Tasks 4: Subquery and its type:

1. Retrieve the customer(s) with the highest account balance.

SELECT C.customer_id, C.first_name, C.last_name, A.balance FROM Customers C JOIN Accounts A ON C.customer_id = A.customer_id

WHERE A.balance = (SELECT MAX(balance) FROM Accounts);

	customer_id	first_name	last_name	balance
•	106	Freddy	Salt	500000.00

2. Calculate the average account balance for customers who have more than one account.

SELECT customer_id, AVG(balance) AS average_balance FROM Accounts GROUP BY customer_id HAVING COUNT(account_id) > 1;

customer_id	average_balance
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3. Retrieve accounts with transactions whose amounts exceed the average transaction amount.

SELECT account_id, transaction_type, amount FROM Transactions WHERE amount > (SELECT AVG(amount) FROM Transactions);

	account_id	transaction_type	amount
•	2225	transfer	25000.00
	2226	deposit	50000.00
	2230	deposit	75000.00

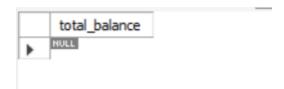
4. Identify customers who have no recorded transactions.

SELECT a.account_id, first_name from customers c JOIN accounts a on a.customer_id=c.customer_id where not exists (select 1 from transactions t where t.account_id=a.account_id);



5. Calculate the total balance of accounts with no recorded transactions.

SELECT SUM(balance) AS total_balance FROM Accounts a WHERE NOT EXISTS (SELECT 1 FROM Transactions t WHERE a.account_id = t.account_id);



6. Retrieve transactions for accounts with the lowest balance.

SELECT T.* FROM Transactions t JOIN Accounts a ON t.account_id = a.account_id WHERE a.balance = (SELECT MIN(balance) FROM Accounts);

	transaction_id	account_id	transaction_type	amount	transaction_date
•	5003	2223	transfer	5500.00	2025-03-18

7. Identify customers who have accounts of multiple types.

SELECT customer_id FROM Accounts GROUP BY customer_id

HAVING COUNT(DISTINCT account_type) > 1;

customer_id

8. Calculate the percentage of each account type out of the total number of accounts.

 $SELECT\ account_type,\ COUNT(account_id)*100.0\ /\ (SELECT\ COUNT(*)\ FROM\ Accounts)\ AS\ percentage\ FROM\ Accounts\\ GROUP\ BY\ account_type;$

	account_type	percentage	
•	Savings	40.00000	
	Current	30.00000	
	Zero_balance	30.00000	

9. Retrieve all transactions for a customer with a given customer $_id$.

SELECT t.*,c.customer_id FROM Customers c JOIN Accounts a ON a.customer_id= c.customer_id join transactions t on t.account_id=a.account_id where c.customer_id=101;

	transaction_id	account_id	transaction_type	amount	transaction_date	customer_id
•	5001	2221	deposit	1000.00	2025-01-10	101

10. Calculate the total balance for each account type, including a subquery within the SELECT clause.

select account_type,sum(balance) as total_balance from Accounts group by account_type;

	account_type	total_balance
•	Savings	660000.00
	Current	92000.00
	Zero_balance	71600.00