

CS150 Assignment 7

Quiz Grade Report

Date assigned: Wednesday, November 9, 2011

Date due: Friday, November 18, 2011, 9:15am (40 points)

The results of a true-false Quiz given to a Computer Science class over the Web have been saved in a file called: **quiz7.txt**. The information available for each student consists of a student identification number and the student's answers for at most 25 true-false questions. The first line of data consists of the number of true-false answers followed by the actual answers to the Quiz where a 1 stands for true and 0 stands for false. Each subsequent line contains a student ID number and that student's answers to the Quiz. A sentinel value (9999) is placed after the last student's answers to indicate the end of the file. Do not include the sentinel value in your output.

You are to write a C++ program that will print information for each student.

The following is a sample datafile that might be used in your program:

```
10    0 1 0 0 1 0 0 1 0 1
1080  0 1 1 0 1 0 1 1 0 1
1340  0 1 0 1 0 1 1 1 0 0
1462  1 1 0 1 1 1 0 0 1 0
1512  1 0 1 0 1 0 1 0 1 0
1341  0 1 1 0 1 1 1 1 1 1
1401  1 1 0 0 1 0 0 1 1 1
1463  1 1 1 1 1 1 1 1 1 1
1464  0 1 0 0 1 0 0 1 0 1
9999  0 0 0 0 0 0 0 0 0 0
```

Your output must look exactly like the following:

```
*****
* Quiz Grade Report
*****

Student ID: 1080
Grade: 80.00%

Correct Answers:  0  1  0  0  1  0  0  1  0  1
Student Answers:  0  1  1  0  1  0  1  1  0  1
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Student ID: 1340
Grade: 50.00%

Correct Answers:  0  1  0  0  1  0  0  1  0  1
Student Answers:  0  1  0  1  0  1  1  1  0  0
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and so on.....
```

Functions

You must use the following functions:

- `void displayHeading(string heading);`
Prints the heading passed to the function (including the border of stars) to the screen.
- `void readArray(ifstream &myFile, bool quiz[], int size);`
Reads in size boolean values from myFile and stores them in the array named answers.
- `double calculateGrade(bool key[], bool answers[], int size);`
Calculates one student's grade and returns it.
- `void displayQuiz(bool quiz[], int size);`
Prints the values in the array quiz, separated by two spaces, to the screen.
- `void displayReport(string id, bool key[], bool answers[], int size, double grade);`
Prints one student's id, the student's grade, the answer key, and the student's answers to the screen.

Notes

- Minimally, a data file will consist of the first line of true/false answers, and a second line containing the sentinel value.
- I will run your program on the test data supplied and few more files, so make sure you test all border cases.

To complete this assignment you must submit the following:

1. An electronic copy of your program on Turing

- a. Add a new project named 07_QuizGrader to your previously created assignment solution called PUNetIDAssignments. It is *vital* that you name your project correctly!
- b. Type your program (fully documented/commented) into the project. You must follow the coding standards!
- c. Pay attention to the example output! Your program's output must look **exactly** like the example output! The spacing and newlines in your output must match exactly.
- d. Make sure that your program compiles and runs correctly. If you get any errors, double check that you typed everything correctly.
- e. Make sure that your program does not produce any warnings.
- f. Once you are sure that the program works correctly it is time to submit your program. You do this by logging on to Turing and placing your complete solution folder in the **CS150-02 Drop** folder. This solution folder must contain seven projects: 01_Fraction, 02_Currency, 03_Bank, 04_Retirement, 05_Hotel, 06_Craps, and 07_QuizGrader.
- g. The program must be in the drop folder by 9:15am on the day that it is due. Anything submitted after that will be considered late.

2. A hard copy of your program

- a. The hard copy must be placed on the instructor's desk by 9:15am on the day that it is due.
- b. The hard copy must be printed in color, double-sided, and stapled if necessary.
- c. Your tab size must be set to 2 and you must not go past column 80 in your output.

Good luck! And remember, if you have any problems, come and see straight away. ☺