Extra programs week 3:-

1)
```
import java.util.Scanner;
class sum_array {
  public static void main (String args[])
  {
    int n;
    int nums[];
    Scanner ss = new Scanner(System.in);
    System.out.println("Enter the value of n = ");
    n=ss.nextInt();
    nums = new int[n];
    int sum_even=0, sum_odd=0;
    for (int i=0; i<n; i++)
    {
      System.out.printf("nums[%d] = ", i+1);
      nums[i] = ss.nextInt();
    }
    for (int i=0; i<n; i++)
    {
      sum_even=0;  → i+=2;
    }
    for (int i=1; i<n; i++)
    {
      sum_odd=0;  → i+=2;
    }
    System.out.println("The sum of numbers of even indices: "+sum_even);
    System.out.println("The sum of numbers of odd indices: "+sum_odd);
  }
}
```

```java
import java.util.Scanner;
class sum_arrays {
    Run | Debug
    public static void main(String args[]){
    int n;
    int nums[];
    Scanner ss=new Scanner(System.in);
    System.out.println("Enter the value of n= ");
    n=ss.nextInt();
    nums=new int[n];
    int sum_even=0,sum_odd=0;
    for(int i=0;i<n;i++)
    {
        System.out.printf("nums[%d] = ",i);
        nums[i]=ss.nextInt();
    }
    for(int i=0;i<n;)
    {
        sum_even=sum_even+nums[i];
        i+=2;
    }
    for(int i=1;i<n;)
    {
        sum_odd=sum_odd+nums[i];
        i+=2;
    }
    System.out.println("The sum of numbers of even indices: "+sum_even);
    System.out.println("The sum of numbers of odd indices: "+sum_odd);
}
}
```

```
Enter the value of n=
10
nums[0] = 1
nums[1] = 2
nums[2] = 3
nums[3] = 4
nums[4] = 5
nums[5] = 6
nums[6] = 7
nums[7] = 8
nums[8] = 9
nums[9] = 10
The sum of numbers of even indices: 25
The sum of numbers of odd indices: 30
PS D:\Java Programs>
```

2) import java.util.Scanner;
class pos_neg_array{
public static void main(String args[])
{
int nums[];
int n;
Scanner SS = new Scanner(System.in);
System.out.println("Enter the value of n=");
n = SS.nextInt();
nums = new int[n];
for(int i=0; i<n; i++)
{
System.out.printf("nums[%d] = ", i+1);
nums[i] = SS.nextInt();
}
int count_pos=0, count_neg, count_zero=0;
for(int i=0; i<n; i++)
{
if(nums[i]>0)
count_pos+=1;
else if(num[i]<0)
count_neg+=1;
else(nums[i]<0)
count_zero+=1;
}
System.out.println("The number of positive numbers="+count_pos);
System.out.println("The number of negative numbers="+count_neg);
System.out.println("The numbers of zeros="+count_zero);
}
}

```java
import java.util.Scanner;
class pos_neg_array{
    Run | Debug
    public static void main(String args[])
    {
        int nums[];
        int n;
        Scanner ss=new Scanner(System.in);
        System.out.println("Enter the value of n= ");
        n=ss.nextInt();
        nums=new int[n];
        for(int i=0;i<n;i++)
        {
            System.out.printf("nums[%d] = ",i);
            nums[i]=ss.nextInt();
        }
        int count_pos=0,count_neg=0,count_zero=0;
        for(int i=0;i<n;i++)
        {
            if(nums[i]>0)
                count_pos+=1;
            else if(nums[i]<0)
                count_neg+=1;
            else
                count_zero+=1;
        }
        System.out.println("The number of positive numbers= "+count_pos);
        System.out.println("The number of negative numbers= "+count_neg);
        System.out.println("The number of zeros= "+count_zero);
    }
}
```

```
nums[0] = 1
nums[1] = 2
nums[2] = 3
nums[3] = -4
nums[4] = -5
nums[5] = 0
nums[6] = -1
nums[7] = 0
nums[8] = 8
nums[9] = 23
The number of positive numbers= 5
The number of negative numbers= 3
The number of zeros= 2
PS D:\Java Programs>
```

3) import java.util.Scanner();
class super_market {
public static void main(String args[])
{
double item_price[];
int item_quantity[];
int n;
Scanner ss = new Scanner(System.in);
System.out.println("Enter the number of items :");
n = ss.nextInt();
item_price = new double[n];
item_quantity = new int[n];
for(int i=0; i<n; i++)
{
System.out.printf("Enter the price of item %d = ", i+1);
item_price[i] = ss.nextDouble();
System.out.printf("Enter the quantity of item %d = ", i+1);
item_quantity[i] = ss.nextInt();
}
double total=0, discount=0;
for(int i=0; i<n; i++)
total += item_price[i] * item_quantity[i];
if (total >= 10000.0)
{
discount = total * 0.05;
System.out.println("Congratulations!! You have received a discount
of 5%.");
}
else if (total >= 7500)
{
discount = total * 0.03;
System.out.println("Congratulations!! You have received a discount
of 3%.");
}

```
else if (total>=5000.0)
{
    discount = total*0.02;
    System.out.println("Congratulations!! You have received a discount of
                                        3%. ");
}
double after_discount ;  -> after_discount= total-discount;
if(discount >0)
    System.out.println ("The total amount before discount :"+total);
System.out. println ("The total amount to be paid : "+after_discount);
}
}
```

```java
import java.util.Scanner;
class super_market{
    Run | Debug
    public static void main(String args[])
    {
        double item_price[];
        int item_quantity[];
        int n;
        Scanner ss=new Scanner(System.in);
        System.out.println("Enter the number of items: ");
        n=ss.nextInt();
        item_price=new double[n];
        item_quantity=new int[n];
        for(int i=0;i<n;i++)
        {
            System.out.printf("Enter the price of item %d : ",i+1);
            item_price[i]=ss.nextDouble();
            System.out.printf("Enter the quantity of item %d : ",i+1);
            item_quantity[i]=ss.nextInt();
        }
        double total=0,discount=0;
        for(int i=0;i<n;i++)
            total+=item_price[i]*item_quantity[i];
        if(total>=10000.0)
        {
            discount=total*0.05;
            System.out.println("Congratulations!! You have received a discount of 5% ");
        }
        else if(total>=7500)
        {
            discount=total*0.03;
            System.out.println("Congratulations!! You have received a discount of 3% ");
        }
        else if(total>=5000)
        {
            discount=total*0.02;
            System.out.println("Congratulations!! You have received a discount of 3% ");
        }
        double after_discount;
        after_discount=total-discount;
        if(discount>0)
            System.out.println("The total amount before discount: "+total);
        System.out.println("The total amount to be paid is: "+after_discount);
    }
}
```

```
Enter the number of items:
5
Enter the price of item 1 : 5500
Enter the quantity of item 1 : 1
Enter the price of item 2 : 2300
Enter the quantity of item 2 : 3
Enter the price of item 3 : 250
Enter the quantity of item 3 : 5
Enter the price of item 4 : 20
Enter the quantity of item 4 : 1
Enter the price of item 5 : 10
Enter the quantity of item 5 : 15
Congratulations!! You have received a discount of 5%
The total amount before discount: 13820.0
The total amount to be paid is: 13129.0
```

4) import java.util.Scanner;

```
class even_odd_array{
  public static void main(String args[])
  {
    int n, e=0, o=0, A[], B[], C[];
    Scanner ss= new Scanner(System.in);
    System.out.println("Enter the value of n: ");
    n= ss.nextInt();
     A=new int[n];
     B = new int[n];
     C=new int[n];
    System.out.println("Enter the values of the arrays A: \n");
    for (int i=0; i<n; i++)
    {
     System.out.println("A[%d] = ", i+1);
     A[i] = ss.nextInt();
    }
    for (int i=0; i<n ; i++)
    {
       if (A[i]%2==0)
           C[e++] = A[i];
       else
           B[o++]= A[i];
    }
```

```
System.out.println("\n The elements of array B : ");
for(int i=0; i<e; i++)
{
    System.out.printf("\n B[%d] = %d ", i, B[i]);
System.out.println("\n The elements of array C : ");
for(int i=0; i<e; i++)
{
    System.out.printf("\n C[%d] = %d ", i, B[i]);
}
int sum=0, avg, max=C[0], min=C[0];
for(int i=0; i<e; i++)
{
    sum+=C[i];
    if(C[i]>max)
        max=C[i];
    if(C[i]<min)
        min=C[i];
}
avg = sum/e;
System.out.println("\nthe sum of element in C : "+sum);
System.out.println("\n The average of elem in C : "+avg);
System.out.println("\n The maximum in array C : "+max);
System.out.println("\n The minimum in array C : "+min);
}
}
```

```java
import java.util.Scanner;
class even_odd_array{
    Run | Debug
    public static void main(String args[])
    {
        int n,e=0,o=0,A[],B[],C[];
        Scanner ss=new Scanner(System.in);
        System.out.println("Enter the value of n : ");
        n=ss.nextInt();
        A=new int[n];
        B=new int[n];
        C=new int[n];
        System.out.println("Enter the values of array A: \n");
        for(int i=0;i<n;i++)
        {
            System.out.printf("A[%d] = ",i+1);
            A[i]=ss.nextInt();
        }
        for(int i=0;i<n;i++)
        {
            if(A[i]%2==0)
                C[e++]=A[i];
            else
                B[o++]=A[i];
        }
        System.out.println("\nThe elements of array B:");
        for(int i=0;i<o;i++)
            System.out.printf("\nB[%d] = %d",i+1,B[i]);
        System.out.println("\nThe elements of array C:");
        for(int i=0;i<e;i++)
            System.out.printf("\nC[%d] = %d",i+1,C[i]);
        int sum=0,avg,max=C[0],min=C[0];
        for(int i=0;i<e;i++)
        {
            sum+=C[i];
            if(C[i]>max)
                max=C[i];
            if(C[i]<min)
                min=C[i];
        }
        avg=sum/e;
        System.out.println("\nThe sum of elements in C: "+sum);
        System.out.println("\nThe average of elements in C: "+avg);
        System.out.println("\nThe maximum in array C: "+max);
        System.out.println("\nThe minimum in array C: "+min);
    }
}
```

```
Enter the value of n :
10
Enter the values of array A:

A[1] = 1
A[2] = 2
A[3] = 3
A[4] = 4
A[5] = 5
A[6] = 6
A[7] = 7
A[8] = 8
A[9] = 9
A[10] = 10

The elements of array B:

B[1] = 1
B[2] = 3
B[3] = 5
B[4] = 7
B[5] = 9
The elements of array C:

C[1] = 2
C[2] = 4
C[3] = 6
C[4] = 8
C[5] = 10
The sum of elements in C: 30

The average of elements in C: 6

The maximum in array C: 10

The minimum in array C: 2
```