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EX NO: 08
PROGRAM NAME: TREE TRAVERSAL

CODE:

```
#include <stdio.h>
#include<stdlib.h>
struct node{
   int data;
   struct node* left;
   struct node* right;
}*first=NULL,*prev,*ptr,*entry;
int isempty(){
   if( first==NULL)
   return(1);
   else
   return(0);
}
void inorder(struct node*ptr){
   if(ptr!=NULL)
   {
      inorder(ptr->left);
      printf("%d ",ptr->data);
      inorder(ptr->right);
```

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

void genbintree(int elt){
    struct node* newn=malloc(sizeof(struct node));
    newn->data=elt;
    newn->right=NULL;
    newn->left=NULL;
    if(isempty()){
        first=newn;
```

```
      entry=first;}
   else{ptr=first;
   while(ptr!=NULL){
      if(ptr->data<elt){
         prev=ptr;
         ptr=ptr->right;
      }
      else{
         prev=ptr;
         ptr=ptr->left;
      }
   }
   if(prev->data<elt)
     prev->right=newn;
   else
    prev->left=newn;
 }
}
 int main(){
    int elt,n;
    scanf("%d",&n);
    for(int i=0;i<n;i++){
       scanf("%d",&elt);
       genbintree(elt);
```

```
    }
    inorder(first);printf("\n");
    preorder(first);printf("\n");
    postorder(first);

}
```

OUTPUT:

```
7
10
5
20
4
7
18
40
4 5 7 10 18 20 40
10 5 4 7 20 18 40
5 4 7 20 18 40 10
Process returned 0 (0x0)   execution time : 22.150 s
Press any key to continue.
```