Problem 1972: First and Last Call On the Same Day

Problem Information

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

Problem Description

Table:

Calls

+--------------+----------+ | Column Name | Type | +--------------+----------+ | caller_id | int | | recipient_id | int | | call_time | datetime | +--------------+----------+ (caller_id, recipient_id, call_time) is the primary key (combination of columns with unique values) for this table. Each row contains information about the time of a phone call between caller_id and recipient_id.

Write a solution to report the IDs of the users whose first and last calls on

any day

were with

the same person

. Calls are counted regardless of being the caller or the recipient.

Return the result table in

any order

.

The result format is in the following example.

Example 1:

Input:

Calls table: +----------+-------------+---------------------+ | caller_id | recipient_id | call_time | +----------+-------------+---------------------+ | 8 | 4 | 2021-08-24 17:46:07 | | 4 | 8 | 2021-08-24 19:57:13 | | 5 | 1 | 2021-08-11 05:28:44 | | 8 | 3 | 2021-08-17 04:04:15 | | 11 | 3 | 2021-08-17 13:07:00 | | 8 | 11 | 2021-08-17 22:22:22 | +----------+-------------+---------------------+

Output:

+---------+ | user_id | +---------+ | 1 | | 4 | | 5 | | 8 | +---------+

Explanation:

On 2021-08-24, the first and last call of this day for user 8 was with user 4. User 8 should be included in the answer. Similarly, user 4 on 2021-08-24 had their first and last call with user 8. User 4 should be included in the answer. On 2021-08-11, user 1 and 5 had a call. This call was the only call for both of them on this day. Since this call is the first and last call of the day for both of them, they should both be included in the answer.

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 same_day_calls(calls: pd.DataFrame) -> pd.DataFrame:
```

Solutions

MySQL Solution:

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

MS SQL Server Solution:

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

PostgreSQL Solution:

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

Oracle Solution:

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

Pandas Solution:

```
import pandas as pd


def same_day_calls(calls: pd.DataFrame) -> pd.DataFrame:
```