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Amazon Interview Experience | Set 206 (On-Campus for SDE-1)

- Difficulty Level : [Hard](#)
- Last Updated : 08 Dec, 2021

Hi Everyone recently Amazon visited our campus for SDE-1 and internship and I got an offer for internship as well as SDE-1. Here's my experience.

Written Exam(1hr:30mints):

There were 22 questions asked in which 20 were of MCQ's and 2 coding questions. Most of the MCQ's came from OS, Algorithm, C-o/p and aptitude (directly from previous year Computer science GATE).

First coding question: [Determine the diameter of a tree](#) (Taking input was a bit difficult as we have to take input in array of unknown size, sort it and create BST).

Second coding question: [Given a string of words seperated by comma, we have to print pair of words who are anagrams](#) line by line(case-insensitive). If you don't find any such pair then print -1.

Interview Rounds:

Round 1(1hr:15mints):

1. Started with Introduction then he jumped into project and discussed about 15 mints.

2. [Given an array print elements according to frequency and if two elements have same frequency then print it in decreasing order.](#)

Gave solution using 2d matrix in $O(n^2)$. Then reduced the complexity by using AVL tree in $O(n \log n)$. Later coded AVL tree solution on paper.

3. Given a binary tree, [print boundary traversal](#)

I gave solution by using three traversal(as given in gfg) then he asked me to do it in single traversal. I discussed a lot with him then finally came up with solution by using queue and stack data structure. Later he asked me to code it and I coded correctly. He was impressed with my code.

Round 2(1hr):

1. Started with project discussion of around 25 minutes.

2. Given an array of stock prices, find maximum loss in buying and selling stocks. I gave him approach first, then he asked me to code. Coded it.

3. Implement garbage collector in C without using free function.

4. What is virtual inheritance.

5. Explain how the file is stored in memory.

6. Explain UNIX inode Implementation.

7. Difference between process and threads.

8. How threads are executing parallelly and how they share memory.

9. Asked algorithm to schedule kernel level threads(gang scheduling).

Round 3(1hr:30mints):

1. Started with Introduction

2. Detailed project discussion of around 45 minutes.

3. Given me the Resource allocation graph with set of processes and resources, ask me to tell him the approach to execute all the process.
I told him to use topological sort suddenly he said very good and ask me to code. I coded it.
4. Explain the need of synchronization with the help of example.
I explained him with use of producer-consumer and printer spooler problem(also written code for both).
5. basics of synchronization i.e code for wait and signal operation and how the semaphore maintains their suspended list.

At the end of this round interviewer was very impressed.

Round 4(1hr):

1. [Given a integer number n, tell its binary representation is palindrome or not.](#)
e.g 4=100 not palindrome
5=101 palindrome.
TC = $O(n)$ and SC = $O(1)$ was expected and I coded it.
2. He gave me a java code using lock on this keyword.Ask me is there any problem in the code using lock keyword when multiple threads are running concurrently. I found the problem then he ask me to resolve it and I resolved it.
3. What is virtual memory. Who implements it.
4. How virtual memory concept is implemented in system.

Tips:

1. Interviewer don't expect you to give all correct answer though they want to see your approach first and how you tackle a problem which you don't know apriori.
2. Brush up OS fundamentals thoroughly and try to practice code on paper as much as you can.
3. Along with basic data structures also have some idea of advance data structures like BBST,Trie,Graphs etc.
4. Think loud in front of interviewer and try to engage him all the time.
5. Listen his words carefully, probalbly they will have some hints to answer.

I would like to thanks geeksforgeeks team for providing such a great platform. You guys are doing awesome job.

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