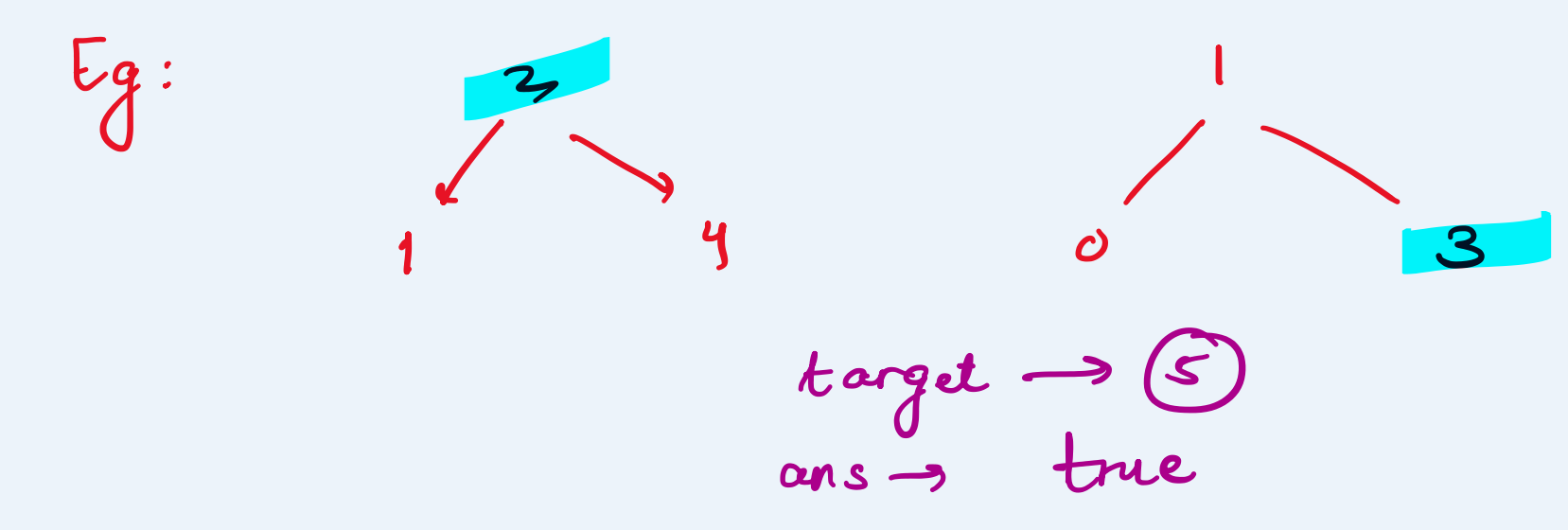
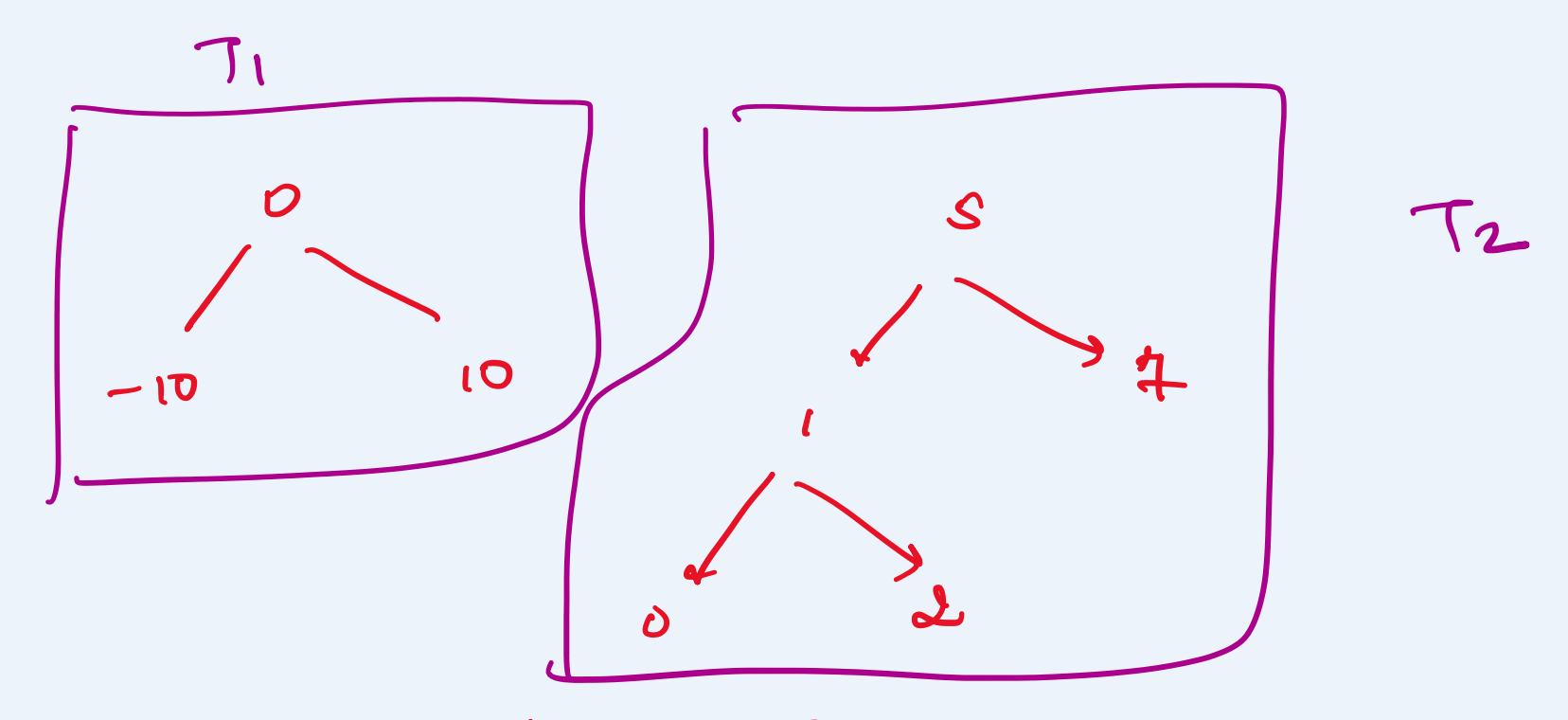
Q Given two binary search trees, return true iff there is a node in the first tree and a node in the second tree whose values sum up to a given integer target.

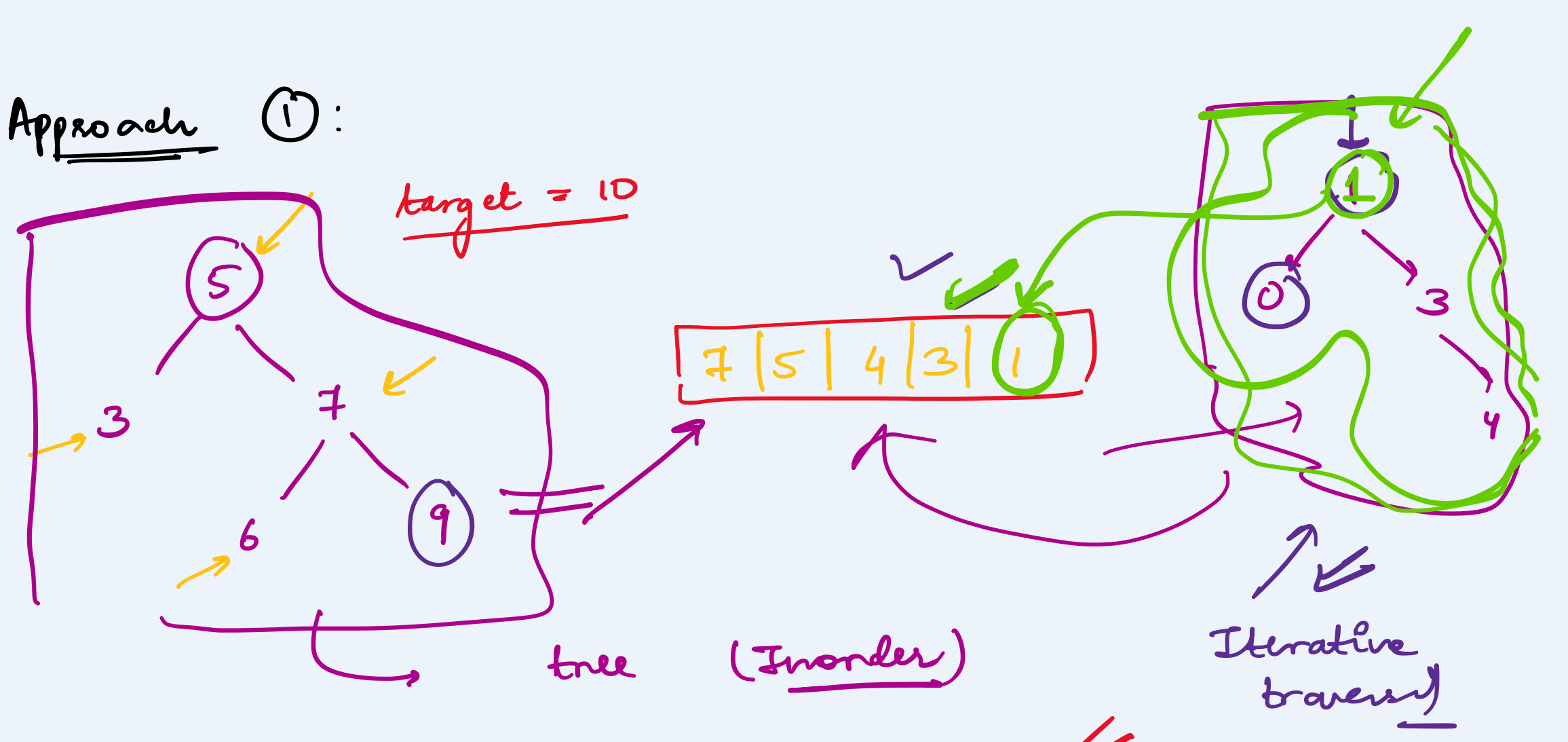
Eg:



Eg:



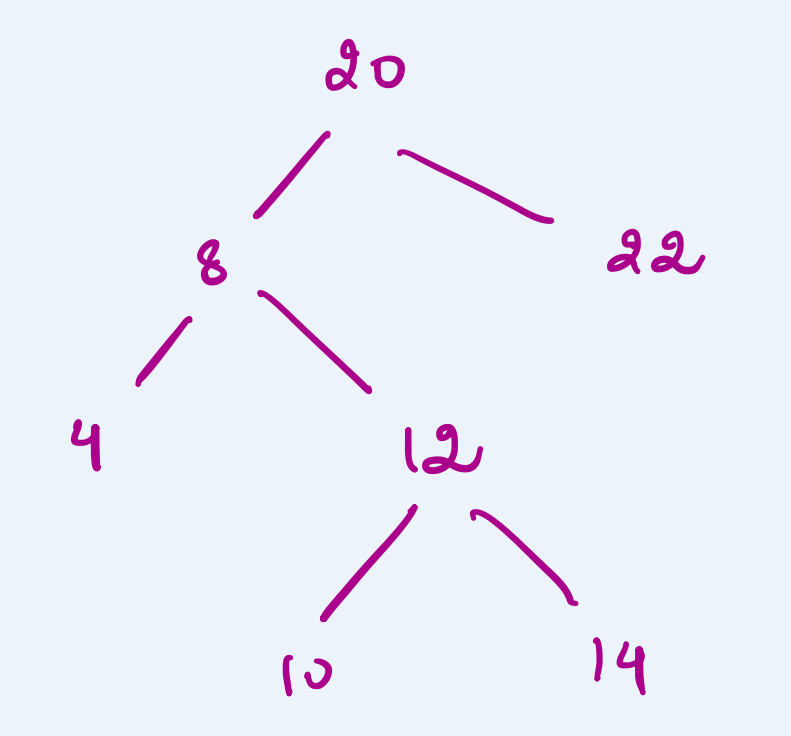
Approach ①:



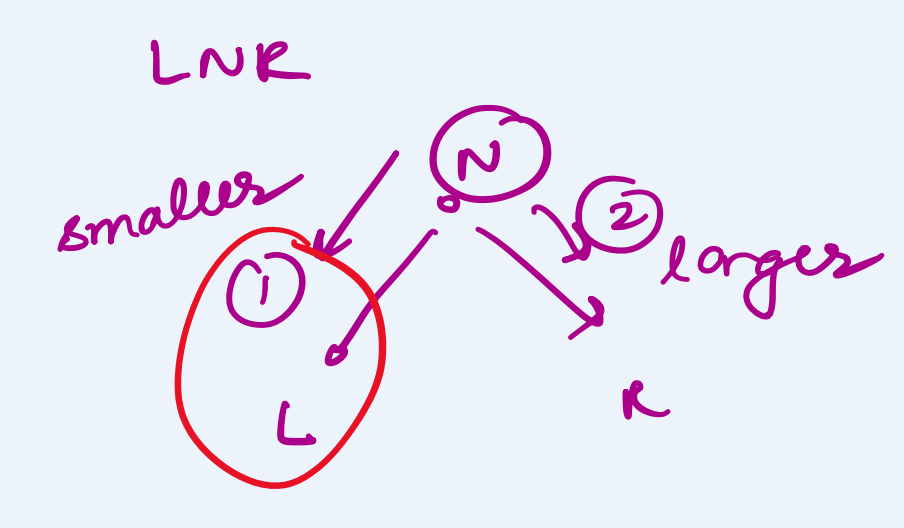
→ Iterative traversal (Inorder)

```
boolean targetSum ( root 1, root 2, target) {
    Stack <I> stack = new stack ();
    Set < Integer > s = new set();
    while ( ! stack. isEmpty ()  || root != null) {
 left   while ( root 1 != null) {
                stack. push (root 1);
                root = root. left;
        }
                root 1 = stack. pop();
 if (s.con   → s. add ( target - root 1. val);
                root 1 = root 1. right;
}
```

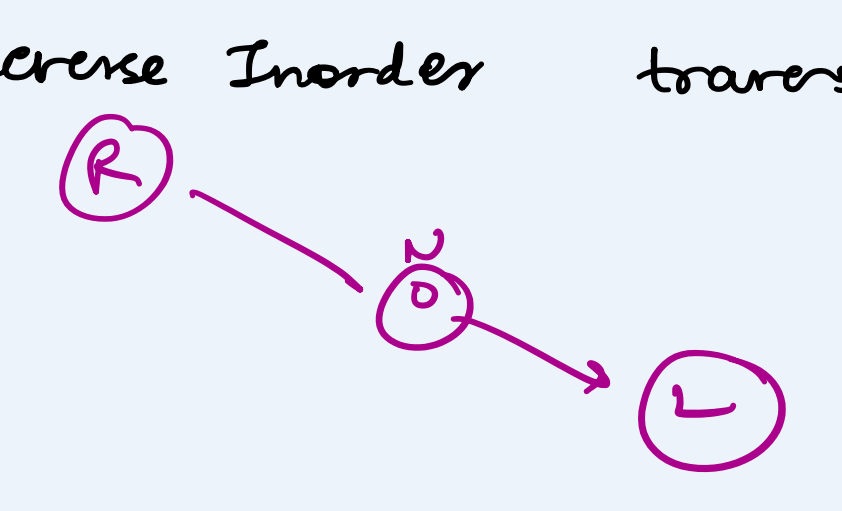
Q Given a BST, and a positive integer k, find the k^{th} largest element in a BST.



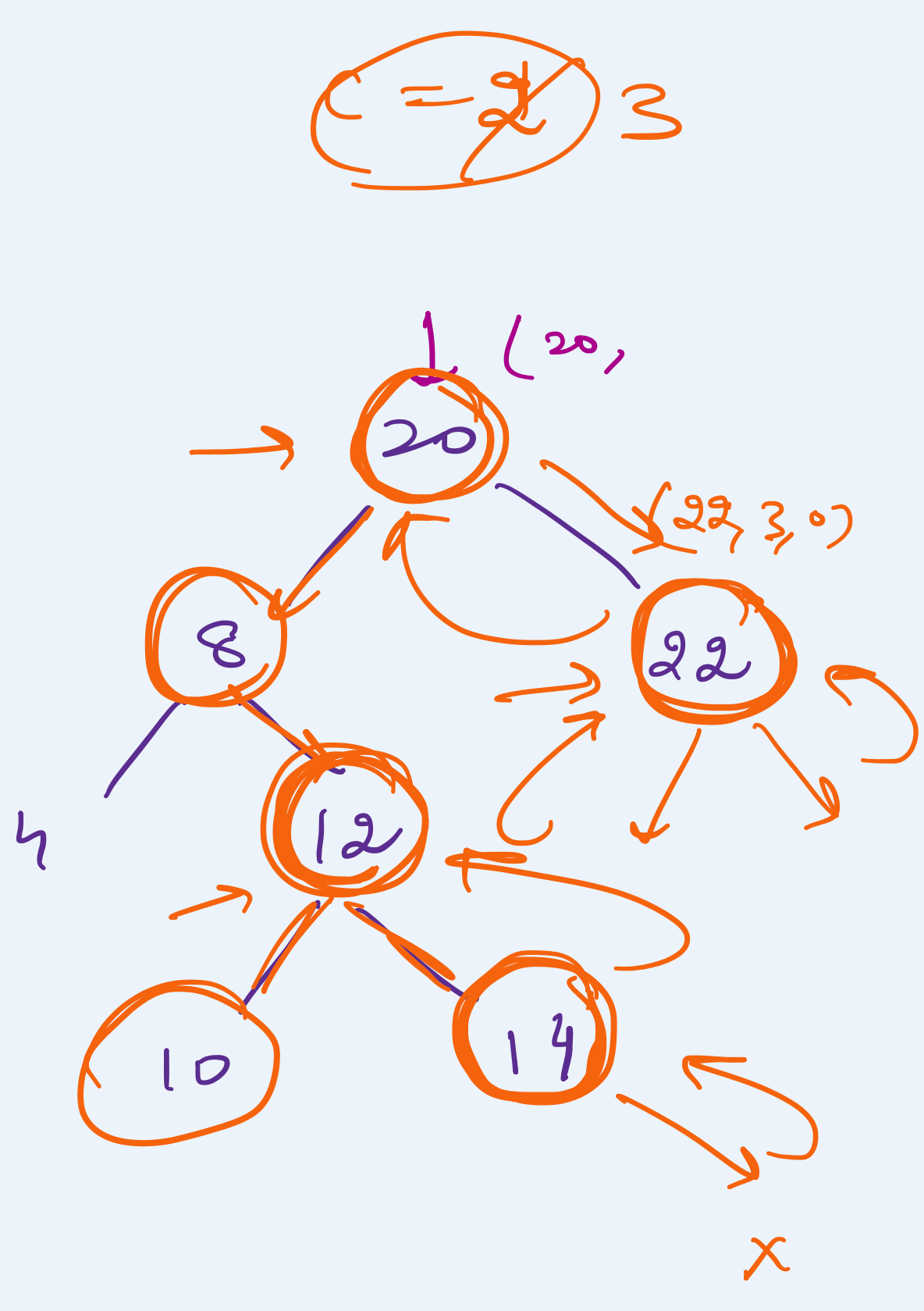
Inorder traversal



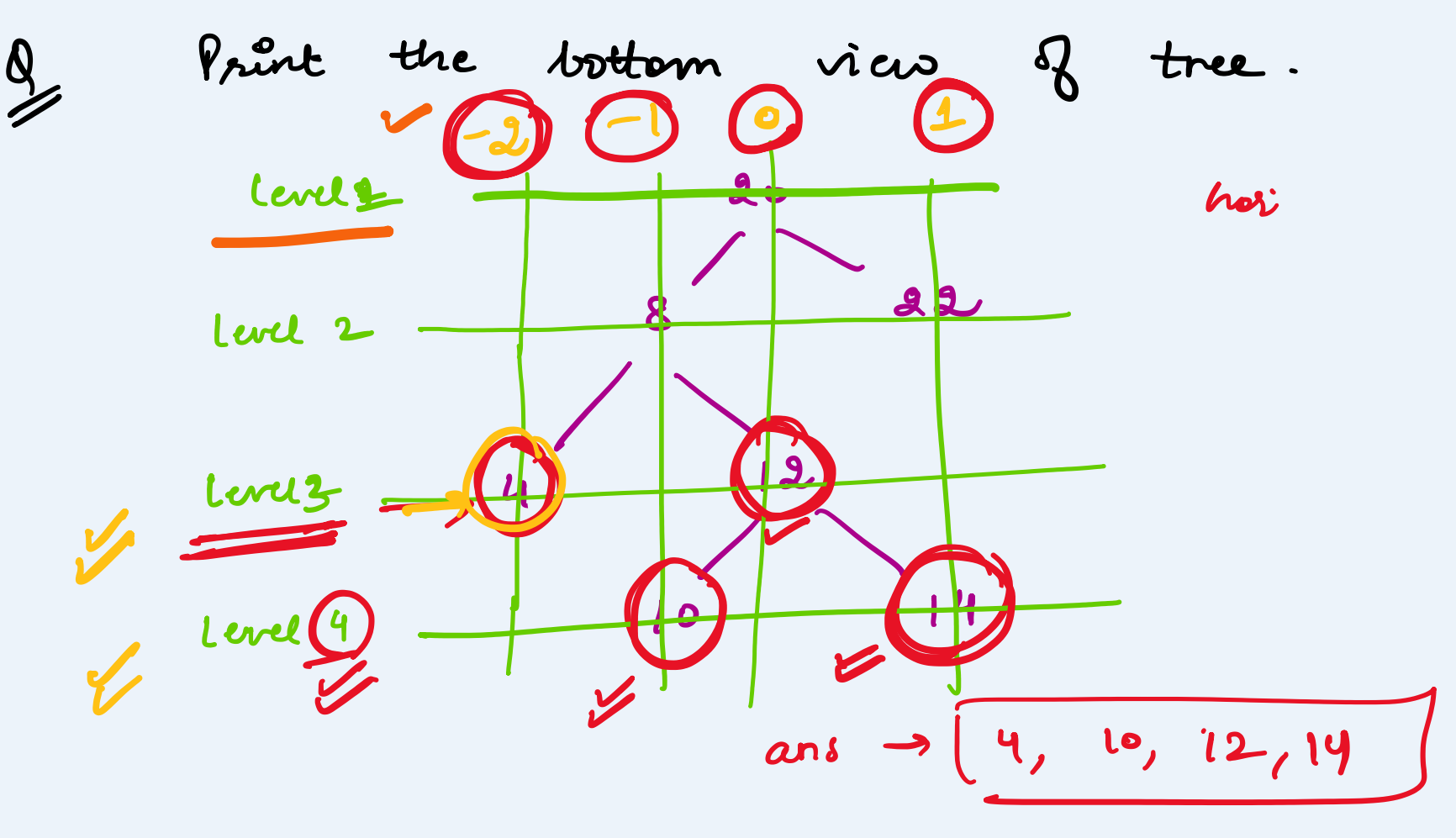
Reverse Inorder traversal

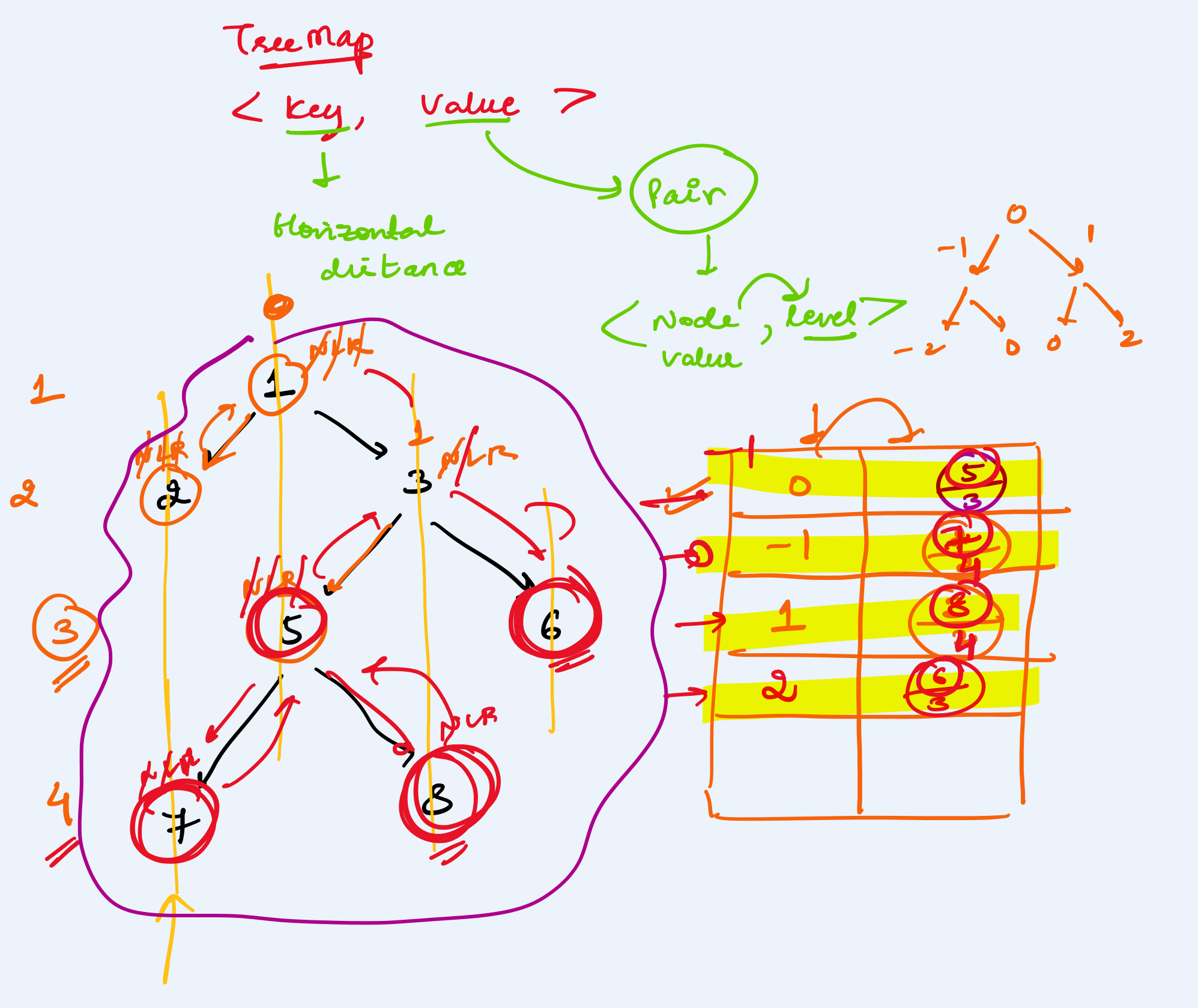


```
kth largest (k) {
    reverseInorder (root, k, 0);
}

reverse Inorder ( root , k, c) {          (20, 3, 0)
    if ( root == null || c >= k) {
        return ;
    }
R [ reverse Inorder ( root. right, k, c);
    c++;
N [ if ( c == k) {
        syso ( root . data;
        return ;
    }
L [ reverse Inorder ( root. left , k, c);
}
```



Q Print the bottom view of tree.





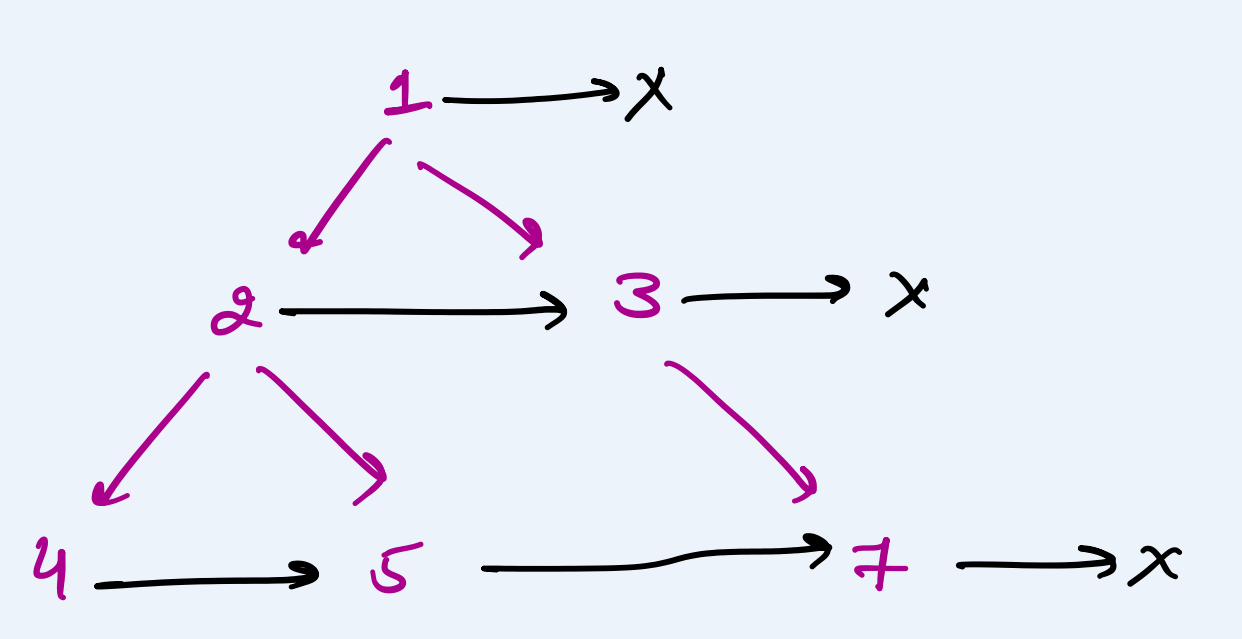

```
printBottom ( root) {
    Map < Integer, Pair < Int, Int > map = new Treemap();
    print ( root, 0, 0, map);
    for ( Pair < Int ,Int > it : map . values ()) {
                syso ( it . value);
    }
}
print ( root, dist, level, map ) {
        if ( root == null) return ;
        if ( ! map. containsKey (dist) ||
                level > map. get (dist). level)
            map. put ( dist, new Pair (root. key, level)) ;

        }
        print ( root. left, dist - 1, level + 1, map);
        print ( root. right, dist + 1, level + 1, map);
}
```

Q Given a binary tree,

```
class Node {
    int val;
    Node left;
    Node right;
    Node next;
}
```

SC → O(1)

Populate the next pointer to point to its next right node.

① 

②