```
#include<iostream.h>
#include <stdio.h>
#include<conio.h>
#include<stdlib.h>
void push();
void pop();
void search();
void display();
struct node
{
int data;
struct node *next;
};
struct node *top;
void main()
{
 char ch;
 int op;
 clrscr();
 while(op!=5)
 {
  printf("\n 1.PUSH \n 2.POP \n 3.LINEAR SEARCH \n 4.DISPLAY \n 5.EXIT \n ");
  cout<<"Enter your choice:";
  cin>>op;
    switch(op)
```

```
   {
    case 1:push();break;
    case 2:pop();break;
    case 3:search();break;
    case 4:display();break;
    case 5:exit(0);break;
    default:cout<<"\nINVALID INPUT";
   };
 }
 getch();
}

void push()
{
 int val;
 struct node *newnode;
 newnode=(struct node*)malloc(sizeof(struct node));
  if(newnode==NULL)
  {
   cout<<"\nStack is full";
  }
  else
  {
   cout<<"\nEnter the value";
   cin>>val;
```

```
  if(top==NULL)
   {
    top=newnode;
    newnode->data=val;
    newnode->next=NULL;
   }
  else
   {
    newnode->data=val;
    newnode->next=top;
    top=newnode;
   }
  cout<<"\n Value pushed";
 }
}

void pop()
{
 if(top==NULL)
  {
   cout<<"\nStack is empty";
  }
 else
  {
    struct node*temp;
```

```
    temp=top;
    top=temp->next;
    free(temp);
    cout<<"\nvalue deleted";
  }

}

void search()
{
int key,flag;
struct node*temp;
cout<<"\nEnter the element to search: ";
cin>>key;
temp=top;
 while(temp!=NULL)
 {
  if(temp->data==key)
   {
   flag=1;
   }
   temp=temp->next;
  }
  if(flag==1)
  {
```

```
   cout<<"element found "<<key;
  }
  else
  {
  cout<<"element not found";
  }
}

void display()
{
  if(top==NULL)
  {
  cout<<"\n Stack is empty";
  }
  else
  {
  struct node*temp;
  temp=top;
   while(temp->next!=NULL)
   {
     cout<<temp->data;
     temp=temp->next;
   }
   cout<<temp->data<<" ";
  }
```

}

```
 1.PUSH
 2.POP
 3.LINEAR SEARCH
 4.DISPLAY
 5.EXIT
 Enter your choice:1

Enter the value5

 Value pushed
 1.PUSH
 2.POP
 3.LINEAR SEARCH
 4.DISPLAY
 5.EXIT
 Enter your choice:2

value deleted
 1.PUSH
 2.POP
 3.LINEAR SEARCH
 4.DISPLAY
 5.EXIT
 Enter your choice:_
```

```
value deleted
 1.PUSH
 2.POP
 3.LINEAR SEARCH
 4.DISPLAY
 5.EXIT
 Enter your choice:3

Enter the element to search: 2
element not found
 1.PUSH
 2.POP
 3.LINEAR SEARCH
 4.DISPLAY
 5.EXIT
 Enter your choice:4

 Stack is empty
 1.PUSH
 2.POP
 3.LINEAR SEARCH
 4.DISPLAY
 5.EXIT
 Enter your choice:
```