1142. User Activity for the Past 30 Days II

Description

Table: `Activity`

```
+---------------+---------+
| Column Name   | Type    |
+---------------+---------+
| user_id       | int     |
| session_id    | int     |
| activity_date | date    |
| activity_type | enum    |
+---------------+---------+
This table may have duplicate rows.
The activity_type column is an ENUM (category) of type ('open_session', 'end_session', 'scroll_down', 'send_message').
The table shows the user activities for a social media website.
Note that each session belongs to exactly one user.
```

Write a solution to find the average number of sessions per user for a period of `30` days ending `2019-07-27` inclusively, **rounded to 2 decimal places**. The sessions we want to count for a user are those with at least one activity in that time period.

The result format is in the following example.

Example 1:

Input:
Activity table:

```
+---------+------------+---------------+---------------+
| user_id | session_id | activity_date | activity_type |
+---------+------------+---------------+---------------+
| 1       | 1          | 2019-07-20    | open_session  |
| 1       | 1          | 2019-07-20    | scroll_down   |
| 1       | 1          | 2019-07-20    | end_session   |
| 2       | 4          | 2019-07-20    | open_session  |
| 2       | 4          | 2019-07-21    | send_message  |
| 2       | 4          | 2019-07-21    | end_session   |
| 3       | 2          | 2019-07-21    | open_session  |
| 3       | 2          | 2019-07-21    | send_message  |
| 3       | 2          | 2019-07-21    | end_session   |
| 3       | 5          | 2019-07-21    | open_session  |
| 3       | 5          | 2019-07-21    | scroll_down   |
| 3       | 5          | 2019-07-21    | end_session   |
| 4       | 3          | 2019-06-25    | open_session  |
| 4       | 3          | 2019-06-25    | end_session   |
+---------+------------+---------------+---------------+
```

Output:

```
+--------------------------+
| average_sessions_per_user |
+--------------------------+
| 1.33                     |
+--------------------------+
```

Explanation: User 1 and 2 each had 1 session in the past 30 days while user 3 had 2 sessions so the average is (1 + 1 + 2) / 3 = 1.33.