Submit

Description | Accepted ✕ | Editorial | Solutions | Submissions

1831. Maximum Transaction Each Day

Solved ✓

Premium

Medium | Topics

SQL Schema > Pandas Schema >

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?

Seen this question in a real interview before?   1/5

Yes   No

Accepted **27,276**/33.1K | Acceptance Rate **82.4**%

🏷 Topics

💬 Discussion (9)

👍 95   👎   💬 9   ☆   ⧉   ⊘   ● 0 Online

</> Code

Pandas ∨   • Auto

```python
1   import pandas as pd
2
3   def find_maximum_transaction(transactions: pd.DataFrame) -> pd.DataFrame:
4
5       # Extract date from datetime
6       transactions["day_only"] = transactions["day"].dt.date
7
8       # Find max amount per day
9       max_per_day = transactions.groupby("day_only")["amount"].transform("max")
10
11      # Keep rows where amount equals daily max
12      result = transactions[transactions["amount"] == max_per_day]
13
14      # Sort by transaction_id
15      result = result.sort_values("transaction_id")
16
17      return result[["transaction_id"]]
18
```

△ Saved   Ln 17, Col 38

☑ Testcase | >_ Test Result

Accepted   Runtime: 277 ms

☑ Case 1

Input

Transactions =
```
+----------------+---------------------+--------+
| 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     |
```