

```
"C:\SHIVANSHU\1ST YEAR C PROGRAMMING BASIC\eee\bin\Debug\eee.exe" - Code::Blocks 17.1
s Help

1.insert      2.display      3.preorder      4.postorder      5.inorder
6.exit
enter the choice
1
enter the item
31

1.insert      2.display      3.preorder      4.postorder      5.inorder
6.exit
enter the choice
1
enter the item
108

1.insert      2.display      3.preorder      4.postorder      5.inorder
6.exit
enter the choice
2
108
31

1.insert      2.display      3.preorder      4.postorder      5.inorder
6.exit
enter the choice
1
enter the item
109

1.insert      2.display      3.preorder      4.postorder      5.inorder
6.exit
enter the choice
2
109
108
31

1.insert      2.display      3.preorder      4.postorder      5.inorder
6.exit
enter the choice
1
enter the item
12

1.insert      2.display      3.preorder      4.postorder      5.inorder
6.exit
enter the choice
1
enter the item

t\n");
```

```
"C:\SHIVANSHU\1ST YEAR C PROGRAMMING BASIC\eee\bin\Debug\eee.exe" - x chain.c [eee] - Code::Blocks 1
s Help
6.exit
enter the choice
2
    109
    108
    32
31
    12

1.insert      2.display      3.preorder      4.postorder      5.inorder
6.exit
enter the choice
3
31 12 108 32 109
1.insert      2.display      3.preorder      4.postorder      5.inorder
6.exit
enter the choice
4
12 32 109 108 31
1.insert      2.display      3.preorder      4.postorder      5.inorder
6.exit
enter the choice
5
12 31 32 108 109
1.insert      2.display      3.preorder      4.postorder      5.inorder
6.exit
enter the choice
2
    109
    108
    32
31
    12

1.insert      2.display      3.preorder      4.postorder      5.inorder
6.exit
enter the choice
6
wrong choice.THANK YOU..
Process returned 1 (0x1)   execution time : 78.813 s
Press any key to continue.
```

```

#include<stdio.h>

#include<stdlib.h>

#include <conio.h>

struct node{

    struct node *llink;

    struct node *rlink;

    int info;

};

typedef struct node *NODE;

NODE getnode(){

    NODE x;

x=(NODE)malloc(sizeof(struct node));

    if(x==NULL){

        printf("Memory full\n");

        exit(0);

    }

    return x;

}

NODE insert(NODE root,int item)

{

    NODE temp,curr,prev;

    temp=getnode();

    temp->rlink=temp->llink=NULL;

    temp->info=item;

    if(root==NULL)

        return temp;

    prev=NULL;

```

```

curr=root;

while(curr!=NULL)

{

prev=curr;

curr=(item<curr->info)?curr->llink:curr->rlink;

}

if(item<prev->info)

prev->llink=temp;

else

prev->rlink=temp;

return root;

}

void preorder(NODE root){

    if(root==NULL) return;

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

    preorder(root->llink);

    preorder(root->rlink);

}

void postorder(NODE root){

    if(root==NULL) return;

    postorder(root->llink);

    postorder(root->rlink);

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

}

void inorder(NODE root){

    if(root==NULL) return;

    inorder(root->llink);

```

```

        printf("%d ",root->info);
        inorder(root->rlink);
    }
void display(NODE root,int i)
{
    int j;
    if(root!=NULL)
    {
        display(root->rlink,i+1);
        for(j=0;j<i;j++)
            printf(" ");
        printf("%d\n",root->info);
        display(root->llink,i+1);
    }
}
int main()
{
    int item,choice;
    NODE root=NULL;
    for(;;)
    {
        printf("\n1.insert\t2.display\t3.preorder\t4.postorder\t5.inorder\t6.exit\n");
        printf("enter the choice\n");
        scanf("%d",&choice);
        switch(choice)
        {
            case 1:printf("enter the item\n");

```

```
        scanf("%d",&item);
        root=insert(root,item);
        break;
case 2:display(root,0);
        break;
case 3:preorder(root);
        break;
case 4:postorder(root);
        break;
case 5:inorder(root);
        break;
default: printf("wrong choice.THANK YOU..");exit(1);
        break;
    }
}
```