

```
Start Here X BinaryTree.c X
1  #include <stdio.h>
2  #include <stdlib.h>
3
4  // Node structure
5  struct Node {
6      int data;
7      struct Node *left, *right;
8  };
9
10 // Create a new node
11 struct Node* createNode(int value) {
12     struct Node* newNode = (struct Node*)malloc(sizeof(struct Node));
13     newNode->data = value;
14     newNode->left = newNode->right = NULL;
15     return newNode;
16 }
17
18 // Insert into BST
19 struct Node* insert(struct Node* root, int value) {
20     if (root == NULL)
21         return createNode(value);
22
23     if (value < root->data)
24         root->left = insert(root->left, value);
25     else if (value > root->data)
26         root->right = insert(root->right, value);
27
28     return root;
29 }
30
31 // Inorder Traversal
32 void inorder(struct Node* root) {
33     if (root != NULL) {
34         inorder(root->left);
35         printf("%d ", root->data);
36         inorder(root->right);
37     }
38 }
39
40 // Preorder Traversal
41 void preorder(struct Node* root) {
42     if (root != NULL) {
43         printf("%d ", root->data);
44         preorder(root->left);
45         preorder(root->right);
46     }
47 }
48
49 // Postorder Traversal
50 void postorder(struct Node* root) {
51 }
```

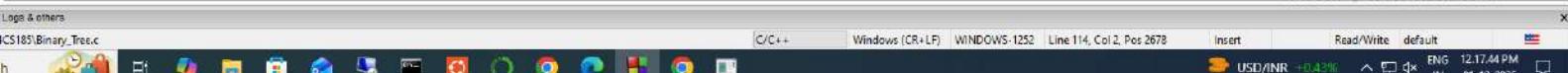
Activate Windows
Go to Settings to activate Windows.

C/C++ Windows (CR+LF) WINDOWS-1252 Line 114 Col 2 Pos 2678 Insert Read/Write default

USD/INR +0.43% 12.17.25 PM IN 01-12-2025

```
Start here X Binary_Tree.c X
49 // Postorder Traversal
50 void postorder(struct Node* root) {
51     if (root != NULL) {
52         postorder(root->left);
53         postorder(root->right);
54         printf("%d ", root->data);
55     }
56 }
57
58 int main() {
59     struct Node* root = NULL;
60     int choice, value;
61
62     while (1) {
63         printf("\n----- MENU -----");
64         printf("1. Insert element into BST\n");
65         printf("2. Inorder Traversal\n");
66         printf("3. Preorder Traversal\n");
67         printf("4. Postorder Traversal\n");
68         printf("5. Display elements (Inorder)\n");
69         printf("6. Exit\n");
70         printf("Enter your choice: ");
71         scanf("%d", &choice);
72
73         switch (choice) {
74             case 1:
75                 printf("Enter value to insert: ");
76                 scanf("%d", &value);
77                 root = insert(root, value);
78                 break;
79
80             case 2:
81                 printf("Inorder Traversal: ");
82                 inorder(root);
83                 printf("\n");
84                 break;
85
86             case 3:
87                 printf("Preorder Traversal: ");
88                 preorder(root);
89                 printf("\n");
90                 break;
91
92             case 4:
93                 printf("Postorder Traversal: ");
94                 postorder(root);
95                 printf("\n");
96                 break;
97
98             case 5:
99         }
100     }
101 }
```

Activate Windows
Go to Settings to activate Windows.



```
Start here X Binary_Tree.x
67     printf("4. Postorder Traversal\n");
68     printf("5. Display elements (Inorder)\n");
69     printf("6. Exit\n");
70     printf("Enter your choice: ");
71     scanf("%d", &choice);
72
73     switch (choice) {
74     case 1:
75         printf("Enter value to insert: ");
76         scanf("%d", &value);
77         root = insert(root, value);
78         break;
79
80     case 2:
81         printf("Inorder Traversal: ");
82         inorder(root);
83         printf("\n");
84         break;
85
86     case 3:
87         printf("Preorder Traversal: ");
88         preorder(root);
89         printf("\n");
90         break;
91
92     case 4:
93         printf("Postorder Traversal: ");
94         postorder(root);
95         printf("\n");
96         break;
97
98     case 5:
99         printf("Elements in BST (Inorder Display): ");
100        inorder(root);
101        printf("\n");
102        break;
103
104     case 6:
105         printf("Exiting...\n");
106         exit(0);
107
108     default:
109         printf("Invalid choice! Try again.\n");
110     }
111
112
113
114
115
return 0;
```

Activate Windows
Go to Settings to activate Windows.



C:\Users\Admin\Desktop\Nidhi_L\BM24CS185\Binary_Tree.exe

```
----- MENU -----  
1. Insert element into BST  
2. Inorder Traversal  
3. Preorder Traversal  
4. Postorder Traversal  
5. Display elements (Inorder)  
6. Exit  
Enter your choice: 88  
Invalid choice! Try again.
```

```
----- MENU -----  
1. Insert element into BST  
2. Inorder Traversal  
3. Preorder Traversal  
4. Postorder Traversal  
5. Display elements (Inorder)  
6. Exit  
Enter your choice: 1  
Enter value to insert: 88
```

```
----- MENU -----  
1. Insert element into BST  
2. Inorder Traversal  
3. Preorder Traversal  
4. Postorder Traversal  
5. Display elements (Inorder)  
6. Exit  
Enter your choice: 1  
Enter value to insert: 78
```

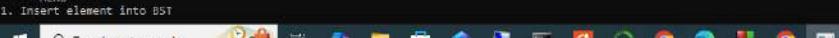
```
----- MENU -----  
1. Insert element into BST  
2. Inorder Traversal  
3. Preorder Traversal  
4. Postorder Traversal  
5. Display elements (Inorder)  
6. Exit  
Enter your choice: 1  
Enter value to insert: 58
```

```
----- MENU -----  
1. Insert element into BST  
2. Inorder Traversal  
3. Preorder Traversal  
4. Postorder Traversal  
5. Display elements (Inorder)  
6. Exit  
Enter your choice: 1  
Enter value to insert: 38
```

```
----- MENU -----  
1. Insert element into BST  
2. Inorder Traversal  
3. Preorder Traversal  
4. Postorder Traversal  
5. Display elements (Inorder)  
6. Exit  
Enter your choice: 1  
Enter value to insert: 18
```

```
----- MENU -----  
1. Insert element into BST
```

Activate Windows
Go to Settings to activate Windows.



YESBANK -1.44% 12.16.15 PM IN 01-12-2025

C:\Users\Admin\Desktop\Nidhi_L\BM24CS185\Binary_Tree.exe

```
----- MENU -----  
1. Insert element into BST  
2. Inorder Traversal  
3. Preorder Traversal  
4. Postorder Traversal  
5. Display elements (Inorder)  
6. Exit  
Enter your choice: 1  
Enter value to insert: 40
```

```
----- MENU -----  
1. Insert element into BST  
2. Inorder Traversal  
3. Preorder Traversal  
4. Postorder Traversal  
5. Display elements (Inorder)  
6. Exit  
Enter your choice: 1  
Enter value to insert: 20
```

```
----- MENU -----  
1. Insert element into BST  
2. Inorder Traversal  
3. Preorder Traversal  
4. Postorder Traversal  
5. Display elements (Inorder)  
6. Exit  
Enter your choice: 1  
Enter value to insert: 60
```

```
----- MENU -----  
1. Insert element into BST  
2. Inorder Traversal  
3. Preorder Traversal  
4. Postorder Traversal  
5. Display elements (Inorder)  
6. Exit  
Enter your choice: 1  
Enter value to insert: 90
```

```
----- MENU -----  
1. Insert element into BST  
2. Inorder Traversal  
3. Preorder Traversal  
4. Postorder Traversal  
5. Display elements (Inorder)  
6. Exit  
Enter your choice: 2  
Inorder Traversal: 10 20 30 40 50 60 70 80 90
```

```
----- MENU -----  
1. Insert element into BST  
2. Inorder Traversal  
3. Preorder Traversal  
4. Postorder Traversal  
5. Display elements (Inorder)  
6. Exit  
Enter your choice: 3  
Preorder Traversal: 80 70 50 30 10 20 40 60 90
```

```
----- MENU -----  
1. Insert element into BST
```

Activate Windows
Go to Settings to activate Windows.



USD/INR +0.43% 12.17.03 PM IN 01-12-2025