Lab Evaluation 2

Duration: 50 mins **Marks: 15**

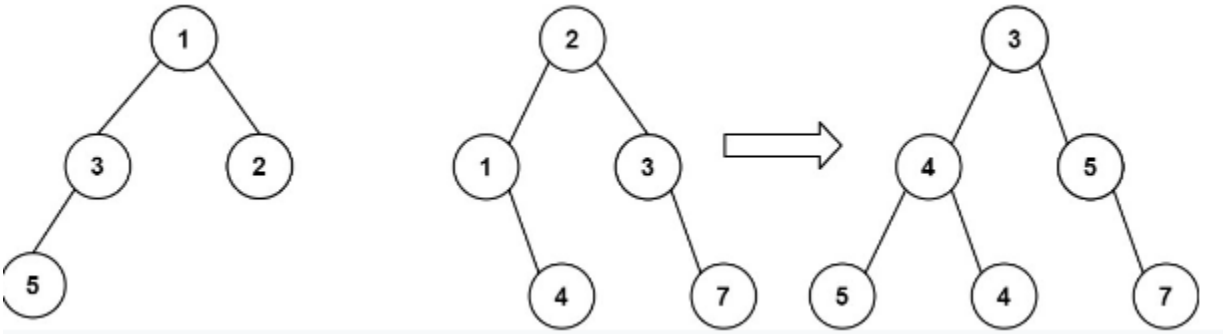
SET A

Consider two binary trees; BT1 and BT2. The task is to merge these two binary trees and generate a new binary tree. During the merging process, some nodes of the two trees are overlapped while the others are not. The merge rule is that if two nodes overlap, then sum node values up as the new value of the merged node. Otherwise, the NOT null node will be used as the node of the new tree.

Return *the merged tree*.

Note: The merging process must start from the root nodes of both trees.

Example 1:




```
Input: BT1= [1,3,2,5], BT2= [2,1,3,null,4,null,7]
Output: [3,4,5,5,4,null,7]
```

Example 2:

```
Input: BT1= [1], BT2= [1,2]
Output: [2,2]
```

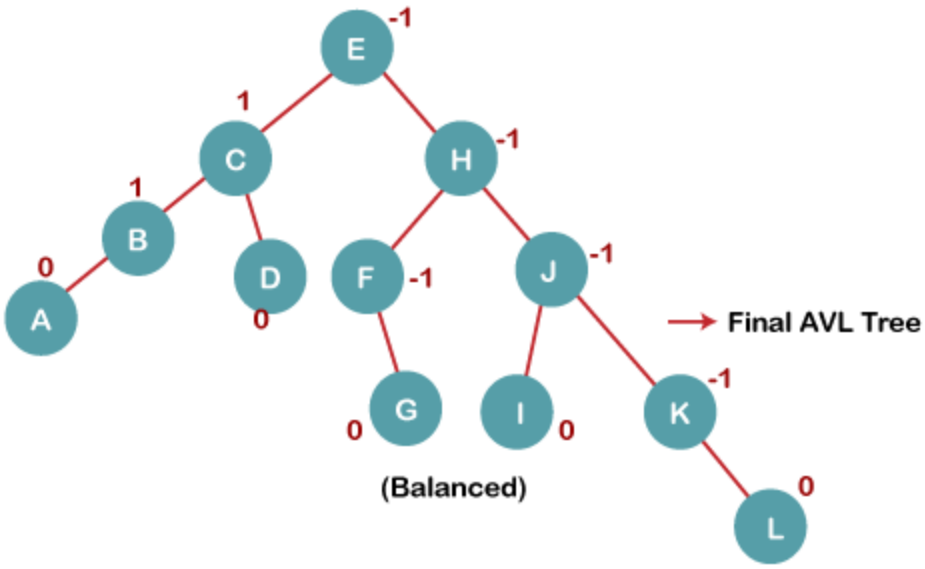
SET B

Write a program to construct an AVL tree with following elements:

H, I, J, B, A, E, C, F, D, G, K, L

Write a function to display these elements in an **in order** traversal. Also, write a function to count the number of elements greater than key "H".

Example:



In order traversal: A, B, C, D, E, F, G, H, I, J, K, L

Number of nodes greater than ‘H: 4