Interview Experience – Amazon

Day 1 – Online test

- 20 MCQ questions based on Data structures, Algorithm etc.
- 2 coding questions:

Day 2 - Interviews

There were 4 rounds. All were technical interviews.

Round - 1

Started with tell me about yourself. Then he gave me 2 questions to code:

1. Given a binary tree, print its left view.
2. Given a binary tree, print boundary nodes.

Then he asked if I had any questions for him.

Round - 2

He asked me three questions.

1. Suppose you are given n number of tasks and idle time (For which no task can be scheduled). There are 26 types of tasks (Denoted by Alphabets) and time taken to process each task is same, suppose 1 unit.
   Ex: suppose the given tasks are {A, A, A, B, B, B} and idle time is 2 units, so if first task has been scheduled as A at time, say t0, the next A task can only be scheduled at t3 (that is, leaving two units), similarly if B has been scheduled at t1, then next B task can only be scheduled at t4, and so on. In this case, t2 remains idle.
   Going like this, the question is to arrange the given set of tasks in the most efficient manner, that is, by minimizing idle time.
   I gave an n2 approach, then he asked me to optimize it. I was able to come up with a O(n lgn) approach. Then I was asked to code the optimized solution.

   Then I was asked to describe heaps briefly, and asked to code min heapify procedure.
2. Given a string consisting of opening and closing parenthesis, write code to find length of the longest valid parenthesis substring.
3. Given an infix expression, write code to solve it.

Then in the end, I was asked if I had any questions for the interviewer.

Round – 3

- Started with how was your day so far, brief introduction of the interviewer, followed by a discussion on my projects.
- Next he asked me about my favourite data structures and gave me the following question to code –
  A number is represented as a linked list. Add 1 to it. For example 1999 is represented as (1-> 9-> 9 -> 9) and adding 1 to it should change it to (2->0->0->0)
- Next he asked me the following question:
  Consider an e-commerce company ABC that sells only one type of product. It only processes bulk orders i.e., you cannot order 1 unit of a product. The quantity ordered should be > 1. This company has many vendors and warehouses to store pre-packed goods. Here's how the configuration a warehouse goods might look like:
  (No of Bundles of product, no of units in each bundle)
  Input can be of the following form:
  [(10, 2), (2, 3), (1, 5), (3, 6)]
  Interpretation: The warehouse has 10 pre-packed boxes each containing 2 units of the product, 2 pre-packed boxes each of 3 units of products, and so on.

  One more thing. Managers are not going to unpack and edit any of the pre-packed boxes. A box containing "x" units won't be edited after packing and storing in a warehouse.

  Now, he asked if an order request, R (Quantity), comes in. How will the manager serve the request successfully, in the most efficient manner?

  Example: Consider the configuration [(3, 2), (4, 3), (1, 6)]

  Input: 6 units

  Solution 1: One bundle containing 6 units

  But this will exhaust our bundles containing 6 units.

  Solution 2: 2 boxes of 3 units.

In the end he asked me to code the approach. So this was the final question of this round.

Round – 4

Following questions were asked –

- Post order Traversal of a tree (which I did using recursion)
- Post order traversal without using recursion (which I did using two stacks)
- Post order traversal using only one stack
- Post order traversal without using stack or recursion.

- Few questions from DBMS about transactions, ACID properties etc.
- Discussion on projects

In the end, I was asked if I had any questions for him.

That’s all!

-Anushka Saxena

MCA 2015 - 2018