## Sample Questions - JTG Interview Process

**Q1)** Given an array consisting of only zeros (0s) and ones (1s), sort the array in place with time complexity O(n).

Eg:
For Input:
    [0,0,1,0,0,1,1,0]
Output:
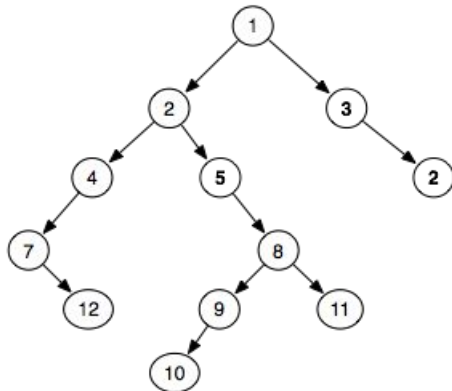    [0,0,0,0,0,1,1,1]

For Input:
    [1,0,0,1,1,1]
Output:
    [0,0,1,1,1,1]

**Q2)** Find the diameter of tree. The diameter of a tree is the number of nodes on the longest path between two leaves in the tree.
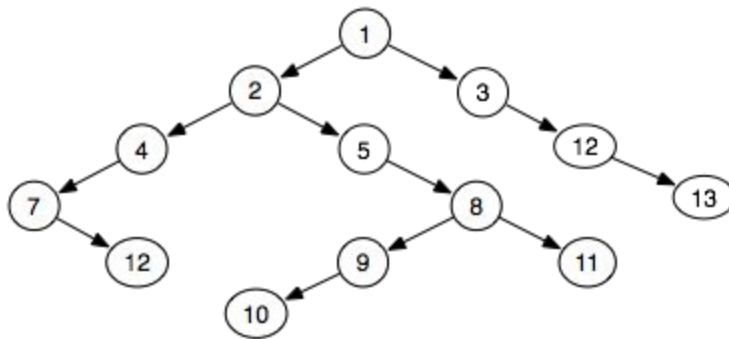
Eg:
For Input:



Output:
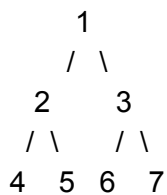    Diameter = 8(12-7-4-2-5-8-9-10)

For Input:



Output:

Diameter = 9 (10-9-8-5-2-1-3-12-13)

**Q3)** Write a function to print spiral order traversal of a tree.

Eg:

For Input:
```
        1
       / \
      2   3
     / \   / \
    4  5  6  7
```

Output : 1 2 3 7 6 5 4

**Q4)** Given two binary trees, write a function / program to return true if they are mirror images of each other.

Eg: – Trees below are mirror images of each other

```
        2      |        2
       /   \    |       /   \
      1    10  |     10    1
           /   |        \
          5    |         5
```