Consecutive Timestamp Differences with LEAD()

Business problem: Tracking User Payment Funnel Times with LEAD()

A customer has complained that it took too long for them complete their payment process due to there being an error with the system. The customer support team brought this issue up and asked the analytics team to investigate the payment funnel time data for `subscriptionid = 38844`.

As subscriptions move through the payment statuses, they are logged in the `paymentstatuslog` table using the `statusid` to show what status they moved to. They can go back and forth and move through statuses multiple times.

Each step of the payment process from the user point of view is outlined below:

1. The user opens the widget to initiate the payment process.
2. The user types in their credit card information.
3. The user clicks the "submit" button to complete their part of the payment process.
4. The product sends the data to the third-party payment company.
5. The third-party payment company completes the transaction and reports back.

This process is converted into `statusid`s using the following ID to definition mapping below:

```
select * from statusdefinition;
```

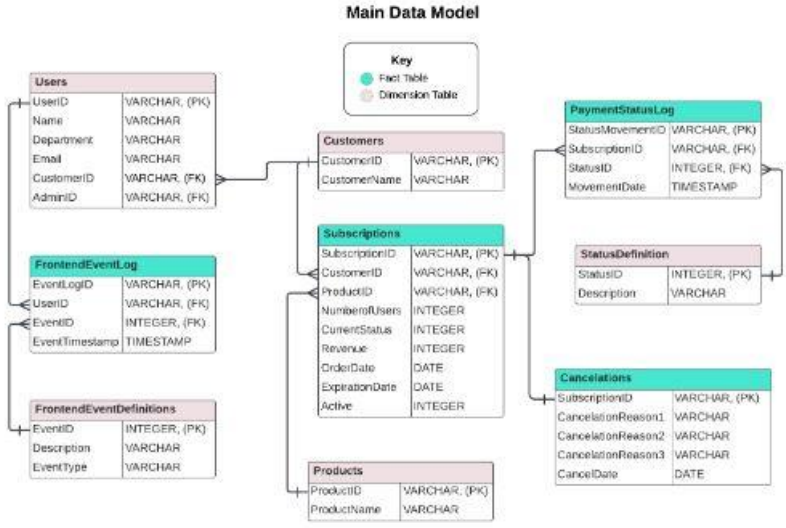
STATUSID	DESCRIPTION
0	Error
1	PaymentWidgetOpened
2	PaymentEntered
3	PaymentSubmitted
4	PaymentSuccess
5	Complete

Task:

Using the `paymentstatuslog` table, pull payment funnel data for `subscriptionid = 38844`. For each status timestamp, calculate the time difference between that timestamp the next chronological timestamp in order to show how long the user was in each status before moving to the next status. You can use the window function `lead()` to pull the next chronological timestamp.

Include the following columns:

- `SubscriptionMovementid`
- `Subscriptionid`
- `Statusid`
- `MovementDate`
- `NextStatusMovementDate`
- `TimeinStatus`



```sql
-- SQL code BY John Uzoma
SELECT
    *,
    LEAD(movementdate) OVER(PARTITION BY subscriptionid ORDER BY movementdate) as nextstatusmovementdate,
    TIMESTAMPDIFF(
        SECOND,
        movementdate,
        LEAD(movementdate) OVER(PARTITION BY subscriptionid ORDER BY movementdate)
    ) ||' '|| 'seconds' AS timeinstatus
FROM PAYMENTSTATUSLOG
WHERE subscriptionid = '38844';
```

STATUSMOVEMENTID	SUBSCRIPTIONID	STATUSID	MOVEMENTDATE	NEXTSTATUSMOVEMENTDATE	TIMEINSTATUS
39112775	38844	1	2023-12-02 02:33:13.0	2023-12-02 02:33:22.0	9 seconds
13223956	38844	2	2023-12-02 02:33:22.0	2023-12-02 02:33:29.0	7 seconds
53176031	38844	3	2023-12-02 02:33:29.0	2023-12-02 02:33:31.0	2 seconds
1694206	38844	0	2023-12-02 02:33:31.0	2023-12-02 02:33:46.0	15 seconds
59634923	38844	2	2023-12-02 02:33:46.0	2023-12-02 02:33:51.0	5 seconds
31401200	38844	3	2023-12-02 02:33:51.0	2023-12-02 02:33:53.0	2 seconds
94425726	38844	4	2023-12-02 02:33:53.0	2023-12-02 02:33:55.0	2 seconds
78460513	38844	5	2023-12-02 02:33:55.0	null	null