#include<iostream>

#include <stdlib.h>

Using namespace std;

Int n;

Int N;

Bool isfull(void){

If (n==N)

Return true;

Else

Return false;

}

Bool isempty(void){

If (N==0)

Return true;

Else

Return false;

}

Void insertatzero(int array[], int value){

If (isfull()){

Cout<<”list is full”<<endl;

}

Else{

Cout<<”enter the value you want to insert: “;

Cin>>value;

For(int i=N-1;i>=0;i--)

{

Array[i+1]=array[i];

}

Array[0]=value;

N=N+1;

}

}

Void insertatk(int array[], int value,int k){

If (isfull()){

Cout<<”list is full”<<endl;

}

Else{

Cout<<”enter the value you want to insert: “;

Cin>>value;

For (int i=N-1; i>=k-1; i--){

Array[i+1]=array[i];

}

Array[k-1]=value;

N=N+1;

}

}

Void insertatend(int array[], int value){

If (isfull()){

Cout<<”list is full”<<endl;

}

Else{

Cout<<”enter the value you want to insert: “;

Cin>>value;

Array[N]=value;

N=N+1;

}

}

Void Deleteatzero(int array[]){

If (isempty()){

Cout<<”list is empty “<<endl;

}

Else{

For(int i=0;i<N;i++)

{

Array[i]=array[i+1];

}

N=N-1;

}

}

Void Deleteatk(int array[],int k){

If (isempty()){

Cout<<”list is empty “<<endl;

}

Else{

For(int i=k-1;i<N;i++)

{

Array[i]=array[i+1];

}

N=N-1;

}

}

Void Deleteatend(int array[]){

If (isempty()){

Cout<<”list is empty “<<endl;

}

Else{

N=N-1;

}

}

Void search(int array[], int value){

Bool found=false;

Cout<<”enter the value you want to search: “;

Cin>>value;

For (int I = 0; i<N; i++){

If(array[i]==value)

{

Found=true;

Break;

}

}

If(found==true)

{

Cout<<”Searched value is present in the list “<<endl;

}

Else

Cout<<”Searched value is not present in the list “<<endl;

}

Void display(int array[]){

Cout<<”displaying:” <<endl;

For (int I = 0; i<N; i++){

Cout<<array[i]<<endl;

}

}

Int main(){

Int array[]={};

Cout<<”enter size of array: “;

Cin>>n;

Cout<<”enter size of list: “;

Cin>>N;

For(int i=0;i<N;i++)

{

Cout<<”Enter elements of list: “;

Cin>>array[N];

}

Int value, choice,k;

While (true){

Cout<<”enter 1 to insert at zero\n”;

Cout<<”enter 2 to insert at k\n”;

Cout<<”enter 3 to insert at end\n”;

Cout<<”enter 4 to Delete at zero\n”;

Cout<<”enter 5 to Delete at k\n”;

Cout<<”enter 6 to Delete at end\n”;

Cout<<”enter 7 to search\n”;

Cout<<”enter 8 to display\n”;

Cout<<”enter 9 to exit\n”;

Cout<<”enter your choice\n”;

Cin>>choice;

If (choice==0)

Break;

Else{

Switch (choice){

Case 1: {

Insertatzero(array, value);

Break;

}

Case 2:{

Cout<<”Enter the position at which you want to insert value”;

Cin>>k;

If(k>=0&&k<=N)

{

Insertatk(array, value,k);

}

Else

{

Cout<<”Invalid position entered.”;

}

Break;

}

Case 3:{

Insertatend(array, value);

Break;

}

Case 4: {

Deleteatzero(array);

Break;

}

Case 5:{

Cout<<”Enter the position at which you want to delete value”;

Cin>>k;

If(k>=0&&k<=N)

{

Deleteatk(array,k);

}

Else{

Cout<<”Invalid position entered.”;

}

Break;

}

Case 6:{

Deleteatend(array);

Break;

}

Case 7: {

Search(array,value);

Break;

}

Case 8: {

Display(array);

Break;

}

Case 9: {

Exit(0);

}

Default :{

Cout<<”invalid choice”;

Break;

}

}

}

}

Return 0;

}