Problem 1831: Maximum Transaction Each Day

Problem Information

Difficulty: Medium
Acceptance Rate: 82.41%
Paid Only: Yes
Tags: Database

Problem Description

Table: `Transactions`

+----------------+----------+ | Column Name | Type | +----------------+----------+ | transaction_id | int | | day | datetime | | amount | int | +----------------+----------+ transaction_id is the column with unique values for this table. Each row contains information about one transaction.

Write a solution to report the IDs of the transactions with the **maximum** `amount` on their respective day. If in one day there are multiple such transactions, return all of them.

Return the result table **ordered by** `transaction_id` **in ascending order**.

The result format is in the following example.

Example 1:

Input: Transactions table: +----------------+--------------------+--------+ | transaction_id | day | amount | +----------------+--------------------+--------+ | 8 | 2021-4-3 15:57:28 | 57 | | 9 | 2021-4-28 08:47:25 | 21 | | 1 | 2021-4-29 13:28:30 | 58 | | 5 | 2021-4-28 16:39:59 | 40 | | 6 | 2021-4-29 23:39:28 | 58 | +----------------+--------------------+--------+ **Output:** +----------------+ | transaction_id | +----------------+ | 1 | | 5 | | 6 | | 8 | +----------------+ **Explanation:** "2021-4-3" --> We have one transaction with ID 8, so we add 8 to the result table. "2021-4-28" --> We have two transactions with IDs 5 and 9. The transaction with ID 5 has an amount of 40, while the transaction with ID 9 has an amount of 21. We only include the transaction with ID 5 as it has the maximum amount this day. "2021-4-29" --> We have two transactions with IDs 1 and 6. Both transactions have the same amount of 58, so we include both in the result table. We order the result table by transaction_id after collecting these IDs.

Follow up: Could you solve it without using the `MAX()` function?

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
```