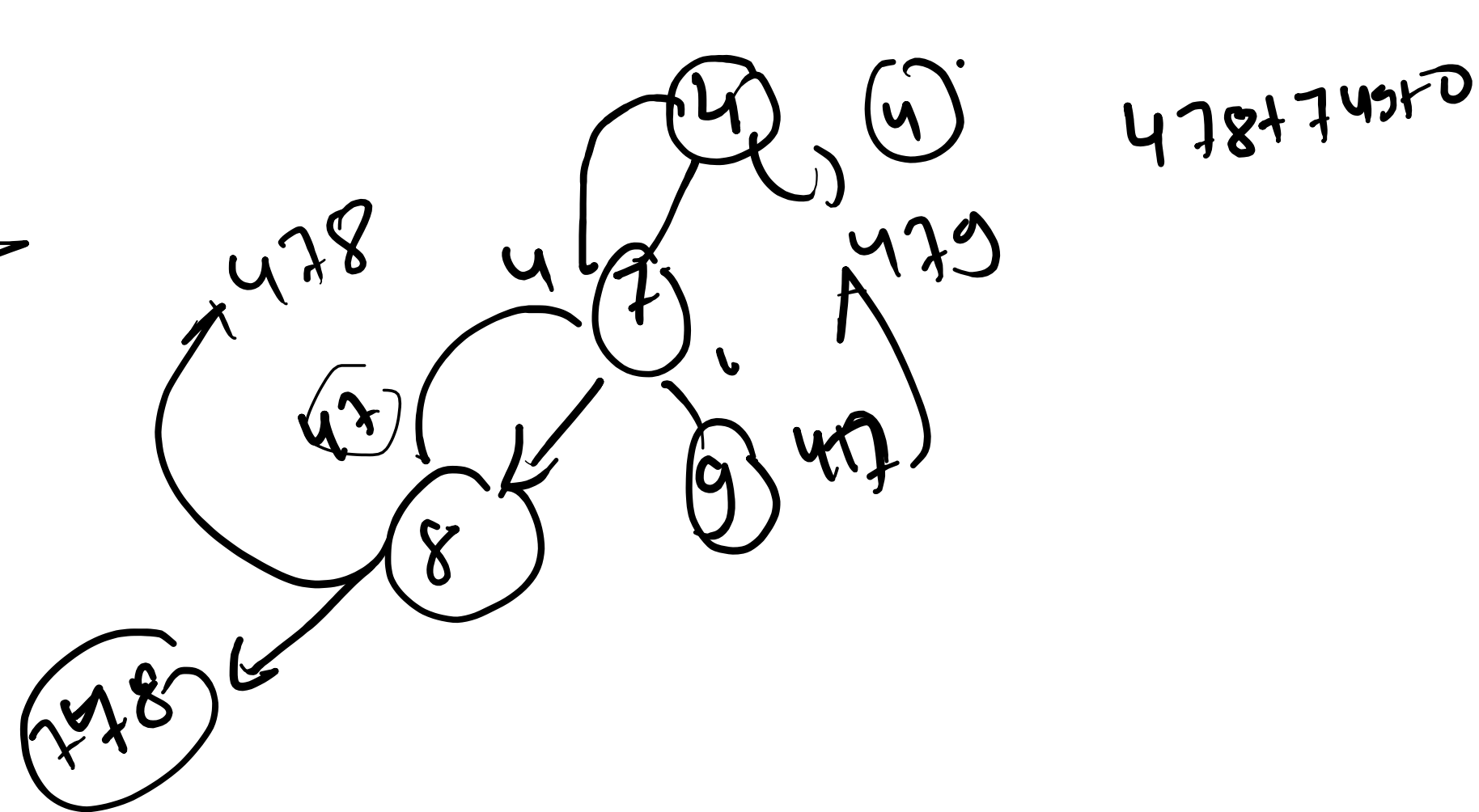
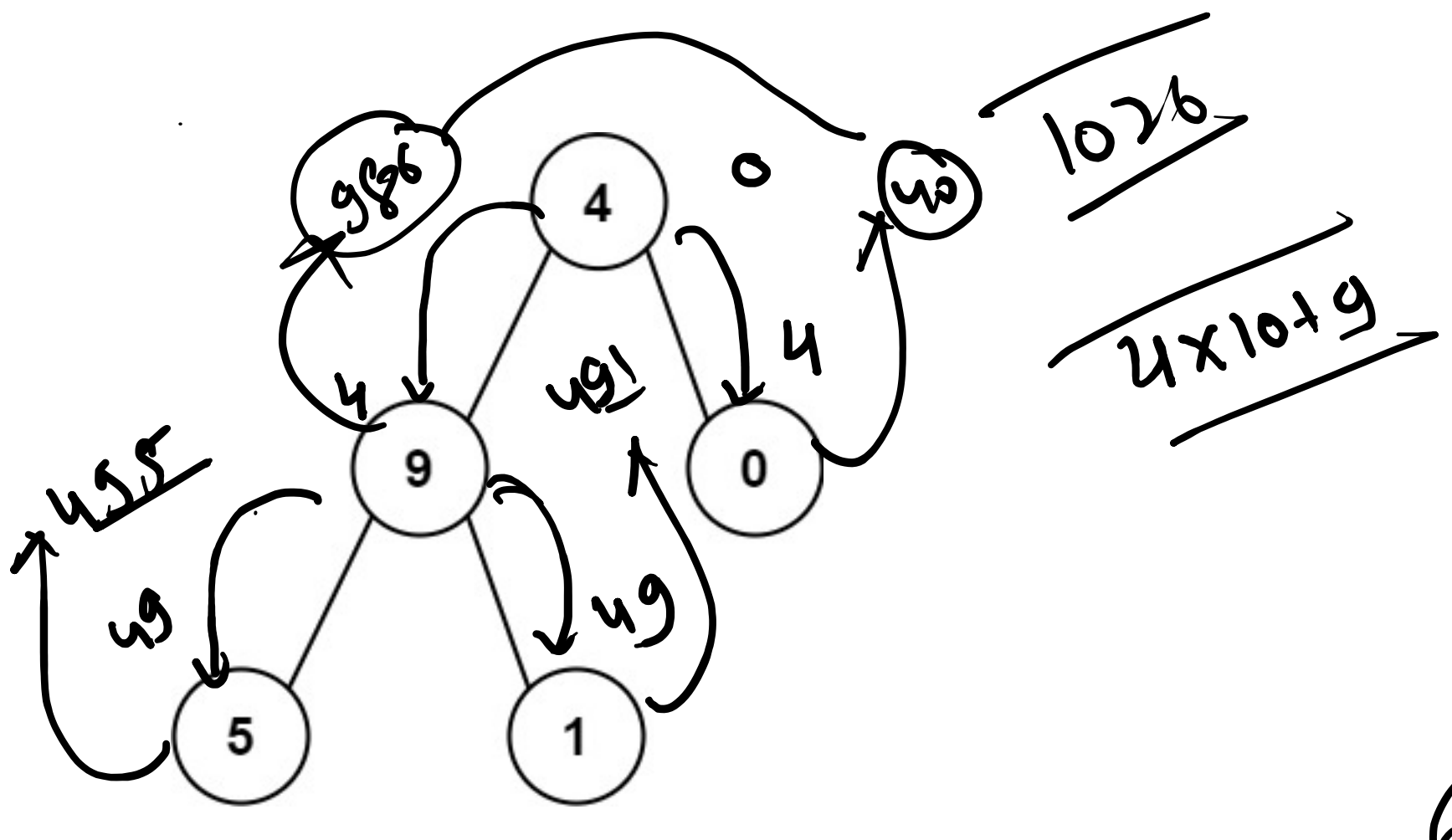
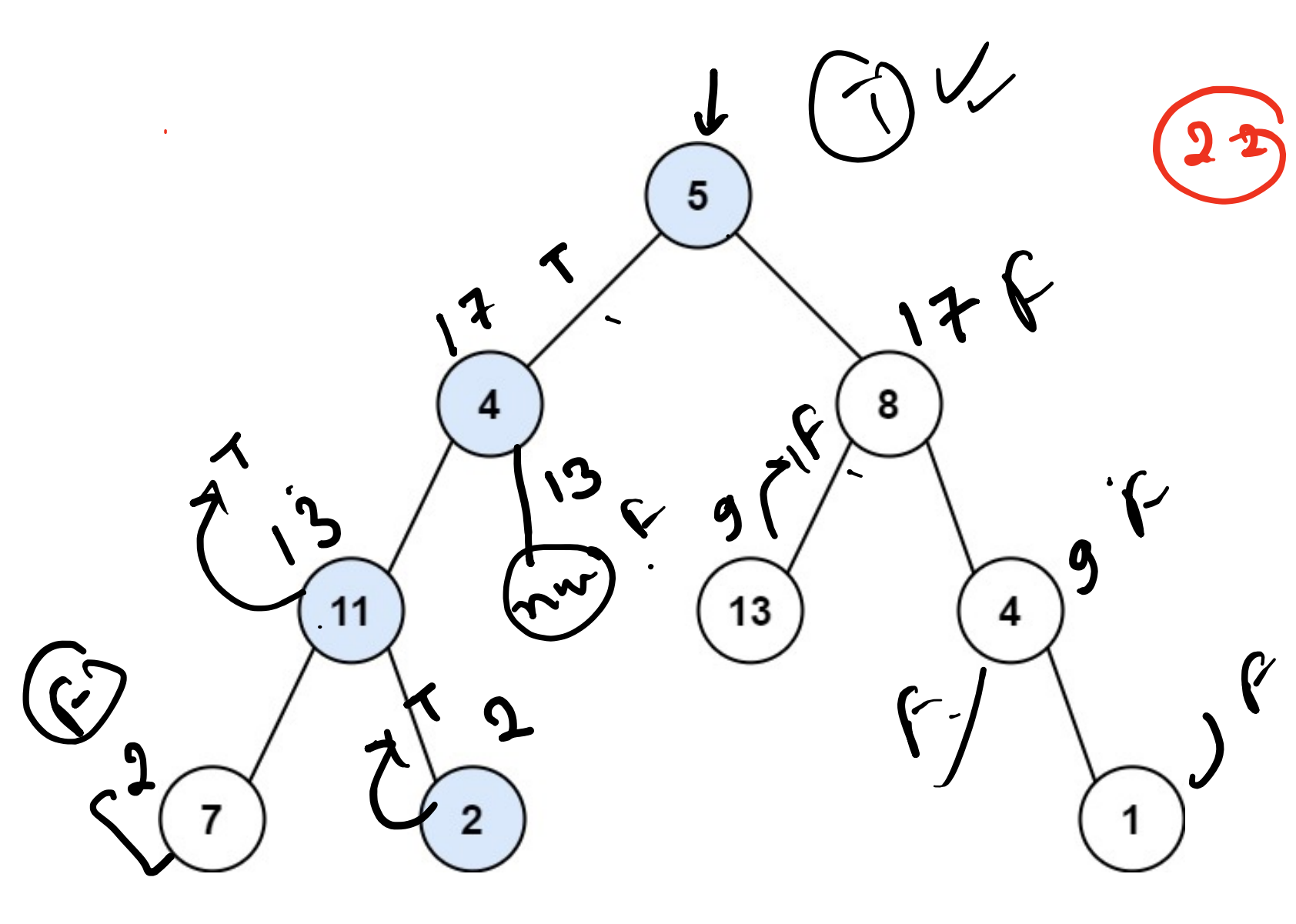
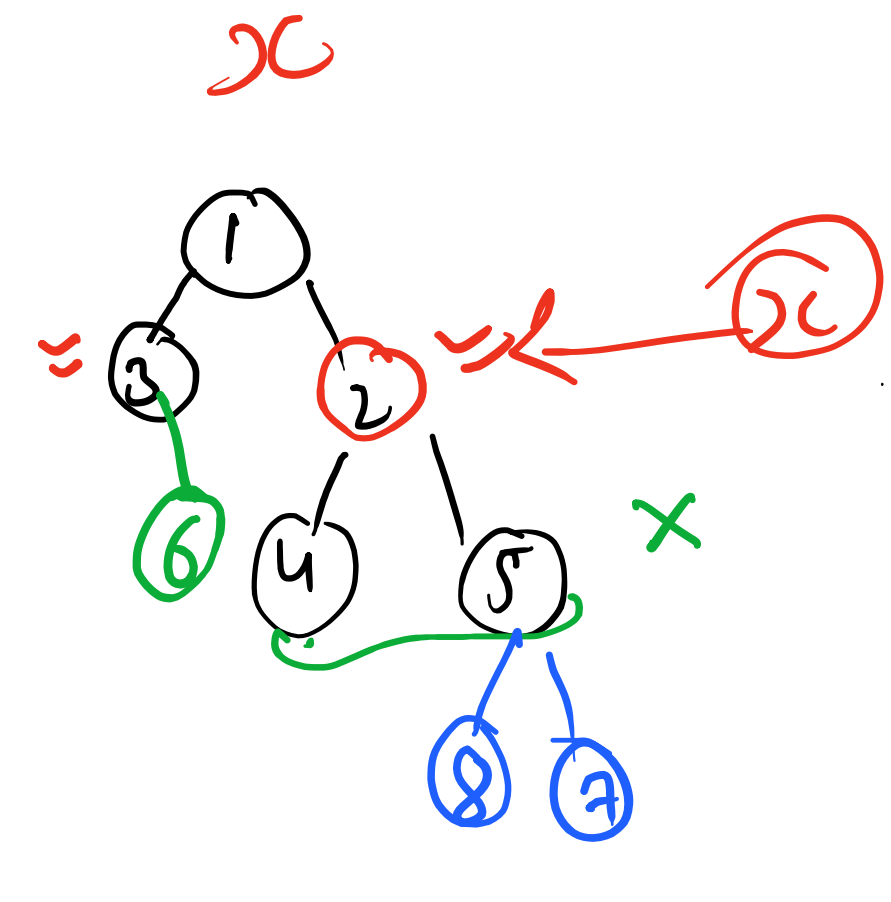
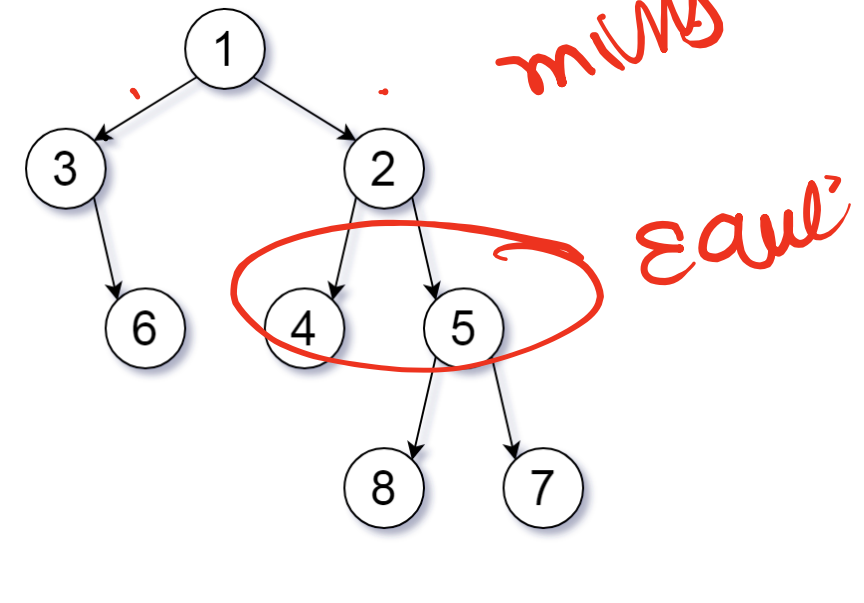
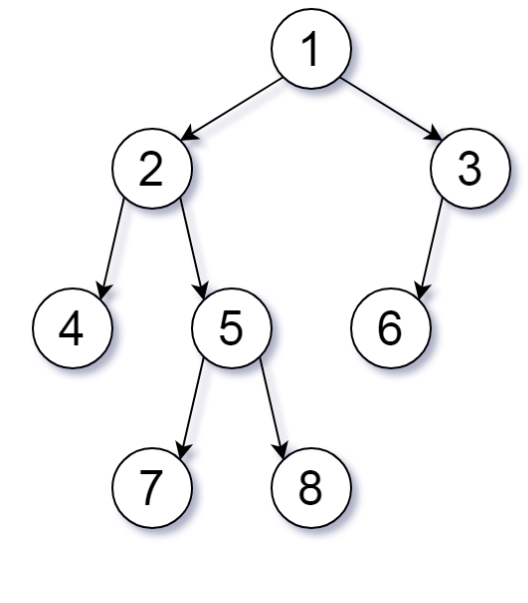
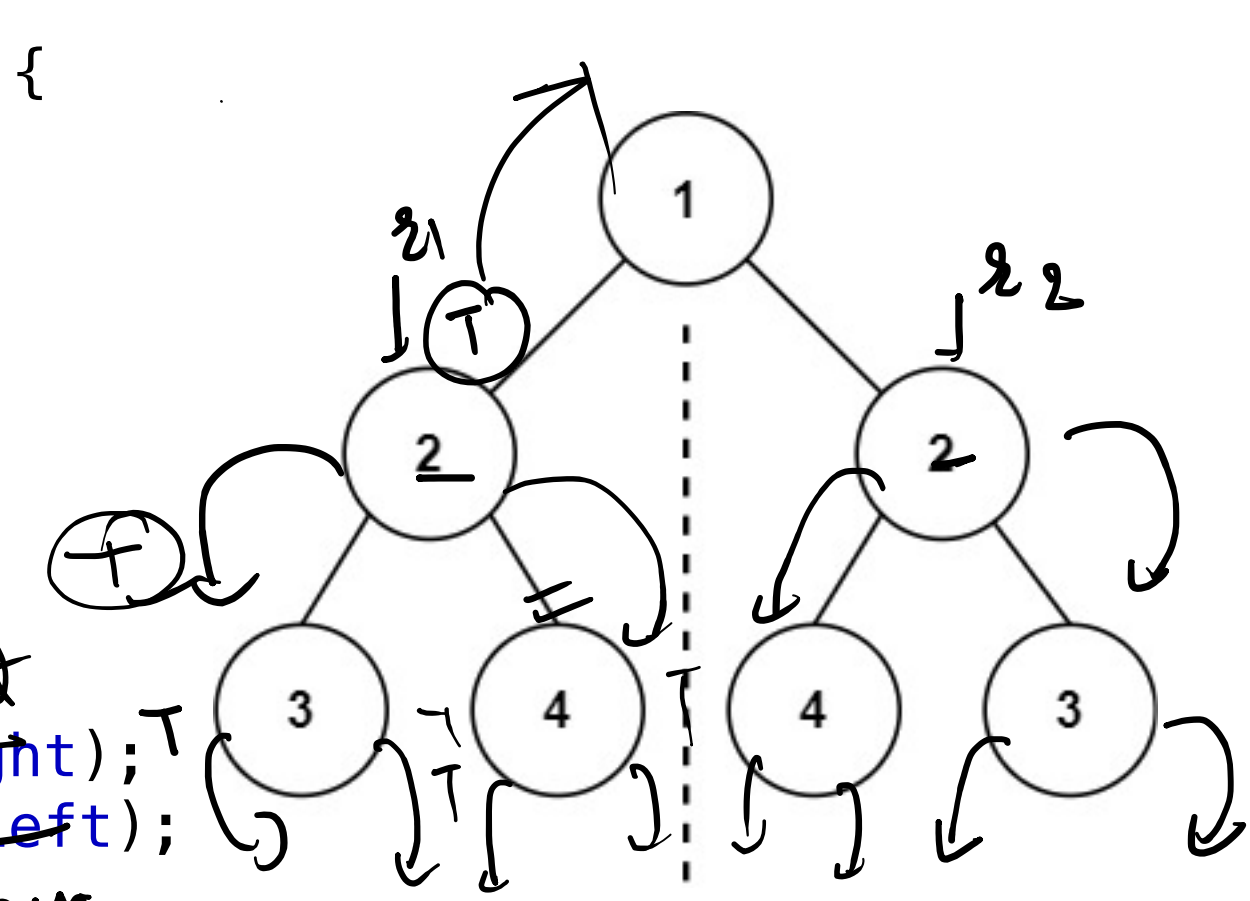
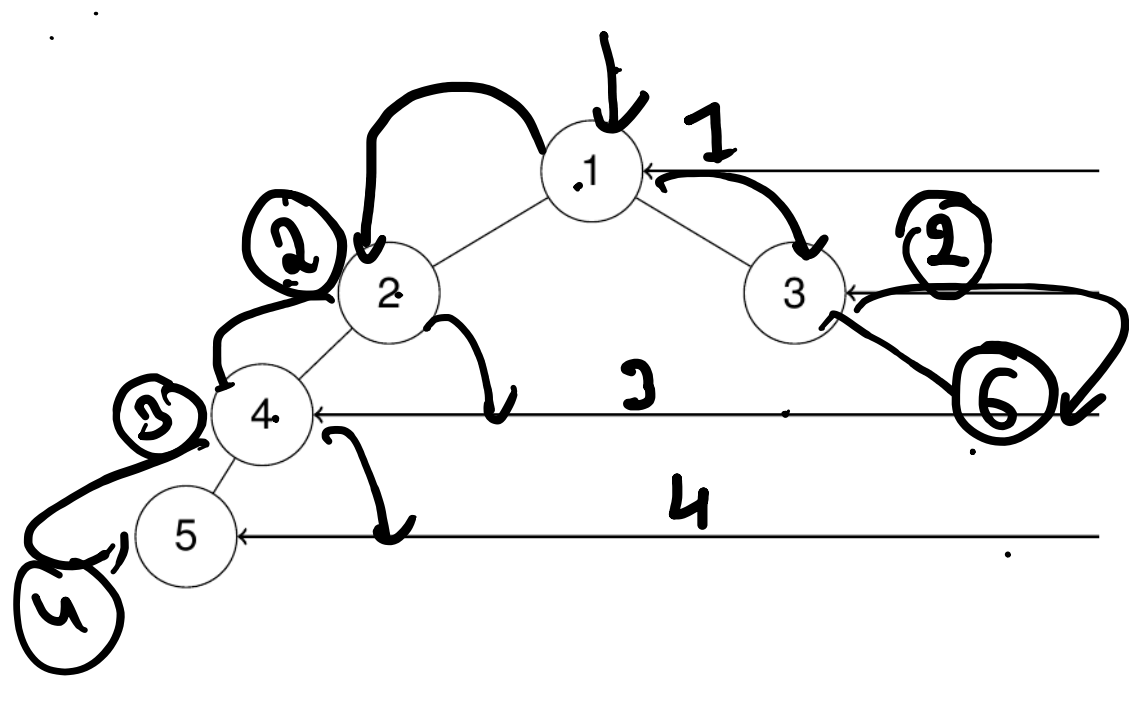
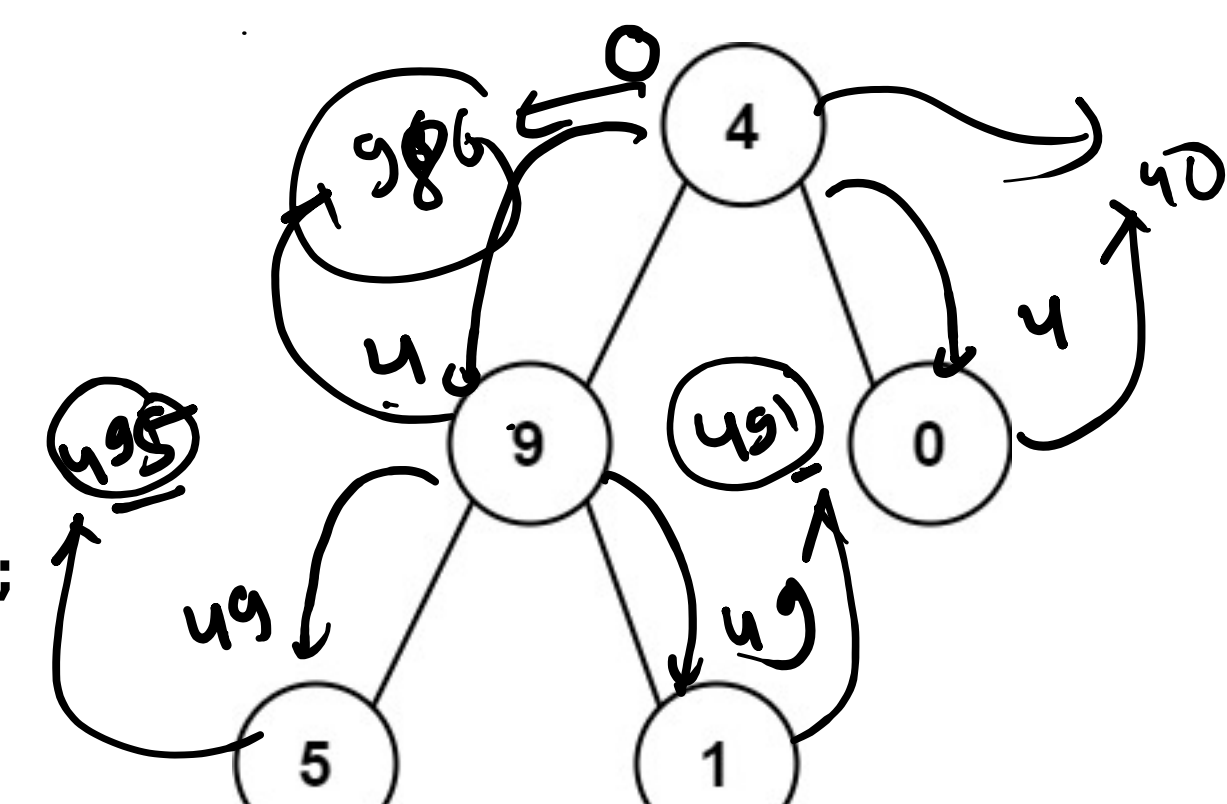


```
public boolean Symmetric(TreeNode root1, TreeNode root2) {  
    if (root1 == null && root2 == null) {  
        return true;  
    }  
    if (root1 == null || root2 == null) {  
        return false;  
    }  
    if (root1.val != root2.val) {  
        return false;  
    }  
    boolean left = Symmetric(root1.left, root2.right);  
    boolean right = Symmetric(root1.right, root2.left);  
    return left && right;  
}
```



```
public int Numbers(TreeNode root, int sum) {  
    if (root == null) {  
        return 0;  
    }  
    if (root.left == null && root.right == null) {  
        return sum * 10 + root.val;  
    }  
    int left = Numbers(root.left, sum * 10 + root.val);  
    int right = Numbers(root.right, sum * 10 + root.val);  
    return left + right;  
}
```

620

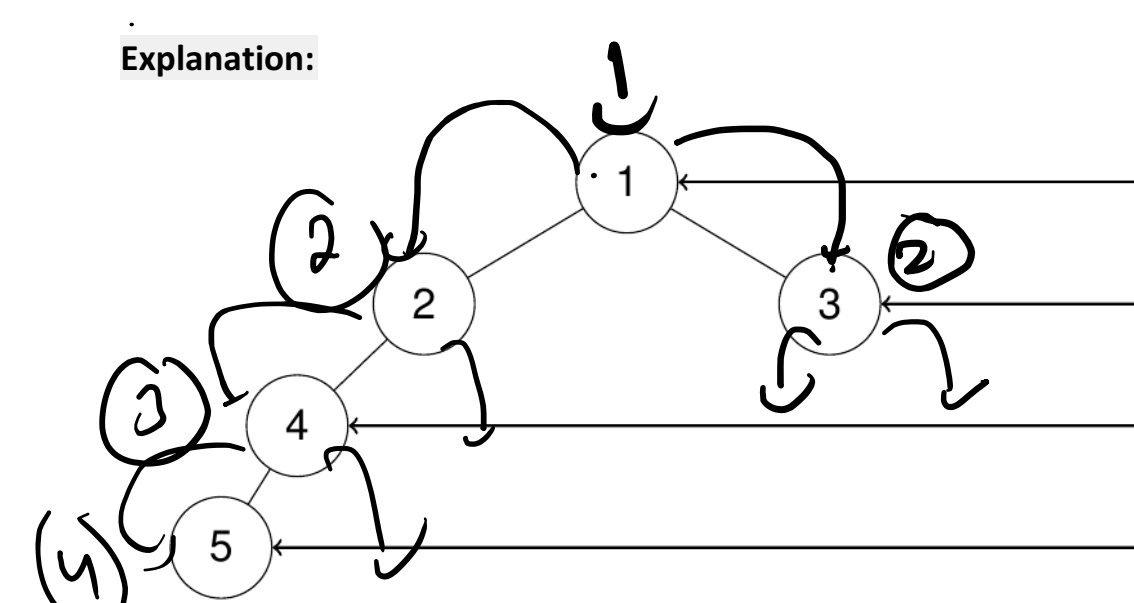


maxdepth=3

[1, 3, 6, 5]

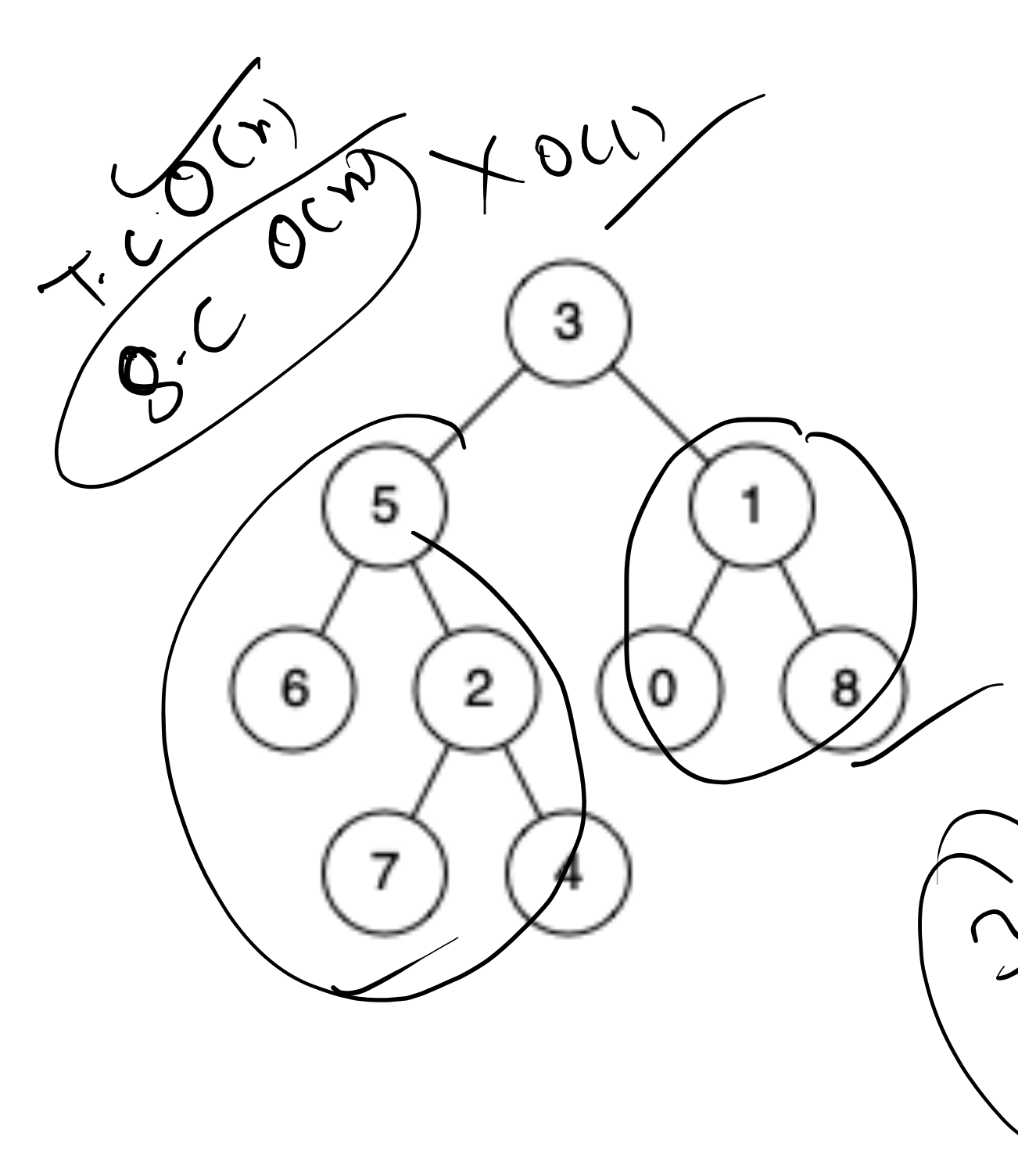
```
public void rightView(TreeNode root, int curr_level) {  
    if (root == null) {  
        return;  
    }  
    if (curr_level > max_Depth) {  
        // list me add  
        max_Depth = curr_level;  
    }  
    rightView(root.right, curr_level + 1);  
    rightView(root.left, curr_level + 1);  
}
```

Explanation:



maxdepth=3

[1, 2, 4, 5]

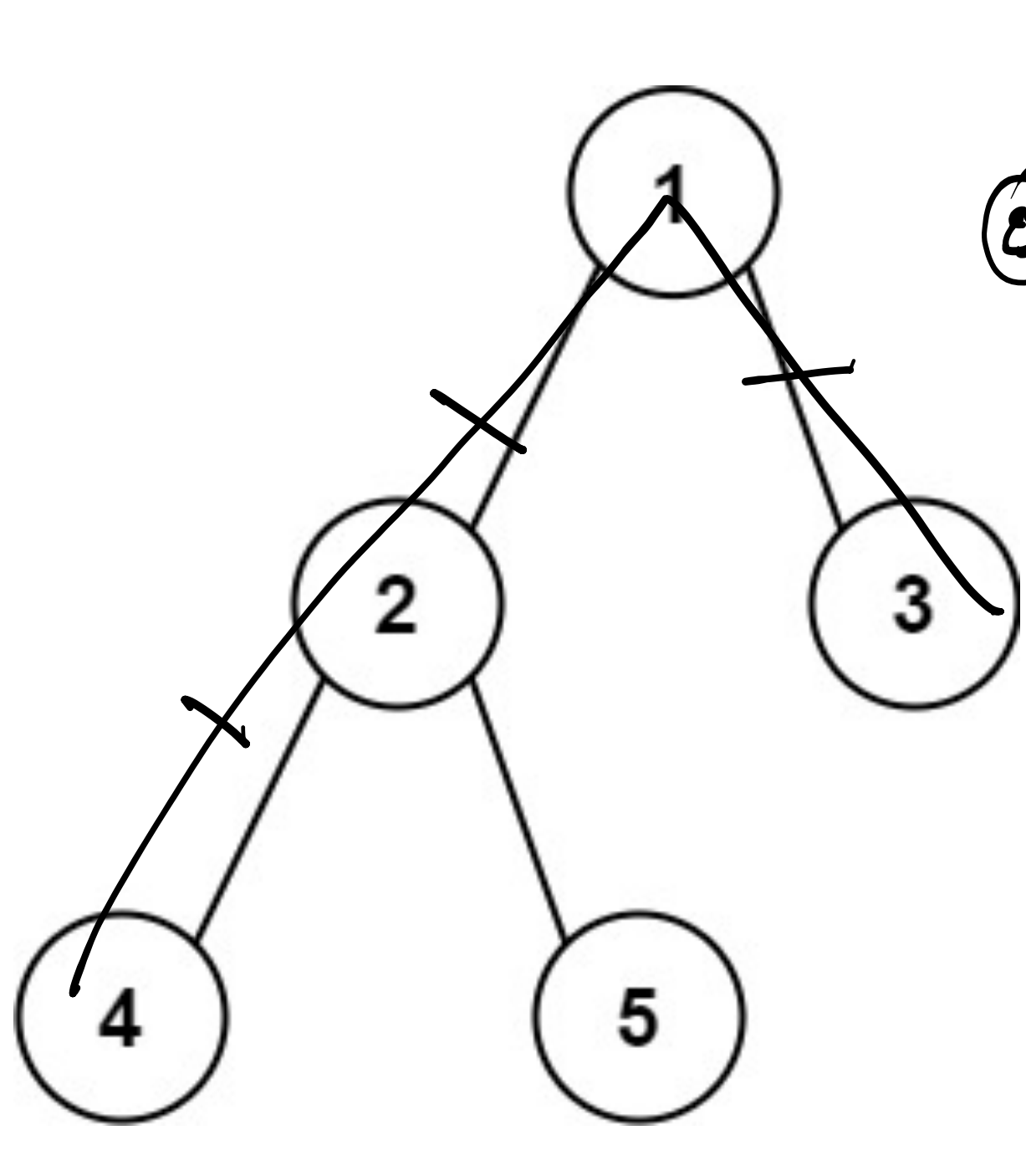
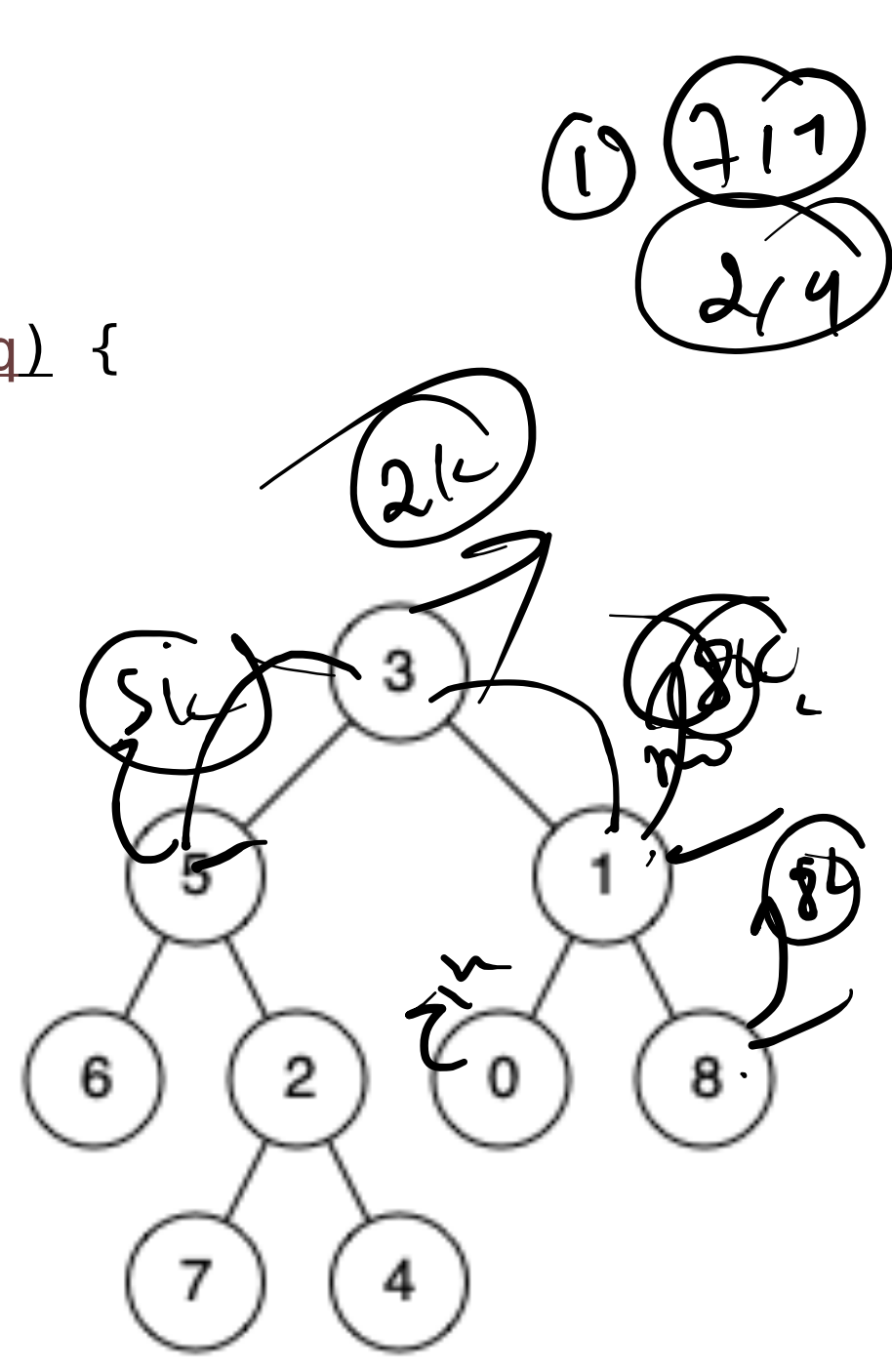


p=7 q=4

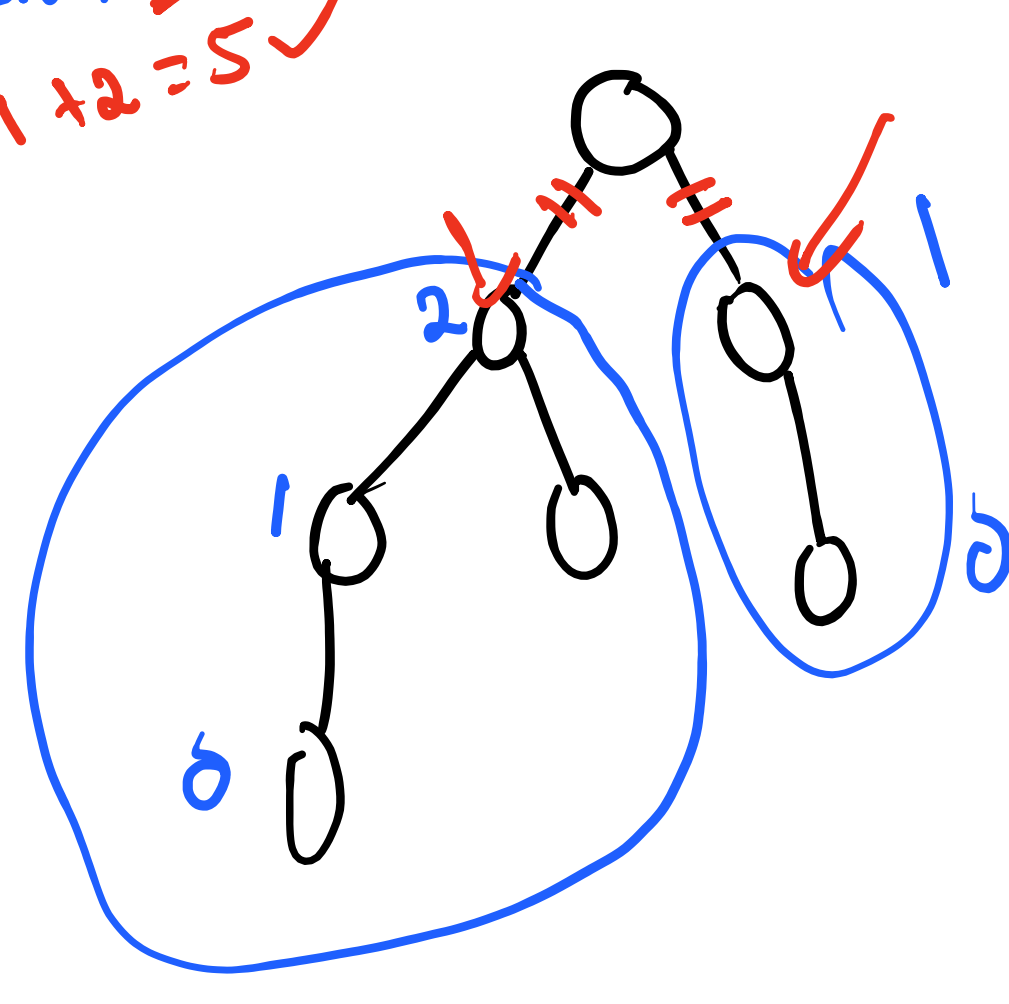
3 5 2 7
2 5 2 4

3 5 2 7
2 5 2 4

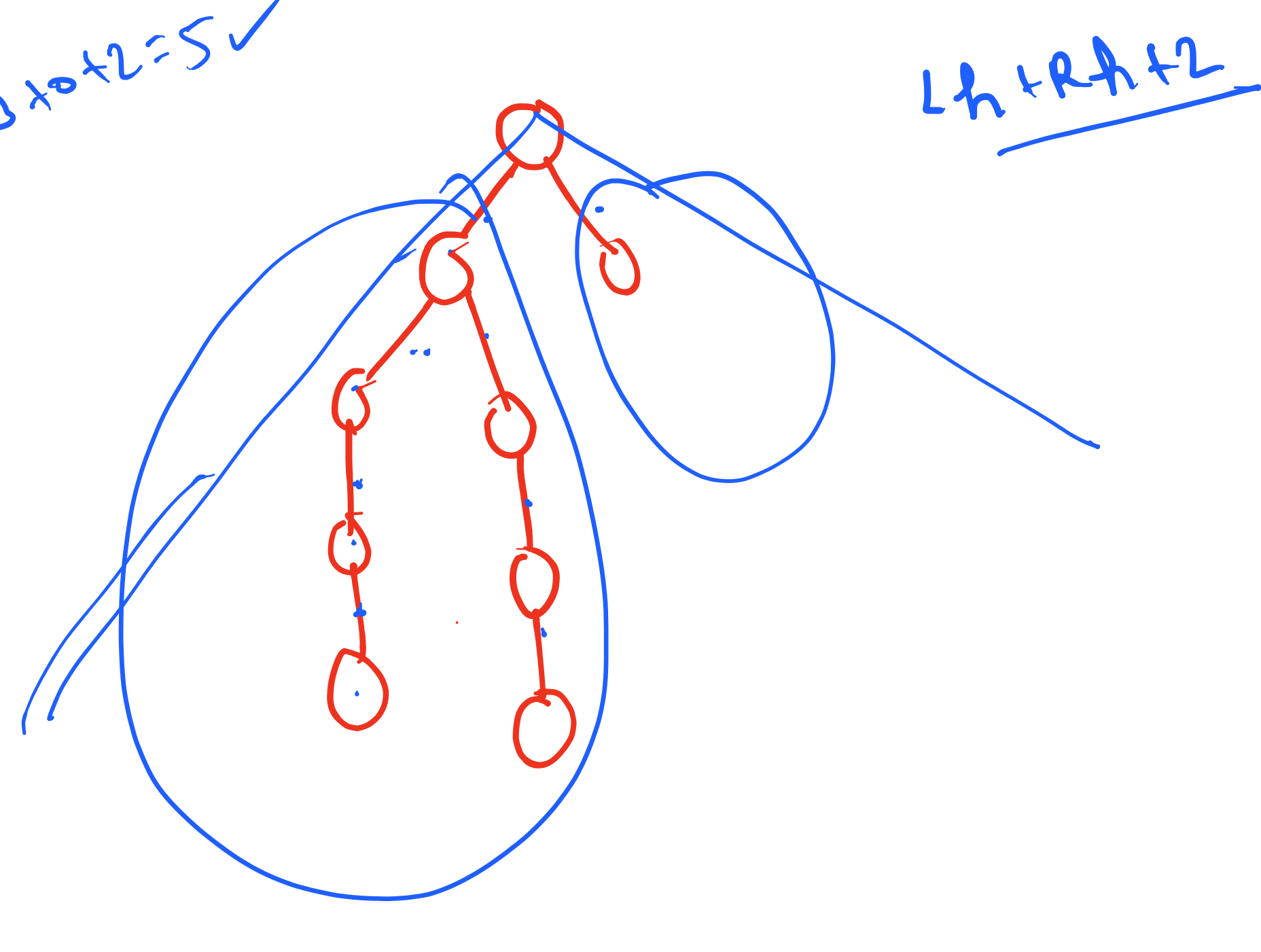
```
public TreeNode lowestCommonAncestor(TreeNode root, TreeNode p, TreeNode q) {  
    if (root == null) {  
        return null;  
    }  
    if (root == p || root == q) {  
        return root;  
    }  
    TreeNode left = lowestCommonAncestor(root.left, p, q);  
    TreeNode right = lowestCommonAncestor(root.right, p, q);  
    if (left != null && right != null) {  
        return root;  
    }  
    else if (left == null) {  
        return right;  
    }  
    else {  
        return left;  
    }  
}
```



LH+RH+2
2+1+2=5

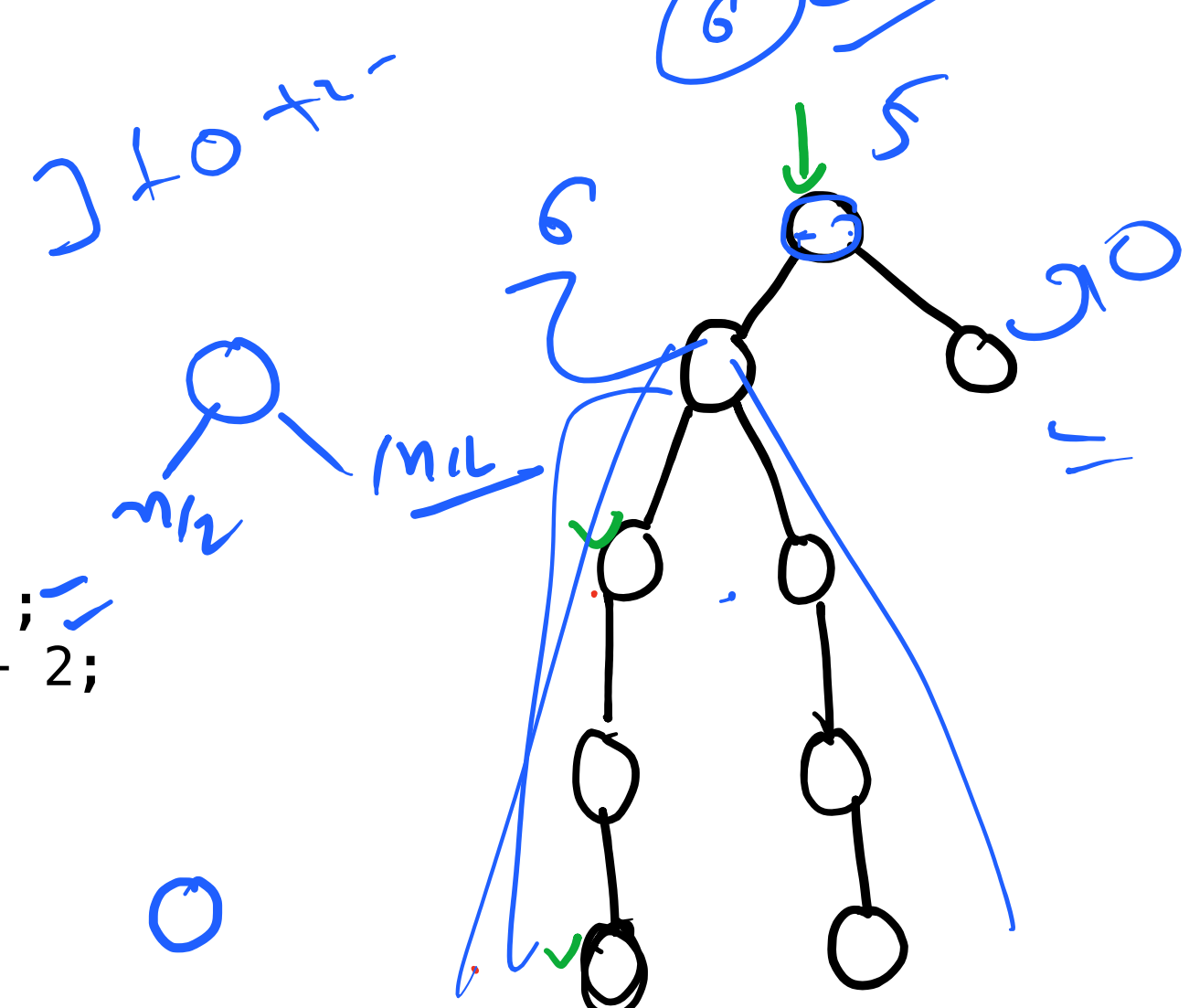


LH+RH+2=5



LH+RH+2

```
public int diameterOfBinaryTree(TreeNode root) {  
    if (root == null) {  
        return 0;  
    }  
    int ld = diameterOfBinaryTree(root.left);  
    int rd = diameterOfBinaryTree(root.right);  
    int sd = ht(root.left) + ht(root.right) + 2;  
    return Math.max(sd, Math.max(ld, rd));  
}  
  
public int ht(TreeNode root) {  
    if (root == null) {  
        return -1;  
    }  
    int lh = ht(root.left);  
    int rh = ht(root.right);  
    return Math.max(lh, rh) + 1;  
}
```



T(n) = (T(n/2) + T(n/2)) + (T(n/2) + T(n/2)) + 1
T(n) = 4T(n/2)