1. How many players are record in the table Player?

總共有多少球員被記錄在 table Player 中？

SQL : `select count(*) from Player;`

TIME : 0.007 sec

ANS : 11060

2. How many matches are record in the table from season 2008/2009 to season 2011/2012?Please use **between** syntax.

從 2008/2009 賽季到 2011/2012 賽季，一共進行了多少場比賽?請用between 語法。

SQL:

`SELECT COUNT(*) FROM Match t WHERE t.season BETWEEN '2008/2009' AND '2011/2012';`

TIME : 0.085

ANS : 13036

3. What is the number of players who born in 1992. Please use *like* syntax.

一共有多少球員出生在 1992 年?請用like 語法。

SQL: `SELECT COUNT(*) FROM Player p where p.birthday LIKE '1992%';`

TIME : 0.009

ANS : 643

4. Which players have the best in heading accuracy?If the number of them is over 10，list 10 of them and the total count.

哪些球員的頭球水平最高?如果超過 10，列出總數量，並列出 10 位名字。

SQL:

```
sqlite> select count(p.player_name) from Player p Where (p.player_api_id , p.player_fifa_api_id) in
   ...> (select p1.player_api_id , p1.player_fifa_api_id from Player_Attributes p1
   ...> where p1.heading_accuracy in (select max(heading_accuracy) from Player_Attributes)) ;
1
Run Time: real 0.413 user 0.171875 sys 0.234375
sqlite> select p.player_name from Player p Where (p.player_api_id , p.player_fifa_api_id) in
   ...> (select p1.player_api_id , p1.player_fifa_api_id from Player_Attributes p1
   ...> where p1.heading_accuracy in (select max(heading_accuracy) from Player_Attributes)) ;
Nikola Zigic
Run Time: real 0.356 user 0.218750 sys 0.140625
```

TIME: 0.284

ANS: 1 , Nikola Zigic

5. please count the average ball control ability of all players.

請計算出球員們的平均控球能力。

SQL :
```
select avg(ball_control) from Player_Attributes;
```

TIME:0.103

ANS: 63.3888785750947

6. What is the range of crossing ability of the players whose attacking_work_rate is medium?

進攻效率評價為中等(medium)的球員的過人能力範圍是多少（crossing 最低值

和最高值）

SQL:
```
sqlite> select distinct p2.crossing from Player_Attributes p2 where
   ...> p2.crossing in (select max(p3.crossing) from Player_Attributes p3 where
   ...> p3.attacking_work_rate = 'medium') or p2.crossing in
   ...> (select min(p4.crossing) from Player_Attributes p4 where p4.attacking_work_rate = 'medium');
95
1
Run Time: real 0.398 user 0.203125 sys 0.171875
```

TIME: 0.398

ANS: 95~1

7. Which one's overall rating is higher, the players prefer to right foot or left foot?

左腳球員整體評價更高，還是右腳球員整體評價更高？

SQL:

```
sqlite> select p.preferred_foot , avg(p.overall_rating) from Player_Attributes p Group by p.preferred_foot ;
|
left|68.6261820132788
right|68.5915583524193
Run Time: real 0.252 user 0.156250 sys 0.093750
```

TIME:0.252

ANS: 左腳球員整體評價比較高

8. Which players have the highest potential who are born after 1992. If the number of them is over 10, list 10 of them and the total count.

出生在 1992 年之後的球員,潛力最大的球員是哪一些？如果超過 10，列出總數量，並列出 10 位名字。

SQL:

```
sqlite> select count(*) from Player p3 where p3.birthday > 1992
   ...> and (p3.player_fifa_api_id , p3.player_api_id) in
   ...> (select p2.player_fifa_api_id , p2.player_api_id from Player_Attributes p2 where p2.potential in
   ...> (select max(p1.potential) from Player_Attributes p1 where (p1.player_fifa_api_id , p1.player_api_id) in
   ...> (select p.player_fifa_api_id , p.player_api_id from Player p where p.birthday > 1992)));
1
Run Time: real 0.476 user 0.218750 sys 0.250000
sqlite> select p3.player_name from Player p3 where p3.birthday > 1992
   ...> and (p3.player_fifa_api_id , p3.player_api_id) in
   ...> (select p2.player_fifa_api_id , p2.player_api_id from Player_Attributes p2 where p2.potential in
   ...> (select max(p1.potential) from Player_Attributes p1 where (p1.player_fifa_api_id , p1.player_api_id) in
   ...> (select p.player_fifa_api_id , p.player_api_id from Player p where p.birthday > 1992))) limit 10;
Neymar
Run Time: real 0.455 user 0.281250 sys 0.171875
```

TIME:0.476 (算數量) , 0.455(列出球員)

ANS: 1 , Neymar

9. Which team don't have attribute record in 2012, please list the team name. If the number of them is over 10, list 10 of them and the total count.
2012 年有哪些球隊沒有屬性紀錄，請列出球隊名字。如果超過 10，列出總數量，並列出 10 位名字。

SQL:

```
sqlite> select count(*) from Team t2 where (t2.team_api_id , t2.team_fifa_api_id) in
   ...> (select t.team_api_id , t.team_fifa_api_id from Team_Attributes t where (t.team_api_id , t.team_fifa_api_id) NOT IN
   ...> (select t1.team_api_id , t1.team_fifa_api_id from Team_Attributes t1 where t1.date like '2012%' )) limit 10;
46
Run Time: real 0.008 user 0.000000 sys 0.000000
sqlite> select t2.team_long_name , t2.team_short_name from Team t2 where (t2.team_api_id , t2.team_fifa_api_id) in
   ...> (select t.team_api_id , t.team_fifa_api_id from Team_Attributes t where (t.team_api_id , t.team_fifa_api_id) NOT IN
   ...> (select t1.team_api_id , t1.team_fifa_api_id from Team_Attributes t1 where t1.date like '2012%' )) limit 10;
KAS Eupen|EUP
GFC Ajaccio|GAJ
PEC Zwolle|ZWO
Leixoes SC|LEI
Go Ahead Eagles|GAE
AC Bellinzona|BEL
FC Penafiel|PEN
FC Dordrecht|DOR
SC Cambuur|CAM
Estoril Praia|EST
Run Time: real 0.021 user 0.015625 sys 0.000000
```

TIME: 0.008(找出數目) ，0.021(列出其中 10 個)
ANS: 46 ,
      KAS Eupen|EUP
      GFC Ajaccio|GAJ
      PEC Zwolle|ZWO
      Leixoes SC|LEI
      Go Ahead Eagles|GAE
      AC Bellinzona|BEL
      FC Penafiel|PEN
      FC Dordrecht|DOR
      SC Cambuur|CAM
      Estoril Praia|EST

10. Which team win the most matches when they are the home team? And the same question for the away team.

哪只球隊在 2009/2010 賽季在主場贏得了最多的比賽?(在該比賽中進球數超過

對方球隊， home_team 是主場球隊， away_team 是客場球隊)哪只球隊在

2009/2010 賽季在客場贏得了最多的比賽?

SQL:

主場:

```
sqlite> select t1.team_long_name , t1.team_short_name from Team t1 where t1.team_api_id in
   ...> (select t.home_team_api_id from Match t where t.home_team_goal > t.away_team_goal and
   ...> t.season like '2009/2010'  group by t.home_team_api_id order by count(t.home_team_api_id) desc  limit 1) ;
Real Madrid CF|REA
Run Time: real 0.085 user 0.015625 sys 0.078125
sqlite>
```

客場:

```
Run Time: real 0.085 user 0.015625 sys 0.078125
sqlite> select t1.team_long_name , t1.team_short_name from Team t1 where t1.team_api_id in
   ...> (select t.away_team_api_id from Match t where t.home_team_goal < t.away_team_goal and
   ...> t.season like '2009/2010'  group by t.away_team_api_id order by count(t.away_team_api_id) desc  limit 1) ;
Real Madrid CF|REA
Run Time: real 0.085 user 0.015625 sys 0.078125
```

TIME: 0.085(主)
    0.085(客)

ANS: 主場最多勝 Real Madrid CF | REA
     客場最多勝 Real Madrid CF | REA

11. bonus. query any thing you think is important or meaningful. You can answer in any format, and don't need to obey the answer format requirement.(please contain the sql)

請任意查詢一些你認為有意義或者很重要的資料，開放性問題的答案可以是任意形式，不需要遵循答案格式。請包括 sql 語句。

主隊跟客隊的平均進球數:

```
sqlite> select avg(home_team_goal) , (away_team_goal) from Match;
1.54459371030448l3
Run Time: real 0.121 user 0.000000 sys 0.125000
```

從此可以看出主場不見得對地主球隊有利