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Amazon interview Experience | Set 129 (For SDE 1 Off-Campus)

- Difficulty Level :\nHard
- Last Updated :\n30 Sep, 2014

In the recent past, I attended interview with Amazon. Here is my interview experience.

Written Round: 1.5 hours
1. Given an array of integers, replace each element with the next immediate greater element.
2. Given a linked list, reverse each 3 nodes.
3. Given a tree, print all the nodes which are K distance from the leaf nodes.

Face to Face Interview 1 (Data structures and Algorithms)
1. Given a source string and destination string, Find the minimum number of edits (operations) required to convert one string into another. At the end of each operation, the resultant string should be a dictionary word.

2. Given an array of integers where each element represents the max number of steps that can be made forward from that element. Write a function to return the minimum number of jumps to reach the end of the array (starting from the first element).
3. Given the coordinates of billion stars in the sky, find the closest 100 stars from our current position (0,0).

Face to Face Interview 2 (Problem solving)
1. Given a binary tree, write code to check if it is a binary search tree.
2. Given a binary tree and two nodes, write code to find the common parent for the 2 nodes.
Given the below tree, and nodes 18 and 21.

```
\r\n       10\r\n   5       15\r\n 2   3   12   18 \r\n           16    21
```

The result should be 15.

Face to Face Interview 3 (CS Fundamentals)
Tell me about yourself.
Why career change ? Why Amazon?
1. What happens when you compose an email and press the send button. How is the mail
delivered?
2. Explain how mail server works.
3. Tell about the routing algorithms you know.
4. How is the data transferred across the network ?
5. Difference between TCP/IP and UDP.
6. What are the functionalities of an Operating System?
7. How does OS schedule processes ?
8. Which type of scheduling algorithm is used widely ?
9. How does OS replace processes in memory ?
10. How does OS detects if a deadlock has happened ?
11. When you type an SQL query in interpreter, what does happen? How is the query processed?
12. What is Primary Key, Foreign Key ?
13. Should Foreign key needs to be primary key of another table ?
14. What is index ? How it is implemented ?
15. How is the data stored in the database ?
16. Why doesn\xe2\x80\x99t Java support Multiple Inheritance ?
17. What are the advantages and disadvantages of Multiple inheritance ?
18. Tell us about the design patterns you know.
19. Do you know about Factory Design pattern ?
20. Write a simple class which implements Singleton design pattern. Applications of
singleton design pattern. Why don\xe2\x80\x99t we declare the class itself as static class ? Why
don\xe2\x80\x99t we declare all the members as static ?

Face to Face Interview 4 (Hiring Manager)
Tell me about yourself.
Why career change ? Why Amazon ?
1. Discussion about my current project, I am working on. Questions related to schema design, how can we improve it ? How to make the application scalable if
the operations and data (session creation & data) are going to be increased 100 times. When do we need big data ?
2. What is your biggest achievement ?
3. What do you expect from your manager and team members ?
4. Given billion numbers in a file, get the top 10 numbers from it.
5. Write code to implement Hashmap in Java. It should accept any datatype and also objects.
6. Provide a high level class design for cab management system. Finding available car anytime and booking it, customers, orders, etc.

Face to Face Interview 5 (Bar raiser)
Tell me about yourself.
Why career change ? Why Amazon ?
1. What is your biggest achievement ?
2. Discussion about my project. Discussion about the tasks which I have done.
3. Tell me about a situation where you had a conflict with your manager and how you resolved it ?
4. What is the biggest bug have you made ?
5. Have you developed any tool, which is used by your colleagues ?
6. Is there any task which you feel, that you could have done better in your project ?
7. Have you suggested any ideas and improvements to your project, beyond your call of duty ?
8. Given a binary tree, write code to get the vertical sum of all the columns in the tree, with minimum space complexity. After I told a solution with Hash, he asked me to come up with a solution without using hash and code it.

Face to Face Interview 6 (Data structures)
1. Given a binary tree, how would you serialize it, store in a file and then recreates it again from the file ?
2. Given a dataset below,

```
\r\n   Name   Score   Rank\r\n    A    50    1\r\n    B    40    2\r\n    C    30    3\r\n    D    20    4\r
```

Name is a string and Rank is inversely proportional to the scores.
What type of data structures would you use to store these data to perform the following operations ?
1) Given Rank, Get the Name and Score
2) Given Name, Get the Score and Rank
3) Given Name, Update Score.

Though I didn\xe2\x80\x99t get the offer, it was an amazing interview experience with Amazon. Thanks to GeeksforGeeks, an ultimate portal for learning DS & problem solving and for cracking the coding interviews.

If you like GeeksforGeeks and would like to contribute, you can also write an article and mail your article to contribute@geeksforgeeks.org. See your article appearing on the GeeksforGeeks main page and help other Geeks.

All Practice Problems for Amazon !

My Personal Notes\narrow_drop_up

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