NORTH SOUTH UNIVERSITY

Department of Electrical and Computer Engineering

Assignment – 07

Name   : Joy Kumar Ghosh
Student ID   : 2211424 6 42
Course No.   : CSE 225
Course Title : Data Structures and Algorithm
Section   : 06
Date   : 06 June 2023

Structure of Tree:

```cpp
template <class ItemType>
struct TreeNode
{
    ItemType info;
    TreeNode* left;
    TreeNode* right;
};
```

In-Order Traversal:

```cpp
void InOrderTraversal (TreeNode* tree)
{
    if (tree != NULL) {
        InOrderTraversal( tree -> left);
        cout << tree -> info << " ";
        InOrderTraversal (tree -> right);
    }
}
```

Pre-Order Traversal :

```
void PreOrderTraversal (TreeNode* tree)
{
    if (tree != NULL){
        cout << tree -> info << " ";
        PreOrderTraversal (tree -> left);
        PreOrderTraversal (tree -> right);
    }
}
```

Post-Order Traversal :

```
void PostOrderTraversal (TreeNode * tree)
{
    if (tree != NULL){
        PostOrderTraversal (tree -> left);
        PostOrderTraversal (tree -> right);
        cout << tree -> info << " ";
    }
}
```

For the given tree,

In - Order : 2 7 5 9 6 8 11 3 4 1

Pre- Order : 11 9 7 2 5 8 6 4 3 1

Post- Order : 2 5 7 6 8 9 3 1 4 11