61_Rising Temperature Easy - Solution

Source - https://leetcode.com/problems/rising-temperature/description/

Running Notes:

- Write a solution to find all dates' id with higher temperatures compared to its previous dates (yesterday).

```
-- Write your PostgreSQL query statement below
WITH main_CTE AS (SELECT id, temperature,
LAG(temperature) OVER(
    ORDER BY recordDate
) as previous_temp
FROM Weather)

SELECT id
FROM main_CTE
WHERE temperature > previous_temp
```

The above code failed 1 test case

id	recordDate	temperature
1	2000-12-14	3
2	2000-12-16	5

The problem lies in the way the `LAG()` function is being used. While `LAG()` fetches the previous row based on the `ORDER BY recordDate`, it does not guarantee that the `recordDate` is consecutive.

FINAL CODE:

```
-- Write your PostgreSQL query statement below
WITH main_CTE AS (SELECT *,
LAG(temperature) OVER(
    ORDER BY recordDate
) as previous_temp,
LAG(recordDate) OVER(
    ORDER BY recordDate
) as previous_date
FROM Weather)

SELECT id
FROM main_CTE
WHERE temperature > previous_temp AND recordDate - previous_date
```

OR

```
-- Write your PostgreSQL query statement below
WITH main_CTE AS (SELECT *,
LAG(temperature) OVER(
    ORDER BY recordDate
) as previous_temp,
LAG(recordDate) OVER(
    ORDER BY recordDate
) as previous_date
FROM Weather)

SELECT id
FROM main_CTE
WHERE temperature > previous_temp AND recordDate - INTERVAL '1 [
```
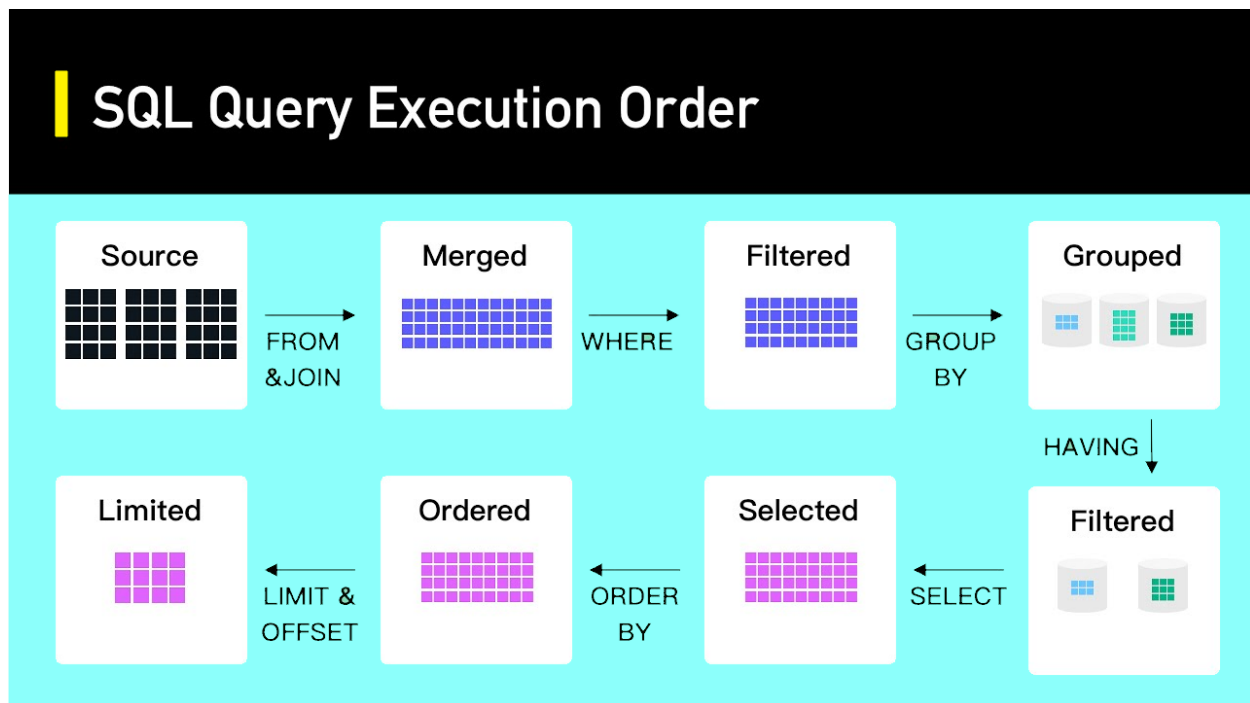
Additional Info
Why the error?

```
-- Write your PostgreSQL query statement below
SELECT *,
```

```
LAG(temperature) OVER(
    ORDER BY recordDate
) as previous_temp
FROM Weather
WHERE previous_temp > temperature
```

This will give an error due to order of execution

- The `WHERE` clause tries to filter rows **before** `previous_temp` (defined in the `SELECT` clause) is calculated by the `LAG` function.

- Since `previous_temp` doesn't yet exist when the `WHERE` clause is executed, the query throws an error.

```
-- Write your PostgreSQL query statement below
SELECT id
as previous_temp
FROM Weather
WHERE LAG(temperature) OVER(
```

```
    ORDER BY recordDate
)  > temperature
```

The error occurs because **window functions like `LAG()` cannot be used directly in the `WHERE` clause**.

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