CSC10003 – Object Oriented Programming

Week 06
Midterm 2

Department of Software Engineering-FIT-VNU-HCMUS

1.

Notes

Create a single solution/folder to store your source code in a week.

Then, create a project/sub-folder to store your source code for each assignment.

The source code in an assignment should have at least three files:

- A header file (.h): struct definition, function prototypes/definition.
- A source file (.cpp): function implementation.
- Another source file (.cpp): named YourID_Ex01.cpp, main() function. Replace 01 with the id of an assignment.

Make sure your source code is built correctly. Use many test cases to check your code before submitting it to Moodle.

2.

Content

Lab Midterm Test

3. Assignments

It is an individual assignment.

Duration: 60 minutes.

Submit to Moodle on time.

Submission file: **<StudentID>_<SelfEvaluatingPoint>.zip**. Ex: 21127001_75.zip

Create a class to represent a football match result: name of the home team (3 characters, for example, QAT, ENG, SEN, BRA), name of the away team (3 characters), the number of goals of the home team, the number of goals of the away team. For example, QAT ECU 0 2.

Create another class, name League, containing the league name (WORLD CUP 2022, for example) and a list of matches.

1. Write methods that allow users to input the information of a league **(2.0 points)**
2. Write methods to compute the total number of goals, the total number of home-team goals, and the total number of away-team goals. **(2.0 points)**
3. Write methods that allow users to enter a team name. Compute the total points of that team (3 points for a win, 1 point for a draw, and 0 points for a loss). **(2.0 points)**
4. Write methods to sort the list of matches by total number of goals in descending orders, and then by home team name in ascending order (if 2 matches have the same number of goals). Then write methods to save the league info (league name and the sorted list of matches) to a text file (**2.0 points**)
5. Draw the class diagram showing all classes, their attributes, their methods, and their relationships. **(2.0 points)**

Remember to call these methods in the main() function.