# Assignment - 04

Name : B.Lakesh

Regno : 192365037

Dept : CSE (Cyber Security)

Course Code : CSA0389

Course Name : Data Structures

Faculty Name : Dr. Ashok Kumar

Assignment No : 04

Date of submission : 21-Aug-2024

No. of pages : 04

Develop a C program to implement the Tree traversal (Inorder, Preorder, Post Order)

```
#include<stdio.h>
#include<stdlib.h>
 struct {
     int data;
      struct Node *left;
      struct Node * Right;
};
struct Node * createNode (int data) {
        struct Node * newNode = (struct Node*) malloc
                                        (size of (sNode))
            newnode -> data = data;
            newnode -> left = NULL;
            newnode -> right = NULL;
             return new node;
void inorder (struct node * root) {
        if (root == NULL)
         return;
         inorder (root -> left);
          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);
       Print f ("%d", root -> data);
}
```

```
int main() {
struct node * root = create node(1);
 root → left = create node(2);
  root → right = create node(3);
 root →left→left = create node(4);
 root → left→right = create node(5)
root → right →left = create node(6)
 root → right→right = create node(7)
   printf ("Inorder traversal:");
    inorder (root)
    printf ("\n");
    print f ("preorder traversal:");
    preorder (root);
    printf ("\n");
   printf ("Postorder traversal:");
   postorder (root);
   printf ("\n");
   return 0;
}
```

2. Construct AVL tree for the following elements 3,2,14,5,6,7 followed by 10 to 16 in reverse order.

3, 2, 14, 5, 6, 7, 16, 15, 14, 13, 12, 11, 10