Lab 1:Extra 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

```java
import java.util.*;

class array{

        public static void main(String args[]){

                int ar[],n,o[],e[],temp1=0,temp2=0,i;

                Scanner in = new Scanner(System.in);

                System.out.print("Enter number of elements ");

                n = in.nextInt();

                ar = new int[n];

                int m = n/2 + 1;

                o = new int[m];

                e = new int[m];

                System.out.print("Enter "+n+" elements : ");

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

                        ar[i] = in.nextInt();

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

          {

                if(i % 2 == 0)

          e[temp1++] = ar[i];

        else

          o[temp2++] = ar[i];

          }

          System.out.print("Elements at even index : ");

          for(i = 0;i < temp1; i++)

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

          System.out.println();

          System.out.print("Elements at odd index : ");

          for(i = 0;i < temp2; i++)

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

}

}


```
1   import java.util.*;
2   class array{
3       public static void main(String args[]){
4           int ar[],n,o[],e[],temp1=0,temp2=0,i;
5           Scanner in = new Scanner(System.in);
6           System.out.print("Enter number of elements
7           n = in.nextInt();
8           ar = new int[n];
9           int m = n/2 + 1;
10          o = new int[m];
11          e = new int[m];
12          System.out.print("Enter "+n+" elements : ")
13          for(i = 0;i < n; i++)
14              ar[i] = in.nextInt();
15          for(i = 0;i < n; i++)
16          {
17              if(i % 2 == 0)
18                  e[temp1++] = ar[i];
19              else
20                  o[temp2++] = ar[i];
21          }
22          System.out.print("Elements at even index :
23          for(i = 0;i < temp1; i++)
24              System.out.print(e[i]+" ");
25          System.out.println();
26          System.out.print("Elements at odd index :
27          for(i = 0;i < temp2; i++)
28              System.out.print(o[i]+" ");
29
30      }
31  }
```

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

import java.util.*;

class array1{

        public static void main(String args[]){

                int ar[],count0=0,countp=0,countn=0,i,n;

                Scanner in = new Scanner(System.in);

                System.out.print("Enter number of elements ");

                n = in.nextInt();

                ar = new int[n];

                System.out.print("Enter "+n+" elements : ");

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

                        ar[i] = in.nextInt();

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

        {

```
                if(ar[i] == 0)

            count0++;

        else if(ar[i] < 0)

            countn++;

        else

            countp++;

            }

        System.out.println("Count of 0: "+count0);

        System.out.println("Count of positive numbers: "+countp);

        System.out.println("Count of negative numbers: "+countn);

        }

}
```


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.*;

class bill{

        public static void main(String args[]){

```java
int x,q[],i;

double rate[],total=0.0,fin = 0.0;

Scanner in = new Scanner(System.in);

System.out.print("Enter number of item :");

x = in.nextInt();

q = new int[x];

rate = new double[x];

System.out.print("Enter rate of "+x+" item:");

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

        rate[i] = in.nextDouble();

System.out.print("Enter quantity of each item : ");

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

{

        q[i] = in.nextInt();

        total = total + rate[i]*q[i];

}

if (total >= 10000)

        fin = total - 0.05*total;

else if (total >= 7500)

        fin = total - 0.03*total;

else

        fin = total -0.02*total;

System.out.println("Total Amount :"+total);

System.out.println("Total Amount :"+fin);


    }

}
```

array.java   ×   array1.java   ×   bill.java   ×   Main.java   ×

```java
1    import java.util.*;
2    class bill{
3        public static void main(String args[]){
4            int x,q[],i;
5            double rate[],total=0.0,fin = 0.0;
6            Scanner in = new Scanner(System.in);
7            System.out.print("Enter number of item
8            x = in.nextInt();
9            q = new int[x];
10           rate = new double[x];
11           System.out.print("Enter rate of "+x+" i
12           for(i = 0;i < x; i++)
13               rate[i] = in.nextDouble();
14           System.out.print("Enter quantity of eac
15           for(i = 0;i < x; i++)
16           {
17               q[i] = in.nextInt();
18               total = total + rate[i]*q[i];
19           }
20           if (total >= 10000)
21               fin = total - 0.05*total;
22           else if (total >= 7500)
23               fin = total - 0.03*total;
24           else
25               fin = total -0.02*total;
26           System.out.println("Total Amount :"+tot
27           System.out.println("Total Amount :"+fin
28
29       }
30   }
```

```
Command Prompt                                    —    □    ×

C:\java\week3>java bill
Enter number of item :4
Enter rate of 4 item:10 30.8 5 98
Enter quantity of each item : 9 2 10 1
Total Amount :299.6
Total Amount :293.608

C:\java\week3>java bill
Enter number of item :5
Enter rate of 5 item:100 150 1000 20.5 10
Enter quantity of each item : 10 10 5 5 100
Total Amount :8602.5
Total Amount :8344.425

C:\java\week3>
```

Line 25, Column 37   Tab Size: 4   Java

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 evenarray{

      public static void main(String args[]){

            int ar[],n,o[],e[],temp1=0,temp2=0,i,sum = 0;

            Scanner in = new Scanner(System.in);

            System.out.print("Enter number of elements ");

            n = in.nextInt();

            ar = new int[n];

            int m = n/2 + 1;

            o = new int[m];

            e = new int[m];

            System.out.print("Enter "+n+" elements : ");

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

                  ar[i] = in.nextInt();

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

         {

```java
            if(ar[i] % 2 == 0)
        e[temp1++] = ar[i];
    else
      o[temp2++] = ar[i];

        }
        System.out.print("Even elements in array : ");
        for(i = 0;i < temp1; i++)
            System.out.print(e[i]+" ");
        System.out.println();
        System.out.print("Odd elements in array : ");
        for(i = 0;i < temp2; i++)
            System.out.print(o[i]+" ");


        int min = e[0];
        int max = e[0];
for(i = 0;i < temp1; i++)
{
   sum = sum + e[i];
   if (e[i]>max) max = e[i];
   if (e[i]<min) min = e[i];
}
float avg = sum/temp1;
System.out.println("\nSum of even array :"+sum);
System.out.println("Average of even array :"+avg);
System.out.println("Maximum value in even array :"+max);
System.out.println("Minimum value in even array :"+min);

     }

}
```

```java
22          System.out.print("Even elements in array : ");
23          for(i = 0;i < temp1; i++)
24              System.out.print(e[i]+" ");
25          System.out.println();
26          System.out.print("Odd elements in array : ");
27          for(i = 0;i < temp2; i++)
28              System.out.print(o[i]+" ");
29
30          int min = e[0];
31          int max = e[0];
32          for(i = 0;i < temp1; i++)
33          {
34              sum = sum + e[i];
35              if (e[i]>max) max = e[i];
36              if (e[i]<min) min = e[i];
37          }
38          float avg = sum/temp1;
39          System.out.println("\nSum of even array :"+sum);
40          System.out.println("Average of even array :"+avg);
41          System.out.println("Maximum value in even array :"+max);
42          System.out.println("Minimum value in even array :"+min);
43      }
44  }
```

```
C:\java\week3>
C:\java\week3>javac evenarray.java

C:\java\week3>java evenarray
Enter number of elements 9
Enter 9 elements : 12 11 14 68 7 5 0 2 9
Even elements in array : 12 14 68 0 2
Odd elements in array : 11 7 5 9
Sum of even array :96
Average of even array :19.0
Maximum value in even array :68
Minimum value in even array :0

C:\java\week3>
```