

Jack Utzerath
CST-105 9am
Exercise 4
10/17/21

Loom Video :

<https://www.loom.com/share/d9838925110f441abd218c7ad24327bb>

Text From Program:

```
/*
 * Jack Utzerath
 * CST-105 (9am)
 * Exercise 4
 * 10/17/21
 */

package nerd;

//Import java pre made classes
import java.io.File;
import java.io.FileNotFoundException;
import java.io.FileOutputStream;
import java.io.PrintWriter;
import java.math.BigDecimal;
import java.util.Random;
import java.util.Scanner;

public class Exercise4 {

    public static void main(String[] args) {

        //create random class
        Random rnd = new Random();
        try
        {
            //create the input file
            FileOutputStream fos = new FileOutputStream("input.in");
            //create instance of the printwriter class
```

```

        PrintWriter write = new PrintWriter(fos);

        //Write Random numbers to a file
        for (int i = 0; i < 1000; i++)
        {
            double randomValue = 0 + (100000-0) *rnd.nextDouble();

            write.printf("%6f ",randomValue );
        }
        //Close file
        write.close();
    }
    catch (Exception exp)
    {
        System.out.println("There was an Exception" + exp);
    }
}

```

//-----

try

```

{
    // Create an instance of the text file
    File inputFile = new File("input.in");
    // Make scanner read from file
    Scanner myReader = new Scanner(inputFile);
    //create result file
    FileOutputStream fos2 = new FileOutputStream("results.out");
    //create instance of the print file
    PrintWriter write2 = new PrintWriter(fos2);

    //Initialize the variables
    double maximum = 0, minimum = 0;
    double lastDonation = 0, lastDonation2 = 10000000;
    int numberOfDonations = 0;
    double limit = 10000000;
    double total = 0;
    double average = 0;
    boolean finished = false;

    //create while loop
}

```

```

while (myReader.hasNextDouble() && !finished) {
    // Read the line from the file

    numberOfDonations++;

    double currentDonation = myReader.nextDouble();

    total = total + currentDonation;

    average = (average + currentDonation)/2;

    if (currentDonation > lastDonation)
    {
        lastDonation = currentDonation;
        maximum = currentDonation;
    }

    if (currentDonation < lastDonation2)
    {
        lastDonation2 = currentDonation;
        minimum = currentDonation;
    }

    if (total > limit)
    {
        finished = true;
    }

}

//Convert values to BigDecimal
BigDecimal maximum2 = new BigDecimal(maximum);
BigDecimal minimum2 = new BigDecimal(minimum);
BigDecimal average2 = new BigDecimal(average);
BigDecimal total2 = new BigDecimal(total);

//Write the sentences in text file
write2.printf("It took %d contribution to reach the goal of $10,000,000\n",
numberOfDonations);
write2.printf("The maximum contribution received was $%,f\n",
maximum2);
write2.printf("The minimum contribution received was $%,f\n", minimum2);

```

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write2.printf("The average contribution was $%,f\n", average2);
write2.printf("A total of $%,f was collected", total2);

```

```

//Close the reader and writer
myReader.close();
write2.close();

```

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}
catch (FileNotFoundException e) // exception raised when there is an error

```

reading file

```

{
    System.out.println("An Error Occured");

    e.printStackTrace();
}

```

```

}

```

```

}

```

```

1  /*
2   * Jack Utzerath
3   * CST-105 (9am)
4   * Exercise 4
5   * 10/17/21
6   *
7   */
8
9  package nerd;
10
11 //Import java pre made classes
12 import java.io.File;
13 import java.io.FileNotFoundException;
14 import java.io.FileOutputStream;
15 import java.io.PrintWriter;
16 import java.math.BigDecimal;
17 import java.util.Random;
18 import java.util.Scanner;
19
20 public class Exercise4 {
21
22     public static void main(String[] args) {
23
24         //create random class
25         Random rnd = new Random();
26         try
27         {
28             //create the input file
29             FileOutputStream fos = new FileOutputStream("input.in");
30             //create instance of the printwriter class
31             PrintWriter write = new PrintWriter(fos);
32
33             //Write Random numbers to a file
34             for (int i = 0; i < 1000; i++)
35             {
36                 double randomValue = 0 + (1000000-0) *rnd.nextDouble();
37
38                 write.printf("%6f ",randomValue );
39             }
40             //Close file
41             write.close();
42         }
43         catch (Exception exp)
44         {
45             System.out.println("There was an Exception" + exp);
46         }
47     }
48 }

```

```
Exercise4.java x
42 }
43 catch (Exception exp)
44 {
45     System.out.println("There was an Exception" + exp);
46 }
47
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49 //-----
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52 try
53 {
54     // Create an instance of the text file
55     File inputFile = new File("input.in");
56     // Make scanner read from file
57     Scanner myReader = new Scanner(inputFile);
58     //create result file
59     FileOutputStream fos2 = new FileOutputStream("results.out");
60     //create instance of the print file
61     PrintWriter write2 = new PrintWriter(fos2);
62
63
64     //Initialize the variables
65     double maximum = 0, minimum = 0;
66     double lastDonation = 0, lastDonation2 = 10000000;
67     int numberOfDonations = 0;
68     double limit = 10000000;
69     double total = 0;
70     double average = 0;
71     boolean finished = false;
72
73     //create while loop
74     while (myReader.hasNextDouble() && !finished) {
75         // Read the line from the file
76
77         numberOfDonations++;
78
79         double currentDonation = myReader.nextDouble();
80
81         total = total + currentDonation;
82
83         average = (average + currentDonation)/2;
84
85         if (currentDonation > lastDonation)
86         {
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105     }
106
107     //Convert values to BigDecimal
108     BigDecimal maximum2 = new BigDecimal(maximum);
109     BigDecimal minimum2 = new BigDecimal(minimum);
110     BigDecimal average2 = new BigDecimal(average);
111     BigDecimal total2 = new BigDecimal(total);
112
113     //Write the sentences in text file
114     write2.printf("It took %d contribution to reach the goal of $10,000,000\n", numberOfDonations);
115     write2.printf("The maximum contribution recieved was $%,f\n", maximum2);
116     write2.printf("The minimum contribution recieved was $%,f\n", minimum2);
117     write2.printf("The average contribution was $%,f\n", average2);
118     write2.printf("A total of $%,f was collected", total2);
119
120
121     //Close the reader and writer
122     myReader.close();
123     write2.close();
124 }
125 catch (FileNotFoundException e) // exception raised when there is an error reading file
126 {
127     System.out.println("An Error Occured");
128     // The error is stored in e (printStackTrace() is a method).
129     // printStackTrace will pinpoint the exact line in which the method raised the
130     // exception
131     e.printStackTrace();
132 }
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