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Amazon Interview | Set 36

- Difficulty Level :\nBasic
- Last Updated :\n17 Jun, 2019

1 round (20 MCQ + 2 coding question)
3 face to face round, 1 telephonic interview.

1st coding question
\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x93
Find the diameter of the tree.

2nd coding question
\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x93
check the validity of sudoku.

1st face to face Round
\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94-
Qs-1) In a binary tree, a complete path is defined as a path from root to a leaf. The sum of all nodes on that path is defined as the sum of that path. Given a number K, we have to remove (prune the tree) nodes from the tree which lie on a path having sum less than K. A node can be part of multiple paths. So we have to delete it only in case when all paths from it have sum less than K.
I was able to solve the problem with bottom up approach, and able to write a working code of it.

Q-2) Given an array of positive numbers, find the maximum sum of a subsequence with the constraint that no 2 numbers in the sequence should be adjacent in the array. So 3 2 7 10 should return 13 (sum of 3 and 10) or 3 2 5 10 7 should return 15 (sum of 3, 5 and 7).
I was able to give him a DP solution with a Parent array which stores thee index of the parent of every element,i hd put -1 for the first element,at the end I backtrack the array to find the all the elements.

2nd face to face Round
\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94-

After some personal questions, the interviewer asked 1 coding question

Q-1)
n1 pairs of \xe2\x80\x9c{} \xe2\x80\x9d brackets
n2 pairs of \xe2\x80\x9c[] \xe2\x80\x9d brackets
n3 pairs of \xe2\x80\x9c() \xe2\x80\x9d brackets
I have to find the all valid combinations of all the pairs. I have to write the working code of it.
I gave him the solution with recursion and stack.

3rd face to face round
\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94-

Interviewer asked some basics Questions on Design patterns, OOPS and OS,after the big Discussions of all the Questions he asked 1 coding questions.

1st Question
\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94
There is a string, in which all the spaces are removed, we have to find the original string with the help of a machine which takes input a word checks that it is valid or not.

Telephonic Interview
\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94\xe2\x80\x94-

The Interviewer asked to give a brief idea about my project.
After some questions on my Project, the interviewer asked 2 coding question

Q-1) tree to doubly link list. O(n) and in-place solution is required.

Q-2) A array of N elements, we have to replace all the elements with nearest greater which is present on the right side of that elements. O(n) is required.

After 2 days, they inform me that I am selected for the job. \xf0\x9f\x99\x82

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