```
import java.util.Scanner;
public class Main{
    public static void main (String args[]){
        double secondRoot = 0, firstRoot = 0;
        Scanner sc = new
        Scanner (System.in);
            System.out.println("Enter the value of a::");
            double a = sc.nextDouble();
        System.out.println("Enter the value of b::");
            double b = sc.nextDouble();
        System.out.println("Enter the value of c::");
            double c = sc.next double();
        double determinant = (b*b) - (4*a*c);
                double Sqrt =
            math.Sqrt (determinant);
        if (determinant > 0){
            firstRoot = (-b + Sqrt)/(2*a);
            SecondRoot = (-b - Sqrt)/(2*a);
            System.out.println("Roots are:" +
                firstRoot + "and" + SecondRoot);
```

```
}else if (determinant == 0){
        System.out.println("Root :: "+
                (-b + Sqrt)/(2*a));
    }
}
```

(2) import java.io.*;

```
class Main{
    public static void main(String args[])
    {
        int arr[] = {1, 2, 3, 4, 5, 6};
        int even = 0, odd = 0;

        // Loop to find even, odd sum
        for (int i=0; i< arr.length; i++){
            if (i%2==0)
                even += arr[i];
            else
                odd += arr[i];

        }
        System.out.println("Even
```

(3) Public class main

```
{
  Public static void main(string [] args)
  {
    int number =12;
    if (number >0)
    {
      System.out.println(number +" is a
      positive number");
    }
    System.out.
      else if (number <0)
      {
        System.out.println(number +" is a
        negative number");
      }
      else
      {
        system - out.println(number+" is
                neither positive nor
                negative");
      }
    }
    }
```

output: 12 is a positive number.

(3).

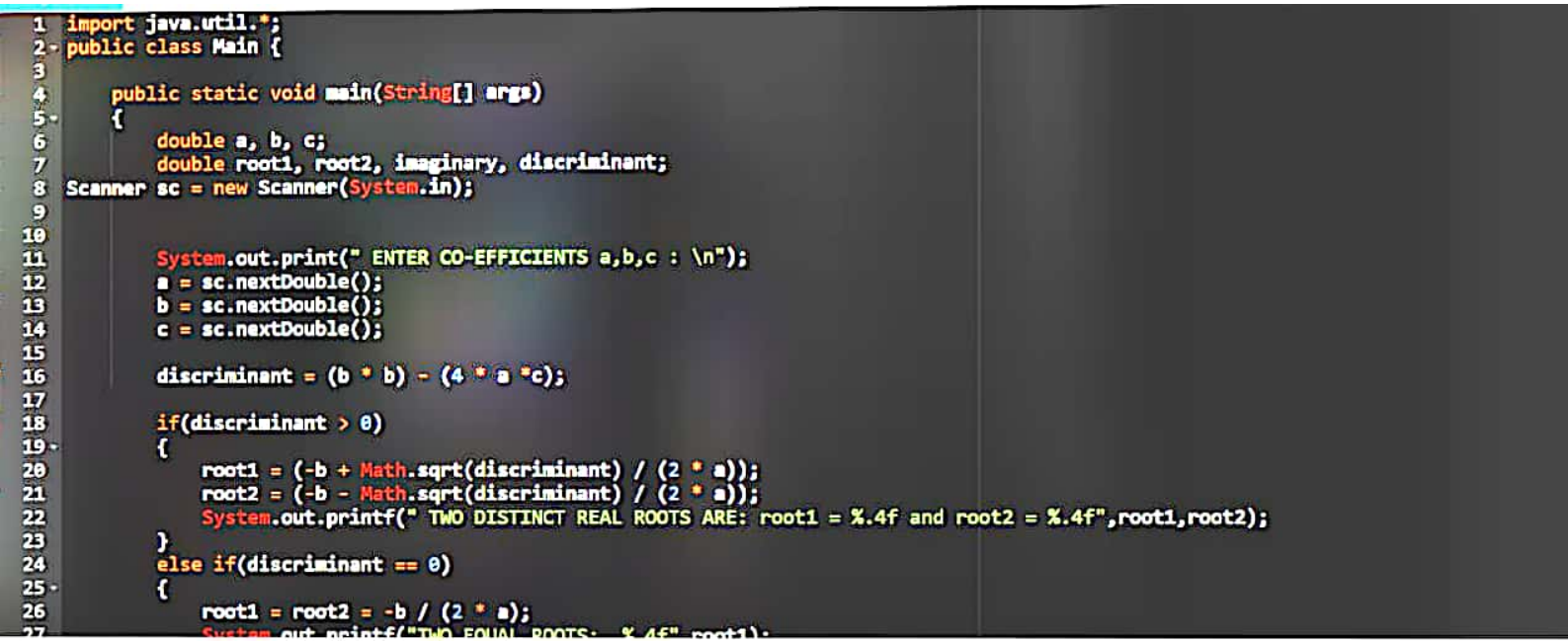
```
import java.util.Scanner;
public class bill {
public static void main (String [] args)
{
Scanner sc = new Scanner (System.in);
System.out.println ("Enter the no of items:");
int n = sc.nextint ();
double int tot, tot = 0;
double [] rpi = new double [n];
int [] quant = new int [n];
for (int i=0; i<n; i++){
System.out.println("enter quantity of
    purchase and rate per item for
    item" + (i+1));
int q = sc.nextInt ();
double r = sc.nextDouble ();
quant [i] = q;
rpi [i] = r;
}
for (int i = 0; i<n; i++){
int Tot = quant [i] * rpi [i];
  tot t = int Tot;
}
```

```
if (tot >= 10000){
System.out.println("Discount = 5 %. Total bill =
    " + tot + "Discount bill = " + (tot - tot * 0.05));
}
else if (tot >=7500)
{
System.out.println(" Discount = 3 %. Total bill =
        " + tot + " Discounted bill = " + (tot
    - tot * 0.03));
}
    elseif (tot >=5000){
    System.out.println("Discount = 2 %. Total bill =
        + tot + "Discounted bill = " + (tot - tot * 0.02
    }
    else{
    System.out.println("No discount . Total bill = " +
      tot);
    }
}
```

(4)

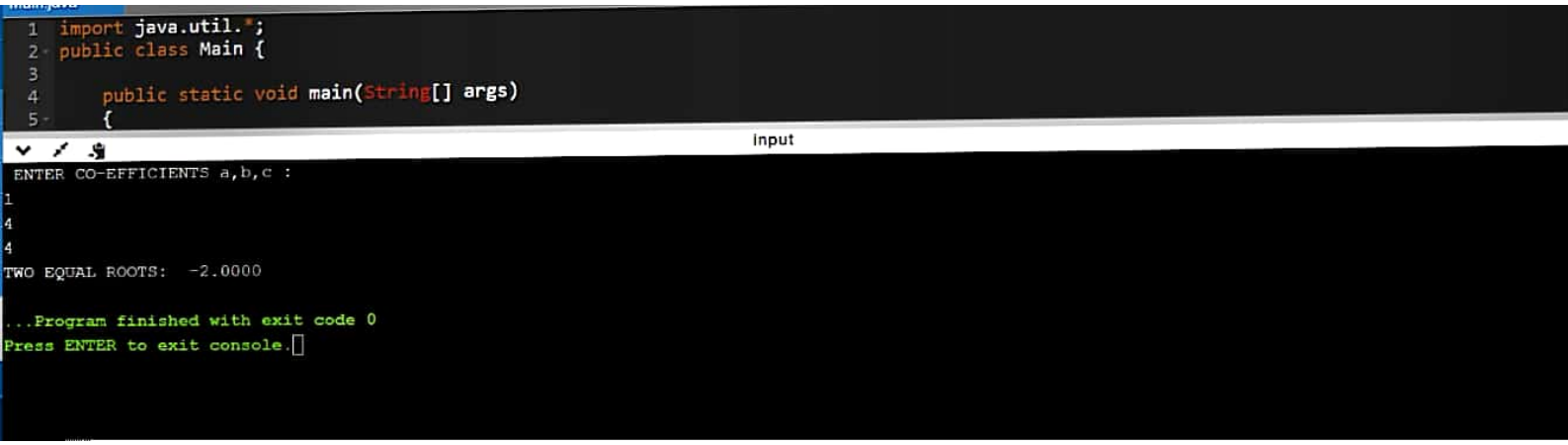
```
import java.util.Scanner;
public class odd-even-array {
int i, j=0, b=0, sum=0, avg, max,min;
Scanner s= new Scanner (System.in);
System.out.print("Enter the number of
elements in array:");
n = s.nextint();
int [] a = new int [n];
int [] b = new int [n];
int [] c = new int [n];
System.out.println("Enter the elements of the
array");
for (int i=0; i<n, i++) {
if (a[i] %2 == 0) {
    c [j] = a[i];
    j++
}
else {
    b[b] = a[i];
    b++;
}
}
//avg = sum[j];
max = c[0];
min = c [0];
```

```
for (int i = 0 ; i < j , 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 + "average " + (double sum/+);"
maximum :" + max + minimum is " + min);
}
}
```

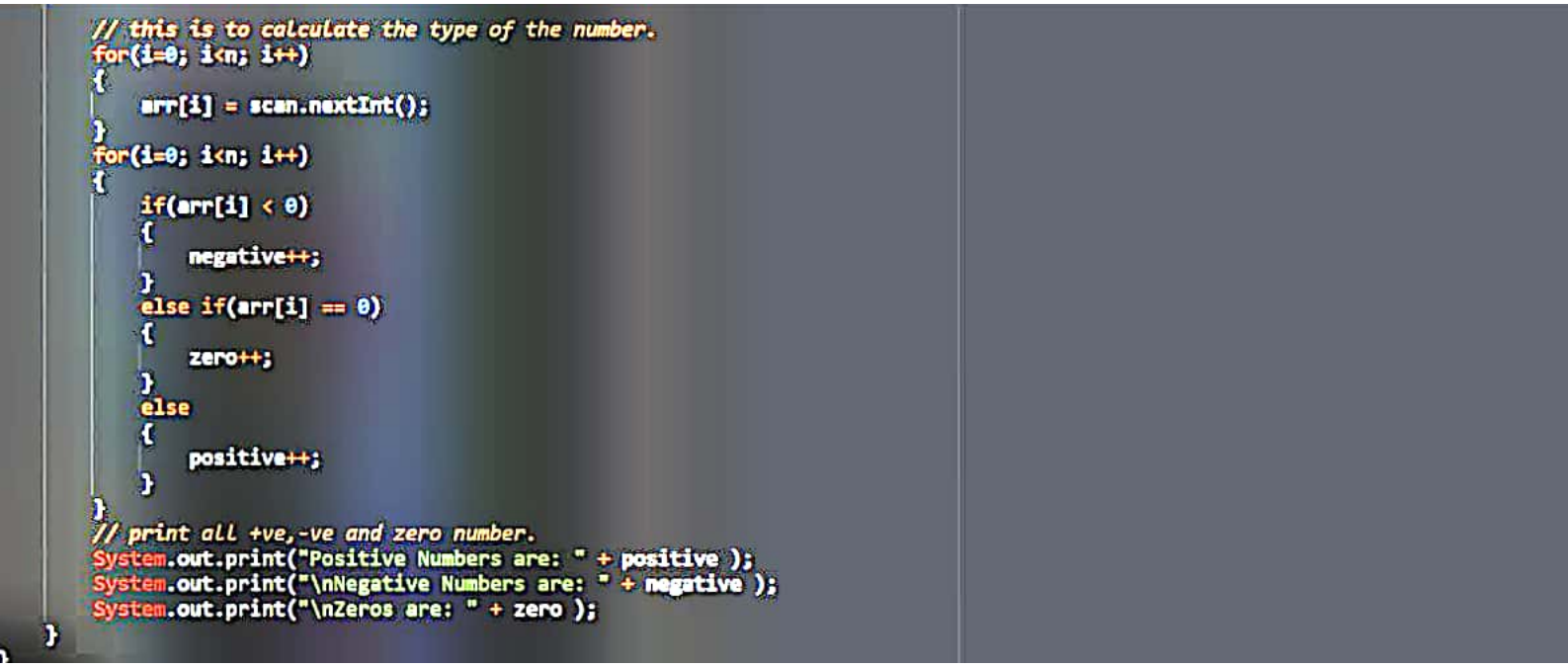


```java
import java.util.*;
public class Main {

    public static void main(String[] args)
    {
        double a, b, c;
        double root1, root2, imaginary, discriminant;
Scanner sc = new Scanner(System.in);


        System.out.print(" ENTER CO-EFFICIENTS a,b,c : \n");
        a = sc.nextDouble();
        b = sc.nextDouble();
        c = sc.nextDouble();

        discriminant = (b * b) - (4 * a *c);

        if(discriminant > 0)
        {
            root1 = (-b + Math.sqrt(discriminant) / (2 * a));
            root2 = (-b - Math.sqrt(discriminant) / (2 * a));
            System.out.printf(" TWO DISTINCT REAL ROOTS ARE: root1 = %.4f and root2 = %.4f",root1,root2);
        }
        else if(discriminant == 0)
        {
            root1 = root2 = -b / (2 * a);
            System.out.printf("TWO EQUAL ROOTS:  %.4f",root1);
```

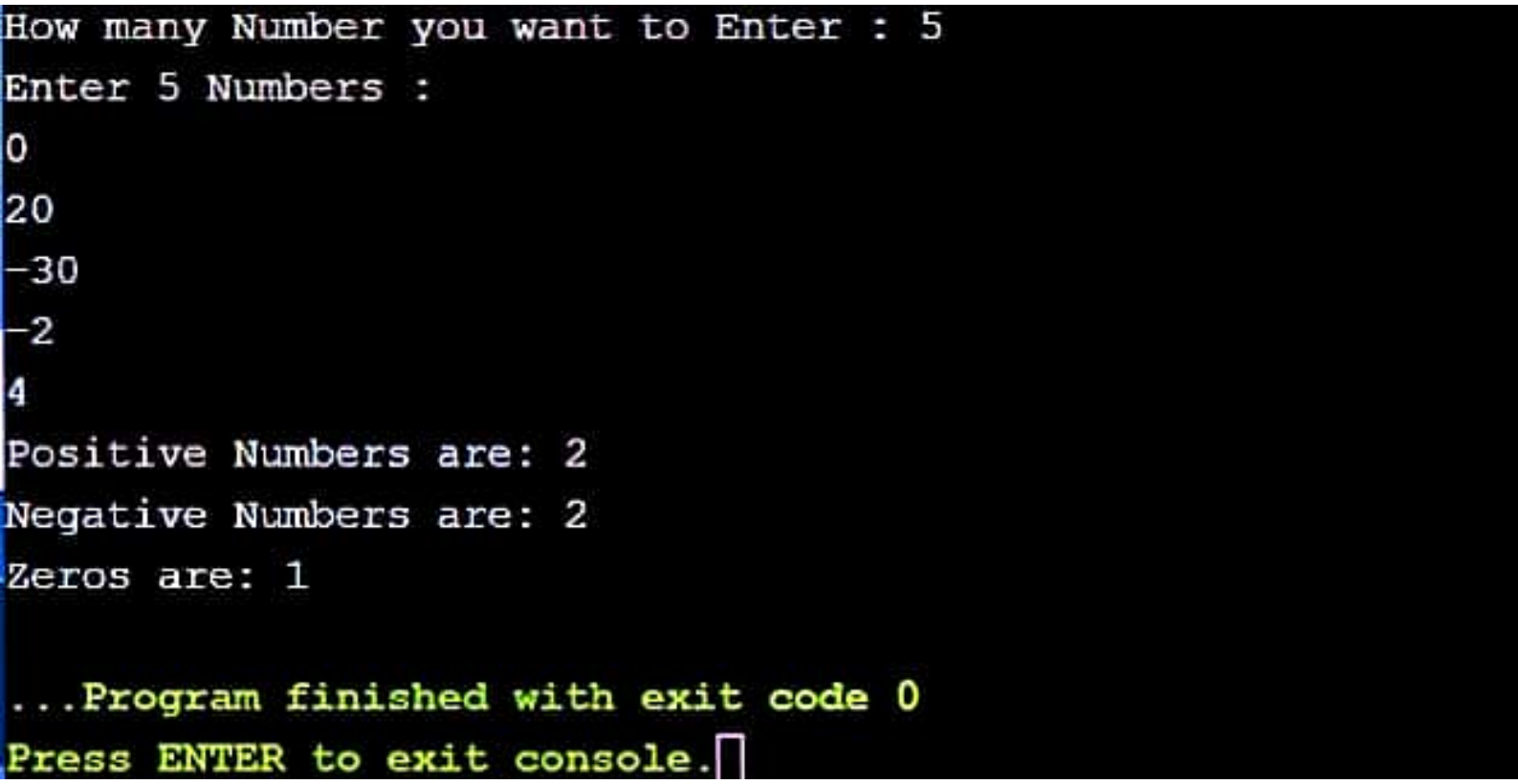
```
10
11          System.out.print(" ENTER CO-EFFICIENTS a,b,c : \n");
12          a = sc.nextDouble();
13          b = sc.nextDouble();
14          c = sc.nextDouble();
15
16          discriminant = (b * b) - (4 * a *c);
17
18          if(discriminant > 0)
19          {
20              root1 = (-b + Math.sqrt(discriminant) / (2 * a));
21              root2 = (-b - Math.sqrt(discriminant) / (2 * a));
22              System.out.printf(" TWO DISTINCT REAL ROOTS ARE: root1 = %.4f and root2 = %.4f",root1,root2);
23          }
24          else if(discriminant == 0)
25          {
26              root1 = root2 = -b / (2 * a);
27              System.out.printf("TWO EQUAL ROOTS:  %.4f",root1);
28          }
29          else if(discriminant < 0)
30          {
31
32              System.out.println(" ROOTS ARE NOT REAL");
33          }
34      }
35  }
```

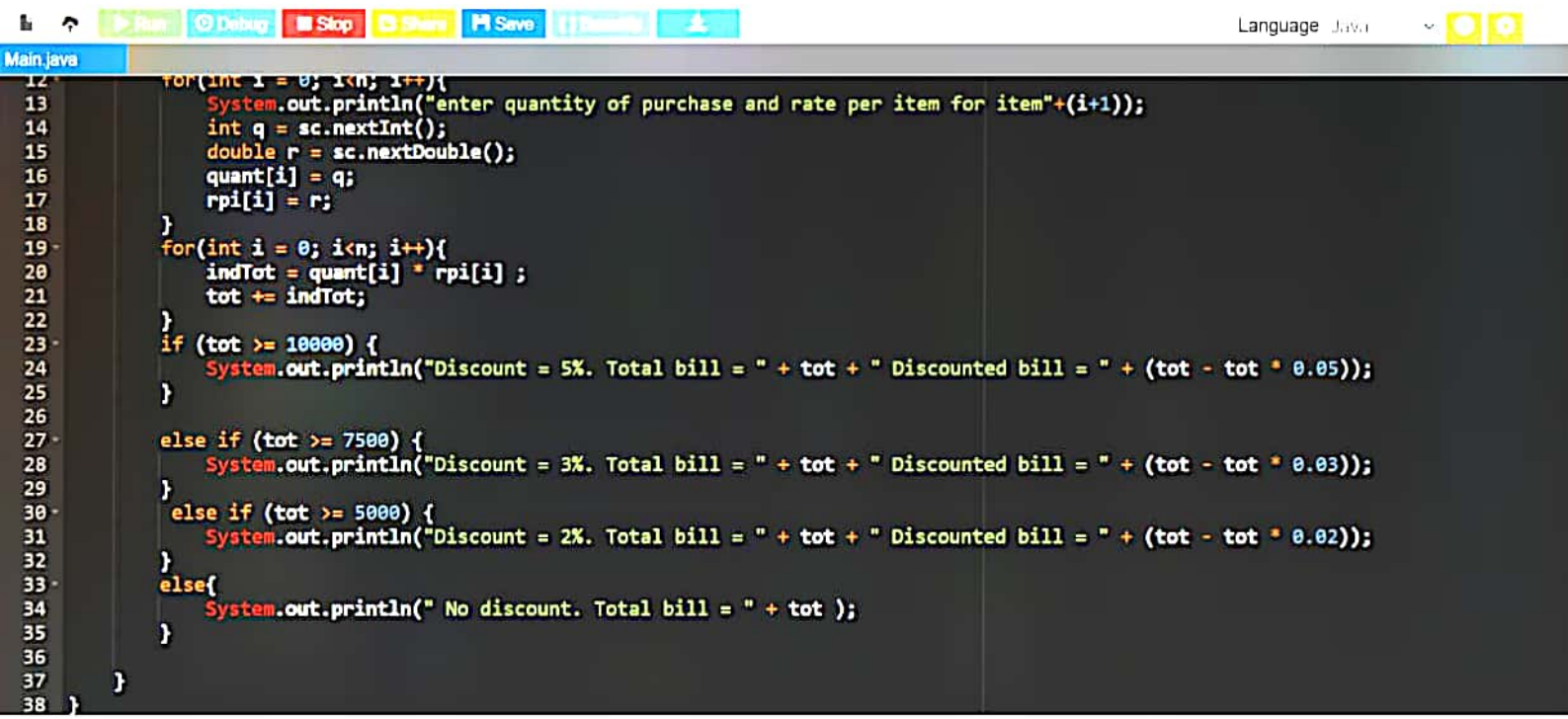


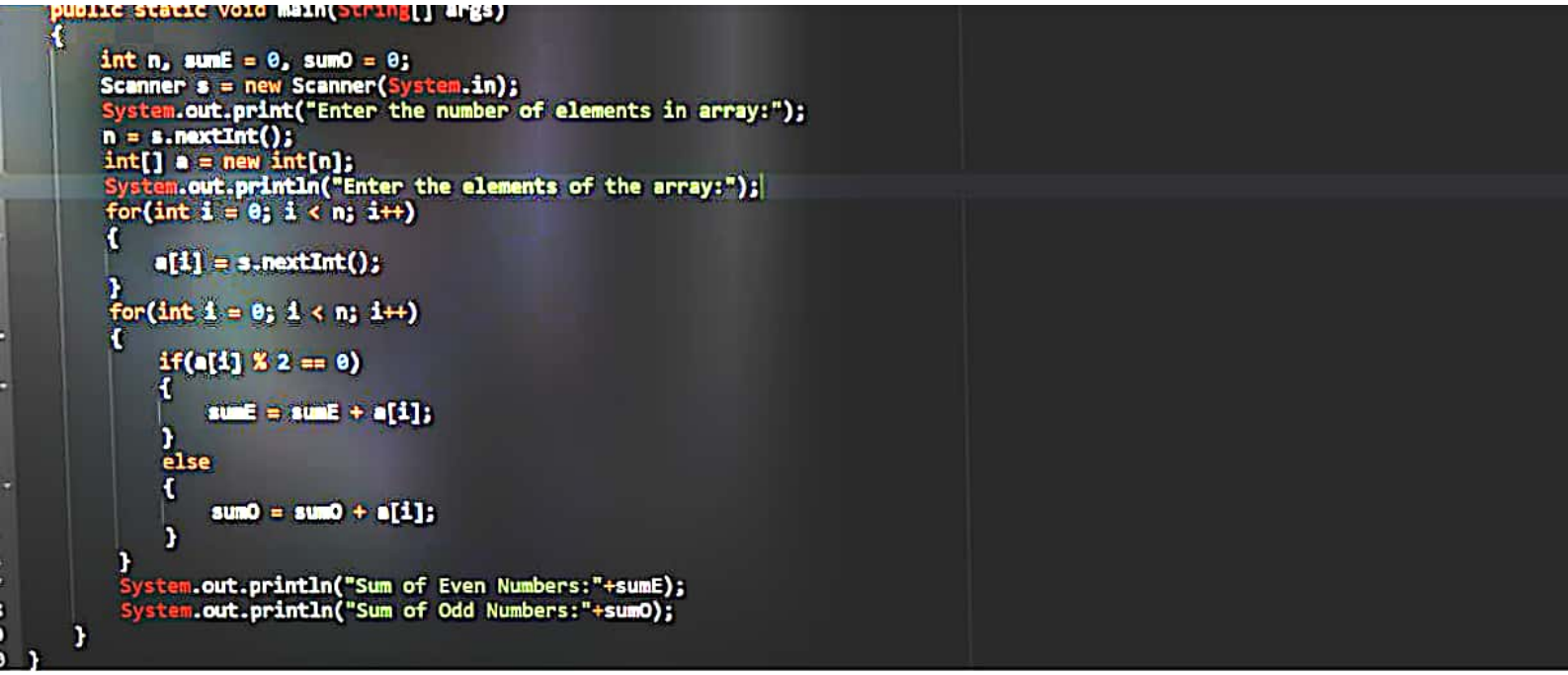

```java
import java.util.Scanner;

public class Main
{
    public static void main(String args[])
    {
        // intialize and declaring the objects.
        int n,positive=0, negative=0, zero=0, i;
        int arr[] = new int[50];
        Scanner scan = new Scanner(System.in);

        // enter number you have to enter.
        System.out.print("How many Number you want to Enter : ");
        n = scan.nextInt();

        // enter the numbers.
        System.out.println("Enter " +n+ " Numbers : ");

        // this is to calculate the type of the number.
        for(i=0; i<n; i++)
        {
            arr[i] = scan.nextInt();
        }
        for(i=0; i<n; i++)
        {
            if(arr[i] < 0)
            {
```



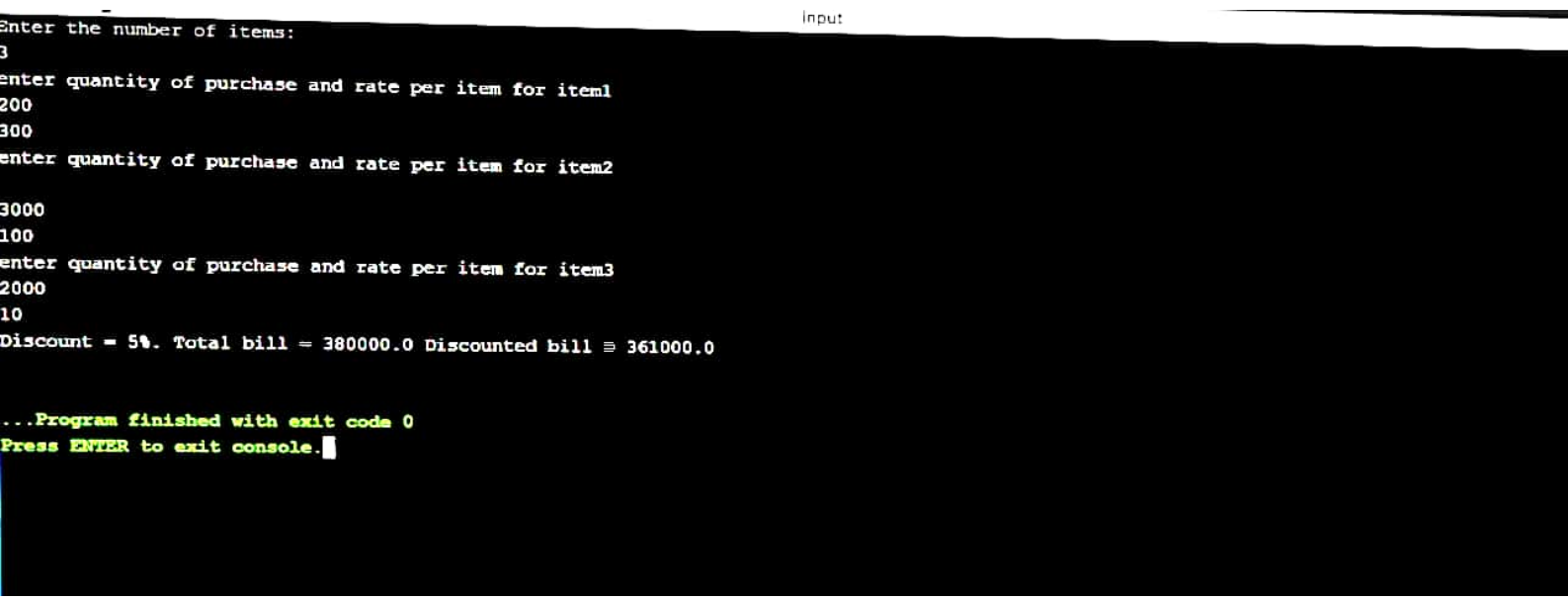
```
        // this is to calculate the type of the number.
        for(i=0; i<n; i++)
        {
            arr[i] = scan.nextInt();
        }
        for(i=0; i<n; i++)
        {
            if(arr[i] < 0)
            {
                negative++;
            }
            else if(arr[i] == 0)
            {
                zero++;
            }
            else
            {
                positive++;
            }
        }
        // print all +ve,-ve and zero number.
        System.out.print("Positive Numbers are: " + positive );
        System.out.print("\nNegative Numbers are: " + negative );
        System.out.print("\nZeros are: " + zero );
    }
}
```

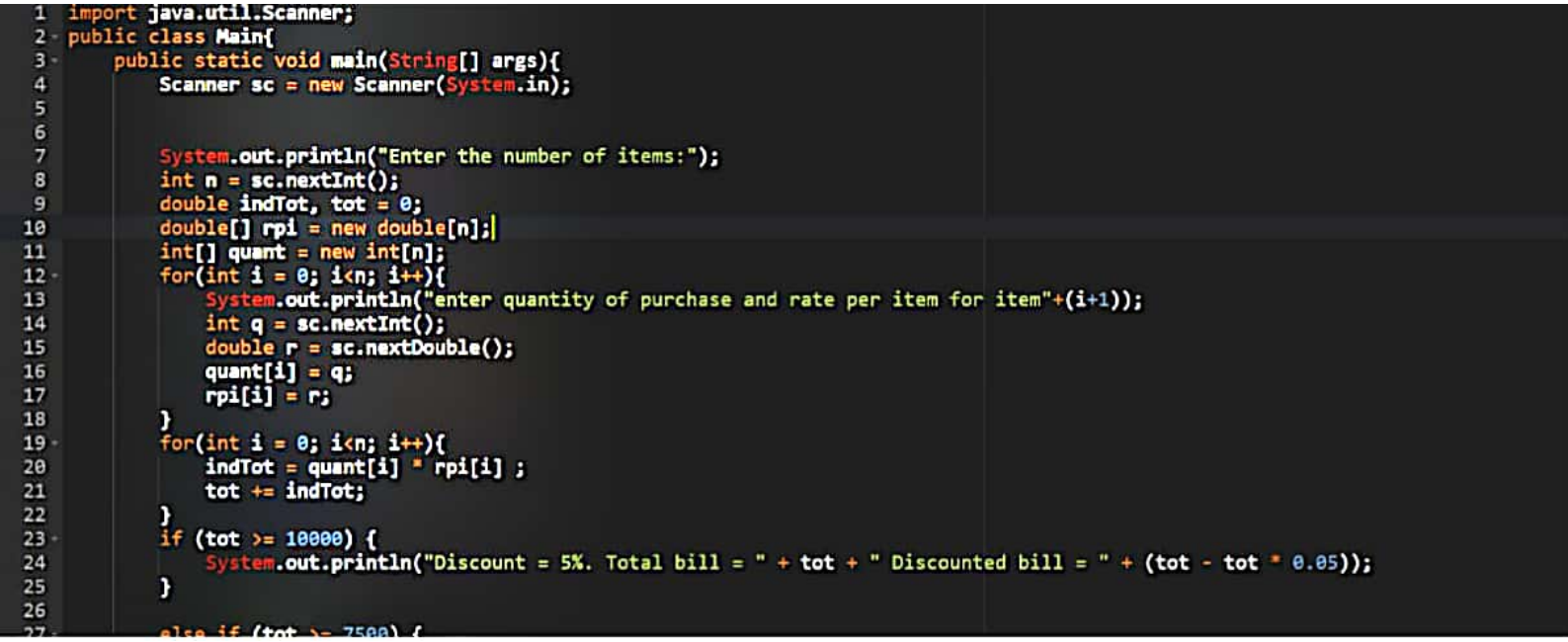






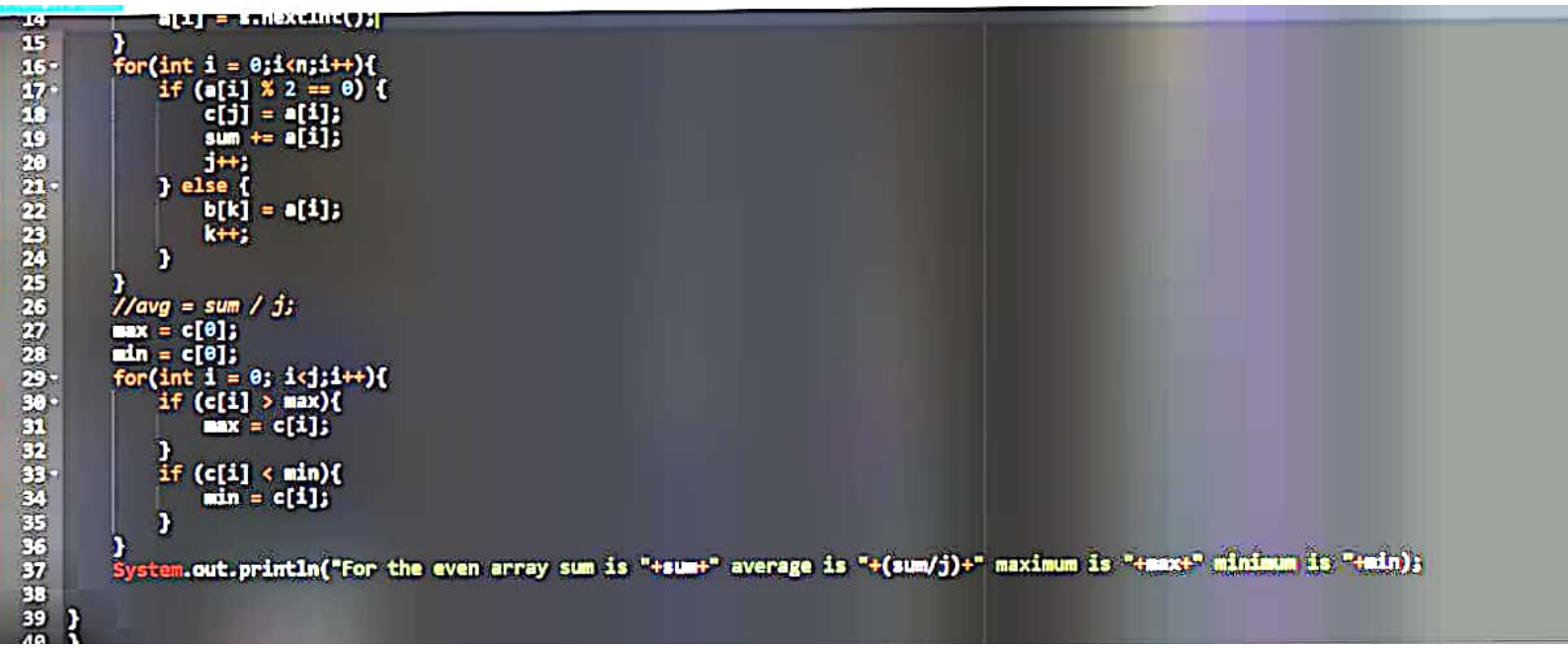
```
public static void main(String[] args)
{
    int n, sumE = 0, sumO = 0;
    Scanner s = new Scanner(System.in);
    System.out.print("Enter the number of elements in array:");
    n = s.nextInt();
    int[] a = new int[n];
    System.out.println("Enter the elements of the array:");
    for(int i = 0; i < n; i++)
    {
        a[i] = s.nextInt();
    }
    for(int i = 0; i < n; i++)
    {
        if(a[i] % 2 == 0)
        {
            sumE = sumE + a[i];
        }
        else
        {
            sumO = sumO + a[i];
        }
    }
    System.out.println("Sum of Even Numbers:"+sumE);
    System.out.println("Sum of Odd Numbers:"+sumO);
}
}
```





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


        System.out.println("Enter the number of items:");
        int n = sc.nextInt();
        double indTot, tot = 0;
        double[] rpi = new double[n];
        int[] quant = new int[n];
        for(int i = 0; i<n; i++){
            System.out.println("enter quantity of purchase and rate per item for item"+(i+1));
            int q = sc.nextInt();
            double r = sc.nextDouble();
            quant[i] = q;
            rpi[i] = r;
        }
        for(int i = 0; i<n; i++){
            indTot = quant[i] * rpi[i] ;
            tot += indTot;
        }
        if (tot >= 10000) {
            System.out.println("Discount = 5%. Total bill = " + tot + " Discounted bill = " + (tot - tot * 0.05));
        }

        else if (tot >= 7500) {
```

```java
import java.util.Scanner;

public class Main {
    public static void main(String[] args){
    int n, j = 0, k = 0, sum = 0, avg, max , min;
    Scanner s = new Scanner(System.in);
    System.out.print("Enter the number of elements in array:");
    n=s.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] = s.nextInt();
    }
    for(int i = 0;i<n;i++){
        if (a[i] % 2 == 0) {
            c[j] = a[i];
            sum += a[i];
            j++;
        } else {
            b[k] = a[i];
            k++;
        }
    }
    //avg = sum / j;
    max = c[0];
```



```
        a[i] = s.nextInt();
    }
    for(int i = 0;i<n;i++){
        if (a[i] % 2 == 0) {
            c[j] = a[i];
            sum += a[i];
            j++;
        } else {
            b[k] = a[i];
            k++;
        }
    }
    //avg = sum / j;
    max = c[0];
    min = c[0];
    for(int i = 0; i<j;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+" average is "+(sum/j)+" maximum is "+max+" minimum is "+min);

}
```