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Microsoft Interview | Set 6

- Difficulty Level :\nHard
- Last Updated :\n10 Jan, 2019

I am a guy from CSE dept, IIT-BHU and currently in 4th year. \xc2\xa0I am placed in microsoft now and all the credit goes to geeksforgeeks for sharpening and improving my coding skills. Thanks a lot guys for such a wonderful site. \xc2\xa0Below is my interview experience, if its of any help to my\xc2\xa0fellow job seekers.

Written Round 1 :
50 multiple choice questions in 60 mins time. Had 2 sections \xe2\x80\x93 Aptitude and Programming Ability.

Written Round 2 : 3 coding questions in 1 hour.

1. Swap every consecutive odd and even positioned bit in a number.

   ```
   Ex:- 10101011010101 = 01010111101010
   ```

2. Given a binary search tree . Convert it into a doubly linked list in place (no extra space) such that prev points to left child and next points to right child.
3. Given a linked list that contains 0,1 and 2 . Sort this linked such that it contains 0s first, then 1s and then 2s in O(n) time.

   ```
   Ex:- 2->2->1->0->0->2->1->1->0 = 0->0->0->1->1->1->2->2->2
   ```

PI round 1 (Technical):

1. About urself, most challenging project of all you have done and about ur internship.
2. Remove from string s1, all the characters that are present in string s2.

   ```
   S1=\xe2\x80\x9dabcde\xe2\x80\x9d s2=\xe2\x80\x9dxyazbx\xe2\x80\x9d Ans. S1= \xe2\x80\x9dcde\xe2\x80\x9d
   ```

3. Reverse alternate k nodes in an linked list.

   ```
   Ex:- 1->2->3->4->5->6->7->8 if k=2; then return 2->1->3->4->6->5->7->8
   ```

   Always ask some questions to the interviewer at the end. That\xe2\x80\x99s a good gesture.

   Write test cases for the programs above and see if ur program covers all the test cases or not.

PI round 2 (Program manager)

1. Design a tic-tac-toe game for multiplayer on a smartphone.
2. Design a vending machine for blind and deaf.

PI round 3 (Technical)

1. Add numbers from 1 to n^2 into a n X n matrix spirally.

1				2				3				4				5			
			16				17				18				19				6
15				24				25				20				7			
			14				23				22				21				8
13				12				11				10				9			

2. Remove duplicates from a string in place. Ex-microsoft -> microsft
3. Some question on recursive functions using memoization technique for optimization.

PI round 4 (Testing)

1. **1.** Given a func :: int *strcmp(char *s1,char *s2);
   Write test cases to check functionality and security issues and even automate the
   generation of test cases.
2. **2.** Given a func :: int typeOfTriangle(int side1,int side2,int side3); (func gives a number for the type of triangle)
   Write test cases to check functionality and security issues and even automate the generation of test cases.
3. **3.** WAP to reverse words in a sentence.
   I am a good boy -> boy good a am i
4. **4.** WAP to get the next higher palindrome of a given number.
   123 -> 131 1232 -> 1331

   PS \xe2\x80\x93 Functional issues are test cases that check the functionality of the program and Security issues are the ones where the program may crash.

PI round 5 (Technical)

1. WAP to check if a binary tree is a BST or not.
2. WAP to find Least Common Ancestor of two nodes in a BST.
3. Reverse every two nodes in a linked iteratively and recursively.

PS- Whenever u write a program be sure to cover all the corner cases and write it in a proper indented way. As interviewers ask to write testcases for the program u have written and then check if ur program covers all the test cases.

All the best fellas !!!

\xc2\xa0

Many Many congratulations to **Pritam Kumar Das**. If you like GeeksforGeeks and would like to contribute, you can also write an article and mail your article to contribute@geeksforgeeks.org. See your article appearing on the GeeksforGeeks main page and help other Geeks.

All Practice Problems for Microsoft !

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