

Course: Database management  
Unit: Intermediate SQL 2  
Test

Connect to mariadb as root user

Load the exam.sql script

1. (0.5) Add primary keys and foreign keys to the tables. It must not be possible to delete the teams that are referenced in the MATCHES table. It must be possible to update the id's of the teams that are referenced in the matches table.

```
mysql> alter table TEAMS add primary key (tid);  
Query OK, 0 rows affected (0.04 sec)  
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> alter table MATCHES add primary key (mid);  
Query OK, 0 rows affected (0.04 sec)  
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> alter table MATCHES add foreign key (mtidhome) references TEAMS (tid) on delete  
restrict on update set null;  
Query OK, 60 rows affected (0.05 sec)  
Records: 60 Duplicates: 0 Warnings: 0
```

```
mysql> alter table MATCHES add foreign key (mtidaway) references TEAMS (tid) on delete  
restrict on update set null;  
Query OK, 60 rows affected (0.05 sec)  
Records: 60 Duplicates: 0 Warnings: 0
```

2. (0.5) Create a user with your name identified by a password of your choice.

```
mysql> create user 'jbarcelo'@'%' identified by 'secret';  
Query OK, 0 rows affected (0.00 sec)
```

3. (0.5) Create a role named student

```
mysql> create role student;  
Query OK, 0 rows affected (0.00 sec)
```

4. (0.5) Grant select, update permissions on all the tables of the database to the role you created.

```
mysql> grant select, update on MiniPremierLeague.* to 'student';
```

Query OK, 0 rows affected (0.00 sec)

5. (0.5) Grant the student role to your user

```
mysql> grant student to jbarcelo;
```

Query OK, 0 rows affected (0.00 sec)

6. (0.5) Connect to the database using your user. Activate the student role.

```
jbarcelo@cloudshell:~$ mysql -ujbarcelo -h 172.18.0.2 -p
```

Enter password:

```
mysql> set role student;
```

Query OK, 0 rows affected (0.00 sec)

7. (3) For each team, compute the number of matches that the team has scored 0 goals in the season 16-17. Order the results from the smaller to the larger.

```
mysql> select tid, tname, (select count(*) from MATCHES where mtidhome=tid and
mgoalshome=0 and mid between 1 and 30) + (select count(*) from MATCHES where
mtidaway=tid and mgoalsaway=0 and mid between 1 and 30) as zeros from TEAMS order by
zeros;
```

tid	tname	zeros
1	Arsenal	1
4	Manchester City	1
6	Tottenham Hotspur	1
3	Liverpool	2
5	Manchester United	4
2	Chelsea	5

6 rows in set (0.00 sec)

8. (1) Design a query that computes the time difference in years, months, and days between the first match and the last match of the database.

The query should work even if the dates of the matches change.

```
mysql> select date_format(from_days(to_days(max(mdate))-to_days(min(mdate))), '%y years,
%m months and %d days') as time from MATCHES;
```

time
01 years, 04 months and 01 days

```
+-----+
1 row in set (0.00 sec)
```

9. (1) Design a query that adds one month and ten days to the dates of all the matches of the database.

```
mysql> update MATCHES set mdate=mdate+interval 1 month + interval 10 day;
Query OK, 60 rows affected (0.00 sec)
Rows matched: 60  Changed: 60  Warnings: 0
```

10. (1) Design a query to return the number of days in which more than one match was played.

```
mysql> with mdate_no_matches as (select mdate, count(*) as no_matches from MATCHES
group by mdate having no_matches>1) select count(*) days_with_more_than_1_match
from mdate_no_matches;
+-----+
| days_with_more_than_1_match |
+-----+
|                20          |
+-----+
1 row in set (0.00 sec)
```