

Placement Experience with SAP Labs

Interviewee 1:

Round 1 (Technical Round)

DSA questions:

1. <https://leetcode.com/problems/house-robber/description/> (after my dp solution I was asked to do this without using recursion)
2. <https://leetcode.com/problems/house-robber-ii/description/>
3. Graph Traversals
4. <https://leetcode.com/problems/isomorphic-strings/description/>
5. <https://leetcode.com/problems/binary-tree-level-order-traversal/description/>
6. <https://leetcode.com/discuss/interview-question/3809489/binary-tree-level-order-traversal-using-recursion-dfs>

Basic Development Related questions:

1. What do you know about Spring Boot?
2. Explain Annotations in Spring Boot.
3. What do you know about MERN?

JavaScript:

1. Can you tell me about classes and objects in JavaScript and how they are used?
2. Property accessors and dot notation in JS? And a code related to it.
3. How do you use the this keyword to reference objects in JavaScript?

REACT

1. Can you explain the different state management techniques in React?
2. Do you know about the Context API in React? Could you explain how to wrap an app in it and how it can be used for managing global props?

DB

1. How many databases are you familiar with?
2. What do data entries look like in MongoDB?
3. Difference between rdbms and mysql.
4. 3 SQL queries: 1 using group by and having clause and 2 using joins.
5. How many NoSQL databases are you familiar with?

Operating Systems:

1. What are Deadlocks?
2. Deadlock prevention methods.
3. Difference between process and thread?
4. Can you implement threading on a single CPU?
5. Multiprocessing.

Projects

Explain your projects briefly.

JAVA

1. OOPS
2. Access Modifiers.
3. Can you call a private method of a class from outside the class using an object? Will it result in an error?

Round 2 (Technical Round)

DSA questions:

1. <https://leetcode.com/discuss/general-discussion/937307/iterative-recursive-dfs-bfs-tree-traversal-in-pre-post-levelorder-views>

2. <https://leetcode.com/problems/roman-to-integer/description/>
3. N-ary tree traversals.
4. <https://leetcode.com/problems/valid-parentheses/description/>
5. <https://leetcode.com/problems/permutations/description/>
6. <https://leetcode.com/problems/combinations/description/>
7. <https://leetcode.com/problems/subsets/description/>

SQL queries:

2 queries based on Joins.

Projects

Explain your projects. Explain API functionality.

Round 3 (Managerial Round)

1. Can you work in teams? Can you be a team player? Tell me a scenario where you did it.
2. What is the easiest way to obtain the number 120 using a mathematical function applied to the number 5? (Answer:- Factorial)
3. How useful is AI in the software industry compared to human expertise? What are the strengths and limitations of AI versus human contributions?
4. Explain your schooling and about your life.
5. What inspires you to join SAP Labs?
6. What do you know about SAP?
7. Questions about family and educational background.
8. What do you know about Google's Gemini and ChatGPT? How would you explain it to a layman?

Round 4 (Managerial Round)

1. How many company interviews did you attend before this one, and what were the outcomes or results of those interviews?
2. Questions about family and educational background.
3. What Databases are you familiar with? 1 query based on Cross Joins.
4. What are your hobbies?
5. Would you consider yourself as an independent individual?

Round 5 (HR)

1. Questions about educational and family background.
2. What do you know about SAP Labs?
3. Is SAP a service based or a product based company?
4. Explain your projects.
5. Did you encounter any challenges during a group project, and how did you overcome them?
6. What steps would you take to handle a conflict or quarrel within a team?
7. How would you explain API functionality to a 10 year old?

Interviewee 2:

Technical Round 1:

1. Introduce Yourself.
2. Draw the system design for Library Management System
3. Draw the ER Diagram
4. Write Data Models. Questioned about relationship between the models.
5. Three to Four Queries on the data model you have drawn.. Retrieve the student details and number of books he have.
6. Delete the student entry. How the deletion works in dbms.
7. Explain the Quick Sort Algo. Time Complexity Explain.
8. Write Bubble Sort Code. What are the time complexity. When to choose this sorting?
9. What are the states of Process?
10. What is Load Balancer? When you know you have to use load balancer?
11. What do you know about system design. How much you updated about this? I told them

recent switch of amazon from microservice to monolithic and explained them the reason of doing so.

12. Cross Questioning about microservices and monolithic. Advantages and disadvantages.

13. Why you used NoSQL? Why not SQL?

14. Why is the need of UI design and why we provide UX?

15. Asked some css basic concepts.Box model and all

16. Real use of Continuous Integration as I was a PCM student.

17. What are the models you have used in this particular project. Write the APIs. Cross questioning on APIs

18. What do you think about peer pressure? How you take it?

19. Which novel you are currently reading. Who is the author and what you gained from this book?

Technical Round 2

1.Tell me about yourself which is not in resume

2. Explain your project.

3. What would be the system design of this project. Do you know high level design. Explain

4. What would be the HLD of this project

5. Then how the data will flow in between them.

6. Asked about authentication, authorization. How TLS works, what are the functions behind it

7. How bcrypt and jwt works. How your password is encrypted and decrypted. Have to explain the flow. How it will check the user credentials again. What is header and payload in context of jwt.

8. Draw the model of your project and how you fetched the particular data.

9. when will you require more models?

10. How loads get balanced on servers?(Explain them with the help of hashing and drawback of normal hashing. To resolve this we have consistent hashing)

11. What is horizontal scaling?

12. When you think microservice architecture would be a better choice.

13. Write the model of your any project in your programming language.

14. Some coding questions on oops concept.

15. How this and super will work. As i have written some code he was cross questioning between it.

16. You have to use the parent class constructor. How would you do. Why you have not used this(). Then what this() do.

17. Explain the concept of oops and real life example of oops. Have you ever used in any of your project?

18. How abstraction works. Give me real life example.

20. Explain me a scenario where you will use abstraction in your project.

21. Explain OOPs. Advantages.

22. If there is advantage of oops. Then what you think would be the disadvantages.

23. NoSQL advantages. Can we gain NoSQL like property in SQL.

24. What is CAP theorem

25. Swap two numbers.(All the three approaches)

26. Deque without using queue.

27. Coin change question. Just asked approach.

28. Is there anything I haven't asked you from your resume? Explained him one of my favorite project. Who are the competitors and all. The research behind the project. On what module I am currently working on.

Interviewee 3:

Technical Round 1:

- The first question was regarding my projects I was asked to explain about my projects. I had three projects in my resume and two of them were that of machine learning so I was asked to explain each of them thoroughly (It was less of a discussion and more of cross questioning...so be fully prepared about your projects)
- Next question was based on my development project ...how did I ensure secured authentication and authorization of a user.
- Chose any sorting algo of your choice (any easy one also) and explain each and every iteration of it (Basically dry run). Time complexity space complexity.
- I was given three basic Tree questions (I don't remember the questions) but they were easy and basic level
- I was given one graph question where I had to find out the cycle in a graph how will I store everything that would help me to figure out the cycle in the graph and what are the data structures that I am using to store other elements that are needed in the implementation and some follow ups
- what is an abstract class
- what is the difference between an abstract class and an interface
- under what cases are abstract class is implemented
- give a real life implementation example of an abstract class
- database scaling and what are the various types

Technical Round 2: (System Design Round)

- I was asked to design an inventory system including all the data models of the system and all the classes.
- I was given some constraints ...put checks on particular stock so that it could not go negative, also if the stock of any product reaches below 20 I should send an alert for refilling
- it was completely a 40 minutes discussion and he asked me to design the entire system on the white board and in the middle of that there were cross questioning and discussions about why am I thinking thiswhat would be the need of this particular table what would it be doing and how
- I was asked about how would I scale my system ...the implementation
- If two customers want the last stock of same product ,how will I handle the situation so that no double order is placed for it
- How will I manage the cyber attacks like DoS.
- How will I ensure security
- How will the different servers of this inventory system be connected and updated.
- At last I was asked one dsa question....search an element in a rotated sorted array.

Managerial Round (Round 3):

- Asked about my projects and the technologies I have worked on
- How did you manage conflicts in my team
- Why did I chose to lead
- Do you think certain qualities are required for someone to be a leader
- You have several leadership positions mentioned ,how did you cope up among them
- How do you keep in touch with latest technologies
- How do you think these ecommerce websites are upgrading themselves each day...whaat have you observed about them
- If there is customer whose entire company depends on a outdated technology ,but your team is interested in working on the latest trends ...how will you tackle the situation ...what solution would you bring in this scenario
- What are your weaknesses
- Explain one journey of your life that has helped you evolve better

Managerial Round (Round 4):

- What is the admission process for MCA in NIT
- Why did you chose doing MCA over computer science engineering
- Why should I Consider you over BTech CSE
- Whats your favourite subject and why
- Are you famous ..because you mentioned a lot of positions in your extra curriculum
- What apart from academics are you good at
- Why do you want to be a software engineer
- Some brief about your projects
- Honestly answer , what according to you is the most important quality a person should have and why

HR round (Round 5):

- Give a brief about yourself
- What are your hobbies
- Where are you from
- Why did you chose MCA over btech
- About my graduation marks
- How did covid impacted your academics during bachelor's
- Explain something that you learned in your journey of MCA
- Explained the salary bifurcation