Date __/__/__
Page _____

Lab-7

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

struct node {
    int data;
    struct node * left;
    struct node * right;
};

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

struct node * insert (struct node * root, int data) {
    if (root = NULL)
    {
        return newNode (data);
    }
    if (data <= root -> data)
    {
        root -> left = insert (root -> left, data);
    }
    else
    {
        root -> right = (root -> right, data);
    }
return root;
```

```
}

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

void preorder (stut node * temp) {
    if (temp == NULL)
    {
        return;
    }
    printf ("%d ", temp -> data);
    preorder (temp -> left);
    postorder (temp -> right);
}

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

```
int main() {
    struct node * root = NULL;
    int data;

    root = insert (root, 18);
    root = insert (root, 17);
    root = insert (root, 46);
    root = insert (root, 7);
    root = insert (root, 5);
    root = insert (root, 8);

printf ("\n inorder traverse : \n");
    inorder (root);

printf ("\n preorder traverse : \n");
    preorder (root);

printf ("\n postorder traverse : \n");
    postorder (root);

}
```

Output :-

inorder traverse :

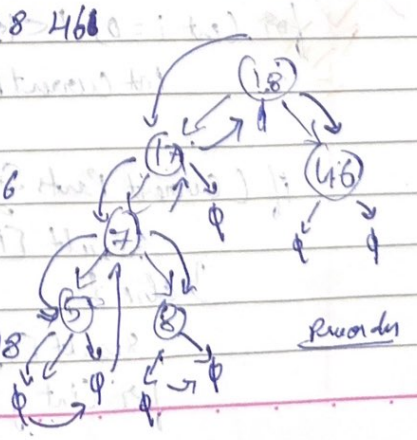
5 7 8 17 18 46

preorder traverse :

18 17 7 5 8 46

postorder traverse :

5 8 7 17 46 18



Inorder