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NamasteSQL

100 Coding Problems

Akash Mahindrakar
Data Engineer
akashsjce8050@gmail.com

100 DAY CODING PROBLEMS

Problem Statement:

26 - DYNAMIC PRICING

You are given a products table where a new row is inserted every time the price of a product changes. Additionally, there is a transaction table containing details such as order_date and product_id for each order.

Write an SQL query to calculate the total sales value for each product, considering the cost of the product at the time of the order date, display the output in ascending order of the product_id.

🚩 **Difficult Level : MEDIUM**

Step - 2 : Identifying The Input Data And Expected Output

INPUT

products		
PRODUCT_ID	**PRICE_DATE**	**PRICE**
100	2024-01-01	150
100	2024-01-21	170
100	2024-02-01	190
101	2024-01-01	1000
101	2024-01-27	1200
101	2024-02-05	1250

orders		
ORDER_ID	**ORDER_DATE**	**PRODUCT_ID**
1	2024-01-05	100
2	2024-01-21	100
3	2024-02-20	100
4	2024-01-07	101
5	2024-02-04	101
6	2024-02-05	101

OUTPUT

PRODUCT_ID	**TOTAL_SALES**
100	510
101	3450

Step - 3 : Writing the sql query to solve the

```sql
1 WITH CTE
2 AS (
3     SELECT *
4         ,DATEADD('DAY', - 1, lead(price_date, 1, '9999-12-31') OVER (
5             PARTITION BY product_id ORDER BY price_date
6             )) AS price_end_date
7     FROM products
8     )
9 SELECT C.PRODUCT_ID
10     ,sum(PRICE) AS total_sales
11 FROM CTE C
12 JOIN orders O ON C.product_id = O.product_id
13     AND order_date BETWEEN price_date
14         AND price_end_date
15 GROUP BY C.PRODUCT_ID
16 ORDER BY C.PRODUCT_ID
17
```

Save

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