**Tasks 4:**

**Subquery and its type:**

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

SELECT \* FROM Customers

WHERE customer\_id = (SELECT customer\_id

FROM Accounts

WHERE balance = (SELECT MAX(balance) FROM Accounts)

);

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

select Avg(balance) from accounts

where customer\_id

in (select customer\_id from Accounts

group by customer\_id

having count(account\_id)>1);

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

SELECT \* FROM Transactions

WHERE amount > (SELECT AVG(amount) FROM Transactions);

**4. Identify customers who have no recorded transactions.**

SELECT \* FROM Customers

WHERE customer\_id NOT IN (

SELECT customer\_id FROM Accounts

WHERE account\_id IN (SELECT account\_id FROM Transactions)

);

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

SELECT SUM(balance) AS total\_balance

FROM Accounts

WHERE account\_id NOT IN (SELECT DISTINCT account\_id FROM Transactions);

**6. Retrieve transactions for accounts with the lowest balance.**

SELECT \* FROM Transactions

WHERE account\_id IN

( SELECT account\_id FROM Accounts

WHERE balance = (SELECT MIN(balance) FROM Accounts) );

**7. Identify customers who have accounts of multiple types.**

SELECT customer\_id

FROM Accounts

GROUP BY customer\_id

HAVING COUNT(DISTINCT account\_type) > 1;

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

SELECT account\_type,

COUNT(\*) AS account\_count,

(COUNT(\*) \* 100.0) / (SELECT COUNT(\*) FROM accounts) AS percentage

FROM accounts

GROUP BY account\_type;

**9. Retrieve all transactions for a customer with a given customer\_id.**

SELECT \* FROM Transactions

WHERE account\_id IN (

SELECT account\_id FROM Accounts

WHERE customer\_id = 101

);

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

SELECT account\_type,

(SELECT SUM(balance) FROM Accounts WHERE Accounts.account\_type = outer\_query.account\_type) AS total\_balance

FROM Accounts AS outer\_query

GROUP BY account\_type;