PROJECT-8

Tasks

Write a program that models a soccer league and keeps track of the season's statistics. Carefully consider what data should be stored in an array and what data should be stored in an ArrayList. Design classes with fields and methods based on the description of the league. You'll also need a test class that contains a main method. All fields must be private. Provide any necessary getters and setters.

Teams

Each team has a name. The program should also keep track of each team's win-total, loss-total, tie-total, total goals scored, and total goals allowed. Create an array of teams that the scheduler will manage.

Print each team's statistics when the season ends.

Games

In a game, it's important to note each team's name, each team's score, and the temperature that day. Number each game with integer ID number. This number increases as each game is played. Keep track of every game played this season. This class stores an ArrayList of all games as a field.

Your program should determine scores at random. The maximum number of goals any one team can score should increase proportionally with the temperature. But make sure these numbers are somewhat reasonable.

When the season ends, print the statistics of each game. Print the hottest temperature and average temperature for the season.

Scheduler

Accept user input through a JOptionPane or Scanner. While the application is running, ask the user to input a temperature. The program should not crash because of user input. If it's warm enough to play, schedule 2 games. Opponents are chosen at random. Make sure teams aren't scheduled to play against themselves. If there are 3 consecutive weeks of freezing temperatures, the season is over.

```
import java.util.ArrayList;
class Team {
   private String name;
   private int gamesPlayed;
   private int goalsScored;
   private int goalsConceded;
   public Team(String name) {
      this.name = name;
      this.gamesPlayed = 0;
      this.goalsScored = 0;
      this.goalsConceded = 0;
   }
   public String getName() {
      return name;
   }
   public int getGamesPlayed() {
      return gamesPlayed;
   }
   public void setGamesPlayed(int gamesPlayed) {
      this.gamesPlayed = gamesPlayed;
   }
```

```
    public int getGoalsScored() {
        return goalsScored;
    }
    public void setGoalsScored(int goalsScored) {
        this.goalsScored = goalsScored;
    }
    public int getGoalsConceded() {
        return goalsConceded;
    }
    public void setGoalsConceded(int goalsConceded) {
        this.goalsConceded = goalsConceded;
    }
}
public class SoccerLeague {
    private ArrayList<Team> teams;

    public SoccerLeague() {
        teams = new ArrayList<>();
    }
    public void addTeam(Team team) {
        teams.add(team);
    }

    public void displayTeams() {
        for (Team team : teams) {
            System.out.println("Team: " + team.getName() + " - Games Played: " + team.getGamesPlayed()
+
                    " - Goals Scored: " + team.getGoalsScored() + " - Goals Conceded: " +
team.getGoalsConceded());
        }
    }

    public static void main(String[] args) {
        SoccerLeague league = new SoccerLeague();

        Team team1 = new Team("Team A");
        team1.setGamesPlayed(5);
        team1.setGoalsScored(12);
        team1.setGoalsConceded(8);

        Team team2 = new Team("Team B");
        team2.setGamesPlayed(4);
        team2.setGoalsScored(10);
        team2.setGoalsConceded(6);

        league.addTeam(team1);
        league.addTeam(team2);
```

```
        league.displayTeams();
    }
}
```