

Medium

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?

Write your MySQL query statement below

```
WITH CTE AS (SELECT *,RANK() OVER (PARTITION BY day ORDER BY amount DESC) AS R
FROM Transactions)
```

```
SELECT transaction_id
FROM CTE
WHERE R=1
ORDER BY transaction_id
```