Problem 1097: Game Play Analysis V

Problem Information

Difficulty: Hard
Acceptance Rate: 0.00%
Paid Only: No

Problem Description

Table:

Activity

+--------------+---------+ | Column Name | Type | +--------------+---------+ | player_id | int | | device_id | int | | event_date | date | | games_played | int | +--------------+---------+ (player_id, event_date) is the primary key (combination of columns with unique values) of this table. This table shows the activity of players of some games. Each row is a record of a player who logged in and played a number of games (possibly 0) before logging out on someday using some device.

The

install date

of a player is the first login day of that player.

We define

day one retention

of some date

x

to be the number of players whose

install date

is

x

and they logged back in on the day right after

x

, divided by the number of players whose install date is

x

, rounded to

2

decimal places.

Write a solution to report for each install date, the number of players that installed the game on that day, and the

day one retention

.

Return the result table in

any order

.

The result format is in the following example.

Example 1:

Input:

Activity table: +-----------+-----------+------------+--------------+ | player_id | device_id | event_date | games_played | +-----------+-----------+------------+--------------+ | 1 | 2 | 2016-03-01 | 5 | | 1 | 2 | 2016-03-02 | 6 | | 2 | 3 | 2017-06-25 | 1 | | 3 | 1 | 2016-03-01 | 0 | | 3 | 4 | 2016-07-03 | 5 | +-----------+-----------+------------+--------------+

Output:

+------------+----------+----------------+ | install_dt | installs | Day1_retention | +------------+----------+----------------+ | 2016-03-01 | 2 | 0.50 | | 2017-06-25 | 1 | 0.00 | +------------+----------+----------------+

Explanation:

Player 1 and 3 installed the game on 2016-03-01 but only player 1 logged back in on 2016-03-02 so the day 1 retention of 2016-03-01 is 1 / 2 = 0.50 Player 2 installed the game on 2017-06-25 but didn't log back in on 2017-06-26 so the day 1 retention of 2017-06-25 is 0 / 1 = 0.00

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 gameplay_analysis(activity: pd.DataFrame) -> pd.DataFrame:
```

Solutions

MySQL Solution:

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