is machine learning?
- Have you used any framework or UI? ( except Alexa )

**Result: 6/7 Students were called for HR Interview.**

## Round 4 – HR Interview

- Tell me something which is not in your resume.
- How do you get interested in Tech?
- What is your technical Skill?
- What are your weaknesses?
- Where are you from?
- Asked about Family Background.
- How do you cope up with Stress?
- What are your hobbies?
- What did you face during your graduation and how did you resolve them?
- Can you work till 12 AM?
- What would you do if you have to take an interview at 6 AM?
- Suppose you are an HR, Now tell me how would you manage the same thing?
- What do you prefer – working alone or in a team?
- How do you define your leadership quality?
- What do you do when you can't solve a problem?
- How are you improving your English?
- Do you write stories or anything?

**Result: 3/6 Students got conditional Internship Offer.**

## Tips:

- Write clean code and use variable name wisely.
- Even if you are right, Interviewer can try to manipulate you, Beware of that.
- Handle all test cases. [ I have handled all the test cases in each problem. I could not write code for all coding problems asked in Technical Interview II but I did not give up and I gave him the correct approach.]
- Write only those things in your resume for which you know very well.
- Even if you are not confident in English, Answer it in Hindi.
- Don't answer those questions which you don't know. [ Even I have not answered some questions.]
- Until Interviewer says to write anything, Be interactive.
- Read about System Design. How it works, databases used, Query etc.
- Explain your approaches, Projects etc. in easy way.