

77. Define a class and store the given city names in a single dimensional array. Sort these names in alphabetical order using the Bubble Sort technique only.

INPUT : Delhi, Bengaluru, Agra, Mumbai, Kolkata

OUTPUT : Agra, Bengaluru, Kolkata, Delhi, Mumbai

Ans. import java.io.*;

```
public class city
```

```
{
```

```
    public static void main(String args[])
```

```
    {
```

```
        int i, j;
```

```
        String t;
```

```
        String m[] = {"Delhi", "Bengaluru", "Agra", "Mumbai", "Kolkata"};
```

```
        for(i = 0; i < 4; i++)
```

```
        {
```

```
            for(j = 0; j <= 3 - i; j++)
```

```
            {
```

```
                if(m[j].compareTo(m[j + 1]) > 0)
```

```
                {
```

```
                    t = m[j];
```

```
                    m[j] = m[j + 1];
```

```
                    m[j + 1] = t;
```

```
                }
```

```
            }
```

```
        }
```

```
        System.out.println("The names in alphabetical order are");
```

```
        for(i = 0; i < 5; i++)
```

```
        System.out.println(m[i]);
```

```
    }
```

```
}
```

78. Write a program to initialise the given data in an array and find the minimum and maximum values along with the sum of the given elements.

Numbers : 2 5 4 1 3

Output : Minimum value : 1

Maximum value : 5

Sum of the elements : 15

Ans. import java.io.*;

public class Test

```
{
    public static void main(String args[])
    {
        int x[] = {2, 5, 4, 1, 3};
        int min, max, sum;
        sum = min = max = x[0];
        for(int i = 1; i <= 4; i++)
        {
            sum = sum + x [i];
            if(x [i] > max)
                max = x [i];
            if(x [i] < min)
                min = x [i];
        }
        System.out.println("Maximum No." + max + " \n Minimum No." + min + "sum of All Nos"
            + sum);
    }
}
```

79. Write a program that creates an integer array of 10 elements, accepts values for array elements from the user and displays the values.

Ans. import java.io.*;

public class ArrayDemo

```
{
    int[] anArray = new int[10];
    public void accept()throws IOException
    {
        int num;
        String str;
        BufferedReader bReader = new BufferedReader(new InputStreamReader(System.in));
        System.out.println("Enter a number and press return");
        for(int i = 0; i < anArray.length; i++)
        {
            str = bReader.readLine();
            num = Integer.parseInt(str);
            anArray[i] = num;
        }
        for(i = 0; i < anArray.length; i++)
        {
            System.out.println("Element" + (i + 1) "is : " + anArray[i]);
        }
    }
}
```

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()throws IOException
{
    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 :

- The subject average marks (subject average marks = subject total/50)
 - 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]);
}

```