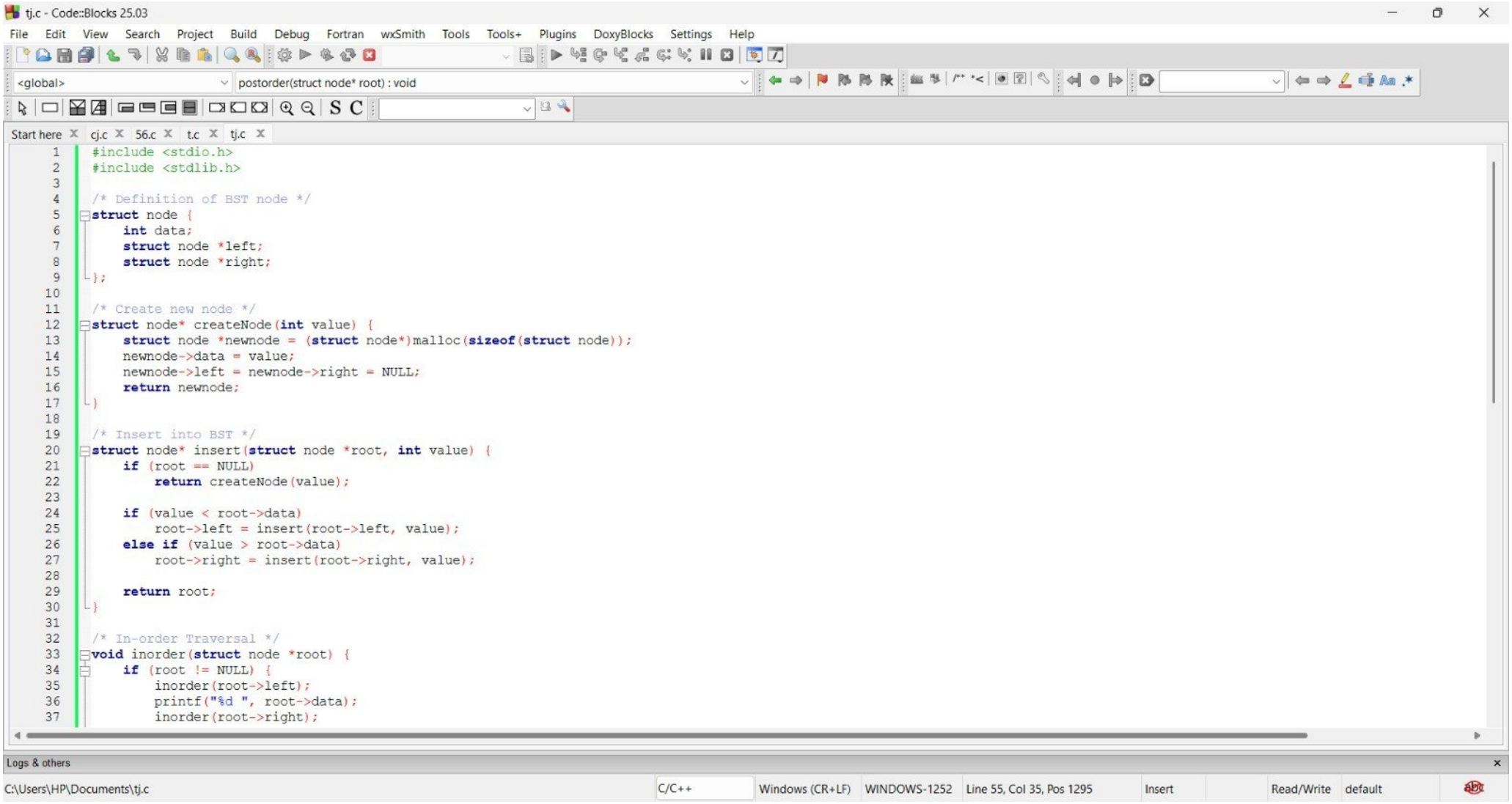
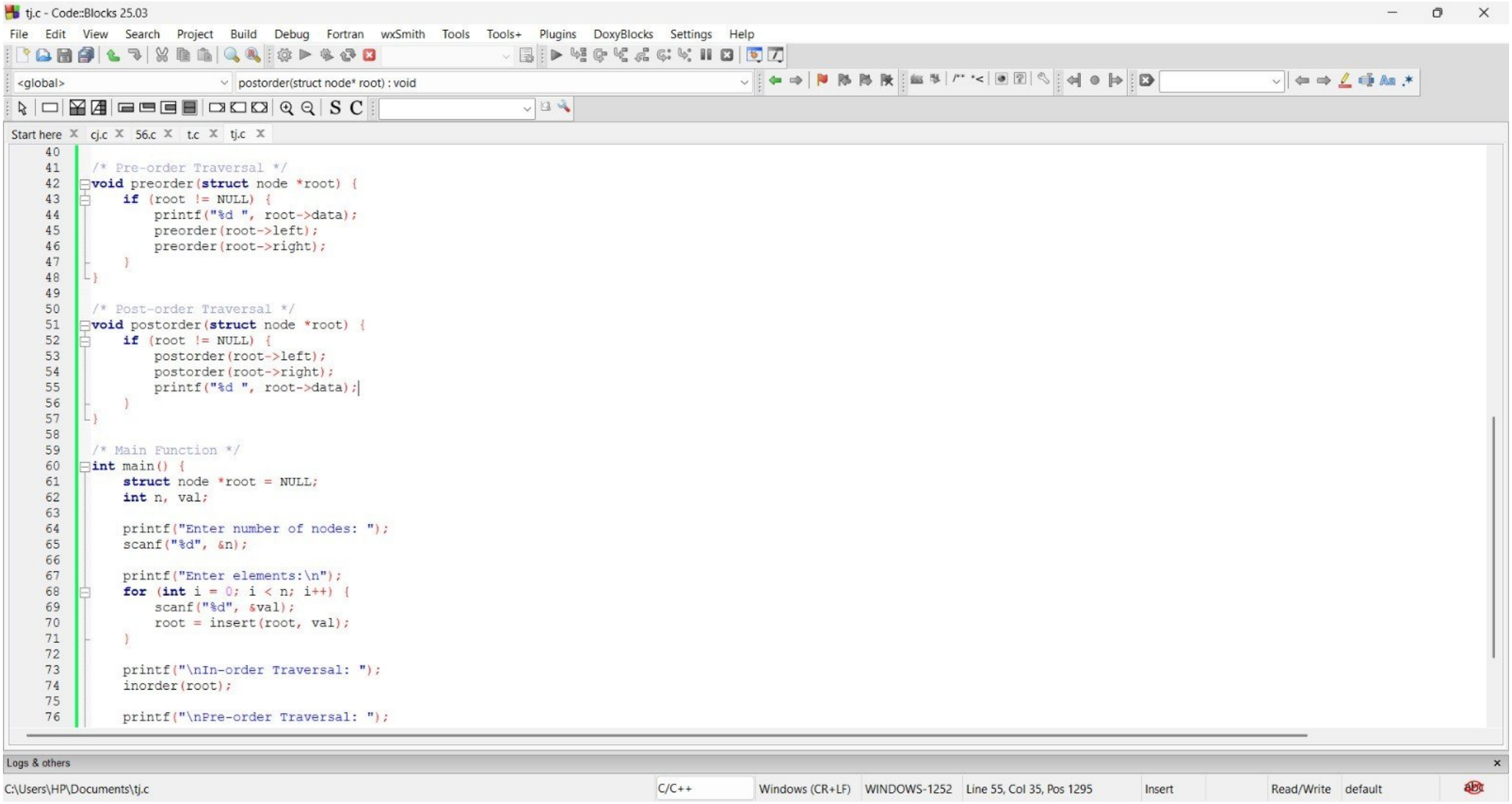
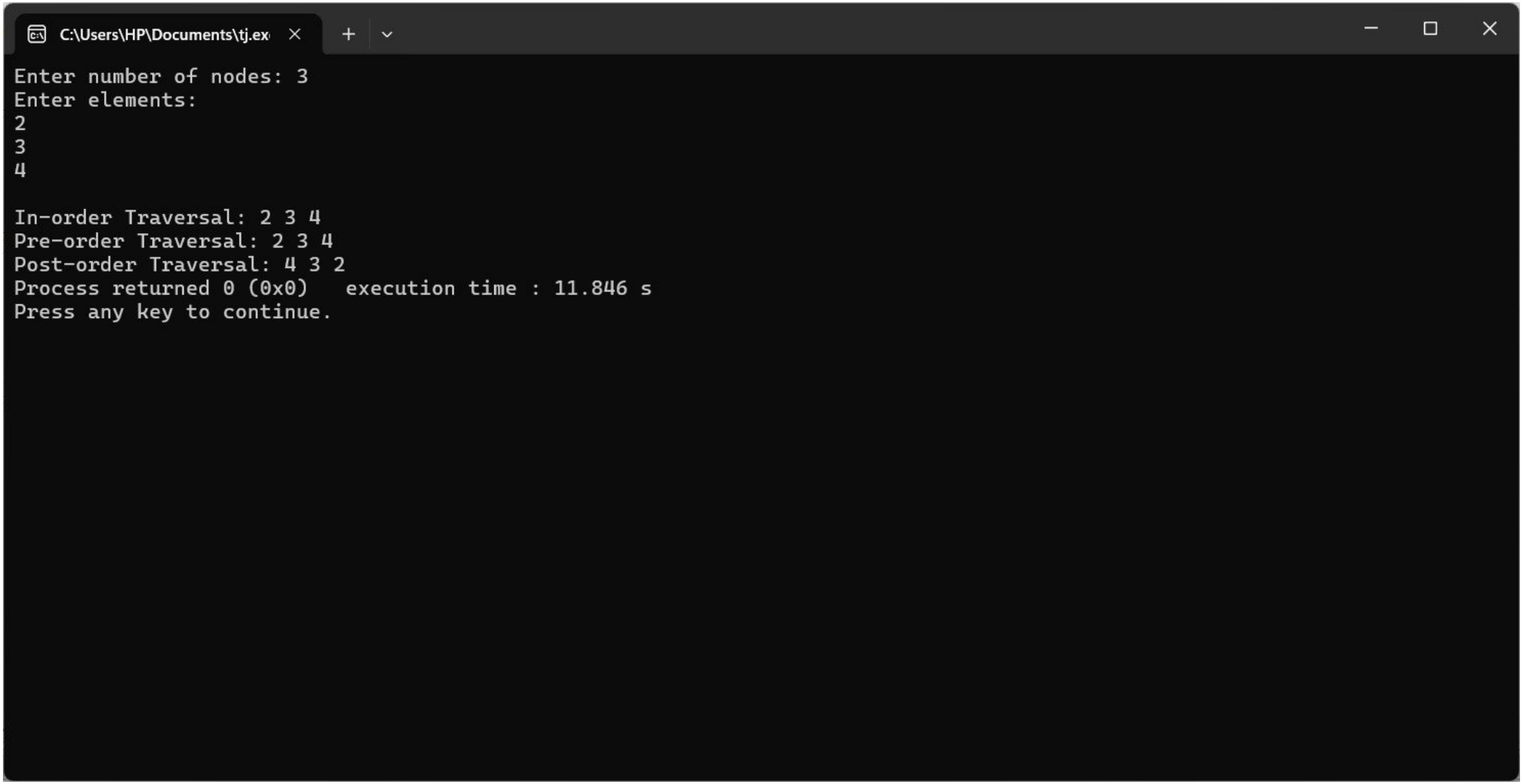
| | | | |
|---|---|---|---|
| 8 | 4 | 5 | Write a program<br>a) To construct a binary Search tree.<br>b) To traverse the tree using all the methods i.e., in-order, preorder and post order<br>c) To display the elements in the tree. |
| | | 5 | Program - Leetcode platform |


tj.c - Code::Blocks 25.03
File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help
<global>
postorder(struct node* root) : void
Start here
cj.c
56.c
t.c
tj.c
#include <stdio.h>
#include <stdlib.h>
/* Definition of BST node */
struct node {
int data;
struct node *left;
struct node *right;
};
/* Create new node */
struct node* createNode(int value) {
struct node *newnode = (struct node*)malloc(sizeof(struct node));
newnode->data = value;
newnode->left = newnode->right = NULL;
return newnode;
}
/* Insert into BST */
struct node* insert(struct node *root, int value) {
if (root == NULL)
return createNode(value);
if (value < root->data)
root->left = insert(root->left, value);
else if (value > root->data)
root->right = insert(root->right, value);
return root;
}
/* In-order Traversal */
void inorder(struct node *root) {
if (root != NULL) {
inorder(root->left);
printf("%d ", root->data);
inorder(root->right);
Logs & others
C:\Users\HP\Documents\tj.c
C/C++
Windows (CR+LF)
WINDOWS-1252
Line 55, Col 35, Pos 1295
Insert
Read/Write
default


tj.c - Code::Blocks 25.03
File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help
<global>
postorder(struct node* root) : void
Start here
cj.c
56.c
t.c
tj.c
/* Pre-order Traversal */
void preorder(struct node *root) {
if (root != NULL) {
printf("%d ", root->data);
preorder(root->left);
preorder(root->right);
}
}
/* Post-order Traversal */
void postorder(struct node *root) {
if (root != NULL) {
postorder(root->left);
postorder(root->right);
printf("%d ", root->data);
}
}
/* Main Function */
int main() {
struct node *root = NULL;
int n, val;
printf("Enter number of nodes: ");
scanf("%d", &n);
printf("Enter elements:\n");
for (int i = 0; i < n; i++) {
scanf("%d", &val);
root = insert(root, val);
}
printf("\nIn-order Traversal: ");
inorder(root);
printf("\nPre-order Traversal: ");
Logs & others
C:\Users\HP\Documents\tj.c
C/C++
Windows (CR+LF)
WINDOWS-1252
Line 55, Col 35, Pos 1295
Insert
Read/Write
default


C:\Users\HP\Documents\tj.ex
Enter number of nodes: 3
Enter elements:
2
3
4
In-order Traversal: 2 3 4
Pre-order Traversal: 2 3 4
Post-order Traversal: 4 3 2
Process returned 0 (0x0)   execution time : 11.846 s
Press any key to continue.