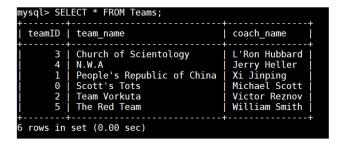
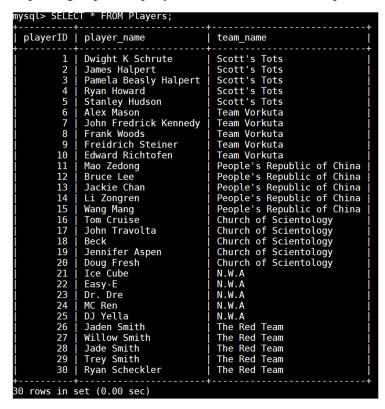
Daniel Pietz and Andrea Gray Files and Database Systems CS317 Assignment #3 – **Soccer Database** 

- [1] Create a database, like the Access database, with the following criteria:
  - **a.** There must be at least six teams



**b.** Each team must have at least five players

As the tables can be our design, and the query outputs were approved by Dr. VanHilst when presented by Daniel Pietz on Friday September 27<sup>th</sup>, 2019, the player name is one key and is not separated into two separate keys for first and last name. This design feature is supported by the assignment questions not requesting a specific query or table creation that uses specifically only the first or last name of a player.



c. There must be games and a game schedule such that each team plays each other team exactly once

The games to be played along with their scheduled date and time are all elements of the Games table. This table also contains an area for logging who won the game once it has been played (which will be in #5).

mysql> select * from Games;						
gameID	homeTeam	awayTeam	gameTime	homeWin	awayWin	
0 1 2 3 4 5 6 7 8 9 10	The Red Team The Red Team The Red Team The Red Team Team Vorkuta Scott's Tots N.W.A People's Republic of China People's Republic of China Scott's Tots Church of Scientology Team Vorkuta N.W.A	Team Vorkuta People's Republic of China N.W.A N.W.A Scott's Tots	2019-09-07 09:00:00 2019-09-07 10:00:00 2019-09-07 11:00:00 2019-09-07 12:00:00 2019-09-07 10:00:00 2019-09-07 12:00:00 2019-09-07 12:00:00 2019-09-07 11:00:00 2019-09-07 11:00:00 2019-09-14 13:00:00 2019-09-14 14:00:00	NULL NULL NULL NULL NULL NULL NULL NULL	NULL   NULL	
12   13   14 +	Church of Scientology Church of Scientology Scott's Tots	Team Vorkuta Scott's Tots Team Vorkuta	2019-09-14 14:00:00 2019-09-14 13:00:00 2019-09-14 08:00:00	NULL   NULL   NULL	NULL   NULL   NULL	
15 rows in set (0.00 sec)						

**d.** The schedule must associate two teams with each game and designate one of the two as the host and therefore responsible for bringing the after-game snacks

The host is identified in the query above under the column entitled: homeTeam

**e.** Assignment as the host must be evenly distributed to the teams such that the difference between host games of team with most games as host and host games of team with fewest games as host is not bigger than two, but ideally being one.

	Times as the Host	Times as the Visitor
The Red Team	3	2
Team Vorkuta	2	3
Scott's Tots	3	2
N.W.A.	2	3
People's Republic of China	2	3
Church of Scientology	3	2

As can be seen from the table above, the three teams that have the most games spent as host are The Red Team, Scott's Tots, and the Church of Scientology with three games as host each. The subsequent teams with the least amount of games served as host are Team Vorkuta, N.W.A., and the People's Republic of China each hosting only two games each. The maximum number of games hosted is three while the minimum is two which leaves the difference in the limits the ideal value of one.

**f.** Tables must not replicate data unnecessarily, which is to say that any data that appears in more than one table that must be a primary or candidate key in at least one table and represent a foreign key in any other table where it appears.

The Teams table includes the keys of teamID, team\_name, and coach\_name; the teamID is the primary key and the team\_name links the Teams table to the other tables. The Players table includes the keys playerID, player\_name, and team\_name; the playerID is the primary key and the team\_name links the Players table to the other two tables. The Games table includes the keys gameID, homeTeam, awayTeam, gameTime, homeWin, and awayWin; the gameID is the primary key and, like the other two tables, has the team's unique names, listed as the team\_name key, under the homeTeam and the awayTeam linking this table to the other two. No other data is duplicated other than the necessary team\_name key for all tables.

[2] Submit complete sql code in the form of a file with a .sql suffix, that will create and populate all of your soccer league tables

The .sql file is attached along with this document under the file name: GrayPietz\_HW3\_Q2\_CS317.sql

[3] Submit complete sql code in the form of a file with a .sql suffix that will remove all of your soccer league tables

The .sql file is attached along with this document under the file name: GrayPietz HW2 Q3 CS317.sql

- [4] Put the following queries in a third .sql file and show output
  - **a.** A query generating a table with player name, team name, and team coach name

Since the question is vague on whether it wants a table for all players or a specific player, both are included in the third .sql file (named: GrayPietz\_HW3\_Q4\_CS317.sql) and within the outputs below. The first output is for all players and the second is for a specific player, which in this case was chosen as Willow Smith.

```
nysql> SELECT Players.player_name, Teams.team_name, coa
-> Players INNER JOIN Teams ON Players.team_name =
                                          Teams.team name, coach name FROM
                                                                   Teams.team name;
  player_name
                               team_name
                                                                   coach name
                               Church of Scientology
Church of Scientology
Church of Scientology
  Tom Cruise
                                                                   L'Ron Hubbard
                                                                   L'Ron Hubbard
  John Travolta
  Beck
                                                                   L'Ron Hubbard
                               Church of Scientology
Church of Scientology
  Jennifer Aspen
                                                                   L'Ron Hubbard
  Doug Fresh
Ice Cube
                                                                   L'Ron Hubbard
                                                                   Jerry Heller
                               N.W.A
                                                                   Jerry Heller
Jerry Heller
  Easy-E
Dr. Dre
                               N.W.A
                               N.W.A
                                                                   Jerry Heller
     Ren
                                                                   Jerry Heller
Xi Jinping
  DJ Yella
                               N.W.A
                               People's Republic of China
  Mao Zedong
                               People's Republic of China
  Bruce Lee
                                                                   Xi Jinping
                               People's Republic of China
People's Republic of China
                                                                   Xi Jinping
  Jackie Chan
                                                                   Xi Jinping
  Li Zongren
                               People's Republic of China
  Wang Mang
                                                                   Xi Jinping
                               Scott's Tots
Scott's Tots
  Dwight K Schrute
                                                                   Michael Scott
  James Halpert
                                                                            Scott
                                                                   Michael
                               Scott's Tots
                                                                   Michael Scott
  Pamela Beasly Halpert
                               Scott's
                                                                   Michael Scott
  Ryan Howard
                                         Tots
                               Scott's
  Stanley Hudson
                                                                   Michael Scott
                                         Tots
  Alex Mason
                               Team Vorkuta
                                                                   Victor Reznov
  John Fredrick Kennedy
                               Team Vorkuta
                                                                   Victor Reznov
                               Team Vorkuta
                                                                   Victor Reznov
  Frank Woods
  Freidrich Steiner
                               Team Vorkuta
                                                                   Victor Reznov
  Edward Richtofen
                               Team Vorkuta
                                                                   Victor Reznov
  Jaden Smith
                               The Red Team
                                                                   William Smith
                                                                   William Smith
  Willow Smith
                               The Red
                                        Team
  Jade Smith
Trey Smith
                               The Red
                                         Team
                                                                   William Smith
                                                                   William Smith
                                    Red
                               The
                                         Team
  Ryan Scheckler
                               The Red Team
                                                                   William Smith
30 rows in set (0.00 sec)
```

**b.** Queries capable of generating the tables shown on the assignment expectations document

The queries for the regeneration of the tables shown are shown in the attached file (named: GrayPietz\_HW3\_Q4\_CS317.sql) with their respective outputs shown below.

```
SELECT * FROM (SELECT player_name, gameTime, 1 AS snack FROM (Games INNER JOIN Players ON Games.homeTeam = Players.team_name)
        -> WHERE homeTeam IN (SELECT team_name FROM Players) UNION SELECT
        -> player_name, gameTime, 0 AS snack FROM (Games INNER JOIN Players ON -> Games.awayTeam = Players.team_name) WHERE awayTeam IN (SELECT -> team_name FROM Players)) AS table1 WHERE player_name = 'Willow Smith'
        -> ORDER BY gameTime;
                                      gameTime
                                                                                           snack
   player_name |
   Willow Smith
                                       2019-09-07 08:00:00
                                                                                                     1
1
1
                                      2019-09-07 09:00:00
2019-09-07 10:00:00
  Willow Smith
Willow Smith
   Willow Smith
                                       2019-09-07 11:00:00
                                                                                                     0
                                       2019-09-07 12:00:00
   Willow Smith
                                                                                                     0
   rows in set (0.00 sec)
             SELECT * FROM (SELECT player_name, awayTeam AS against, gameTime AS be_there, 1 AS snack FROM (Games INNER JOIN Players ON Games.homeTeam
       -> be there, I AS snack FROM (Games INNER JUIN Players ON Games.homeleam
-> Players.team_name) WHERE homeTeam IN (SELECT team_name FROM Players)
-> UNION SELECT player_name, homeTeam AS against, gameTime, 0 AS snack
-> FROM (Games INNER JOIN Players ON Games.awayTeam = Players.team_name)
-> WHERE awayTeam IN (SELECT team_name FROM Players)) AS table1 WHERE
-> player_name = 'Willow Smith' ORDER BY be_there;
                                      against
   player_name
                                                                                                          be_there
                                                                                                                                                              snack
                                                                                                          2019-09-07 08:00:00
2019-09-07 09:00:00
   Willow Smith
                                      People's Republic of China
                                                                                                                                                                        1
   Willow Smith
                                      N.W.A
                                                                                                                                                                        1
   Willow Smith
                                                                                                                                                                        1
                                      Church of Scientology
                                                                                                           2019-09-07 10:00:00
   Willow Smith
                                       Team Vorkuta
                                                                                                           2019-09-07 11:00:00
                                                                                                                                                                        0
   Willow Smith
                                      Scott's Tots
                                                                                                          2019-09-07 12:00:00
                                                                                                                                                                        0
   rows in set (0.00 sec)
nysql> SELECT player_name, against, gameTime AS be_there, snack, coach_name
-> AS lead_by FROM (SELECT Players.player_name, against, gameTime, snack,
-> team_name FROM (SELECT * FROM (SELECT player_name, awayTeam AS
-> against, gameTime, 1 AS snack FROM (Games INNER JOIN Players ON
-> Games.homeTeam = Players.team_name) WHERE homeTeam IN (SELECT team_name
-> FROM Players) UNION SELECT player_name, homeTeam AS against, gameTime,
-> 0 AS snack FROM (Games INNER JOIN Players ON Games.awayTeam =
-> Players.team_name) WHERE awayTeam IN (SELECT team_name FROM Players)) AS
-> table1 WHERE player_name = 'Willow Smith' ORDER BY gameTime) AS table2
-> INNER JOIN Players ON table2.player_name = Players.player_name) AS
-> table3 INNER JOIN Teams ON table3.team name = Teams.team_name;
             table3 INNER JOIN Teams ON table3.team_name = Teams.team_name;
   player_name
                                against
                                                                                                      be_there
                                                                                                                                                        snack |
                                                                                                                                                                          lead_by
```

[5] Extra credit if you can create a table that shows the win, tie, and loss record of each team in a single query (no stored partial results) on your original tables (Hint: you may want to use the UNION operator and subqueries for this one.)

2019-09-07

2019-09-07

2019-09-07 08:00:00

2019-09-07 10:00:00

2019-09-07 12:00:00

09:00:00

11:00:00

William Smith

William Smith

William Smith

William Smith

William Smith

Will be submitted at a later time. Almost finished!

People's Republic of China

Church of Scientology

N.W.A

Team Vorkuta Scott's Tots

Willow Smith

Willow Smith

Willow Smith

Willow Smith Willow Smith

rows in set (0.12 sec)