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## Microsoft Interview Experience SDE 1 off campus (8 months exp)

- Difficulty Level : \nExpert
- Last Updated : \n04 May, 2019

**1st round** was skype interview:

Question 1 : Given a bst find 4 numbers which sum upto a given number .  
without using extra space

Answer: Convert bst to dll and use 2 pointers approach  $O(n^3)$

Question 2 : It was based on BST also, don't remeber the question.

From 2nd round onwards it was on Microsoft Hyderabad campus:

## Round 2:

Question 1: Given a rowwise and column wise sorted matrix find number of negative elements in it. Expected time complexity  $O(n)$ .

Answer: Start from bottom left element and if element is negative move right and if positive move up counting the number of negative elements in a row and keeping boundary condition in mind.

Question 2: Given a Array of String encode that array into a String such that decode function can decode using the encoded String only.

**Answer :** For each String add Length of string a delimiter and String to encoded String.

If String is `\xe2\x80\x9cabcd\xe2\x80\x9d`  
add `4#abcd` to encoded String

### Round 3:

Question 1 : Given a binary tree and a list of nodes to be deleted, find the root node of each tree after deletion

For ex if tree is

$$\frac{1}{\sqrt[3]{x^2y^4z^5}}$$

and node to be deleted is 2, then answer will contain 1, 4, 5

$O(n)$  single traversal.

Answer using postorder traversal.

Question 2: Given Dictionary of words and mobile Keypad, given number find all dictionary String starting from it.

<https://www.geeksforgeeks.org/find-possible-words-phone-digits/> similar to this

Question 4:

Based on transforming 1 String to another, using graphs.

### Round 3 : Managerial Round:

General HR questions:

Why should we hire you?

Why do you want to change?

What do you do apart from projects?

One Technical Question:

Sort 50 GB large file of words.

Sorted chunks and then used heap.

Then told about the team i will be joining in details.

In every question they wanted Production ready code on paper.

Verdict: Selected.

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1