

```
}  
}
```

80. Write a program that finds the average marks of students stored in stu Array.

**Ans.** `import java.io.*;`

```
public class ArrayDemo
```

```
{
```

```
    int[] anArray = new int[10];
```

```

public void accept()throwsIOException
{
    int sum;
    int avg = 0;
    int num;
    String str;
    BufferedReader bReader = new BufferedReader(new InputStreamReader(System.in));
    System.out.print("Enter marks of students");
    for(int i = 0; i < anArray.length; i++)
    {
        str = bReader.readLine();
        num = Integer.parseInt(str);
        anArray[i] = num;
        sum += anArray[i];
    }
    avg = sum/10;
    System.out.println("Average marks is : " +avg);
}
}

```

81. The marks obtained by 50 students in a subject are tabulated as follows :

Name	Marks
.....	.....
.....	.....
.....	.....

Write a program to input the names and marks of the students in three subjects.

Calculate and display :

- (i) The subject average marks (subject average marks = subject total/50)
  - (ii) The highest marks in the subject and the name of the student.
- (The maximum marks in a subject are 100)

Ans. import java.io.\*;

```
public class Exam
```

```

{
    string name[] = new string[50];
    double a[] = new double[50];
    double b[] = new double[50];
    double c[] = new double[50];
    double avg1 = 0;
    double avg2 = 0;
    double avg3 = 0;
    double hm[] = new double[3];
    string namehm[] = new string[3];
    int i;
    void readData()throws IOException
    {
        BufferedReader br = new BufferedReader(new InputStreamReader(System.in));
        for(i = 0; i <= 50; i++)
        {
            System.out.println("Name and marks in 3 subjects of a student");
            name [i] = br.readLine();
            a[i] = Double.parseDouble(br.readLine());

```

```

        b[i] = Double.parseDouble(br.readLine());
        c[i] = Double.parseDouble(br.readLine());
        avg1 = avg1 + a[i];
        avg2 = avg2 + b[i];
        avg3 = avg3 + b[i];
    }
    avg1 = avg1/50;
    avg2 = avg2/50;
    avg3 = avg3/50;
}
void display()
{
    System.out.println("Name \t Subject 1 \t Subject 2 \t Subject 3");
    for(i = 0; i < 50; i++)
    {
        System.out.println(name[i] + "\t" + a[i] + "\t" + b[i] + "\t" + c[i]);
    }
    System.out.println("Average in 1st subject : "+avg1);
    System.out.println("Average in 2nd subject : "+avg2);
    System.out.println("Average in 3rd subject : "+avg3);
    System.out.println("Students having highest marks in subject");
    for(i = 0; i < 50; i++)
    {
        hm[0] = 0;
        hm[1] = 0;
        hm[2] = 0;
        if(a[i] > hm[0])
        {
            hm[0] = a[i];
            namehm[0] = name[i];
        }
        if(b[i] > hm[1])
        {
            hm[1] = b[i];
            namehm[1] = name[i];
        }
        if(c[i] > hm[2])
        {
            hm[2] = c[i];
            namehm[2] = name[i];
        }
    }
    System.out.println("Student Name and Highest marks in 1st subject : " + namehm[0] + "\t" + hm[0]);
    System.out.println("Student Name and Highest marks in 2nd subject : " + namehm[1] + "\t" + hm[1]);
    System.out.println("Student Name and Highest marks in 3rd subject : " + namehm[2] + "\t" + hm[2]);
}
}

```

82. Write a program to accept 15 integers from the keyboard, assuming that no integer entered is a zero. Perform bubble sort on the integers and then print them in ascending order.

```
Ans. import java.io.*;
public class test
{
    public static void main(String args[]) throws IOException
    {
        int n[] = new int[15];
        int l, t;
        BufferedReader b = new BufferedReader(new InputStreamReader(System.in));
        for(I = 0; I <= 14; I++)
        {
            System.out.println("Enter a Number ");
            n[I] = Integer.parseInt(b.readLine());
        }
        for(I = 0; I < 14; I++)
        {
            for(int j = I + 1; j <= 14; j++)
            {
                if(n[I] > n[j])
                {
                    t = n[I];
                    n[I] = n[j];
                    n[j] = t;
                }
            }
        }
        for(I = 0; I <= 14; I++)
        {
            System.out.println(n[I]);
        }
    }
}
```