import java.util.Scanner;

public class Main

{

public static void main(String[] args) {

int pos,element,i,j;

Scanner sc=new Scanner(System.in);

System.out.println("Enter the size of an array:");

int size=sc.nextInt();

int arr[]=new int[size];

System.out.println("Enter elements of an array:");

int newarr[]=new int[arr.length+1];

for(i=0;i<size;i++)

{

arr[i]=sc.nextInt();

}

System.out.println("the elements are:");

for(i=0;i<size;i++)

{

System.out.print(arr[i]+" ");

}

while(true)

{

System.out.println("\n operations on array:");

System.out.println("1-> Insert an element into first position");

System.out.println("2-> Insert an element into last position");

System.out.println("3-> Insert an element in to array at specific position");

System.out.println("4-> Delete an element from specific positon:");

System.out.println("5-> frequecy of an element in the array:");

System.out.println("6-> unique elements in the array:");

System.out.println("0->Exit");

System.out.println("----------------------------------");

System.out.println("select your operation:");

int num=sc.nextInt();

switch(num)

{

case 0:

System.exit(0);

break;

case 1:

pos=0;

System.out.println("Enter the element you want to insert:");

element=sc.nextInt();

// int newarr[]=new int[arr.length+1];

for(i=0;i<arr.length;i++)

{

if(i==pos)

{

newarr[i]=element;

newarr[i+1]=arr[i];

}

else

newarr[i+1]=arr[i];

}

System.out.println("After inserting element at first positon array are:");

for(i=0;i<newarr.length;i++)

System.out.print(newarr[i]+" ");

break;

case 2:

//int pos\_1=0;

// int element\_1;

System.out.println("Enter the element you want to insert:");

element=sc.nextInt();

// int newarr[]=new int[arr.length+1];

for(j=0;j<arr.length;j++)

{

newarr[j]=arr[j];

}

newarr[j]=element;

System.out.println("After inserting element at last positon array are:");

for(j=0;j<newarr.length;j++)

{

System.out.print(newarr[j]+" ");

}

break;

case 3:

System.out.println("Enter the element index which place you want to insert:");

pos=sc.nextInt();

System.out.println("Enter the element you want to insert:");

element=sc.nextInt();

for(i=0;i<arr.length;i++)

{

if(i==pos)

{

newarr[i]=element;

newarr[i+1]=arr[i];

}

else if (i>pos)

newarr[i+1]=arr[i];

else

newarr[i]=arr[i];

}

System.out.println("List of element after insertion:");

for(i=0;i<newarr.length;i++)

{

System.out.println(newarr[i]+" ");

}

break;

case 4:

int loc;

System.out.println("Enter the locatin you want to delete:");

loc=sc.nextInt();

for(i=loc;i<size-1;i++)

{

arr[i]=arr[i+1];

}

size--;

System.out.println("elements after deletion:");

for(i=0;i<size;i++)

System.out.println(arr[i]+" ");

break;

case 5:

int [] fr = new int [arr.length];

int visited = -1;

for(i = 0; i < arr.length; i++)

{

int count = 1;

for(j = i+1; j < arr.length; j++)

{

if(arr[i] == arr[j])

{

count++;

//To avoid counting same element again

fr[j] = visited;

}

}

if(fr[i] != visited)

fr[i] = count;

}

//Displays the frequency of each element present in array

System.out.println("---------------------------------------");

System.out.println(" Element | Frequency");

System.out.println("---------------------------------------");

for(i = 0; i < fr.length; i++)

{

if(fr[i] != visited)

System.out.println(" " + arr[i] + " | " + fr[i]);

}

System.out.println("----------------------------------------");

break;

case 6:

int [] uq = new int [arr.length];

int visited\_1 = -1;

for(i = 0; i < arr.length; i++)

{

int count = 1;

int k;

for(k = i+1; k < arr.length; k++)

{

if(arr[i] == arr[k])

{

count++;

uq[k] = visited\_1;

}

}

if(count==1 && uq[i]!=visited)

uq[i] = arr[i];

else uq[i]=visited\_1;

}

System.out.println(" Element");

for(i = 0; i < uq.length; i++){

if(uq[i] != visited\_1)

System.out.println(uq[i]);

}

break;

default:

System.out.println("Invalid");

}

}

}

}