

COSC 1560 – Computer Programming II

Assignment 11

Deadline May 6, 2022

A class is required to manage information about a Sport. 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.

Data required for a Sport is as follows:

```
string name;  
    //Name of the sport  
Date nextGame;  
    // Date of the next scheduled game in the sport (day, month, year)  
int numTeams;  
    // Number of teams participating in the sport  
string* teamNames;  
    // Names of teams participating in the sport
```

The required class member functions are as shown below. One-line member functions should be defined as 'inline'.

- i) A constructor' to take the name of the sport as an argument:
 Sport(const string& n = "");
- ii) A 'destructor' that will delete any dynamically allocated members:
 ~Sport();
- iii) The following 'access' and 'modifier' functions should be included:
 string getName() const;
 void setName(const string& n);
 Date getDate() const;
 void setDate(const Date& d);
 int getNumTeams() const;

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.

- iv) A function to display information about a Sport, in a well-formatted manner. The 'display' function should call the 'access' functions to return the data members of the Sport.

`void display() const;`

- v) A function to allow a user to populate all information in a Sport. The 'populate' function should call the 'modifier' functions to set data members of the Sport.

`void populate();`

- vi) A function to add another team which is playing this sport. This function will update 'numTeams' and will also update the array that contains the names of the teams participating in the sport.

`void addTeam(const string& n);`

In the 'main' file, create a function called 'displaySports' to take an array of Sport as an argument, and the number of sports in the array. This function should display all sports in a well-formatted way.

In the 'main' function, the user should initially be asked how many Sports need to be processed. An array of the appropriate size should be created, and the user should populate all sports. Then, within the 'main' function, provide the following options:

- a) Display all Sports
- b) Add a team to an existing Sport
- c) Display a particular Sport
- d) Display the Sport that has the highest number of teams playing
- e) Exit

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