-- MODULE 4
-- Account Dormancy & Inactivity Detection

-- Find the Anchor Date
SELECT
    MAX (transaction_date) AS max_transaction_date
FROM transactions;

max_transaction_date
2025-04-14

-- Get Last Transaction Date per Account
SELECT
    account_id,
    MAX (transaction_date) AS last_transaction_date
FROM transactions
GROUP BY account_id;

account_id	last_transaction_date
103762	2025-02-21
101226	2024-12-01
111034	2024-06-11
113887	2025-04-08
109697	2024-07-21
107197	2022-12-07
112727	2024-01-08
106391	2024-01-29
111732	2024-11-28
114920	2024-12-31
108808	2025-02-17

-- Identify Inactive Accounts (CORE QUERY)
SELECT
    a. account_id,
    a. customer_id,

```sql
    a. status,
    MAX (t. transaction_date) AS last_transaction_date
FROM accounts a
LEFT JOIN transactions t
    ON a. account_id = t. account_id
GROUP BY
    a. account_id,
    a. customer_id,
    a. status
HAVING
    last_transaction_date IS NULL
    OR last_transaction_date < DATE_SUB (
        (SELECT MAX (transaction_date) FROM transactions),
        INTERVAL 6 MONTH
    );
```

account_id	customer_id	status	last_transaction_date
100002	5936	Active	2023-08-17
100014	3927	Active	2023-08-09
100020	5715	Active	2023-10-22
100021	6539	Active	2023-07-31
100026	9418	Active	2023-12-12
100028	6941	Active	2023-05-18
100031	1135	Active	2023-05-26
100038	6495	Dormant	2022-12-25
100044	6560	Dormant	2024-01-10
100054	1842	Active	2024-04-28
100056	8517	Dormant	2024-10-11

```sql
-- Count Inactive Accounts per Customer
SELECT
    customer_id,
    COUNT (account_id) AS inactive_account_count
FROM (
    SELECT
        a. account_id,
        a. customer_id,
        MAX (t. transaction_date) AS last_transaction_date
```

```
    FROM accounts a
    LEFT JOIN transactions t
       ON a. account_id = t. account_id
    GROUP BY
       a. account_id,
       a. customer_id
    HAVING
       last_transaction_date IS NULL
       OR last_transaction_date < DATE_SUB (
          (SELECT MAX (transaction_date) FROM transactions),
          INTERVAL 6 MONTH
       )
) inactive_accounts
GROUP BY customer_id
ORDER BY inactive_account_count DESC;
```

customer_id	inactive_account_count
534	6
5950	6
9311	6
9743	5
4673	5
7509	5
7519	5
1760	5
571	5
6211	5
3438	5

Note: The tables were limited to 10 rows.