cisc1110, fall 2010, assignment for unit IX

This is the assignment for unit IX, "simple classes." You are expected to complete the assignment in the C++ language and submit one "class.cpp" file. You must complete and submit the assignment on or before the due date of **December 15**. *THIS IS THE LAST ASSIGNMENT, AND THERE ARE NO EXTENSIONS!!!!!*
This assignment is worth **5 points**.

Submission instructions.

- Submit your assignment to me via email: `sklar@sci.brooklyn.cuny.edu`
- Your email subject line should be: **CISC 1110 Lab IX submission**
- Attach your C++ `class.cpp` file to your email.

Overview.

This assignment will reinforce your knowledge of simple classes and file handling. For this assignment, you will write a program that reads a data file, stores the entries read in an array of objects and computes several types of statistics on the data. Your program will include the definition and usage of a class that you will write.

Assignment Description.

Start by downloading the sample data file from the class web page (linked on the December 7 section of the syllabus page: `http://www.sci.brooklyn.cuny.edu/~sklar/cisc1110/notes/games2.dat`).
This is similar to the data file used for the previous assignment, but it contains only data (i.e., no comments).

1. Define a **class** that has four data members: *(1 point)*
   - a string containing the query
   - a real number containng the impact factor
   - a whole number containing the query popularity
   - a whole number containing the query competition index (QCI)

   and one function that prints the values of its data members.

2. Declare a **global variable** that is an array of 50 objects of the clas you defined above. Note that you will not use all 50 and so you should also have a global integer variable that stores the actual number of entries in the array. *(0.4 points)*

3. Write a function that reads data from the file (`games2.dat`) and stores it in the global array variable. Note that the file contains four columns, in order as below. The first column is a string column that contains the text of a query. The second column is a real number that contains the impact factor of the query. The third column is an integer "query popularity". The fourth column is an integer for storing the QCI. *(1 point)*

4. Write a function that displays all the data in the global array, using the class's print function that you defined above in step 1. *(1 point)*

5. Write a function that computes and returns the average impact factor. *(0.4 points)*

6. Write a function that finds and returns the query with the highest query popularity. *(0.4 points)*

7. Write a function that finds and returns the query with the lowest query popularity. *(0.4 points)*

8. Write a `main()` function that calls all of the above functions, in order as specified. *(0.4 points)*