Course: Database management
Unit: Intermediate SQL 2
Assignment: Mini-league
Teamwork: Groups of two or three

1. Create a database with name "MiniPremiereLeague" and use it in the next exercises.

2. Create the following table using MariaDB/MySQL and engine InnoDB:
TEAMS (tid, tname, tyear)
Explanation:
- It's a table to store data about football teams.
- Fields:

  🌕 tid: **Primary Key** of the table.

  🌕 tname: Name of the football team. This field must be **NOT NULL** and **unique**.

  🌕 tyear: Year of creation of the team. This year must be **higher than 1875**.

Very Important: Before MariaDB 10.2.1 constraint expressions were accepted in the syntax but ignored. https://mariadb.com/kb/en/library/constraint/

3. Create the following table using MariaDB/MySQL and engine InnoDB:
MATCHES (mid, mtidhome*, mtidaway*, mgoalshome, mgoalsaway, mdate)
Explanation:
- It's a table to store data about football teams.
- Fields:

  🌕 mid: Primary Key of the table.

  🌕 mtidhome: ID of the team playing at home. It's a **Foreign Key**. If the registry
    with the **primary key** is **deleted** in the referenced table you muset set NULL
    values, but if it's **updated** the foreign key must be updated on cascade.

  🌕 mtidaway: ID of the team playing as visitor. It's a **Foreign Key**. If the registry
    with the **primary key** is **deleted** in the referenced table you muset set NULL
    values, but if it's **updated** the foreign key must be updated on cascade.

  🌕 mgoalshome: Number of goals scored as local team. **Default value** must be
    0.

  🌕 mgoalsaway:Number of goals scored as visitor. **Default value** must be **0**.

  🌕 mdate: Date of the match. This field must be **NOT NULL**.

4. Insert the following data inside TEAMS:

1	Arsenal	1886
2	Chelsea	1905

3	Liverpool	1892
4	Manchester City	1880
5	Manchester United	1878
6	Tottenham Hotspur	1882

Clue: Make an Excel file to generate the queries:

fx =CONCATENAR("INSERT INTO TEAMS VALUES (";A1;",'";B1;"', ";C1;");")

	B	C	D	E	F	G	H	I
1	Arsenal	1886	INSERT INTO TEAMS VALUES (1,'Arsenal', 1886);					
2	Chelsea	1905	INSERT INTO TEAMS VALUES (2,'Chelsea', 1905);					
3	Liverpool	1892	INSERT INTO TEAMS VALUES (3,'Liverpool', 1892);					
4	Manchester	1880	INSERT INTO TEAMS VALUES (4,'Manchester City', 1880);					
5	Manchester	1878	INSERT INTO TEAMS VALUES (5,'Manchester United', 1878);					
6	Tottenham H	1882	INSERT INTO TEAMS VALUES (6,'Tottenham Hotspur', 1882);					

5. Insert the following data inside MATCHES:

1	2	5	0	0	12/11/2016
2	3	6	2	2	12/11/2016
3	4	1	1	3	13/11/2016
4	1	3	1	3	20/11/2016
5	5	4	2	2	20/11/2016
6	6	2	3	1	21/11/2016
7	2	1	0	1	27/11/2016
8	3	4	1	0	27/11/2016
9	6	5	2	2	28/11/2016
10	1	6	3	3	3/12/2016
11	3	5	2	2	3/12/2016
12	4	2	1	0	4/12/2016
13	2	3	1	0	10/12/2016
14	5	1	0	1	10/12/2016
15	6	4	1	1	11/12/2016
16	5	2	1	2	7/1/2017
17	6	3	2	1	7/1/2017

18	1	4	1	2	8/1/2017
19	3	1	0	1	14/1/2017
20	4	5	1	0	14/1/2017
21	2	6	0	0	15/1/2017
22	1	2	0	0	21/1/2017
23	4	3	5	1	21/1/2017
24	5	6	1	2	22/1/2017
25	6	1	2	1	4/2/2017
26	5	3	3	1	4/2/2017
27	2	4	3	1	5/2/2017
28	3	2	2	2	11/2/2017
29	1	5	1	0	11/2/2017
30	4	6	1	1	12/2/2017
31	5	2	0	1	18/11/2017
32	4	1	0	0	18/11/2017
33	3	6	0	0	19/11/2017
34	6	4	6	0	25/11/2017
35	2	3	3	1	25/11/2017
36	1	5	1	1	26/11/2017
37	5	6	1	2	2/12/2017
38	4	3	3	0	2/12/2017
39	1	2	2	0	3/12/2017
40	6	1	1	0	9/12/2017
41	4	2	1	1	9/12/2017
42	3	5	3	1	10/12/2017
43	5	4	2	1	16/12/2017
44	2	6	1	1	16/12/2017
45	1	3	0	0	17/1/2018
46	2	5	2	0	13/1/2018

47	1	4	1	1	14/1/2018
48	6	3	1	1	14/1/2018
49	4	6	2	1	20/1/2018
50	3	2	3	0	21/1/2018
51	5	1	1	0	21/1/2018
52	6	5	1	0	27/1/2018
53	3	4	3	3	28/1/2018
54	2	1	1	0	28/1/2018
55	1	6	0	2	3/2/2018
56	2	4	1	0	4/2/2018
57	5	3	2	1	4/2/2018
58	4	5	3	2	10/2/2018
59	6	2	2	3	11/2/2018
60	3	1	1	0	11/2/2018

Clue: Make an Excel file to generate the queries:

```
fx  =CONCATENAR("INSERT INTO MATCHES VALUES (";A1;", ";B1;", ";C1;", ";D1;", ";E1;", '";CONCATENAR(AÑO(F1);"-";MES(F1);"-";DIA(F1));"');")
```

	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	2	5	0	0	12/11/16	INSERT INTO MATCHES VALUES (1, 2, 5, 0, 0, '2016-11-12');								
2	3	6	2	2	12/11/16	INSERT INTO MATCHES VALUES (2, 3, 6, 2, 2, '2016-11-12');								
3	4	1	1	3	13/11/16	INSERT INTO MATCHES VALUES (3, 4, 1, 1, 3, '2016-11-13');								
4	1	3	1	3	20/11/16	INSERT INTO MATCHES VALUES (4, 1, 3, 1, 3, '2016-11-20');								
5	5	4	2	2	20/11/16	INSERT INTO MATCHES VALUES (5, 5, 4, 2, 2, '2016-11-20');								
6	6	2	3	1	21/11/16	INSERT INTO MATCHES VALUES (6, 6, 2, 3, 1, '2016-11-21');								

6. Select the number of matches per team at home and away. Clue: Divide and conquer.

```
+-------------------+---------------+----------------+
| tname             | NMatchesLocal | NMatchesVisitor |
+-------------------+---------------+----------------+
| Arsenal           |            10 |             10 |
| Chelsea           |            10 |             10 |
| Liverpool         |            10 |             10 |
| Manchester City   |            10 |             10 |
| Manchester United |            10 |             10 |
| Tottenham Hotspur |            10 |             10 |
+-------------------+---------------+----------------+
6 rows in set (0.004 sec)
```

7. DANGER (for PROS): Show me the classification of the league for the season 2016/2017.

```
+---------------------+--------+------+-------+------+------+------+------+
| TeamName            | Points | Won  | Drawn | Lost | GF   | GA   | GD   |
+---------------------+--------+------+-------+------+------+------+------+
| Tottenham Hotspur   |     28 |    7 |     7 |    0 |   27 |   14 |   13 |
| Arsenal             |     22 |    6 |     4 |    4 |   16 |   13 |    3 |
| Chelsea             |     20 |    5 |     5 |    4 |   14 |   13 |    1 |
| Manchester City     |     20 |    5 |     5 |    4 |   19 |   20 |   -1 |
| Liverpool           |     13 |    3 |     4 |    7 |   17 |   26 |   -9 |
| Manchester United   |      8 |    1 |     5 |    8 |   14 |   21 |   -7 |
+---------------------+--------+------+-------+------+------+------+------+
6 rows in set (0.004 sec)
```
Points: Won*3 + Drawn*1

GF: Goals For, sometimes used in place of GS (Goals Scored).

GA – Goals Against (i.e., number of goals conceded by a team).

GD – Goal Difference (i.e., difference between GF and GA, and sometimes denoted by +/-).

Clue: You can use CASE or IF.

8. DANGER (for PROS): Show me the classification of the league for the season 2017/2018.

```
+---------------------+--------+------+-------+------+------+------+------+
| TeamName            | Points | Won  | Drawn | Lost | GF   | GA   | GD   |
+---------------------+--------+------+-------+------+------+------+------+
| Chelsea             |     20 |    6 |     2 |    2 |   13 |   10 |    3 |
| Tottenham Hotspur   |     18 |    5 |     3 |    2 |   17 |    8 |    9 |
| Liverpool           |     13 |    3 |     4 |    3 |   13 |   13 |    0 |
| Manchester City     |     13 |    3 |     4 |    3 |   14 |   17 |   -3 |
| Manchester United   |     10 |    3 |     1 |    6 |   10 |   15 |   -5 |
| Arsenal             |      7 |    1 |     4 |    5 |    4 |    8 |   -4 |
+---------------------+--------+------+-------+------+------+------+------+
6 rows in set (0.004 sec)
```
Points: Won*3 + Drawn*1

GF: Goals For, sometimes used in place of GS (Goals Scored).

GA – Goals Against (i.e., number of goals conceded by a team).

GD – Goal Difference (i.e., difference between GF and GA, and sometimes denoted by +/-).

Clue: You can use CASE or IF.

9. What does it happen if you delete the team with id 1 in the table TEAMS?

10. Alter the relation "MATCHES" to avoid deleting teams if they are in use in the table matches (drop them and insert them again with the new values).

11. Try to delete now the team with id 1 in the table TEAMS and see what happens.

12. Can you disable (and enable) foreign key checks temporary? (Surf the web to answer this question).

13. Changes the primary key of the teams to:
   ● 'ARS' = Arsenal
   ● 'CHE' = Chelsea
   ● 'LIV' = Liverpool

- 'MCI' = Manchester City
- 'MUN' = Manchester United
- 'TOT' = Tottenham Hotspur

What you should do with the foreign keys?