#include<stdio.h>

#include<conio.h>

#include<iostream.h>

#include<process.h>

#include<stdlib.h>

struct node{

int data;

node \*next,\*previous;

};

node \*head=NULL,\*last=NULL;

void insert(node\*);

void display();

void search(int);

void dlt(int);

void main()

{

clrscr();

node \*num;

int ch,n;

while(1)

{

cout<<endl<<endl<<endl;

cout<<"1\tInsert"<<endl;

cout<<"2\tDisplay"<<endl;

cout<<"3\tSearch"<<endl;

cout<<"4\tDelete"<<endl;

cout<<"0\tExit"<<endl;

cout<<"Enter Choice : ";

cin>>ch;

switch(ch)

{

case 1:

cout<<"Enter number to insert:";

cin>>n;

num=(node\*)malloc(sizeof(node));

num->data=n;

num->next=NULL;

insert(num);

break;

case 2:

cout<<"<><><><><>Display<><><><><>"<<endl;

display();

getch();

break;

case 3:

cout<<"Enter number to search : ";

cin>>n;

search(n);

getch();

break;

case 4:

cout<<"Enter number to delete : ";

cin>>n;

dlt(n);

getch();

break;

case 0:

cout<<"Press any key to terminate program...";

getch();

exit(0);

}

}

}

void insert(node \*num)

{

node \*temp;

if(head==NULL)

{

head=num;

head->previous=NULL;

last=head;

}

else

{

temp=head;

while(temp->next!=NULL)

temp=temp->next;

last=num;

temp->next=last;

last->previous=temp;

}

}

void display()

{

node \*temp;

temp=head;

while(temp!=NULL)

{

cout<<temp->data<<"\t";

temp=temp->next;

}

cout<<endl;

}

void search(int n)

{

node \*temp;

temp=head;

int flag=0,i=0;

while(temp!=NULL)

{

i++;

if(temp->data==n)

{

cout<<"Number "<<n<<" found at location "<<i<<endl;

flag=1;

}

temp=temp->next;

}

if(flag==0)

cout<<"Number not found in list"<<endl;

}

void dlt(int n)

{

node \*temp,\*temp2;

temp=head;

int flag=0;

if(head->data==n)

{

head=head->next;

head->previous=NULL;

cout<<n<<" has been deleted from list";

goto ab;

}

while(temp->data!=n)

{

temp2=temp;

temp=temp->next;

if(temp->data==n)

flag=1;

if(temp==NULL)

break;

}

if(flag==0)

cout<<"Number is not in list";

else

{

temp=temp->next;

temp2->next=temp;

temp->previous=temp2;

cout<<n<<" has been deleted from list";

}

ab:

}