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BATCH-2

EXTRA PROGRAMS LAB1

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 evenodd {

    public static void main(String args[])

    {    int arr[] = new int[10];

         int even = 0, odd = 0,n,i;

    Scanner in =new Scanner(System.in);

    System.out.println("Enter the number of elements of the
array");

    n=in.nextInt();

    System.out.println("Enter the elements of the array");

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

    {  arr[i]=in.nextInt();

              if (i % 2 == 0)

                   even += arr[i];

              else

                   odd += arr[i];

         }

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

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

```
    }
}
```

```
PS D:\sem3\ooj_lab\09-10-2020\extra> javac .\evenodd.java
PS D:\sem3\ooj_lab\09-10-2020\extra> java evenodd
Enter the number of elements of the array
5
Enter the elements of the array
7
2
6
9
4
Even index positions sum: 17
Odd index positions sum: 11
PS D:\sem3\ooj_lab\09-10-2020\extra>
```

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

```
import java.util.Scanner;
class posnegzero {
    public static void main(String args[])
    {   int arr[] = new int[10];
        int pos = 0, neg = 0,zero=0,n,i;
    Scanner in =new Scanner(System.in);
    System.out.println("Enter the number of elements of the
array");
    n=in.nextInt();
    System.out.println("Enter the elements of the array");
    for (i=0;i<n ;i++ )
    { arr[i]=in.nextInt();
      if(arr[i]==0)
        zero+=1;
            else if (arr[i]> 0 )
                pos += 1;
            else
                neg += 1;
        }

        System.out.println("the number of zeros in the array : " +
zero);
        System.out.println("the number of positive numbers in the
array : " + pos);
    System.out.println("the number of negative numbers in the array
: " + neg);
  }
```

```
}
```

```
PS D:\sem3\ooj_lab\09-10-2020\extra> javac .\posnegzero.java
PS D:\sem3\ooj_lab\09-10-2020\extra> java posnegzero
Enter the number of elements of the array
5
Enter the elements of the array
-7
8
3
-17
0
the number of zeros in the array : 1
the number of positive numbers in the array : 2
the number of negative numbers in the array : 2
PS D:\sem3\ooj_lab\09-10-2020\extra>
```

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 billing{

     public static void main(String args[])

     {int n,i,j,total=0;

    int bill[][]= new int[10][3];

    float discounted;

    Scanner in =new Scanner(System.in);

    System.out.print("Enter the number of items purchased : ");

    n=in.nextInt();

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

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

        bill[i][0]=in.nextInt();
```

```
            System.out.print("Enter the cost per item : ");
            bill[i][1]=in.nextInt();
            System.out.print("Enter the quantity: ");
            bill[i][2]=in.nextInt();
            total+=(bill[i][1]*bill[i][2]);
        }
        if (total>=10000)       discounted=(float)(0.95*total);
        else if (total >=7500)  discounted=(float)(0.97*total);
        else if (total >=5000)  discounted=(float)(0.98*total);
        else  discounted=total;
        System.out.println("TOTAL :"+total);
        System.out.println("DISCOUNTED TOTAL :"+ discounted);}
    }
```

```
PS D:\sem3\ooj_lab\09-10-2020\extra> javac .\billing.java
PS D:\sem3\ooj_lab\09-10-2020\extra> java billing
Enter the number of items purchased : 2
Enter the item number : 1
Enter the cost per item : 10000
Enter the quantity: 1
Enter the item number : 2
Enter the cost per item : 1000
Enter the quantity: 1
TOTAL :11000
DISCOUNTED TOTAL :10450.0
PS D:\sem3\ooj_lab\09-10-2020\extra> java billing
Enter the number of items purchased : 2
Enter the item number : 1
Enter the cost per item : 8000
Enter the quantity: 1
Enter the item number : 2
Enter the cost per item : 500
Enter the quantity: 2
TOTAL :9000
DISCOUNTED TOTAL :8730.0
PS D:\sem3\ooj_lab\09-10-2020\extra> java billing
Enter the number of items purchased : 3
Enter the item number : 1
Enter the cost per item : 100
Enter the quantity: 10
Enter the item number : 2
Enter the cost per item : 500
Enter the quantity: 5
Enter the item number : 3
Enter the cost per item : 100
Enter the quantity: 5
TOTAL :4000
DISCOUNTED TOTAL :4000.0
PS D:\sem3\ooj_lab\09-10-2020\extra>
```

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.Scanner;
class arrayabc{
     public static void main(String args[])
     {
     int n,i,j=0,k=0;
    Scanner in =new Scanner(System.in);
    System.out.println("Enter the number of elements of the
array");
    n=in.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 (i=0;i<n ;i++ )
    {
      A[i]=in.nextInt();
      if (A[i] % 2 == 0)
        {
          C[j]=A[i];
          j++;
        }
      else
        {
          B[k]=A[i];
          k++;
        }
         }
    System.out.print("A : ");
    for (i=0;i<n ;i++ )
      System.out.print(A[i]+" ");

     System.out.print("B : ");
    for (i=0;i<k ;i++ )
      System.out.print(B[i]+" ");
```

```
    System.out.print("C : ");
    int min=C[0],max=C[0],sum=0;
    for (i=0;i<j ;i++)
    {
      System.out.print(C[i]+" ");
      if(C[i]>max)  max=C[i];
      if(C[i]<min)  min=C[i];
      sum+=C[i];
    }

 System.out.println("The minimun element of the array C : "+ min);

 System.out.println("The maximum element of the array C : "+ max);

System.out.println("The sum of elements of the array C : "+ sum);

System.out.println("The average ofelements of the array C : "+
(sum/(k+1)));

  }
}
```

```
PS D:\sem3\ooj_lab\09-10-2020\extra> javac .\arrayabc.java
PS D:\sem3\ooj_lab\09-10-2020\extra> java arrayabc
Enter the number of elements of the array
7
Enter the elements of the array
17
8
7
3
6
9
4
A : 17 8 7 3 6 9 4 B : 17 7 3 9 C : 8 6 4 The minimun element of the array C : 4
The maximum element of the array C : 8
The sum of elements of the array C : 18
The average ofelements of the array C : 3
PS D:\sem3\ooj_lab\09-10-2020\extra>
```

EXTRA PROBLEMS LAB 2

1. Develop a Java program to create a class Player with variables id, name, scores, no_matches_played with default access specifier. Include the following: a. Constructors b. appropriate methods that calculates the average scores of the player and displays the same.
Create two player objects and display the player details who has the greater average score

```
//PROGRAM
class playerinfo{
   String id, name;
   int scores[]= new int[25];
   int no_matches_played;
   float avg;
   playerinfo(String id, String name ,int[] scores ,int
no_matches_played)
   {
     this.id=id;
     this.name=name;
     for (int i=0;i<scores.length;i++ ) {
      this.scores[i]=scores[i];
     }
     this.no_matches_played=no_matches_played;
   }
   void avg_score()
   {
     float sum=0;
     for (int i=0;i<scores.length;i++ ) {
       sum+=scores[i];
     }
     avg=sum/(float)no_matches_played;
     System.out.println("the average score of "+name+" is "+avg);
   }
   void display()
   {
     System.out.println("Player with better average is ");
     System.out.println("ID : "+id);
     System.out.println("NAME : "+name);
     System.out.println("MATCHES PLAYED : "+no_matches_played);
     System.out.println("AVERAGE SCORE : "+avg);
```

```
   }
}
class player{
  public static void main(String[] args)
  { int score1[]={3,5,7,3,5,6,2,9};
    int score2[]={2,3,3,5,6,9,9,10};
    playerinfo p1 = new playerinfo("q1","qwe",score1,8) ;
    playerinfo p2 = new playerinfo("a1","asd",score2,8) ;
    p1.avg_score();
    p2.avg_score();
    if(p1.avg>p2.avg)
      p1.display();
    else
      p2.display();
  }
}
```

```
PS D:\sem3\ooj_lab\09-10-2020\extra> javac .\player.java
PS D:\sem3\ooj_lab\09-10-2020\extra> java player
the average score of qwe is 5.0
the average score of asd is 5.875
Player with better average is
ID : a1
NAME : asd
MATCHES PLAYED : 8
AVERAGE SCORE : 5.875
PS D:\sem3\ooj_lab\09-10-2020\extra>
```