

## PROGRAM 14:

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

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

struct node* createTree();
void preOrder(struct node* );
void postOrder(struct node* );
void inOrder(struct node* );
int main(){
    struct node* root = NULL;
    root = createTree();
    printf("the pre order is:\n");
    preOrder(root);

    printf("the post order is:\n");
    postOrder(root);
    printf("the inoder is :\n");
    inOrder(root);
}

struct node* createTree(){
    struct node* newnode = NULL;
    newnode = (struct node*)malloc(sizeof(struct node));
    int data;
    printf("enter the data(-1 for no node)");
    scanf("%d",&data);
    if(data== -1)
```

```

return 0;

newnode->data = data;

printf("enter the left child of %d\n",data);

newnode->left = createTree();

/*
here we are using the recursion
storing the result of createTree() in new node left side
*/

printf("enter the right child of %d\n",data);

newnode->right = createTree();

return newnode;
}

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);
}

void inOrder(struct node* root){
if(root == NULL){
return;

```

```

}

inOrder(root->left);

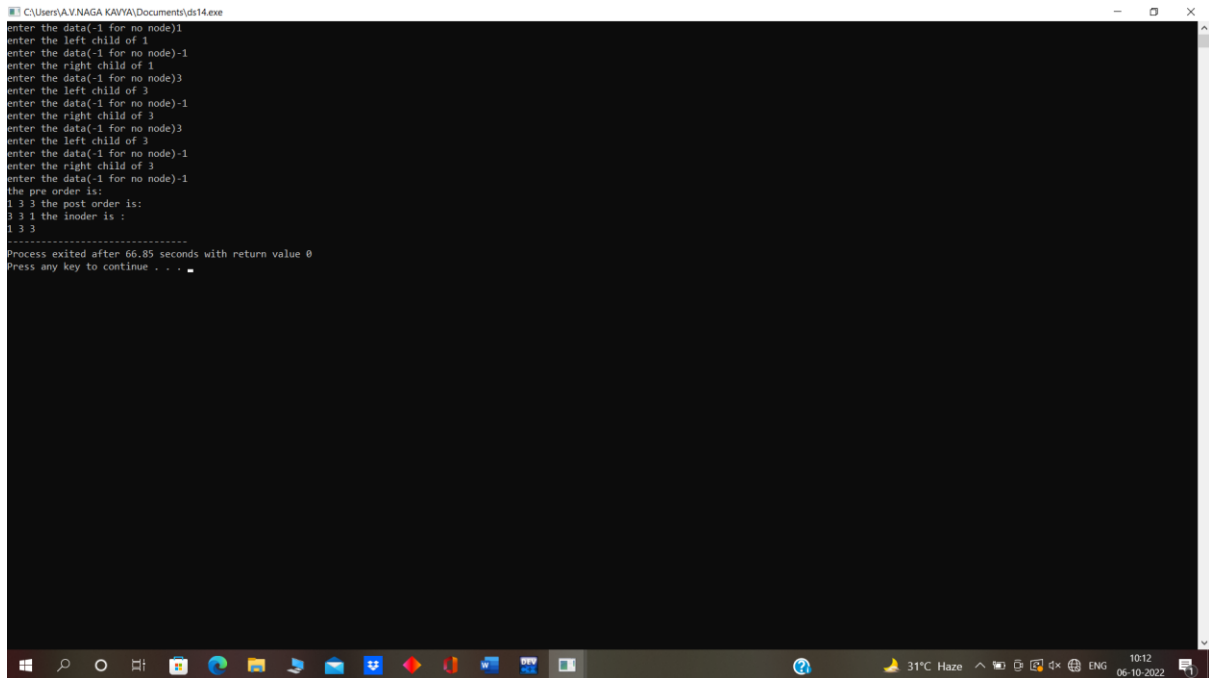
printf("%d ",root->data);

inOrder(root->right);

}

```

## OUTPUT:



```

C:\Users\A.V.NAGA KAVYA\Documents>uts14.exe
enter the data(-1 for no node)1
enter the left child of 1
enter the data(-1 for no node)-1
enter the right child of 1
enter the data(-1 for no node)3
enter the left child of 3
enter the data(-1 for no node)-1
enter the right child of 3
enter the data(-1 for no node)3
enter the left child of 3
enter the data(-1 for no node)-1
enter the right child of 3
enter the data(-1 for no node)-1
the pre order is:
1 3 3 the post order is:
3 3 1 the inoder is :
1 3 3
-----
Process exited after 66.85 seconds with return value 0
Press any key to continue . . .

```