

## **WEEK 3 -OOJ LAB- PRACTICE PROGRAM**

### **Program and Output**

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#### **Program 1-**

```
import java.util.Scanner;

public class Main
{
    public static void main(String[] args) {
        Scanner in=new Scanner(System.in);

        int a1[];

        int even=0, odd=0;

        System.out.println("Enter n:");

        int n=in.nextInt();

        a1=new int[n];

        for(int i=0;i<n;i++)
        {
            System.out.println("Enter a1["+i+"]");

            a1[i]=in.nextInt();

        }

        for (int i=0; i<n; i++) {
            if (i%2==0)
                even+= a1[i];

            else
                odd+= a1[i];
        }
    }
}
```

```
}
```

```
System.out.println("Even index positions sum: " + even);
```

```
System.out.println("Odd index positions sum: " + odd);
```

```
}
```

```
}
```

## Output

```
13 Scanner in=new Scanner(System.in);
Enter n:
5
Enter a1[0]
2
Enter a1[1]
39
Enter a1[2]
12
Enter a1[3]
11
Enter a1[4]
6
Even index positions sum: 20
Odd index positions sum: 50

...Program finished with exit code 0
Press ENTER to exit console
```

```
13 Scanner in=new Scanner(System.in);
Enter n:
6
Enter a1[0]
2
Enter a1[1]
3
Enter a1[2]
11
Enter a1[3]
44
Enter a1[4]
15
Enter a1[5]
31
Even index positions sum: 28
Odd index positions sum: 78

...Program finished with exit code 0
Press ENTER to exit console
```

## ***Program 2-***

```
import java.util.Scanner;

public class Main
{
    public static void main(String[] args) {
        Scanner in=new Scanner(System.in);

        int a1[];

        int pos=0, neg=0, zer=0;

        System.out.println("enter n:");

        int n=in.nextInt();

        a1=new int[n];

        for(int i=0;i<n;i++)
        {
            System.out.println("enter a1["+i+"]");

            a1[i]=in.nextInt();

        }

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

            if(a1[i]>0)

                pos++;

            else if(a1[i]<0)

                neg++;

            else zer++;

        }

        System.out.println("number of positive numbers= "+pos);
```

```

        System.out.println("number of negative numbers= "+neg);

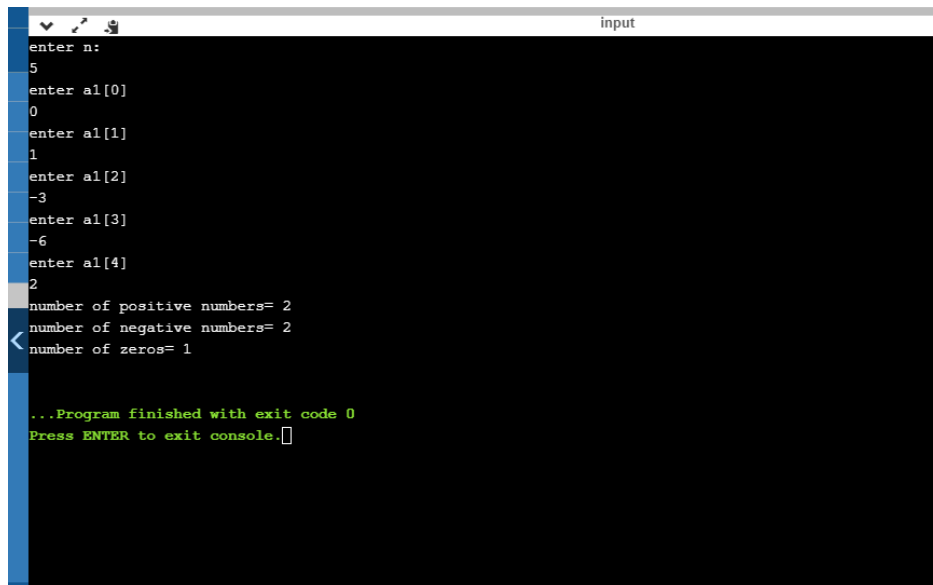
        System.out.println("number of zeros= "+zer);

    }

}

```

### ***Output-***



```

input
enter n:
5
enter a1[0]
0
enter a1[1]
1
enter a1[2]
-3
enter a1[3]
-6
enter a1[4]
2
number of positive numbers= 2
number of negative numbers= 2
number of zeros= 1

...Program finished with exit code 0
Press ENTER to exit console.

```

### ***Program 3-***

```

import java.util.Scanner;

public class Main
{

    public static void main(String[] args) {

        Scanner in=new Scanner(System.in);

        System.out.println("enter number of items:");

        int n=in.nextInt();

        double total=0;

        double rip[]=new double[n];

        int q[]=new int[n];
    }
}

```

```

double tot[]=new double[n];

System.out.println("enter rate and quantity of each item");

for(int i=0;i<n;i++)
{
    System.out.print((i+1)+"-");

    System.out.print("Rs.");

    rip[i]=in.nextDouble();

    System.out.print("quantity=");

    q[i]=in.nextInt();

}

for(int i=0;i<n;i++)
{
    tot[i]=rip[i]*q[i];

    total+=tot[i];

}

if (total>=10000) {

    System.out.println("Discount = 5%. Total bill = " + total + " Discounted bill = " + (total -
total * 0.05));

}

else if (total>=7500 && total<10000) {

    System.out.println("Discount = 3%. Total bill = " + total + " Discounted bill = " + (total -
total * 0.03));

}

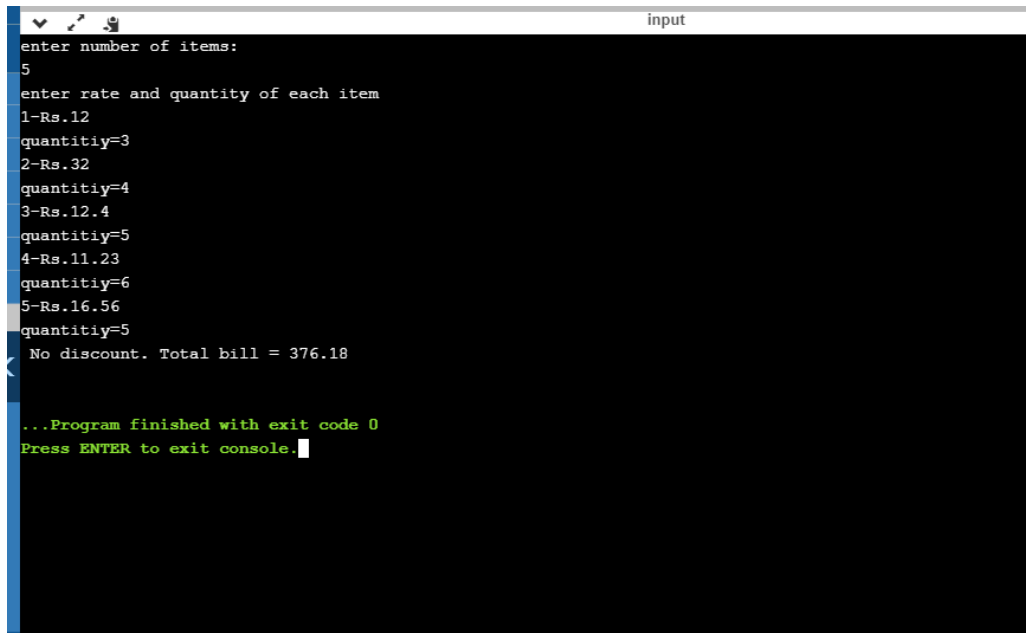
else if (total >= 5000) {

    System.out.println("Discount = 2%. Total bill = " + total + " Discounted bill = " + (total -
total * 0.02));

```

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

### ***Output-***



```
input  
enter number of items:  
5  
enter rate and quantity of each item  
1-Rs.12  
quantity=3  
2-Rs.32  
quantity=4  
3-Rs.12.4  
quantity=5  
4-Rs.11.23  
quantity=6  
5-Rs.16.56  
quantity=5  
No discount. Total bill = 376.18  
  
...Program finished with exit code 0  
Press ENTER to exit console.
```

```
input
enter number of items:
6
enter rate and quantity of each item
1-Rs.352
quantity=5
2-Rs.564.55
quantity=12
3-Rs.43.22
quantity=33
4-Rs.234.65
quantity=4
5-Rs.453.11
quantity=3
6-Rs.345.12
quantity=6
Discount = 5%. Total bill = 14329.509999999998 Discounted bill = 13613.034499999998

...Program finished with exit code 0
Press ENTER to exit console.
```

```
input
enter number of items:
5
enter rate and quantity of each item
1-Rs.124.33
quantity=5
2-Rs.161.42
quantity=2
3-Rs.645.66
quantity=5
4-Rs.1421
quantity=3
5-Rs.234.15
quantity=3
Discount = 3%. Total bill = 9138.240000000002 Discounted bill = 8864.092800000002

...Program finished with exit code 0
Press ENTER to exit console.
```

```
input
enter number of items:
5
enter rate and quantity of each item
1-Rs.511
quantity=1
2-Rs.126.56
quantity=5
3-Rs.251.22
quantity=3
4-Rs.2145
quantity=1
5-Rs.256.3
quantity=4
Discount = 2%. Total bill = 5067.66 Discounted bill = 4966.3068

...Program finished with exit code 0
Press ENTER to exit console.
```

#### ***Program 4-***

```
import java.util.Scanner;

public class Main
{
    public static void main(String[] args) {
        Scanner in=new Scanner(System.in);
        int a[], b[], c[];
        int j=0, k=0;
        System.out.println("enter no. of elements:");
        int n=in.nextInt();
        a=new int[n];
        b=new int[n];
        c=new int[n];
        System.out.print("enter the elements:");
        for(int i=0;i<n;i++)
```



```
{
    a[i]=in.nextInt();
}
for(int i=0;i<n;i++)
{
    if(a[i]%2!=0)
    {
        b[j]=a[i];
        j++;
    }
    else
    {
        c[k]=a[i];
        k++;
    }
}
System.out.println("Odd:");
if(j>1)
{
    for(int i=0;i<j-1;i++)
    {
        System.out.print(b[i]+",");
    }
    System.out.print(b[j-1]);
}
else
```

```

    {
        System.out.println("no number");
    }
    System.out.println("");
    System.out.println("Even:");
    if(k>1)
    {
        for(int i=0;i<k-1;i++)
        {
            System.out.print(c[i]+",");
        }
        System.out.print(c[k-1]);
    }
    else
    {
        System.out.println("no number");
    }

```

```
double sum=0 , avg=0;
```

```
int max=c[0], min=c[0];
```

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

```

{
    if(c[i]>max){
        max=c[i];}
    if(c[i]<min){
        min=c[i];}

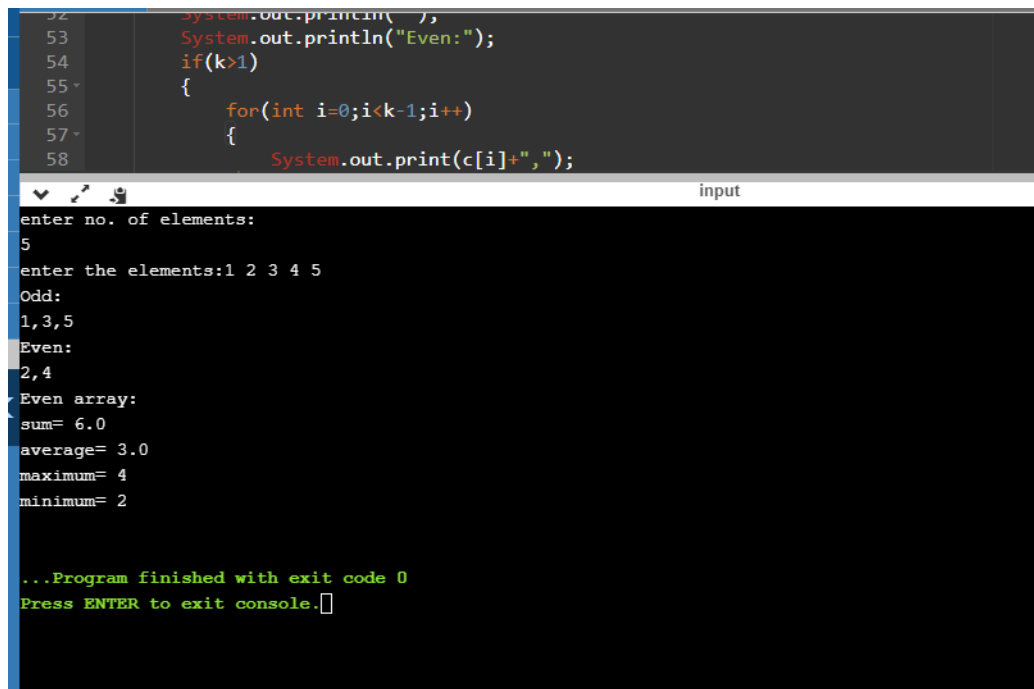
```

```

        sum+=c[i];
    }
    avg=(sum/(k));
    System.out.println("\nEven array:");
    System.out.println("sum= "+sum+"\naverage= "+avg+"\nmaximum= "+max+"\nminimum= "+min);
}
}

```

### Output-



The screenshot shows a Java IDE with a code editor at the top and a console window at the bottom. The code editor displays the following code:

```

52         System.out.println(" ");
53         System.out.println("Even:");
54         if(k>1)
55         {
56             for(int i=0;i<k-1;i++)
57             {
58                 System.out.print(c[i]+",");

```

The console window shows the program's execution:

```

input
enter no. of elements:
5
enter the elements:1 2 3 4 5
Odd:
1,3,5
Even:
2,4
Even array:
sum= 6.0
average= 3.0
maximum= 4
minimum= 2

...Program finished with exit code 0
Press ENTER to exit console.

```

```
53     System.out.println("Even:");
54     if(k>1)
55     {
56         for(int i=0;i<k-1;i++)
57         {
58             System.out.print(c[i]+" ");
59         }
60     }
61     System.out.println();
62     // Sum of elements
63     sum=0;
64     for(int i=0;i<k;i++)
65     {
66         sum+=c[i];
67     }
68     // Average of elements
69     average=sum/k;
70     // Maximum element
71     maximum=c[0];
72     for(int i=1;i<k;i++)
73     {
74         if(c[i]>maximum)
75             maximum=c[i];
76     }
77     // Minimum element
78     minimum=c[0];
79     for(int i=1;i<k;i++)
80     {
81         if(c[i]<minimum)
82             minimum=c[i];
83     }
84     // Even array
85     int evenArray[]=new int[k/2];
86     int evenIndex=0;
87     for(int i=0;i<k;i++)
88     {
89         if(c[i]%2==0)
90             evenArray[evenIndex++]=c[i];
91     }
92     // Odd array
93     int oddArray[]=new int[k/2];
94     int oddIndex=0;
95     for(int i=0;i<k;i++)
96     {
97         if(c[i]%2!=0)
98             oddArray[oddIndex++]=c[i];
99     }
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997    }
998    }
999    }
1000   }
```

input

enter no. of elements:  
6  
enter the elements:11 21 32 44 12 56  
Odd:  
11,21  
Even:  
32,44,12,56  
Even array:  
sum= 144.0  
average= 36.0  
maximum= 56  
minimum= 12

...Program finished with exit code 0  
Press ENTER to exit console.