Week-3 OOJ Lab Exercise-1

(Extra programs)

① Accept an array of size n from the user. Find the sum of even indices (ie, 0, 2, 4 ...) and sum of odd indices (1, 3, 5, ...) and print the same.

→

```
import java.util.*;
class Extraprogram1{
public static void main(String args[])
{
Scanner ss=new Scanner(System.in);
int a[], n, even=0, odd=0;
System.out.println("Enter the number of elements");
n=ss.nextInt();
a=new int[n];
System.out.println("Enter the elements:");
for(int i=0; i<n; i++)
{
System.out.println("Enter a["+i+"]");
a[i]=ss.nextInt();
}
```

```
for(int i=0; i<n; i++){
    if (i%2==0)
     even+=a[i];
    else
      odd+=a[i];
   }
System.out.println("Sum of even indices of the
    array : "+even);
System.out.println("Sum of odd indices of the
array: "+odd);
    }
  }
```

② Accept an array of n integers. Find the number of positive numbers, negative numbers and zeroes.

→

```
import java.util.*;
class Extraprogram2{
public static void main(String ss[]){
  int i=0, p=0, z=0;
  int a[];
  Scanner s=new Scanner(System.in);
System.out.println("Enter the number of elements(n):");
```

```
        int n = s.nextInt();
    System.out.println("Enter the elements:");
      a= new int [n];
    for (int i=0; i<n; i++)
    {
        System.out.println("Enter a["+i+"]");
            a[i]= s.nextInt();
    }
      for (int i=0; i<n; i++)
        {
            if (a[i]<0)
          {
            i++;
          }
       else if (a[i]>0)
      { p++;
      }
      else
      {
        z++;
      }
    }
System.out.println("Number of positive elements :"+p);
System.out.println("Number of negative elements :"+ );
System.out.println("Number of zero :"+z);
  }
}
```

(3) Consider a super market bill. Accept a double array holding rate per item of say x items and an int array showing the quantity purchased by a customer. Calculate the total bill amount and the final bill amount after giving discounts as per the following slabs.

If the total bill amount >= 10000, discount = 5%

If the total bill amount >= 7500 and <10000, discount = 3%

If the total bill amount >= 5000, discount = 2%.

→

```
import java.util.*;
public class Extraprogram3{
public static void main (String [] args ){
  Scanner sc = new Scanner (System.in);
System.out.println (" Enter the number of items :");
    int n= sc.nextInt();
    double indTot, tot=0;
    double [] rpi= new double [n];
  int[] quant = new int [n];
    for (int i =0; i<n; i++){
System.out.println ("Enter quantity of purchase and
rate per item for item "+(i+1));
```

```
        int q = sc.nextInt();
    double r = sc.nextDouble();
      quant[i] = q;
       rpi[i] = r;
  }
  for(int i=0; i<n; i++){
int indTot = quant[i] * rpi[i];
      tot += indTot;
  }
if (tot >= 10000){
System.out.println("Discount = 5%. Total bill = "+tot+"
Discounted bill = "+(tot - tot*0.05));
}
 else if (tot >= 7500){
System.out.println("Discount = 3%. Total bill = "+tot+"
Discounted bill = "+(tot - tot*0.03));
  }
else if (tot >= 5000){
System.out.println("Discount = 2%. Total bill = "+tot+"
Discounted bill = "+(tot - tot*0.02));
  }
```

```
        else {
        System.out.println("No discount. Total bill=
                                        " +tot);
        }
    }
}
```

④ Accept an array A of n elements. Create two new arrays where the first one say B that holds all the odd numbers from array A and the second say C holds the even numbers from array A. Display the sum, average, max and min of array C.

→

```
import java.util.*;
class Extraprogram4{
public static void main(String ss[]){
int a[], b[], c[], n1=0, n2=0, sum=0, min, max;
double avg;
Scanner s= new Scanner(System.in);
System.out.println("Enter the number of elements(n)
                                        :");
int n= s.nextInt();
System.out.println("Enter the elements:");
```

```
        a= new int[n];
        b= new int[n];
        c= new int[n];
    for (int i=0; i<n; i++)
    {
System.out.println("Enter a["+i+"]");
    a[i]= s.nextInt();
}
  for (int i=0; i<n; i++)
  {
    if a[i]% 2 !=0)
    {
        b[n1]=a[i];
        n1++;
    }
else if (a[i] % 2 ==0)
  {
      c[n2]=a[i];
      n2++;
  }
}
    max=c[0];
    min=c[0];
    for(int i=0; i<n2; i++)
      {
```

```
        sum = sum + c[i];
        if (c[i] > max)
            max = c[i];
        else if (c[i] < min)
            min = c[i];
    }
    avg = (double) sum / n2;
System.out.println("Sum of even elements : " + sum);
System.out.println("Average of even elements : " + avg);
System.out.println("Maximum of even elements : " + max);
System.out.println("Minimum of even elements : " + min);
    }
}
```