
StatsGUI

```java
import java.io.BufferedReader;
import java.io.File;
import java.io.FileReader;
import java.io.IOException;
import java.util.ArrayList;
import java.util.Collections;
import java.util.Scanner;
import java.io.FileWriter;
import java.io.BufferedWriter;

public class StatsGUI {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        // Get the input file name from the user.
        System.out.println("Enter the input file name:");
        String inputFileName = scanner.nextLine();
        // Get the output file name from the user.
        System.out.println("Enter the output file name:");
        String outputFileName = scanner.nextLine();
        // Read the data from the input file.
        ArrayList<Integer> data = readDataFromFile(inputFileName);
        // Sort the data in ascending order.
        Collections.sort(data);
        // Calculate the statistics for the data.
        int smallest = findSmallest(data);
        int largest = findLargest(data);
        int numberOfItems = data.size();
        double arithmeticMean = calculateArithmeticMean(data);
        int median = findMedian(data);
        // Print the statistics to the console.
        System.out.println("The smallest number is " + smallest);
        System.out.println("The largest number is " + largest);
        System.out.println("The number of items is " + numberOfItems);
        System.out.println("The arithmetic mean is " + arithmeticMean);
        System.out.println("The median is " + median);
        // Write the sorted data to the output file.
        writeDataToFile(data, outputFileName);
    }
    private static ArrayList<Integer> readDataFromFile(String fileName) {
        ArrayList<Integer> data = new ArrayList<>();
        try {
            FileReader fileReader = new FileReader(fileName);
            BufferedReader bufferedReader = new BufferedReader(fileReader);
            String line;
            while ((line = bufferedReader.readLine()) != null) {
                int number = Integer.parseInt(line);
                data.add(number);
            }
            bufferedReader.close();
        } catch (IOException e) {
            e.printStackTrace();
        }
        return data;
    }
```

```
    private static int findSmallest(ArrayList<Integer> data) {
        int smallest = data.get(0);
        for (int i = 1; i < data.size(); i++) {
            if (data.get(i) < smallest) {
                smallest = data.get(i);
            }
        }
        return smallest;
    }
    private static int findLargest(ArrayList<Integer> data) {
        int largest = data.get(0);
        for (int i = 1; i < data.size(); i++) {
            if (data.get(i) > largest) {
                largest = data.get(i);
            }
        }
        return largest;
    }
    private static int findMedian(ArrayList<Integer> data) {
        int middleIndex = data.size() / 2;
        if (data.size() % 2 == 0) {
            return (data.get(middleIndex - 1) + data.get(middleIndex)) / 2;
        } else {
            return data.get(middleIndex);
        }
    }
    private static double calculateArithmeticMean(ArrayList<Integer> data) {
        int sum = 0;
        for (int i = 0; i < data.size(); i++) {
            sum += data.get(i);
        }
        return sum / data.size();
    }
    private static void writeDataToFile(ArrayList<Integer> data, String fileName)
{
        try {
            FileWriter fileWriter = new FileWriter(fileName);
            BufferedWriter bufferedWriter = new BufferedWriter(fileWriter);
            for (int i = 0; i < data.size(); i++) {
                bufferedWriter.write(data.get(i) + "\n");
            }
            bufferedWriter.close();
        } catch (IOException e) {
            e.printStackTrace();
        }
    }
}
```

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------------------------------------------------------------------------
Αυτό είναι το αρχείο README του έργου. Στο αρχείο αυτό θα ήταν καλό να
περιγράψετε το έργο. Περιγράψτε στον χρήστη (κάποιον που δεν γνωρίζει
τίποτα για το έργο) ό,τι χρειάζεται να γνωρίζει. Τα σχόλιά σας θα πρέπει
περιέχουν τουλάχιστον τις παρακάτω κατηγορίες:
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ΤΙΤΛΟΣ ΕΡΓΟΥ:
ΣΚΟΠΟΣ ΤΟΥ ΕΡΓΟΥ:
ΕΚΔΟΣΗ ή ΗΜΕΡΟΜΗΝΙΑ:
ΠΩΣ ΝΑ ΤΡΕΞΕΤΕ ΤΟ ΕΡΓΟ:
ΔΗΜΙΟΥΡΓΟΙ:
ΟΔΗΓΙΕΣ ΧΡΗΣΗΣ:
```