

COSC 1560 – Computer Programming II

Assignment 12

Deadline December 8, 2023

The class Sport, and the 'main' function, developed in Assignment 11, are to be updated as follows:

- 1) The Sport class should be set-up in files Sport.h and Sport.cpp. The 'main' function should be in a file named SportMain.cpp.
- 2) A Sport class constructor should be included. This function should be declared as:

Sport(const string& n="");

which will give the user the option of passing the name of the Sport when an object is created.

- 3) A Sport destructor should be included.
- 4) Update the appropriate functions to be 'inline'.
- 5) In the Sport class, the names of the teams participating in the sport must be stored. Therefore, an additional data member is needed to store this information. *Note that the number of teams participating is stored as an existing data member, and this number may be different for each sport.*
- 6) The modifier function to set the date of the next scheduled game of a Sport should verify that the argument being passed is a valid date (*month between 1 and 12, etc.*). If the data is not valid then it should be set to January 1, 2000.
- 7) The modifier for the number of teams participating in a Sport should verify that the argument being passed is a valid number. If it is a negative number then the number of teams participating in the Sport should be set to 5.
- 8) The 'populate' function should call the modifier functions to set all data members of the Sport.
- 9) The 'display' function should call the access functions to return all data members of the Sport.
- 10) Remove 'using namespace std' from the Sport.h file, and update the code as needed.
- 11) Include header files in an appropriate order in each file.

Then the following tasks should be performed when using this class:

- 12) The user should be asked how many Sports need to be processed (*instead of 3 as in the previous assignment*). An array of the appropriate size should be created.
- 13) Create a function called 'averageNumTeams' to take an array of Sport as an argument, and the number of objects in the array. Within this function display the average number of teams participating in all Sports in the array.
- 14) Create a function called 'displaySports' to take an array of Sport as an argument, and the number of objects in the array. Within the function display each Sport. *Remember that there is a 'display' member function in the Sport class.*

THE DEPARTMENT STANDARDS FOR “STYLE GUIDELINES” SHOULD BE FOLLOWED IN ALL CODE.