Day-18

**Problem1**- [**543. Diameter of Binary Tree**](https://leetcode.com/problems/diameter-of-binary-tree/)

Solution-

class Solution {

public:

int height(TreeNode\* root,int &dia)

{

if(root==NULL) return 0;

int lh=height(root->left,dia);

int rh=height(root->right,dia);

dia=max(dia,lh+rh);

cout<<lh<<" "<<rh<<endl;

return 1+max(lh,rh);

}

int diameterOfBinaryTree(TreeNode\* root) {

if(root == NULL) return 0;

int dia=0;

height(root,dia);

return dia;

}

};};**Problem2**- [**226. Invert Binary Tree**](https://leetcode.com/problems/invert-binary-tree/)

Solution-

class Solution {

public:

TreeNode\* invertTree(TreeNode\* root) {

if(root==NULL)return 0;

invertTree(root->left);

invertTree(root->right);

swap(root->left,root->right);

return root;

}

};

**Problem 3**-

[**938. Range Sum of BST**](https://leetcode.com/problems/range-sum-of-bst/)

class Solution {

public:

int rangeSumBST(TreeNode\* root, int low, int high) {

if(root ==NULL)

return 0;

int sum=0;

int a=root->val;

if(a>=low && a<=high)

sum+=a;

sum+= rangeSumBST(root->left,low,high);

sum+= rangeSumBST(root->right,low,high);

return sum;

}

};