CS 1073

FR04B

Assignment 11

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I.   Creating a Review Organizer Application:

```java
import java.util.Scanner;

/**
 * This is a driver class named StarReviewsOrganizer.
 * It reads company/product name and has list of star ratings.
 * Calculates the ratings, and, and identifies the least and
 * most frequent ratings.
 *
 * @author Ebrahim Arefi
 */

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

        Scanner sc = new Scanner(System.in);
        System.out.println("");
        System.out.print("Enter the name of the company or product for review: ");
        String nameInput = sc.nextLine();

        System.out.print("Enter the number of star reviews separated by semi-colons: ");
        String inputRev = sc.nextLine();
        int[] starTracker = new int[5];

        int sum = 0;
        int totalReviews = 0;

        for (int i = 0; i < inputRev.length(); i++) {
            char convert = inputRev.charAt(i);

            if (convert != ';') {
                int rating = convert - '0';
                starTracker[rating - 1]++;
                sum += rating;
                totalReviews++;
            }
        }
        int average = sum / totalReviews;
        int belowAvg = 0;
        for (int star = 1; star <= 5; star++) {
            if (star < average) {
                belowAvg += starTracker[star - 1];
            }
        }

        int leastStar = 1;
        int leastCount = starTracker[0];
        int mostStar = 1;
        int mostCount = starTracker[0];

        for (int star = 2; star <= 5; star++) {
            int count = starTracker[star - 1];

            if (count < leastCount) {
                leastCount = count;
                leastStar = star;
            }

            if (count > mostCount) {
                mostCount = count;
```

```
                    mostStar = star;
                }
            }

        System.out.println("\nSummary: " + nameInput);
        for (int star = 1; star <= 5; star++) {
            System.out.println(star + "-star reviews: " + starTracker[star - 1]);
        }

        System.out.println("");
        System.out.println("Average review: " + average + "stars");
        System.out.println("Number of below average reviews: " + belowAvg);
        System.out.println("Fewest reviews (" + leastCount + ") were received for: " + leastStar + "
stars");
        System.out.println("Most reviews (" + mostCount + ") were received for: " + mostStar + "
stars");
        System.out.println("");
    }
}
```

2) The sample output for Question I:

```
ebi@Ebis-MBP As11 % javac StarReviewsOrganizer.java
ebi@Ebis-MBP As11 % java StarReviewsOrganizer

Enter the name of the company or product for review: Cyberdyne Systems
Enter the number of star reviews separated by semi-colons: 3;5;5;3;4;2;1;1;5;5;3;5;3;1;3;1;5;4;3

Summary: Cyberdyne Systems
1-star reviews: 4
2-star reviews: 1
3-star reviews: 6
4-star reviews: 2
5-star reviews: 6

Average review: 3stars
Number of below average reviews: 5
Fewest reviews (1) were received for: 2 stars
Most reviews (6) were received for: 3 stars

ebi@Ebis-MBP As11 % java StarReviewsOrganizer

Enter the name of the company or product for review: Nike
Enter the number of star reviews separated by semi-colons: 1;2;3;4;5;1;2;3;4;5;

Summary: Nike
1-star reviews: 2
2-star reviews: 2
3-star reviews: 2
4-star reviews: 2
5-star reviews: 2

Average review: 3stars
Number of below average reviews: 4
Fewest reviews (2) were received for: 1 stars
Most reviews (2) were received for: 1 stars
```

```
ebi@Ebis-MBP As11 % java StarReviewsOrganizer

Enter the name of the company or product for review: Iphone
Enter the number of star reviews separated by semi-colons: 3;3;3;3;4;5;2;1;

Summary: Iphone
1-star reviews: 1
2-star reviews: 1
3-star reviews: 4
4-star reviews: 1
5-star reviews: 1

Average review: 3stars
Number of below average reviews: 2
Fewest reviews (1) were received for: 1 stars
Most reviews (4) were received for: 3 stars
```

2) Gathering and Summarizing Manufacturer Data:

```java
import java.util.Scanner;

/**
 * This is a driver class named, ManufacturerSummary.
 * It reads data from a text file using scanner.
 * Gives information about name,location,
 * number of employees and largerst Manufacturer.
 *
 * @author Ebrahim Arefi
 */

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

        Scanner sc = new Scanner(System.in);
        int numInput = sc.nextInt();
        sc.nextLine();
        Manufacturer[] store = new Manufacturer[numInput];

        for (int i = 0; i < numInput; i++) {

            String line = sc.nextLine();
            Scanner lineSc = new Scanner(line);
            lineSc.useDelimiter(",");

            String name = lineSc.next();
            String location = lineSc.next();
            int employees = lineSc.nextInt();

            store[i] = new Manufacturer(name, location, employees);
        }

        Manufacturer largest = store[0];
        for (int i = 1; i < store.length; i++) {
            if (store[i].getEmployees() > largest.getEmployees()) {
                largest = store[i];
            }
        }

        int sumEmployee = 0;
        for (int i = 0; i < store.length; i++) {
            sumEmployee += store[i].getEmployees();
        }
        int average = sumEmployee / store.length;

        System.out.println("The largest employer is " + largest.getName() + " and employs "
                + largest.getEmployees() + " people in " + largest.getLocation());
        System.out.println("");

        System.out.println("The average size of manufacturer in New Brunswick has "
                + average + " employees.");
        System.out.println("");

        System.out.println("The manufacturers that are in the same size category of the
average:");
```

```
        for (int i = 0; i < store.length; i++) {
            int employeeCount = store[i].getEmployees();

            if (Math.abs(employeeCount - average) <= 20) {
                System.out.println("\t" + store[i].getName());
            }
        }
    }
}
```

Output from Text Files:

1)

The largest employer is Brookville Manufacturing Co and employs 210 people in Saint John

The average size of manufacturer in New Brunswick has 124 employees.

The manufacturers that are in the same size category of the average:
    Michelin Tire Plant
    York Steel Inc
    Marwood Limited

----
2)

The largest employer is Ferrari Assembly and employs 210 people in Dubai

The average size of manufacturer in New Brunswick has 152 employees.

The manufacturers that are in the same size category of the average:
    Nike Factory

----
3)

The largest employer is iPhone Production and employs 265 people in Tehran

The average size of manufacturer in New Brunswick has 146 employees.

The manufacturers that are in the same size category of the average:
    UNB Research Lab
    Kuwait Robotics
```