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Microsoft Interview SDE intern 2019

- Difficulty Level :\nMedium
- Last Updated :\n01 Jul, 2021

Round 1:\xc2\xa0

There were 3 questions in the online round .2 questions related to simple array manipulation and one bst.\xc2\xa0

Those who did atleast 2 questions were selected for\xc2\xa0 other rounds.\xc2\xa0

Round 2:\xc2\xa0

It was group fly round where in we were given 2 questions.\xc2\xa0

1st : There is an array which is sorted but rotated at one end. you have to find the given element in that array.\xc2\xa0

Expected time complexity : logn.\xc2\xa0

I gave the solution using binary search.\xc2\xa0

reference : https://www.geeksforgeeks.org/search-an-element-in-a-sorted-and-pivoted-array/\xc2\xa0

2nd question :\xc2\xa0

Check given tree is BST .\xc2\xa0

Round 3:\xc2\xa0

Technical round :\xc2\xa0

He asked me about my project which i have done till now.I just explained him about my python web scrapping project.Then he went for questions.\xc2\xa0

1st : you are given a bst, you have to print the sum of all nodes whose value is greater than or equal to the present node.(this has to be done for every node present in the bst)\xc2\xa0

He asked me to write the code on paper.\xc2\xa0

my approach : First calculate the total sum of nodes in the bst using inorder recursive function.\xc2\xa0

initialize prev_sum=0;\xc2\xa0

Again traverse the tree in inorder, maintain a sum_prev which is adding node values.Print sum-prev_sum.\xc2\xa0\xc2\xa0 prev_sum+=node_value\xc2\xa0

int SUM=0;\xc2\xa0

void sum(Node* root)\xc2\xa0

{\xc2\xa0

if(root==NULL)\xc2\xa0

return;\xc2\xa0

sum(root-left)\xc2\xa0

SUM+=root->data;\xc2\xa0

sum(root->right)\xc2\xa0

}\xc2\xa0

int prev_sum=0;\xc2\xa0

void solution(Node*)\xc2\xa0

{\xc2\xa0

if(root==NULL)\xc2\xa0

return;\xc2\xa0

solution(root->left)\xc2\xa0

print(sum-prev_sum)\xc2\xa0

prev_sum+=root->data;\xc2\xa0

solution(root->right);\xc2\xa0

}\xc2\xa0

he asked me to try it in one loop.I gave it in one loop using : https://www.geeksforgeeks.org/add-greater-values-every-node-given-bst/\xc2\xa0

2nd question based on kadane\xe2\x80\x99s algorithm.https://www.geeksforgeeks.org/largest-sum-contiguous-subarray/\xc2\xa0

Round 4:\xc2\xa0

1st question minimum length of maximum sum array.\xc2\xa0

I gave this solution using kadane\xe2\x80\x99s algorithm with maintaining prev_minimum_length as a variable\xc2\xa0

2nd question : right view of binary tree\xc2\xa0

i gave my solution using level order (queue)\xc2\xa0

https://www.geeksforgeeks.org/print-right-view-binary-tree-2/\xc2\xa0

She asked me to write the code on paper.\xc2\xa0

She asked me about my projects.\xc2\xa0

Round5:\xc2\xa0

Senior SDE Engineer took my interview.\xc2\xa0

He first asked about me and some random stuffs, hobbies and all.\xc2\xa0

then he asked me one question :\xc2\xa0

Given n points in a globe/2 dimensional infinite matrix . Find the closest point to a given point.\xc2\xa0

o(n2) solution not expected.\xc2\xa0

I approached it by making some tiles for every point . Then i told him that we can first search it in near 8 sqaures /tiles near that given point.Then he took out some mistake and asked me to think more as i m going in the right direction.\xc2\xa0

Then I told him that i ll sort the points according to x variable and then y and then restrict my search for the closest point in the region bounded by that points .\xc2\xa0

he told me not to code as i have coded in all the rounds.\xc2\xa0

My all interviews went quite well and results came after 15 days and I was selected.\xc2\xa0

Just focus on interview specific questions, Operating systems, DBMS, and data structures .\xc2\xa0

Before going for interviews Read some interview experiences .\xc2\xa0

Thanks you\xc2\xa0 geeksforgeeks for such a good platform to prepare for interviews.\xc2\xa0

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