NAMASTESQL - DAY 7

100 DAY CODING PROBLEMS

Step - 1 : Problem Statement

🤔 **Problem Statement:**

52 - LOAN REPAYMENT

You're working for a large financial institution that provides various types of loans to customers. Your task is to analyze loan repayment data to assess credit risk and improve risk management strategies.
Write an SQL to create 2 flags for each loan as per below rules. Display loan id, loan amount , due date and the 2 flags.

1- fully_paid_flag: 1 if the loan was fully repaid irrespective of payment date else it should be 0.

2- on_time_flag : 1 if the loan was fully repaid on or before due date else 0.

🚩 **Difficult Level : MEDIUM**

Step - 2 : Identifying The Input Data And Expected

INPUT

loans			
LOAN_ID	**CUSTOMER_ID**	**LOAN_AMOUNT**	**DUE_DATE**
1	1	5000	2023-01-15
2	2	8000	2023-02-20
3	3	10000	2023-03-10
4	4	6000	2023-04-05
5	5	7000	2023-05-01

payments			
PAYMENT_ID	**LOAN_ID**	**PAYMENT_DATE**	**AMOUNT_PAID**
1	1	2023-01-10	2000
2	1	2023-02-10	1500
3	2	2023-02-20	8000
4	3	2023-04-20	5000
5	4	2023-03-15	2000
6	4	2023-04-02	4000
7	5	2023-04-02	4000
8	5	2023-05-02	3000

OUTPUT

LOAN_ID	LOAN_AMOUNT	DUE_DATE	FULLY_PAID_FLAG	ON_TIME_FLAG
1	5000	2023-01-15	0	0
3	10000	2023-03-10	0	0
4	6000	2023-04-05	1	0
5	7000	2023-05-01	1	1
2	8000	2023-02-20	1	1

Step - 3 : Writing the sql query to solve the

```sql

WITH CTE
AS (
    SELECT L.loan_id
        ,L.loan_amount
        ,L.due_date
        ,sum(amount_paid) AS total_amount
        ,max(payment_date) AS last_payment_date
    FROM payments P
    JOIN loans L ON P.loan_id = L.loan_id
    GROUP BY L.loan_id
        ,L.loan_amount
        ,L.due_date
    )
SELECT LOAN_ID
    ,LOAN_AMOUNT
    ,DUE_DATE
    ,CASE
        WHEN LOAN_AMOUNT = TOTAL_AMOUNT
            THEN 1
        ELSE 0
        END AS fully_paid_flag
    ,CASE
        WHEN LOAN_AMOUNT = TOTAL_AMOUNT
            AND DUE_DATE ⩽ last_payment_date
            THEN 1
        ELSE 0
        END AS on_time_flag
FROM CTE

```

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Save

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