—— SQL Challenge : Problem Statement—-

You have a table `Orders` with the following structure:

Column Name	Type
OrderID	int
CustomerID	int
OrderDate	date
Amount	decimal

Your task is to find the `CustomerID` of customers who have placed orders on three consecutive days.

📝 Table Example:

OrderID	CustomerID	OrderDate	Amount
1	101	2023-08-01	250.00
2	102	2023-08-01	450.00
3	101	2023-08-02	150.00
4	101	2023-08-03	300.00
5	103	2023-08-03	200.00
6	101	2023-08-04	400.00

In this example, `CustomerID 101` has placed orders on 2023-08-02, 2023-08-03, and 2023-08-04.

💡 Hint: You may need to use window functions(lead or lag) to solve this.

🔍 The Query:

```
WITH ConsecutiveOrders AS (
  SELECT
    customerID,
    order_date as Day1,
    LEAD(OrderDate, 1) OVER (PARTITION BY CustomerID ORDER BY OrderDate) AS Day2,
    LEAD(OrderDate, 2) OVER (PARTITION BY CustomerID ORDER BY OrderDate) AS Day3
  FROM Orders
)
SELECT DISTINCT customerID
```

```
FROM ConsecutiveOrders
WHERE
  DATEDIFF(day, Day1, Day2) = 1
  AND DATEDIFF(day, Day1, Day3) = 2;
```

Explanation:

The WHERE clause in the query filters results to identify customers who have placed orders on three consecutive days. It uses two conditions: DATEDIFF(day, Day1, Day2) = 1 ensures the second order is one day after the first, and DATEDIFF(day, Day1, Day2) = 2 ensures the third order is two days after the first. Together, these conditions confirm that OrderDate, NextOrderDate, and DayAfterNextOrderDate are consecutive days, allowing the query to accurately identify customers with a streak of orders on three consecutive days.

Another approach :

```
With cte as(
Select *, row_number()over(partition by customer_id order by order_date) as r_num ,
row_number()over(order by customer_id) from table)

Select customer_id from cte group by 1 having count(row_num - r_num)>=3
```