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Amazon Interview experience (Off-Campus 2019)

- Difficulty Level :\nMedium
- Last Updated :\n15 Jul, 2019

Hi all, Amazon conducted a pool drive in January 2019 in Gurugram. We were shared a link for the test hosted on HackerEarth. The pattern of the test was 20 MCQ\xe2\x80\x99s and 2 Programming Questions.

Online Test:

20 MCQ\xe2\x80\x99s based on OS, Network, COA, DBMS, OOPS.

Q1: Given a NxM Grid. The grid consists of only 3 integers(0, 1, 2)

- 0 denotes empty cell.
- 1 denotes a cell containing plant.
- 2 represents a cell where you are standing currently.

You can move to adjacent cells (Up, Down, Left, Right). Find the length of the shortest path to reach one of the boundaries without stepping on a plant.

Length of the path is the number of moves you make.

Q2: You are given some rules (<=26) an integer K.You can make several permutations of the rules while keeping the given rules fixed.

Write a program to find the Kth lexicographically smallest permutations of the rules.

Eg.

Input:
bcd (Rule)
xyz (Rule)
1 (K)

Output:
axyzbcdefghijklmnopqrstuvwxyz

Explanation:
Alphabets b, c, d have already been mapped to be represented x, y, z respectively. Now we need to find the lexicographically smallest (K=1) permutation of the alphabet. This is done if we assign each remaining alphabet to the earliest possible position in the permutation. Hence, the answer is\xc2\xa0axyzbcdefghijklmnopqrstuvwxyz.

I got the first question complete and the second question partial which was enough to qualify for the face to face interview.

Round 1:

Q1: ZigZag Tree Traversal

Q2:\xc2\xa0Binary Tree to DLL

I answered them both.
The interviewer first asked me to think of the approach and explain that approach to him.Once he was satisfied with the approach, He asked me to write production level code.

Round 2:

Q1: Given a list of IP addresses [192.12.23.45, 234.23.56.89, \xe2\x80\xa6]. Remove duplicate IP\xe2\x80\x99s in the list.

Sol: I gave the first answer that store the IP addresses in a set while iterating and if IP is found in set, remove it.
However, Interviewer wasn\xe2\x80\x99t satisfied with the space complexity so he told me to reduce the space complexity.
I came up with a tries based solution where instead of storing an IP in set, I store it in Trie.(Space complexity is reduced as Node in Trie doesn\xe2\x80\x99t take up space unless allotted a value as well as instead of creating a new node for every IP, in Trie a node can be reused if even half of the IP is same).

Q2: Maximum path sum
(Without Space Complexity)

Solved the first question completely but took more time, so couldn\xe2\x80\x99t solve the second question on time.

Verdict: Rejected

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