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Start here   lab 8 ds.c

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

struct Node {
    int data;
    struct Node *left, *right;
};

struct Node* createNode(int value) {
    struct Node* newNode = (struct Node*)malloc(sizeof(struct Node));
    newNode->data = value;
    newNode->left = newNode->right = NULL;
    return newNode;
}

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;
}

void inorder(struct Node* root) {
    if (root != NULL) {
        inorder(root->left);
        printf("%d ", root->data);
        inorder(root->right);
    }
}

void preorder(struct Node* root) {
    if (root != NULL) {
        printf("%d ", root->data);
        preorder(root->left);
        preorder(root->right);
    }
}

void postorder(struct Node* root) {
    if (root != NULL) {
        postorder(root->left);
        postorder(root->right);
        printf("%d ", root->data);
    }
}

int main() {
    struct Node* root = NULL;
    int n, value;
```

C:\Users\Admin\Desktop\lab 8 ds.c

C/C++   Windows (CR+LF)   WINDOWS-1252   Line 27, Col 1, Pos 617   Insert   Read/Write   default

```c
            printf("%d ", root->data);
        }
    }

    int main() {
        struct Node* root = NULL;
        int n, value;

        printf("Enter number of elements to insert into BST: ");
        scanf("%d", &n);

        printf("Enter the elements:\n");
        for (int i = 0; i < n; i++) {
            scanf("%d", &value);
            root = insert(root, value);
        }

        printf("\nBST Traversals:\n");

        printf("Inorder : ");
        inorder(root);

        printf("\nPreorder : ");
        preorder(root);

        printf("\nPostorder : ");
        postorder(root);

        printf("\n");

        return 0;
    }
```

```
Enter number of elements to insert into BST: 7
Enter the elements:
50 30 70 20 40 60 80

BST Traversals:
Inorder : 20 30 40 50 60 70 80
Preorder : 50 30 20 40 70 60 80
Postorder : 20 40 30 60 80 70 50

Process returned 0 (0x0)   execution time : 28.974 s
Press any key to continue.
```

```
"C:\Users\Admin\Desktop\lab 8 ds.exe"

Enter number of elements to insert into BST: 9
Enter the elements:
6 88 17 -40 63 13 -2 48 26

BST Traversals:
Inorder : -40 -2 6 13 17 26 48 63 88
Preorder : 6 -40 -2 88 17 13 63 48 26
Postorder : -2 -40 13 26 48 63 17 88 6

Process returned 0 (0x0)   execution time : 86.976 s
Press any key to continue.
```