CS 124 Project 2

Due on Blackboard by Wednesday, February 14

For this project, you will create a C++ class for your data set and use logic from your previous project to read the data from a file into 1000+ objects. Your class should have at least 5 fields where at least one is a numerical type and at least one is a string type. You should have constructors, getters, setters, and other methods as appropriate. You also need to create a function that will go through your data and perform some kind of calculation on it.

Design

Consider the following questions:
- What should I name the class?
- What fields do I need? What are their types? What names make sense?
- Which fields and methods need comments to clarify their meaning?
- How will I store the 1000+ objects?
- What function makes the most sense to calculate on my data?

Example functions include:
- The sum, average, min, and/or max of a column
- The shortest/longest word in a column
- The number of times a specific value appears in a column

Requirements

It is recommended that you use the data and program from Project 1 as a starting point.
You must write a C++ class according to the specifications above.
You must read the data from a file and store it in 1000 objects using a C++ program.
You must create a function for reading data from a file and storing it in a vector of 1000+ objects. Pass the address of the vector to the function.
You must write a function that performs a calculation on the data and demonstrate that it works.
You must write about the decisions you made in this project: which fields and methods you chose, how you know they work correctly, what calculation function you chose to implement, why you chose it, the complexity of your methods and function, etc.
You must submit your .cpp file(s), your data file(s), and your writeup. Please submit your writeup in PDF format.

Test

Make sure your program successfully stores all 1000+ objects from your data set, and that all the methods of your class and your functions work as intended. When appropriate, use output manipulations for easy readability.

Grading

The project is out of 50 points.

5 pts	Program compiles and runs.
5 pts	Code style. Readable, naming style is consistent, comments where appropriate.
10 pts	Class satisfies requirements.
5 pts	File input works correctly and is located in a function.
5 pts	Data is stored in a vector of 1000+ objects.
5 pts	Function to perform calculation satisfies requirements.
5 pts	Methods and function are tested fully.
10 pts	Writeup satisfies requirements, is easily readable, and is professional.