

LAB 2

```
import java.io.*;

class MyArray
{
    int arr[]=new int[100];           //array of 100 integers
    int n;                           //size of the array
    int high=0,small=0;
    MyArray(int a)                   //constructor
    {
        n=a;
        for(int i=0;i<n;i++)
        {
            arr[i]=0;
        }
    }

    public void readArray()           throws IOException //to
    read values to the array
```

```
{  
    BufferedReader br=new BufferedReader(new  
        InputStreamReader(System.in));  
  
    for(int i=0;i<n;i++)  
    {  
        System.out.print("Enter value " +(i+1)+ " = ");  
        arr[i]=Integer.parseInt(br.readLine());  
    }  
}  
  
public void displayArray() //to display the array  
{  
    System.out.println("The array elements are listed  
below:");  
    for(int i=0;i<n;i++)  
    {  
        System.out.print("Element " +(i+1)+ " = ");  
        System.out.println(arr[i]);  
    }  
}
```

```
}
```

```
public int highestNumber()  
number in the array
```

```
//returns the highest
```

```
{
```

```
high=arr[0];
```

```
for(int i=1;i<n;i++)
```

```
{
```

```
if(high<arr[i])
```

```
{
```

```
high=arr[i];
```

```
}
```

```
}
```

```
return (high);
```

```
}
```

```
public int smallestNumber()  
smallest number in the array
```

```
//returns the
```

```
{
```

```
small=arr[0];
```

```
for(int i=1;i<n;i++)  
{  
if(small>arr[i])  
{  
small=arr[i];  
}  
}  
return (small);  
}
```

```
public int isRepeat(int a)  
{  
int count=0;  
for(int i=0;i<n;i++)  
{  
if(arr[i]==a)  
{  
count++;  
}  
}
```

```
}  
if(count>1)  
{  
    return 1;  
}  
else  
{  
    return 0;  
}  
}
```

```
public int repeatedElementCount(int a)  
{  
    int count=0;  
    for(int i=0;i<n;i++)  
    {  
        if(arr[i]==a)  
        {  
            count++;  
        }  
    }  
}
```

```
}
```

```
}
```

```
return count;
```

```
}
```

```
public void showRepeatedNumbers()
```

```
{
```

```
System.out.println("heyyy");
```

```
int c=0;
```

```
for(int i=0;i<n;i++)
```

```
{
```

```
c=1;
```

```
for(int j=(i+1);j<n;j++)
```

```
{
```

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

```
{
```

```
c++;
```

```
}
```

```
}  
if(c>1)  
{  
    System.out.println("Element "+(i+1)+ " is " +(arr[i])+ "  
    which is repeated = " +c+ " times");  
}
```

```
}
```

```
}
```

```
}
```

```
public class Lab2  
{  
    public static void main(String args[]) throws IOException  
    {  
        BufferedReader br=new BufferedReader(new  
        InputStreamReader(System.in));
```

```

int size,ch,k=1;

System.out.print("Enter the size of the array= ");

size=Integer.parseInt(br.readLine());

MyArray obj=new MyArray(size);

while(k==1)

{

System.out.println("\n*****
*****MENU*****
*****");

System.out.print("\nEnter the Choice: \n\t1. To read
the array \n\t2. To display the array \n\t3. To find the
highest element \n\t4. To display the smallest element
\n\t5. To check if the number is repeated or not \n\t6.
To see the count of the element \n\t7. Show repeated
elements in array with their count \n\t8.Exit \n\tYour
choice is = ");

ch=Integer.parseInt(br.readLine());

switch(ch)

{

```


case 1:

obj.readArray();

break;

case 2:

obj.displayArray();

break;

case 3:

int h=obj.highestNumber();

System.out.print("The highest number is= "+h);

break;

case 4:

int s=obj.smallestNumber();

**System.out.print("\nThe smallest number in the array is
= "+s);**

break;

case 5:

```
int rep;  
System.out.println("Enter the number you want to  
check");  
rep=Integer.parseInt(br.readLine());  
int res=obj.isRepeat(rep);  
if(res==1)  
{  
System.out.println("Yes, the number is repeated in the  
array");  
}  
else  
{  
System.out.println("No, the number is not repeated in  
the array");  
}  
break;  
  
case 6:  
int repeated;
```

```
System.out.println("Enter the number you want to  
check");  
repeated=Integer.parseInt(br.readLine());  
int result=obj.repeatedElementCount(repeated);  
System.out.println("The number is repeated "+result+ "  
times");  
break;  
  
case 7:  
obj.showRepeatedNumbers();  
break;  
  
case 8:  
System.out.println("Thank You!");  
k=0;  
break;  
  
default:  
System.out.println("Invalid Entry");  
} //switch
```

```
}//while
```

```
/*obj.readArray();
```

```
obj.displayArray();
```

```
int h=obj.highestNumber();
```

```
System.out.println("The highest number= "+h);*/
```

```
}//main
```

```
}//class
```