

63_Game Play Analysis IV

Medium - Solution

Source - <https://leetcode.com/problems/game-play-analysis-iv/description/>

Running Notes:

- Write a solution to report the **fraction** of players that logged in again on the day after the day they first logged in, **rounded to 2 decimal places**.
 - count the number of players that logged in for at least two consecutive days starting from their first login date
 - then divide that number by the total number of players.

Solution

- First I will find out the first login date of each player

```
-- Write your PostgreSQL query statement below
SELECT *,
MIN(event_date) OVER(
    PARTITION BY player_id
) AS first_login_date
FROM Activity
```

- Second we will find out the next login date after the first login date

```
-- Write your PostgreSQL query statement below
SELECT *,
MIN(event_date) OVER(
    PARTITION BY player_id
) AS first_login_date,
LEAD(event_date) OVER(
    PARTITION BY player_id
    ORDER BY event_date
```

```
) AS second_login  
FROM Activity
```

- then I will filter only those rows from this where the difference between the first login date and second login date is 1 day
- then divide it by the total players

FINAL CODE

```
-- Write your PostgreSQL query statement below  
WITH main_CTE AS (SELECT *,  
MIN(event_date) OVER(  
    PARTITION BY player_id  
) AS first_login_date,  
LEAD(event_date) OVER(  
    PARTITION BY player_id  
    ORDER BY event_date  
) AS second_login  
FROM Activity)  
  
SELECT  
ROUND((1.0 * (SELECT COUNT(DISTINCT(player_id))  
FROM main_CTE  
WHERE second_login-first_login_date = 1)) /  
(SELECT COUNT(DISTINCT(player_id))  
FROM Activity),2) AS fraction
```

- I needed to do implicit conversion to get the result as a fraction

Errors I made

```
-- Write your PostgreSQL query statement below  
WITH main_CTE AS (SELECT *,  
MIN(event_date) OVER(  
    PARTITION BY player_id
```

```

) AS first_login_date,
LEAD(event_date) OVER(
  PARTITION BY player_id
  ORDER BY event_date
) AS second_login
FROM Activity)

(SELECT COUNT(DISTINCT(player_id))
FROM main_CTE
WHERE second_login-first_login_date = 1) /
(SELECT COUNT(DISTINCT(player_id))
FROM Activity) AS fraction

```

```

syntax error at or near "/"
LINE 15: /
        ^

```

In SQL, you cannot directly divide the results of two `SELECT` queries like that. You need to use a subquery or a `CAST` operation to ensure proper calculation.

In PostgreSQL, you

cannot directly cast a subquery result using `::DECIMAL`. The cast must be applied to the returned value, not the entire subquery.

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