

Find Height of the binay tree

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#include <stdio.h>
#include <stdlib.h>

struct node
{
    int data;
    struct node *left;
    struct node *right;
};

struct node *newNode(int data)
{
    struct node *temp = (struct node *)malloc(sizeof(struct node));
    temp->data = data;
    temp->left = temp->right = NULL;
    return temp;
}

int getHeightOfTree(struct node *root)
{
    if(root)
    {
        int lHeight = getHeightOfTree(root->left);
        int rHeight = getHeightOfTree(root->right);
        return (lHeight > rHeight) ? lHeight + 1: rHeight + 1;
    }
    return 0;
}

int main()
{
    struct node *root=NULL;
    root = newNode(10);
    root->left = newNode(20);
    root->right = newNode(30);
    root->left->left = newNode(40);
    root->right->left = newNode(50);
    printf("Height of the tree is = %d", getHeightOfTree(root));
    return 0;
}
```

Time Complexity: $O(n)$

Space Complexity: $O(n)$