Date ___/___/_____

Pratice Programs.

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

```
import java.util.Scanner;
class Array1
{
public static void main(String args[])
  {
    int even=0, odd=0 ,i, n;
    Scanner ss = new Scanner(System.in);
    System.out.println("Enter the size of the
                                    array");
    n = ss.nextInt();
    int a[] a = new int[n];
System.out.println("Enter the elements of the
                                    array");
for (i=0; i<n; i++)
{
  a[i] = ss.nextInt();
}
for (i=0; i<n; i++)
{
    if (i%2 == 0)
    even += a[i];
    else
     odd += a[i];
}
System.out.println("The sum of even indices
                                    + even
```

Date __/__/____

```
        System.out.println("The sum of odd indices "
                                        + odd);
    }
}
```

index.html | sum.java | number.java

sum.java

```java
import java.util.Scanner;
class array1
{
    public static void main(String args[])
    {
        int even=0,odd=0,i,n;
        Scanner ss=new Scanner(System.in);
        System.out.println("Enter the size of the array");
        n=ss.nextInt();
        int[]a=new int[n];
        System.out.println("Enter the elements of the array");
        for(i=0;i<n;i++)
        {
            a[i]=ss.nextInt();
        }
        for(i=0;i<n;i++)
        {
            if(i%2==0)
            even+=a[i];
            else
            odd+=a[i];
        }
        System.out.println("The sum of even indices  "+even);
        System.out.println("The sum of odd indices  "+odd);
    }
}
```

```
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C:\Users\akki>cd Desktop

C:\Users\akki\Desktop>cd "PROJECT WORK"

C:\Users\akki\Desktop\PROJECT WORK>javac sum.java

C:\Users\akki\Desktop\PROJECT WORK>java array1
Enter the size of the array
7
Enter the elements of the array
12
34
56
17
18
19
87
The sum of even indices  173
The sum of odd indices  70

C:\Users\akki\Desktop\PROJECT WORK>java array1
Enter the size of the array
10
Enter the elements of the array
10
20
30
40
50
60
70
80
90
100
The sum of even indices  250
The sum of odd indices  300

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```

Date ___/___/_____

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

```
import java.util.Scanner;
class Number
{
 public static void main (String args[])
 {
  int positive = 0, negative = 0, zero = 0, i, n;
 Scanner ss = new Scanner (System.in);
 System.out.println("Enter the size of the array");
 n = ss.nextInt();
int[] a = new int[n];
System.out.println("Enter the elements of the
                                    array");
for(i=0; i<n; i++)
 {
    a[i] = ss.nextInt();
 }
for(i=0; i<n; i++)
{
  if (a[i]>0)
  {
     positive++
  }
  else if (a[i]==0)
  {
     zero++;
  }
  else
```

Date ___ / ___ / _____

```
        negative ++;
    }
    System.out.println("Number of positive numbers "
                                    +positive);
    System.out.println("Number of negative numbers "
                                    +negative);
    System.out.println("Number of zeros "+zero);
}
```

index.html | sum.java | number.java ×

number.java

```java
import java.util.Scanner;
class number
{
    public static void main(String args[])
    {
        int positive=0,negative=0,zero=0,i,n;
        Scanner ss=new Scanner(System.in);
        System.out.println("Enter the size of the array");
        n=ss.nextInt();
        int[]a=new int[n];
        System.out.println("Enter the elements of the array");
        for(i=0;i<n;i++)
        {
            a[i]=ss.nextInt();
        }
        for(i=0;i<n;i++)
        {
            if(a[i]>0)
            {
                positive++;
            }
            else if(a[i]==0)
            {
                zero++;
            }
            else
            negative++;
        }
        System.out.println("Number of positive numbers  "+positive);
        System.out.println("Number of negative numbers  "+negative);
        System.out.println("Number of Zeros  "+ zero);
    }
}
```

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```
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C:\Users\akki>cd Desktop

C:\Users\akki\Desktop>cd "PROJECT WORK"

C:\Users\akki\Desktop\PROJECT WORK>javac number.java

C:\Users\akki\Desktop\PROJECT WORK>java number
Enter the size of the array
8
Enter the elements of the array
-3
1
0
-7
-4
2
3
0
Number of positive numbers  3
Number of negative numbers  3
Number of Zeros  2

C:\Users\akki\Desktop\PROJECT WORK>java number
Enter the size of the array
4
Enter the elements of the array
-1
-1
-3
6
Number of positive numbers  1
Number of negative numbers  3
Number of Zeros  0

C:\Users\akki\Desktop\PROJECT WORK>
```

Date ___/___/_____

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.Scanner;
class market_bill{
{
public static void main (String [] args) {
Scanner ss = new Scanner (System.in);
double t, total = 0;
System.out.println ("Enter the number of items:");
int n = ss.nextInt ();
double [] rate = new double [n];
int [] quantity = new int [n];
for (int i = 0; i < n ; i++)
{
System.out.println ("enter the quantity of purchase for item " + (i+1));
int q = ss.nextInt();
quantity [i] = q;
System.out.println ("enter the rate per item for item" + (i+1));
```

```
        double r = ss.nextDouble();
        rate[i] = r;
    }
    for(int i=0; i<n; i++)
    {
        t = quantity[i]*rate[i];
        total += t;
    }
    if (total >= 10000)
    {
    System.out.println("Discount=5%, Total bill = " +
                        total + " Discounted bill = "
                + (total - total)* 0.05) );
    }
    else if (total >= 7500)
    {
    System.out.println ("Discount =3%, Total bill = " +
        total + " Discounted bill = " + (total- total* 0.03));
    }
    else if (total >= 5000)
    {
    System.out.println ("Discount = 2%. Total bill = "
        + total + "Discounted bill = " + (total - total*0.02));
    }
    else
    {
    System.out.println ("No discount. Totalbill = "
                        + total );
    }
}
}
```

index.html | sum.java | number.java | bill.java

bill.java

```java
import java.util.Scanner;
class market_bill
{
    public static void main(String[] args){
        Scanner ss = new Scanner(System.in);
        double t, total = 0;
        System.out.println("Enter the number of items:");
        int n = ss.nextInt();
        double[] rate = new double[n];
        int[] quantity = new int[n];
        for(int i =0; i<n; i++){
            System.out.println("enter quantity of purchase for item "+(i+1));
            int q = ss.nextInt();
            quantity[i] = q;
            System.out.println("enter the rate per item for item "+(i+1));
            double r = ss.nextDouble();
            rate[i] = r;
        }
        for(int i = 0; i<n; i++)
        {
            t = quantity[i] * rate[i] ;
            total += t;
        }
        if (total >= 10000)
        {
            System.out.println("Discount = 5% .Total bill =  " + total + "  Discounted bill = " + (total - total * 0.05));
        }

        else if (total >= 7500)
        {
            System.out.println("Discount = 3% . Total bill = " + total + "   Discounted bill = " + (total - total * 0.03));
        }
```

index.html | sum.java | number.java | bill.java

bill.java

```
14              quantity[i] = q;
15              System.out.println("enter the rate per item for item "+(i+1));
16              double r = ss.nextDouble();
17              rate[i] = r;
18          }
19          for(int i = 0; i<n; i++)
20          {
21              t = quantity[i] * rate[i] ;
22              total += t;
23          }
24          if (total >= 10000)
25          {
26              System.out.println("Discount = 5% .Total bill =  " + total + "  Discounted bill = " + (total - total * 0.05));
27          }
28
29          else if (total >= 7500)
30          {
31              System.out.println("Discount = 3% . Total bill = " + total + "   Discounted bill = " + (total - total * 0.03));
32          }
33           else if (total >= 5000)
34          {
35              System.out.println("Discount = 2%. Total bill = " + total + " Discounted bill = " + (total - total * 0.02));
36          }
37          else
38          {
39              System.out.println(" No discount. Total bill = " + total );
40          }
41
42      }
43  }
```

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```
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C:\Users\akki>cd Desktop

C:\Users\akki\Desktop>cd "PROJECT WORK"

C:\Users\akki\Desktop\PROJECT WORK>javac bill.java

C:\Users\akki\Desktop\PROJECT WORK>java market_bill
Enter the number of items:
4
enter quantity of purchase for item 1
8
enter the rate per item for item 1
112
enter quantity of purchase for item 2
3
enter the rate per item for item 2
990
enter quantity of purchase for item 3
2
enter the rate per item for item 3
78
enter quantity of purchase for item 4
6
enter the rate per item for item 4
780
Discount = 3% . Total bill = 8702.0   Discounted bill = 8440.94

C:\Users\akki\Desktop\PROJECT WORK>
```

Date __/__/____

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 C holds the even numbers from array A. Display the sum, average, max and min of array C.

```
import java.util.Scanner;
class array1
{
 public static void main (String [] args)
 {
  int n , even=0, odd=0, sum=0, avg , max, min;
  Scanner ss = new Scanner (System.in);
 System.out.print("Enter the size of the array:");
  n = ss.nextInt();
  int [] A = new int [n];
  int [] B = new int [n];
  int [] C = new int [n];
  System.out.println("Enter the elements of the
                                    array :");
 for (int i=0; i<n; i++)
  {
    A [i] = ss.nextInt();
  }
 for (int i = 0; i <n; i++)
 {
  if (A [i] % 2 ==0)
  {
   C [even] = A [i];
    sum += A [i];
     even++;
  }
```

```
else
{
B[odd] = A[i];
odd++;
}
}

avg = sum/even;
max = C[0];
min = C[0];
for (int i=0; i<even; i++)
{
if (C[i] > max)
{
max = C[i];
}
if (C[i] < min)
{
min = C[i];
}
}
System.out.println("For the even array sum is "+sum);
System.out.println("For the even array ~~avg is~~ average
is "+(sum/even));
System.out.println("For the even array maximum is "
+max);
System.out.println("For the even array minimum is "
+min);
}
}
```

index.html | sum.java | number.java | bill.java | evenodd.java

evenodd.java

```java
import java.util.Scanner;
class array1
{
   public static void main(String[] args)
   {
   int n, even = 0, odd = 0, sum = 0, avg, max , min;
   Scanner ss = new Scanner(System.in);
   System.out.print("Enter the size of the array:");
   n=ss.nextInt();
   int[] A = new int[n];
   int[] B= new int[n];
   int[] C = new int[n];
   System.out.println("Enter the elements of the array:");
   for(int i = 0;i<n;i++)
   {
       A[i] = ss.nextInt();
   }
   for(int i = 0;i<n;i++)
   {
       if (A[i] % 2 == 0)
       {
           C[even] = A[i];
           sum += A[i];
           even++;
       }
       else
       {
       B[odd] = A[i];
           odd++;
       }
   }
   avg = sum / even;
   max = C[0];
   min = C[0];
```

evenodd.java

```
    {
        if (A[i] % 2 == 0)
        {
            C[even] = A[i];
            sum += A[i];
            even++;
        }
        else
        {
        B[odd] = A[i];
            odd++;
        }
    }
    avg = sum / even;
    max = C[0];
    min = C[0];
    for(int i = 0; i<even;i++)
    {
        if (C[i] > max)
        {
            max = C[i];
        }
        if (C[i] < min)
        {
            min = C[i];
        }
    }
    System.out.println("For the even array sum is  "+sum);
    System.out.println("For the even array average is  "+(sum/even));
    System.out.println("For the even array maximum is  "+max);
    System.out.println("For the even array minimum is "+min);
}
}
```

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C:\Users\akki>cd Desktop

C:\Users\akki\Desktop>cd "PROJECT WORK"

C:\Users\akki\Desktop\PROJECT WORK>javac evenodd.java

C:\Users\akki\Desktop\PROJECT WORK>java array1
Enter the size of the array:5
Enter the elements of the array:
67
89
45
44
12
For the even array sum is  56
For the even array average is  28
For the even array maximum is  44
For the even array minimum is 12

C:\Users\akki\Desktop\PROJECT WORK>java array1
Enter the size of the array:6
Enter the elements of the array:
46
79
90
76
54
30
For the even array sum is  296
For the even array average is  59
For the even array maximum is  90
For the even array minimum is 30

C:\Users\akki\Desktop\PROJECT WORK>
```