Database HW 2

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1. How many players are record in the table Player?
   SQL: select count(*) as 'Player Count'
           from player;
   Time: 0.001 sec
   Ans: 11060

2. How many matches are record in the table from season 2008/2009 to season 2011/2012?
   Please use between syntax.
   SQL: select count(season) as 'Match Count'
           from match
           where season between '2008/2009' and '2011/2012';
   Time: 0.085 sec
   Ans: 13036

3. What is the number of players who born in 1992. Please use like syntax.
   SQL: select count(birthday) as 'Number of Player'
           from player
           where birthday like '1992%';
   Time: 0.005 sec
   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.
   SQL: select count(avgg) as 'Total Count'
           from
                   ((select avg(heading_accuracy) as avgg, player_api_id, player_fifa_api_id
                   from player_attributes
                   group by player_api_id, player_fifa_api_id) as ans
                   inner join
                   player
                   on (ans.player_api_id = player.player_api_id
                           and ans.player_fifa_api_id = player.player_fifa_api_id))
           where avgg =
                   (select max(ave)
                   from
                           (select avg(heading_accuracy) as ave
                           from player_attributes
                           group by player_api_id, player_fifa_api_id));
   Time: 0.556 sec
   Ans: 1

SQL: select player.player_name as 'Name', player.player_api_id as 'API ID', avgg as 'Average Heading Accuracy'
            from
                    ((select avg(heading_accuracy) as avgg, player_api_id, player_fifa_api_id
                    from player_attributes
                    group by player_api_id, player_fifa_api_id) as ans
                    inner join
                    player
                    on (ans.player_api_id = player.player_api_id
                            and ans.player_fifa_api_id = player.player_fifa_api_id))
            where avgg =
                    (select max(ave)
                    from
                            (select avg(heading_accuracy) as ave
                            from player_attributes
                            group by player_api_id, player_fifa_api_id))
            limit 10;
Time: 0.557 sec
Ans: Name: Tim Cahill
        API ID: 30876
        Average Heading Accuracy: 93.1111111111

5. Please count the average ball control ability of all players.
    SQL: select avg(ball_control) as 'Average Ball Control'
            from player_attributes;
    Time: 0.115 sec
    Ans: 63.3888785750947

6. What is the range of crossing ability of the players whose attacking_work_rate is medium?
    SQL: select min(crossing) as 'Low Bound', max(crossing) as 'High Bound'
            from player_attributes
            where attacking_work_rate = 'medium';
    Time: 0.120 sec
    Ans: Low Bound: 1
            High Bound: 95

7. Which one's overall rating is higher, the player prefer to right foot or left foot?
    SQL: select preferred_foot as 'Preferred foot', Ratings
            from
                    (select avg(overall_rating) as 'Ratings', preferred_foot
                    from player_attributes
                    group by preferred_foot)
            where Ratings =

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                        (select max(Rating)
                        from
                                (select avg(overall_rating) as 'Rating'
                                from player_attributes
                                group by preferred_foot));Time:0.222 sec
        Ans:    Preferred Foot: Left          Ratings: 68.62618201
```

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.

```
        SQL:    select count(*) as 'Total Count'
                from (select avg(potential) as potent
                        from
                                (select player_api_id, player_fifa_api_id
                                from player
                                where birthday > '1992') as temp1
                                inner join
                                (select player_api_id, player_fifa_api_id, potential
                                from player_attributes) as temp2
                                on (temp1.player_api_id = temp2.player_api_id
                                and temp1.player_fifa_api_id = temp2.player_fifa_api_id)
                        group by temp1.player_api_id, temp1.player_fifa_api_id)
                where potent =
                        (select max(potent)
                        from
                                (select avg(potential) as potent
                                from
                                        (select player_api_id, player_fifa_api_id
                                        from player
                                        where birthday > '1992') as temp1
                                        inner join
                                        (select player_api_id, player_fifa_api_id, potential
                                        from player_attributes) as temp2
                                        on (temp1.player_api_id = temp2.player_api_id
                                        and temp1.player_fifa_api_id = temp2.player_fifa_api_id)
                group by temp1.player_api_id, temp1.player_fifa_api_id));
        Time:   0.786 sec
        Ans:    1

        SQL:    select player_name as 'Player Name'
                from (select avg(potential) as potent, player_name
                        from
                                (select player_api_id, player_fifa_api_id, player_name
                                from player
                                where birthday > '1992') as temp1
```

inner join
                    (select player_api_id, player_fifa_api_id, potential
                    from player_attributes) as temp2
                    on (temp1.player_api_id = temp2.player_api_id
                    and temp1.player_fifa_api_id = temp2.player_fifa_api_id)
                group by temp1.player_api_id, temp1.player_fifa_api_id)
          where potent =
                (select max(potent)
                from
                    (select avg(potential) as potent
                    from
                        (select player_api_id, player_fifa_api_id
                        from player
                        where birthday > '1992') as temp1
                        inner join
                        (select player_api_id, player_fifa_api_id, potential
                        from player_attributes) as temp2
                        on (temp1.player_api_id = temp2.player_api_id
                        and temp1.player_fifa_api_id = temp2.player_fifa_api_id)
                    group by temp1.player_api_id, temp1.player_fifa_api_id))
          limit 10;
Time: 0.801 sec
Ans: 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.
    SQL: select count(ans) as 'Total Count'
            from
                    (select team_api_id as ans
                    from team
                    except
                    select distinct(team_api_id)
                    from team_attributes
                    where date like '2012%');
    Time: 0.004
    Ans: 57

    SQL: select team_short_name as 'Team Name'
            from
                    (select team_api_id as ans
                    from team
                    except
                    select distinct(team_api_id)

from team_attributes
where date like '2012%') as exception
inner join
team
on (exception.ans = team.team_api_id)
limit 10;
Time: 0.009 sec
Ans: TUB, FEI, EUP, MAD, GAJ, ZWO, LEI, GAE, BEL, PEN

10. Which team win the most matches when they are the home team? And the same question for the away team.
SQL: select counter as 'Winning Count', team_api_id as 'Team API ID', team_short_name as 'Home Team Name'
from (select count(*) as counter, home_team_api_id
from match
where home_team_goal > away_team_goal and season = '2009/2010'
group by home_team_api_id)
inner join
(select team_api_id, team_short_name
from team)
on home_team_api_id = team_api_id
where counter =
(select max(number)
from

(select count(*) as number, home_team_api_id
from match
where home_team_goal > away_team_goal and season = '2009/2010'
group by home_team_api_id));
Time: 0.171 sec
Ans: Winning Count: 18   Winning Count: 18
        Team API ID: 8633   Team API ID: 8634
        Home Team Name: REA   Home Team Name: BAR

SQL: select counter as 'Winning Count', team_api_id as 'Team API ID', team_short_name as 'Away Team Name'
from (select count(*) as counter, away_team_api_id
from match
where home_team_goal < away_team_goal and season = '2009/2010'
group by away_team_api_id)
inner join
(select team_api_id, team_short_name
from team)
on away_team_api_id = team_api_id
where counter =

```
(select max(number)
from
        (select count(*) as number, away_team_api_id
        from match
        where home_team_goal < away_team_goal and season = '2009/2010'
        group by away_team_api_id));
```

Time: 0.191 sec

Ans: Winning Count: 13   Winning Count:13
      Team API ID: 8633   Team API ID: 8634
      Home Team Name: REA   Home Team Name: BAR

11. Bonus "What season that has the most match count?"

SQL: select number as 'Match Count', season as 'Season'
       from (select count(*) as number, season
               from match
               group by season)
       where number =
               (select max(counter)
               from
                       (select count(*) as counter
                       from match
                       group by season));

Time: 0.192 sec

Ans: Season: 2008/2009   Season: 2015/2016
     Match Count: 3326   Match Count: 3326