Problem 3089: Find Bursty Behavior

Problem Information

Difficulty: Medium
Acceptance Rate: 37.19%
Paid Only: Yes
Tags: Database

Problem Description

Table: `Posts`

+-------------+---------+ | Column Name | Type | +-------------+---------+ | post_id | int | | user_id | int | | post_date | date | +-------------+---------+ post_id is the primary key (column with unique values) for this table. Each row of this table contains post_id, user_id, and post_date.

Write a solution to find users who demonstrate **bursty behavior** in their posting patterns during February `2024`. **Bursty behavior** is defined as **any** period of **7** **consecutive** days where a user's posting frequency is **at least twice** to their **average** weekly posting frequency for February `2024`.

Note: Only include the dates from February `1` to February `28` in your analysis, which means you should count February as having exactly `4` weeks.

Return _the result table orderd by_`user_id` _in_**ascending** _order._

The result format is in the following example.

Example:

Input:

Posts table:

+---------+---------+------------+ | post_id | user_id | post_date | +---------+---------+------------+ | 1 | 1 | 2024-02-27 | | 2 | 5 | 2024-02-06 | | 3 | 3 | 2024-02-25 | | 4 | 3 | 2024-02-14 | | 5 | 3 |

2024-02-06 | | 6 | 2 | 2024-02-25 | +---------+---------+-----------+

Output:

+---------+---------------+------------------+ | user_id | max_7day_posts | avg_weekly_posts | +---------+---------------+------------------+ | 1 | 1 | 0.2500 | | 2 | 1 | 0.2500 | | 5 | 1 | 0.2500 | +---------+---------------+------------------+

Explanation:

* **User 1:** Made only 1 post in February, resulting in an average of 0.25 posts per week and a max of 1 post in any 7-day period. * **User 2:** Also made just 1 post, with the same average and max 7-day posting frequency as User 1. * **User 5:** Like Users 1 and 2, User 5 made only 1 post throughout February, leading to the same average and max 7-day posting metrics. * **User 3:** Although User 3 made more posts than the others (3 posts), they did not reach twice the average weekly posts in their consecutive 7-day window, so they are not listed in the output.

Note: Output table is ordered by user_id in ascending order.

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
```