**ASSIGNMENT -1 (BANKING SYSTEM)**

**Tasks 4:** **Subquery and its type:**

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

1. SELECT c.customer\_id, c.first\_name, c.last\_name, a.account\_id, a.balance

FROM customers c JOIN accounts a ON c.customer\_id = a.customer\_id

WHERE a.balance = (SELECT MAX(balance) FROM accounts);

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

2. SELECT customer\_id, AVG(balance) AS avg\_balance FROM accounts

WHERE customer\_id

IN ( SELECT customer\_id FROM accounts

GROUP BY customer\_id

HAVING COUNT(account\_id) > 1)

GROUP BY customer\_id;

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

3. SELECT account\_id, transaction\_id, amount FROM transactions

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

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

4. SELECT customer\_id

FROM customers

WHERE customer\_id NOT IN (SELECT DISTINCT customer\_id FROM accounts a JOIN transactions t ON a.account\_id = t.account\_id);

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

5. SELECT SUM(balance) AS total\_bal

FROM accounts

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

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

6. SELECT transaction\_id, account\_id, amount, transaction\_date 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.**

7. 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**

8. SELECT account\_type,

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

FROM accounts

GROUP BY account\_type;

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

9. SELECT transaction\_id, account\_id, amount, transaction\_date FROM transactions

WHERE account\_id IN (SELECT account\_id FROM accounts WHERE customer\_id = 7);

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

10. SELECT account\_type,

(SELECT SUM(balance) FROM accounts a2 WHERE a2.account\_type = a1.account\_type) AS total\_bal

FROM accounts a1

GROUP BY account\_type;