

**Department of Automation & Computer-Aided Engineering****ACE 1050 Design Computing (Fall 2007)****Assignment #5 Suggested Solution****Qs 1**

// ACE1050 HW#5 Question 5.2

```
public class hw5q5_2 {
    public static void main(String[] args) {

        boolean p = false;
        boolean q = true;
        boolean r = true;
        int i = 1;
        int j = 0;

        if (p && q || !p && !q)
            System.out.println("a = true");
        else
            System.out.println("a = false");

        if (p || q && !p || !q)
            System.out.println("b = true");
        else
            System.out.println("b = false");
        /*
        if (q == 1 || 0 < 1)
            System.out.println("c = true");
        else
            System.out.println("c = false");
        */
        if (0 == 1 || true)
            System.out.println("d = true");
        else
            System.out.println("d = false");

        if (p && (q || r))
            System.out.println("e = true");
        else
            System.out.println("e = false");

        if (!p)
            System.out.println("f = true");
        else
```

```

        System.out.println("f = false");
    /*
    if (false < true)
        System.out.println("g = true");
    else
        System.out.println("g = false");

    if (j = i)
        System.out.println("h = true");
    else
        System.out.println("h = false");
    */
    System.out.println("h = " + (j = i));

    System.out.println();
    System.out.println("else cases are not compilable");
}
}

```

```

a = false
b = true
d = true
e = false
f = false
h = 1

else cases are not compilable
Press any key to continue...

```

**Qs 2**

```
/* ACE1050 HW#5 Question 5.34 */
```

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

```

public class hw5q5_34 {
    public static void main(String[] args) throws IOException {

        // displaying legend
        System.out.println("Date's Position Calculator\n");

        // set up input stream
        BufferedReader stdin = new BufferedReader(new
        InputStreamReader(System.in));

        // set day number of each month
        int m_day[] = {31, 28, 31, 30, 31, 30, 31, 31, 30, 31, 30, 31};

        // get user input
        System.out.print("Enter Year: ");
        int year = Integer.parseInt(stdin.readLine());
    }
}

```

```

// special case for leap year
if (((year % 4) == 0) && (((year % 400) == 0) || (year % 100) != 0))
    m_day[1] = 29;

System.out.print("Enter Month (1-12): ");
int month = Integer.parseInt(stdin.readLine());
System.out.print("Enter Day (1-" + m_day[month-1] + "): ");
int day = Integer.parseInt(stdin.readLine());

// implement the equation
int date = day;
for (int i = 1; i < month; i++)
    date += m_day[i-1];

// printout the results
System.out.println();
System.out.println("Date Position = " + date);
}
}

```

```

C:\ D:\Program Files\Xinox Software\JC
Date's Position Calculator
Enter Year: 2006
Enter Month (1-12): 12
Enter Day (1-31): 29
Date Position = 363
Press any key to continue...

```

**Qs 3**

```

/* ACE1050 HW#5 Question 6.23 */
import java.io.*;

```

```

public class hw5q6_23 {

    public static void main(String[] args) throws IOException {

        // set up input stream to get file name
        System.out.println("Please Input File Name:");
        BufferedReader stdin = new BufferedReader(new
        InputStreamReader(System.in));
        String name = stdin.readLine();
        System.out.println();
        System.out.println("invalid lines, start with line 1\n");

        try {
            // read file_in buffer & initialize variables

```

```

FileReader reader = new FileReader(name);
BufferedReader fileIn= new BufferedReader(reader);
String line = new String();
String telno = new String();
char telno1[] = {};
char telno2[] = {};
char telno3[] = {};
int l_count = 0;

// loop to get lines form file until file close
while ((line = fileIn.readLine()) != null) {
    // trim off begining & ending whitespace
    line = line.trim();
    // checking lines data
    boolean invalid = false;

    if (line.length() == 12)
        telno = line.substring(0, 12);
    else if (line.length() < 12)
        invalid = true;
    else if (line.indexOf(" ") != -1)
        telno = line.substring(0, line.indexOf(" "));
    else if (Character.isDigit(line.charAt(12)))
        invalid = true;
    else
        telno = line.substring(0, 12);

    if (invalid || telno.startsWith("0"))
        invalid = true;
    else if ((telno.indexOf("-", 0) != 3) || (telno.indexOf("-",
4) != 7))

        invalid = true;
    else
        invalid = false;

    if (!invalid) {
        telno1 = line.substring(0, 3).toCharArray();
        for (int i = 0; i < 3; i++)
            if (!(Character.isDigit(telno1[i])))
                invalid = true;

        telno2 = line.substring(4, 7).toCharArray();
        for (int i = 0; i < 3; i++)
            if (!(Character.isDigit(telno2[i])))
                invalid = true;
    }
}

```

```

        telno3 = line.substring(8, 12).toCharArray();
        for (int i = 0; i < 4; i++)
            if (!(Character.isDigit(telno3[i])))
                invalid = true;
    }
    // print invalid line number
    if (invalid)
        System.out.println("line " + (l_count + 1) + " is
invalid");

    l_count++;
}
System.out.println("\nFinish\n");
fileIn.close();
} catch (IOException e) {
    e.printStackTrace();
}
}
}
}

```

```

C:\ D:\Program Files\Xinox Software\JCre...
Please Input File Name:
tele.txt

invalid lines, start with line 1

line 2 is invalid
line 5 is invalid
line 6 is invalid

Finish

Press any key to continue..._

```

**Qs 4****DatafileHandler.java:**

```
// ACE1050 HW#5 Question 4
```

```
// Class DatafileHandler
```

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

```
public class DatafileHandler {
```

```

    // variables initialization
    private double max;
    private double min;
    private int n;
    private double sum = 0;
    private int zero_count = 0;
    private String m_filename;

```

```

    // constructor

```

```

public DatafileHandler(String filename) {
    try {
        FileReader reader = new FileReader(filename);
        BufferedReader fileIn= new BufferedReader(reader);
        double number;
        String line;
        n = 0;
        line = fileIn.readLine();
        n++;
        number = Double.parseDouble(line);
        sum += number;
        max = number;
        min = number;
        while ((line = fileIn.readLine()) != null) {
            n++;
            number = Double.parseDouble(line);
            sum += number;
            if (number < min)
                min = number;

            if (number > max)
                max = number;

            if (number == 0)
                zero_count++;
        }
        System.out.println("File Reading Finish\n");
        m_filename = filename;
        fileIn.close();
    } catch (IOException e) {
        e.printStackTrace();
    }
}

// Implement Class Methods
// Accessors
public String getFilename() {
    return m_filename;
}
public int getNumberOfValue() {
    return n;
}
public double getMax() {
    return max;
}
public double getMin() {

```

```

        return min;
    }
    public double getAverage() {
        return (sum / n);
    }
    public double getSum() {
        return sum;
    }
    public int getZeroCount() {
        return zero_count;
    }
}

```

**hw5Q4.java:**

```
/* ACE1050 HW#5 Question 4 */
```

```
// program to use Class DatafileHandler
```

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

```

public class hw5Q4{
    public static void main(String[] args) throws IOException {

        // set up input stream to get file name
        System.out.println("Please Input File Name:");
        BufferedReader stdin = new BufferedReader(new
InputStreamReader(System.in));
        String filename = stdin.readLine();

        DatafileHandler NewData = new DatafileHandler(filename);
        System.out.println("Filename: " + NewData.getFilename());
        System.out.println("Number of data: " + NewData.getNumberOfValue());
        System.out.println("Number of zero: " + NewData.getZeroCount());
        System.out.println("Maximum value: " + NewData.getMax());
        System.out.println("Minimum value: " + NewData.getMin());
        System.out.println("Average: " + NewData.getAverage());
    }
}

```

```

C:\ D:\Program Files\Xinox Software\JC
Please Input File Name:
assignment1score.txt
File Reading Finish

Filename: assignment1score.txt
Number of data: 55
Number of zero: 4
Maximum value: 10.0
Minimum value: 0.0
Average: 8.727272727272727
Press any key to continue..._

```