CSC 260 Fall 2012

Assignment 2 – Introduction to C++

Due: Tuesday September 25, 2012 by 11:59 p.m.
Grade: 50 points, late penalty 10% (5 points) per day.

Objective:
The objective of this assignment is for students to develop proficiency in programming constructs, functions and arrays in C++, and working with Unix-based operating systems, the iMac workstations and IDEs.

Requirements:
Assume that you are a software engineer at GF Software Solutions, Inc. and have been given a choice of projects to work on. Review the projects below and select **one** to implement and test. Regardless of which project you choose, your program must

- Be implemented in C++ and follow best practices for software development,
- Manipulate arrays extensively, including passing them as parameters to functions,
- Implement several (more than 3) parameterized functions,
- Implement iteration constructs,
- Implement selection constructs,
- Read data from and write output to user-specified files,
- Require user interaction (from the keyboard),
- Use appropriate formatting commands to display data neatly, and
- Not use classes.
- Be compiled on the Mac OS or Linux using g++.

Project A: Be Creative.
Propose a project that interests you and that will use a reasonably complex algorithm and meet all the requirements specified above.

Submit for approval, in SOCS Dropbox "Assignment 2", a coherent, typed proposal with sufficient details of the specifications by **September 18, 2012**. Projects without prior approval will not be accepted.

Project B: Scorekeeper Module.
Assume that your company has just been awarded a contract to develop a system for The Droll Bowling Alley, and you have been assigned to develop the scorekeeper module. The details for this module can be found in Programming Problem 3 of Chapter 8 on Page 389 of the C++ textbook. This is an extension of Programming Problem 6 of Chapter 5 on Page 237. In addition to the specifications in the above programming problems, your module should meet the following requirements:

- The user should have the option to input data for varying numbers of games and players.
- The user should have the option to retrieve the score for any game or player specified.
- Before exiting the program the user should be able to view all the scores for all the games.
- Use arrays to store scores of games for several players.

- Assume that the maximum number of players recorded is 20 and the maximum number of games recorded for a player is 10.
- Assume that all information is maintained as integers, i.e. the array data type is 'int'.

Using C++ and following best practices for software development, develop and implement the program described above.

General Instructions:
Review Chapters 1 – 11 in Dale & Weems before starting to work on this project. Also review the guidelines at http://tcnjcsc340.pbworks.com/w/page/34555300/Guidelines-for-programming-assignments.

Deliverables:
1. If you choose to implement Project A, upload your proposal in the SOCS Dropbox folder 'Assignment 2' by September 18, 2012.
2. Zip together and upload to SOCS in the Dropbox folder 'Assignment 2':
   - Script showing successful compilation and execution of your program.
   - Source code for your program.
   - A "readme" text file with a description of what your program does, and instructions on using it.
   - Approved proposal with any modifications, if you chose Project A.
3. Upload to the wiki in the folder 'Assignment 2' and link on the page 'Assignment 2':
   - Script showing successful compilation and execution of your program.
   - A "readme" text file with a description of what your program does, and instructions on using it.
   - Approved proposal with any modifications, if you chose Project A.

   DO NOT POST SOURCE CODE ON THE WIKI.

Grade:
As per the rubric provided.