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Amazon Interview Experience | Set 376 (On Campus for Internship)

- Difficulty Level :\nMedium
- Last Updated :\n11 Jul, 2019

Amazon visited our campus(Jadavpur University) to recruit interns and FTEs. I\xe2\x80\x99m sharing my internship interview experience.
There were 3 rounds in all \xe2\x80\x93 1 Online Round followed by 2 F2F Interviews.
Online Round(90 min on Hackerearth):

There were 20 questions mostly based on C, C++, DS, Reasoning and a few from OS, OOPS, DBMS etc and 2 coding questions.
The 2 coding questions were:

1. Find the maximum sum of lengths of non-overlapping contiguous subarrays with k as the maximum element.

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   \r\nEx: Array: {2,1,4,9,2,3,8,3,4} and k = 4\r\nAns: 5\r\n{2,1,4} => Length = 3\r\n{3,4} => Length = 2\r\nSo, 3 + 2
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   Solution: GeeksforGeeks Link

2. You are given an array A where A[i] (1-based indexing) denotes the number of chocolates corresponding to each station. When we move from station i to station i+1 we get A[i] \xe2\x80\x93 A[i+1] chocolates for free. Note that if this number is negative, we lose that many chocolates. We can only move from station i to station i+1 and that too if and only if we have non-negative number of chocolates with us. Given that cost of one chocolate is Rs. P , our task is to find the minimum cost incurred in reaching station n from the first station (station 1).

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   \r\nEx: A: {1,2,3} and P = 10 Ans: 30\r\nTo reach station 1 from the starting station, we need to buy 1 chocolate.To
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   Solution: GeeksforGeeks Link

Out of around 150 students, 26 were shortlisted for Round 2.

-> In the 1st question those who used cin/cout instead of printf/scanf got TLE in 20% of test cases.

->In the 2nd question not a single test case was passed on using int instead of long long int. I wasted about 40 mins on this.

->Doing MCQ was important. Few students who solved both the coding question but didn\xe2\x80\x99t attempt the MCQs were not selected while some who could solve 80% of 1 question(8/10 test cases) and few MCQs were selected.

Round 2: FTF Interview (Around 30 mins):

1. The interviewer told me to introduce myself.
2. Count all nodes at distance k from a given node in a binary tree. It\xe2\x80\x99s very similar to Print nodes at k distance from a given node .
   Suddenly he went out of the room and came after about 20 mins.By that time I came up with the O(n) solution, I explained it to him with a pseudo code.

   Then, he asked me if I had any questions for him.

Round 3: FTF Interview (Around 45 minutes):

First, the interviewer told me to introduce myself and then asked me the question asked in the 1st round. Then, she asked me about threading.I told her that I haven\xe2\x80\x99t studied JAVA well. Thereafter she didn\xe2\x80\x99t ask anything related to JAVA.

1. Search in row and column wise matrix I started with an O(RlogC) ssolution,she told me to optimize it , after some time I finally gave the O(R+C) solution.She asked me to write the code.
2. A stream of integers are coming you need to keep the track of minimum at any time, which DS would you use? I told her that I\xe2\x80\x99ll simply store the numbers in a vector and keep a variable min and update min whenever required. Then she told me what if you need to find Kth minimum. I told her to explain the question again , then she asked Kth largest or smallest element in an array. We discussed various approach. She asked me to code the Max-heap approach(use of STL was allowed).Then she asked me various questions about heap.
3. How to represent heap efficiently? I told her the array representation, then she asked me to explain the one using pointers. After that, she asked me which one is better and why? I listed various reasons one of which was that array is cache friendly, she asked me to elaborate this.She also asked me few questions on cache.
4. She asked me to explain heap sort in detail.
   GeeksforGeeks Link
   We discussed it for about 5 min covering everything in detail. Code was not required.
5. Connect N ropes with minimum costInitially my approach was wrong, she showed a case where it failed . After some time i told her O(N*N) approach which was correct, she asked me to optimize it and told me to think of some DS which i can use.Finally, I came up with the solution using heap, she asked me to code it.

Finally, she asked if I had any questions for her. My experience of this round was very good, the interviewer was very helpful and friendly.

Out of the 26 selected for the interviews, 13 were finally selected for internship.

During my preparation geeksforgeeks, indeed, was a great help. Almost all questions asked in the interview were from geeks. A big thank you to other geeks as well for sharing their interview experiences as going through past experiences was the perfect way to end my preparations.

My Personal Notes\n*arrow_drop_up*

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