1841. League Statistics

Leetcode Link

Problem Explanation

In this problem, we are given information about football teams and their performance in various matches. We need to generate a statistics table containing information about the teams' performance, such as the number of matches played, points earned, goals scored, goals conceded, and goal difference.

We have two tables:

- 1. Teams: This table contains the team_id and the respective team_name.
- 2. Matches: This table contains information about the matches, such as the home_team_id, away_team_id, home_team_goals, and away_team_goals.

Our goal is to write an SQL query to generate a statistics table with team_name, matches_played, points, goal_for, goal_against, and goal_diff columns.

Let's walk through an example:

Example

Teams:

team_id	team_name		
1	Ajax		
4	Dortmund		
6	Arsenal		

Matches:

home_team_id	away_team_id	home_team_goals	away_team_goals	
1	4	0	1	
1	6	3	3	
4	1	5	2	
6	1	0	0	

Result:

team_name	matches_played	points	goal_for	goal_against	goal_diff
Dortmund	2	6	6	2	4
Arsenal	2	2	3	3	0
Ajax	4	2	5	9	-4

Approach

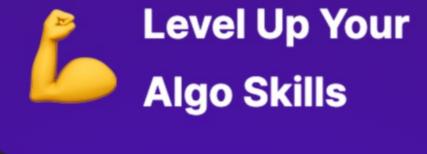
To generate the required statistics table, we can use the following approach:

- 1. Calculate matches played, goals scored, and goals conceded for each team in the home and away matches.
- 2. Combine the home and away statistics for each team.
- 3. Calculate total points and goal difference for each team.
- 4. Order the teams by total points, goal difference, and team_name.

Solution

SQL

```
1 WITH home_stats AS (
     SELECT
       home_team_id AS team_id,
       COUNT(*) AS matches_played,
       SUM(home_team_goals) AS goal_for,
       SUM(away_team_goals) AS goal_against,
       SUM(CASE
         WHEN home_team_goals > away_team_goals THEN 3
          WHEN home_team_goals = away_team_goals THEN 1
       END) AS points
11
12
     FROM
13
       Matches
14
     GROUP BY
15
       home_team_id
  1,
16
   away_stats AS (
     SELECT
18
19
       away_team_id AS team_id,
20
       COUNT(*) AS matches_played,
21
       SUM(away_team_goals) AS goal_for,
22
       SUM(home_team_goals) AS goal_against,
23
       SUM (CASE
24
         WHEN away_team_goals > home_team_goals THEN 3
25
         WHEN away_team_goals = home_team_goals THEN 1
26
         ELSE 0
27
       END) AS points
28
     FROM
29
       Matches
30
     GROUP BY
31
       away_team_id
32
   combined_stats AS (
34
     SELECT
35
       T.team_id,
36
       T.team_name,
37
       COALESCE(H.matches_played, 0) + COALESCE(A.matches_played, 0) AS matches_played,
38
       COALESCE(H.goal_for, 0) + COALESCE(A.goal_for, 0) AS goal_for,
39
       COALESCE(H.goal_against, 0) + COALESCE(A.goal_against, 0) AS goal_against,
40
       COALESCE(H.points, 0) + COALESCE(A.points, 0) AS points
41
     FROM
42
       Teams T
43
       LEFT JOIN home_stats H ON T.team_id = H.team_id
44
       LEFT JOIN away_stats A ON T.team_id = A.team_id
45
46 SELECT
47
     team_name,
48
     matches_played,
49
     points,
     goal_for,
     goal_against,
     goal_for - goal_against AS goal_diff
53 FROM
     combined_stats
54
   ORDER BY
56
     points DESC,
57
     goal_diff DESC,
58
     team_name ASC;
```



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