CSE370 : Database Systems

Assignment 03 | Spring 2025

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No 1 Query (as Plain Text)	SELECT customer_name, loan_number FROM customer NATURAL JOIN borrower NATURAL JOIN loan WHERE branch_name = 'Downtown';
No 1 SS (of Query & Output in Shell)	
No 2 Query (as Plain Text)	SELECT c1.customer_name AS Customer1, c2.customer_name AS Customer2, c1.customer_city AS City FROM customer c1, customer c2 WHERE c1.customer_city = c2.customer_city AND c1.customer_id < c2.customer_id;

| No 2 SS (of Query & Output in Shell) | ```
MariaDB [Bank_20301318]> SELECT c1.customer_name AS Customer1, c2.customer_name AS Customer2, c1.customer_city AS City
    -> FROM customer c1, customer c2
    -> WHERE c1.customer_city = c2.customer_city AND c1.customer_id < c2.customer_id;
+-----------+-----------+-----------+
| Customer1 | Customer2 | City      |
+-----------+-----------+-----------+
| Jones     | Hayes     | Harrison  |
| Smith     | Curry     | Rye       |
| Lindsay   | Adams     | Pittsfield |
| Turner    | Green     | Stamford  |
+-----------+-----------+-----------+
4 rows in set (0.001 sec)
``` |
|---|---|
| | |
| **No 3 Query (as Plain Text)** | SELECT branch_name, SUM(balance * 0.04) AS Total_Interest FROM account GROUP BY branch_name; |
| **No 3 SS (of Query & Output in Shell)** | ```
MariaDB [Bank_20301318]> SELECT branch_name, SUM(balance * 0.04) AS Total_Interest
    -> FROM account
    -> GROUP BY branch_name;
+-------------+----------------+
| branch_name | Total_Interest |
+-------------+----------------+
| Brighton    |          66.00 |
| Downtown    |          20.00 |
| Mianus      |          28.00 |
| Perryridge  |          16.00 |
| Redwood     |          28.00 |
| Round Hill  |          14.00 |
+-------------+----------------+
6 rows in set (0.000 sec)
``` |
| | |

No 4 Query (as Plain Text)	SELECT account_number FROM account WHERE balance = (SELECT MAX(balance) FROM account WHERE branch_name IN (SELECT branch_name FROM branch WHERE branch_city = account.branch_name));
| No 4 SS (of Query & Output in Shell) | ```
MariaDB [Bank_20301318]> SELECT account_number
    -> FROM account
    -> WHERE balance = (SELECT MAX(balance) FROM account WHERE branch_name IN
    -> (SELECT branch_name FROM branch WHERE branch_city = account.branch_name));
Empty set (0.001 sec)
``` |
| | |
| No 5 Query (as Plain Text) | SELECT loan_number, amount, customer_name FROM loan NATURAL JOIN borrower NATURAL JOIN customer ORDER BY amount DESC, loan_number ASC LIMIT 5; |
| No 5 SS (of Query & Output in Shell) | ```
MariaDB [Bank_20301318]> SELECT loan_number, amount, customer_name
    -> FROM loan NATURAL JOIN borrower NATURAL JOIN customer
    -> ORDER BY amount DESC, loan_number ASC
    -> LIMIT 5;
+-------------+--------+---------------+
| loan_number | amount | customer_name |
+-------------+--------+---------------+
| L-23        |   2000 | Smith         |
| L-14        |   1500 | Johnson       |
| L-15        |   1500 | Hayes         |
| L-16        |   1300 | Adams         |
| L-17        |   1000 | Jones         |
+-------------+--------+---------------+
5 rows in set (0.000 sec)
``` |

No 6 Query **(as Plain Text)**	SELECT DISTINCT customer_name FROM customer NATURAL JOIN depositor NATURAL JOIN account WHERE branch_name = 'Perryridge' AND customer_id IN (SELECT customer_id FROM borrower NATURAL JOIN loan WHERE branch_name = 'Perryridge');
| **No 6 SS**<br>**(of Query & Output**<br>**in Shell)** | ```
MariaDB [Bank_20301318]> SELECT DISTINCT customer_name
    -> FROM customer NATURAL JOIN depositor NATURAL JOIN account
    -> WHERE branch_name = 'Perryridge'
    -> AND customer_id IN (
    ->     SELECT customer_id
    ->     FROM borrower NATURAL JOIN loan
    ->     WHERE branch_name = 'Perryridge'
    -> );
+---------------+
| customer_name |
+---------------+
| Hayes         |
+---------------+
1 row in set (0.001 sec)
``` |
| | |
| **No 7 Query**
(as Plain Text) | SELECT customer_name, SUM(amount) AS total_loan FROM customer NATURAL JOIN borrower NATURAL JOIN loan GROUP BY customer_name HAVING COUNT(loan_number) >= 2; |

No 7 SS (of Query & Output in Shell)	

```
MariaDB [Bank_20301318]> SELECT customer_name, SUM(amount) AS total_loan
    -> FROM customer NATURAL JOIN borrower NATURAL JOIN loan
    -> GROUP BY customer_name
    -> HAVING COUNT(loan_number) >= 2;
+---------------+------------+
| customer_name | total_loan |
+---------------+------------+
| Smith         |       2900 |
+---------------+------------+
1 row in set (0.001 sec)
```