NAME: Haresh Kumar N L (192425009)

COURSE NAME: DATA STRUCTURES FOR MODERN COMPUTING SYSTEMS

COURSE CODE: CSA0302

Experiment 19: Binary Tree Traversing

Code:

```
#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;
}
void inorder(struct node* root) {
   if (root == NULL) return;
   inorder(root->left);
   printf("%d ", root->data);
   inorder(root->right);
}
void preorder(struct node* root) {
   if (root == NULL) return;
   printf("%d ", root->data);
   preorder(root->left);
   preorder(root->right);
}
void postorder(struct node* root) {
```

```
    if (root == NULL) return;
    postorder(root->left);
    postorder(root->right);
    printf("%d ", root->data);
}
int main() {
    struct node* root = createNode(1);
    root->left = createNode(2);
    root->right = createNode(3);
    root->left->left = createNode(4);
    root->left->right = createNode(5);
    printf("Inorder Traversal: ");
    inorder(root);
    printf("\n");
    printf("Preorder Traversal: ");
    preorder(root);
    printf("\n");
    printf("Postorder Traversal: ");
    postorder(root);
    printf("\n");
    return 0;
}
```

Output:

```
Inorder Traversal: 4 2 5 1 3
Preorder Traversal: 1 2 4 5 3
Postorder Traversal: 4 5 2 3 1


=== Code Execution Successful ===
```