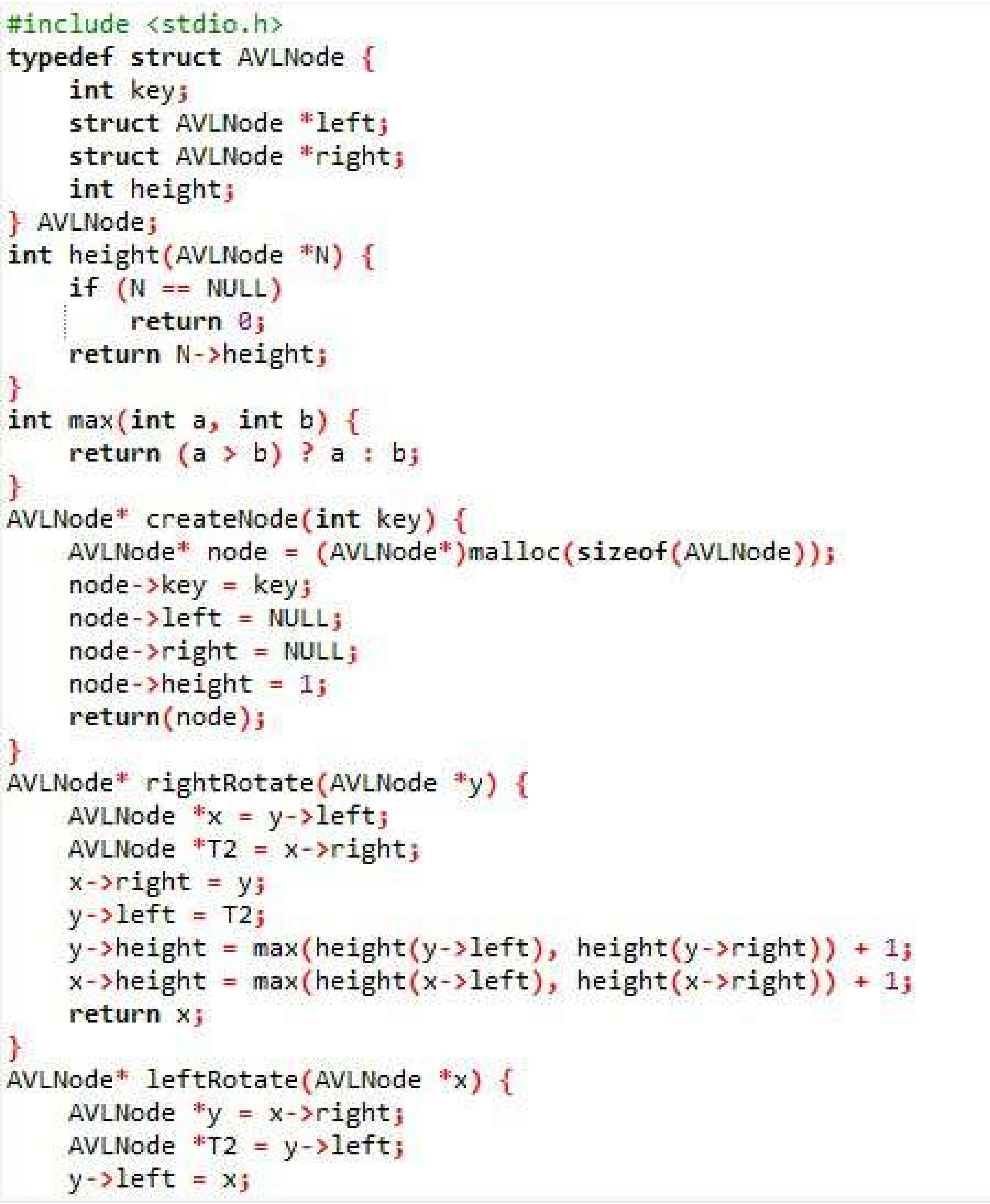
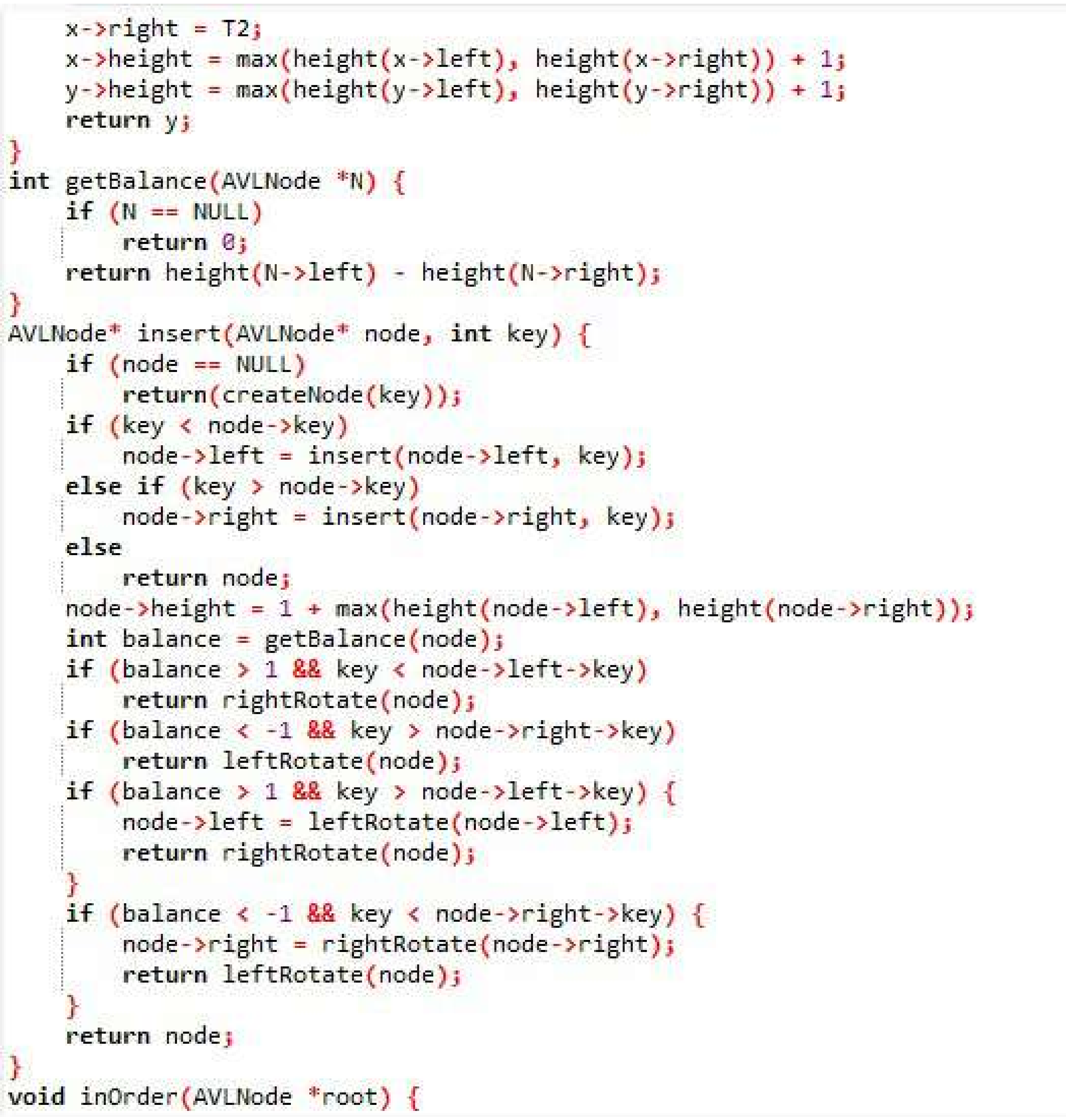
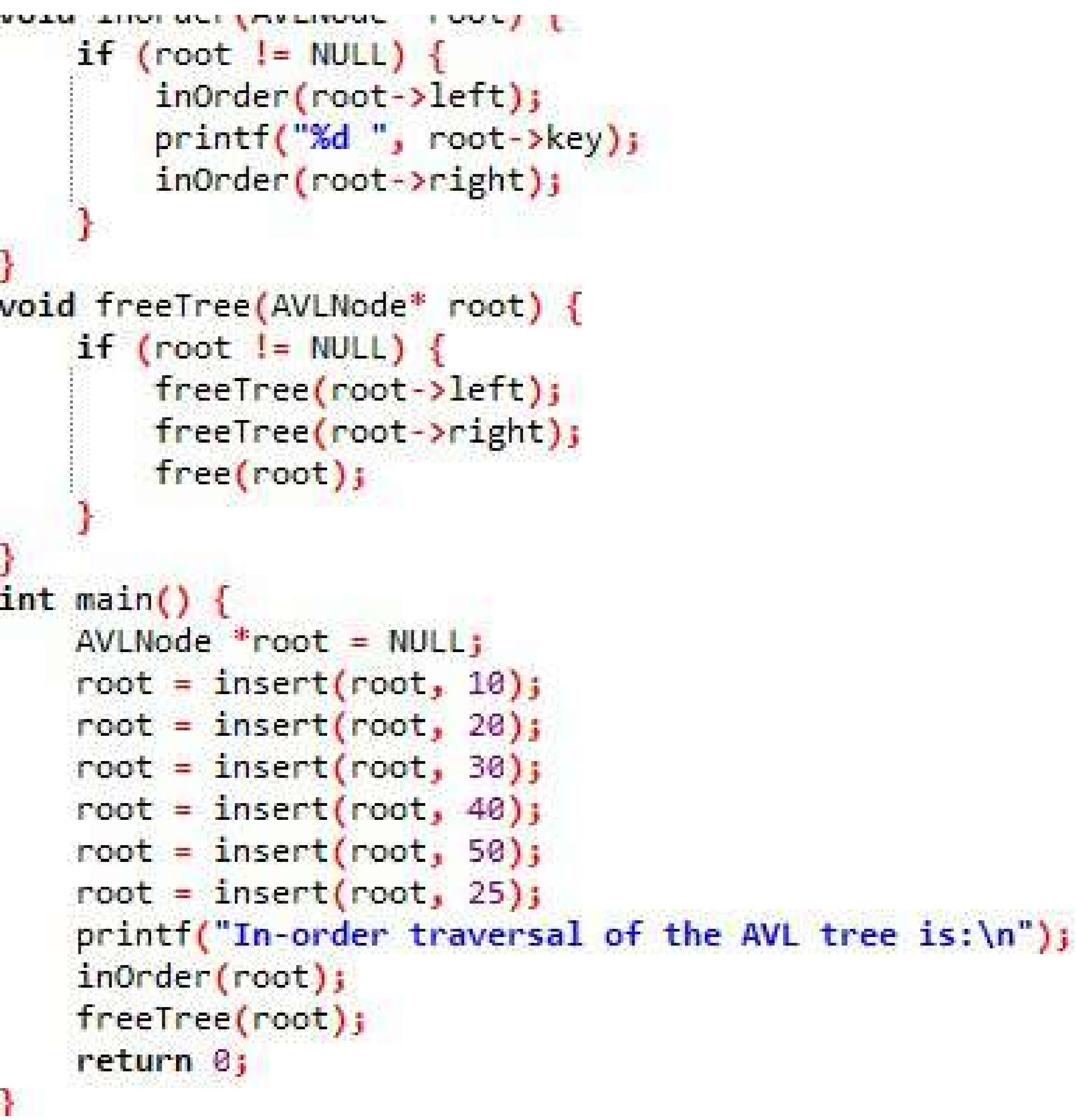


```c
#include <stdio.h>
typedef struct AVLNode {
    int key;
    struct AVLNode *left;
    struct AVLNode *right;
    int height;
} AVLNode;
int height(AVLNode *N) {
    if (N == NULL)
        return 0;
    return N->height;
}
int max(int a, int b) {
    return (a > b) ? a : b;
}
AVLNode* createNode(int key) {
    AVLNode* node = (AVLNode*)malloc(sizeof(AVLNode));
    node->key = key;
    node->left = NULL;
    node->right = NULL;
    node->height = 1;
    return(node);
}
AVLNode* rightRotate(AVLNode *y) {
    AVLNode *x = y->left;
    AVLNode *T2 = x->right;
    x->right = y;
    y->left = T2;
    y->height = max(height(y->left), height(y->right)) + 1;
    x->height = max(height(x->left), height(x->right)) + 1;
    return x;
}
AVLNode* leftRotate(AVLNode *x) {
    AVLNode *y = x->right;
    AVLNode *T2 = y->left;
    y->left = x;
```



```
    x->right = T2;
    x->height = max(height(x->left), height(x->right)) + 1;
    y->height = max(height(y->left), height(y->right)) + 1;
    return y;
}
int getBalance(AVLNode *N) {
    if (N == NULL)
        return 0;
    return height(N->left) - height(N->right);
}
AVLNode* insert(AVLNode* node, int key) {
    if (node == NULL)
        return(createNode(key));
    if (key < node->key)
        node->left = insert(node->left, key);
    else if (key > node->key)
        node->right = insert(node->right, key);
    else
        return node;
    node->height = 1 + max(height(node->left), height(node->right));
    int balance = getBalance(node);
    if (balance > 1 && key < node->left->key)
        return rightRotate(node);
    if (balance < -1 && key > node->right->key)
        return leftRotate(node);
    if (balance > 1 && key > node->left->key) {
        node->left = leftRotate(node->left);
        return rightRotate(node);
    }
    if (balance < -1 && key < node->right->key) {
        node->right = rightRotate(node->right);
        return leftRotate(node);
    }
    return node;
}
void inOrder(AVLNode *root) {
```



```c
void inOrder(AVLNode* root) {
    if (root != NULL) {
        inOrder(root->left);
        printf("%d ", root->key);
        inOrder(root->right);
    }
}
void freeTree(AVLNode* root) {
    if (root != NULL) {
        freeTree(root->left);
        freeTree(root->right);
        free(root);
    }
}
int main() {
    AVLNode *root = NULL;
    root = insert(root, 10);
    root = insert(root, 20);
    root = insert(root, 30);
    root = insert(root, 40);
    root = insert(root, 50);
    root = insert(root, 25);
    printf("In-order traversal of the AVL tree is:\n");
    inOrder(root);
    freeTree(root);
    return 0;
}
```