

Problem 3384: Team Dominance by Pass Success

Problem Information

Difficulty: Hard

Acceptance Rate: 0.00%

Paid Only: No

Problem Description

Table:

Teams

+-----+-----+ | Column Name | Type | +-----+-----+ | player_id | int || team_name | varchar | +-----+-----+ player_id is the unique key for this table. Each row contains the unique identifier for player and the name of one of the teams participating in that match.

Table:

Passes

+-----+-----+ | Column Name | Type | +-----+-----+ | pass_from | int || time_stamp | varchar || pass_to | int | +-----+-----+ (pass_from, time_stamp) is the primary key for this table. pass_from is a foreign key to player_id from Teams table. Each row represents a pass made during a match, time_stamp represents the time in minutes (00:00-90:00) when the pass was made, pass_to is the player_id of the player receiving the pass.

Write a solution to calculate the

dominance score

for each team in

both halves of the match

. The rules are as follows:

A match is divided into two halves:

first half

(

00:00

-

45:00

minutes) and

second half

(

45:01

-

90:00

minutes)

The dominance score is calculated based on successful and intercepted passes:

When pass_to is a player from the

same team

: +

1

point

When pass_to is a player from the

opposing team

(interception):

-1

point

A higher dominance score indicates better passing performance

Return

the result table ordered

by

team_name

and

half_number

in

ascending

order

.

The result format is in the following example.

Example:

Input:

Teams table:

player_id	team_name	1	Arsenal	2
3	Arsenal	4	Chelsea	5
6	Chelsea			

Passes table:

pass_from	time_stamp	pass_to
1	00:15	2
2	00:45	3
3	01:15	1
4	00:30	1
46:00	3	3
46:15	4	1
46:45	2	5
46:30	6	

Output:

team_name	half_number	dominance
Arsenal	1	3
Arsenal	2	1
Chelsea	1	-1
Chelsea	2	1

Explanation:

First Half (00:00-45:00):

Arsenal's passes:

1 → 2 (00:15): Successful pass (+1)

2 → 3 (00:45): Successful pass (+1)

3 → 1 (01:15): Successful pass (+1)

Chelsea's passes:

4 → 1 (00:30): Intercepted by Arsenal (-1)

Second Half (45:01-90:00):

Arsenal's passes:

2 → 3 (46:00): Successful pass (+1)

3 → 4 (46:15): Intercepted by Chelsea (-1)

1 → 2 (46:45): Successful pass (+1)

Chelsea's passes:

5 → 6 (46:30): Successful pass (+1)

The results are ordered by team_name and then half_number

Code Snippets

MySQL:

```
# Write your MySQL query statement below
```

MS SQL Server:

```
/* Write your T-SQL query statement below */
```

PostgreSQL:

```
-- Write your PostgreSQL query statement below
```

Oracle:

```
/* Write your PL/SQL query statement below */
```

Pandas:

```
import pandas as pd

def calculate_team_dominance(teams: pd.DataFrame, passes: pd.DataFrame) ->
    pd.DataFrame:
```

Solutions

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