#include <stdio.h>

#include<stdlib.h>

struct node

{

struct node \*next;

int data;

};

struct node \*top;

struct node \*temp;

void push()

{

struct node \*newnode;

newnode=(struct node \*)malloc(sizeof(struct node));

printf("Enter the data:");

scanf("%d",&newnode->data);

if(top==NULL)

{

top=newnode;

newnode->next=NULL;

}

else

{

newnode->next=top;

top=newnode;

}

}

void pop()

{

temp=top;

if(temp==NULL)

{

printf("Stack is empty");

}

else

{

printf("Deleted element is %d",temp->data);

top=top->next;

free(temp);

}

}

void display()

{

temp=top;

while(temp->next!=NULL)

{

printf("%d\n",temp->data);

temp=temp->next;

}

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

}

void search()

{

int x,pos=1,flag=0;

temp=top;

if(top==NULL)

{

printf("Stack is empty");

}

printf("Enter the element to be searched:");

scanf("%d",&x);

while(temp!=NULL)

{

if(temp->data==x)

{

printf("Element %d found at position %d \n",x,pos);

flag=1;

}

temp=temp->next;

pos++;

}

if(flag==0)

{

printf("Element not found");

}

}

void main()

{

int c;

while(1)

{

printf("\nMENU\n");

printf("------------\n");

printf("1.Push\n");

printf("2.Display\n");

printf("3.Pop\n");

printf("4.Search\n");

printf("5.Exit\n");

printf("Enter a choice:");

scanf("%d",&c);

switch(c)

{

case 1:push();

break;

case 2:display();

break;

case 3:pop();

break;

case 4:search();

break;

case 5:exit(0);

default:

printf("Wrong choice");

}

}

}