Delta College

CST 183
Programming Assignment 7

Fall 2023
Instructor: T. Klingler

Objective

To build a complete working Java program that applies arrays and list processing.

Overview & Instruction

Write a *menu-driven* to analyze faculty review data.

The menu can be driven simply using dialog boxes but should allow the user to see data and then return to a "home" menu in case they want to retrieve information from a different query.

Your program should begin by reading in file data and store it in array(s). Be sure your program reads the files only once before allowing one or more search queries to be performed on the data. Each line of the file includes one review from one student regarding one faculty member. The data is comma-delimited and the format is:

```
{faculty_ID},{surveyResponse1},{surveyResponse2},{surveyResponse3} {surveyResponse4}
```

After the integer faculty ID, the four scores from student surveys are floating point values 0.0 … 5.0. These are defined as:

`surveyResponse1`	Quality of overall teaching
`surveyResponse2`	Instructor qualifications and knowledge level to teach subject
`surveyResponse3`	Assessment of fairness in grading
`surveyResponse4`	Overall level of recommendation of instructor

As your program launches, it should load the array(s), and offer the high-level menu that include a series of searching and/or statistical actions to summarize the information. Menu options should include:

- Prompt for a faculty ID and display faculty name and averages for all four questions from all responses
- Prompt for a faculty last name and display faculty name and averages for all four questions from all responses
- Prompt for a response questions number and return the faculty name, ID, and email receiving the highest average for that question.
- Calculate the overall average for each survey question for all instructors.
- Make up your own query and implement it along with those above.

Required files for this solution are:

Larger dataset of raw faculty review data - as defined above.	facultyReviewData.txt
Faculty ID, name, and email (white-space delimited)	faculty.txt

Perform error-checking to insure that:

- When prompted, verify that a faculty ID or last name entered by the user exists and is in the list.
- Validate that any question number prompted is 1...4.

Be sure to:

- Consider modularity in this program whether using a procedural approach or an object oriented approach.
- Utilize basic Java arrays and avoid use of "built-in" data structures such as `Map` or `ArrayList` objects.

Deliverables

Deliver the following to the online course management system **dropbox** as your final product:

- **Upload** your **source code** (.java) file

Notice

This is an individual assignment. You must complete this assignment on your own. You may not discuss your work in detail with anyone except the instructor. You may not acquire, from any source (e.g., another student or an internet site), a partial or complete solution to a problem or project that has been assigned. You may not show another student your solution to an assignment. You may not have another person (current student, former student, tutor, friend, anyone) "walk you through" how to solve the assignment.
