CSE370 – Lab 3

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Lab Section 05

Question 01:

```
SELECT customer.customer_name, loan.loan_number
-> FROM borrower
-> JOIN loan ON borrower.loan_number = loan.loan_number AND loan.branch_name = 'Downtown'
-> JOIN customer ON borrower.customer_id = customer.customer_id;
```

```
MariaDB [Bank]> SELECT customer.customer_name, loan.loan_number
    -> FROM borrower
    -> JOIN loan ON borrower.loan_number = loan.loan_number AND loan.branch_name = 'Downtown'
    -> JOIN customer ON borrower.customer_id = customer.customer_id;
+---------------+-------------+
| customer_name | loan_number |
+---------------+-------------+
| Johnson       | L-14        |
| Jones         | L-17        |
| Williams      | L-17        |
+---------------+-------------+
3 rows in set (0.000 sec)
```

Question 02:

```
SELECT c1.customer_name AS Customer1, c2.customer_name AS Customer2, c1.customer_city AS City

-> FROM customer c1

-> JOIN customer c2 ON c1.customer_city = c2.customer_city AND c1.customer_id < c2.customer_id;
```

```
MariaDB [Bank]> SELECT c1.customer_name AS Customer1, c2.customer_name AS Customer2, c1.customer_city AS City
    -> FROM customer c1
    -> JOIN customer c2 ON 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)
```

Question 03:

```
SELECT account.branch_name AS Branch_name, SUM(account.balance * 0.04) AS Total_Interest
-> FROM account
-> GROUP BY account.branch_name;
```

```
MariaDB [Bank]> SELECT account.branch_name AS Branch_name, SUM(account.balance * 0.04) AS Total_Interest
    -> FROM account
    -> GROUP BY account.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 (0.001 sec)
```

Question 04:

```
SELECT b.branch_city, a.account_number, a.balance
-> FROM account a
-> INNER JOIN branch b ON a.branch_name = b.branch_name
-> WHERE a.balance = (
-> SELECT MAX(a2.balance) FROM account a2
-> INNER JOIN branch b2 ON a2.branch_name = b2.branch_name
-> WHERE b2.branch_city = b.branch_city
-> )
-> ORDER BY b.branch_city;
```

```
MariaDB [Bank]> SELECT b.branch_city, a.account_number, a.balance
    -> FROM account a
    -> INNER JOIN branch b ON a.branch_name = b.branch_name
    -> WHERE a.balance = (
    ->     SELECT MAX(a2.balance)
    ->     FROM account a2
    ->     INNER JOIN branch b2 ON a2.branch_name = b2.branch_name
    ->     WHERE b2.branch_city = b.branch_city
    -> )
    -> ORDER BY b.branch_city;
+-------------+----------------+---------+
| branch_city | account_number | balance |
+-------------+----------------+---------+
| Brooklyn    | A-201          |     900 |
| Horseneck   | A-215          |     700 |
| Palo Alto   | A-222          |     700 |
+-------------+----------------+---------+
3 rows in set (0.001 sec)
```

Question 05:

```
SELECT * FROM (
-> SELECT loan.loan_number, amount, customer_name
-> FROM loan INNER
-> JOIN borrower ON loan.loan_number = borrower.loan_number INNER
-> JOIN customer ON customer.customer_id = borrower.customer_id order
-> BY amount DESC limit 5
-> )
-> AS table1
-> ORDER BY amount, loan_number DESC;
```

```
MariaDB [Bank]> SELECT * FROM (
    ->   SELECT loan.loan_number, amount, customer_name
    ->   FROM loan INNER
    ->   JOIN borrower ON loan.loan_number = borrower.loan_number INNER
    ->   JOIN customer ON customer.customer_id = borrower.customer_id order
    ->   BY amount DESC limit 5
    -> )
    -> AS table1
    -> ORDER BY amount, loan_number DESC;
+-------------+--------+---------------+
| loan_number | amount | customer_name |
+-------------+--------+---------------+
| L-17        |   1000 | Jones         |
| L-16        |   1300 | Adams         |
| L-15        |   1500 | Hayes         |
| L-14        |   1500 | Johnson       |
| L-23        |   2000 | Smith         |
+-------------+--------+---------------+
5 rows in set (0.001 sec)
```

Question 06:

SELECT DISTINCT c.customer_name

-> FROM customer c

-> INNER JOIN depositor d ON c.customer_id = d.customer_id

-> INNER JOIN account a ON d.account_number = a.account_number

-> INNER JOIN borrower b ON c.customer_id = b.customer_id

-> INNER JOIN loan l ON b.loan_number = l.loan_number AND l.branch_name = a.branch_name

-> WHERE a.branch_name = 'Perryridge';

```
MariaDB [Bank]> SELECT DISTINCT c.customer_name
    -> FROM customer c
    -> INNER JOIN depositor d ON c.customer_id = d.customer_id
    -> INNER JOIN account a ON d.account_number = a.account_number
    -> INNER JOIN borrower b ON c.customer_id = b.customer_id
< b.loan_number = l.loan_number AND l.branch_name = a.branch_name
    -> WHERE a.branch_name = 'Perryridge';
+---------------+
| customer_name |
+---------------+
| Hayes         |
+---------------+
1 row in set (0.001 sec)
```

Question 07:

SELECT c.customer_name, COUNT(*) AS number_of_loans, SUM(l.amount) AS total_loan

-> FROM customer c

-> JOIN borrower b ON c.customer_id = b.customer_id

-> JOIN loan l ON b.loan_number = l.loan_number

-> WHERE c.customer_id IN (

-> SELECT b2.customer_id

-> FROM borrower b2

-> GROUP BY b2.customer_id

-> HAVING COUNT(*) >= 2

->)

-> GROUP BY c.customer_id

-> ORDER BY total_loan DESC;

```
MariaDB [Bank]> SELECT c.customer_name, COUNT(*) AS number_of_loans, SUM(l.amount) AS total_loan
    -> FROM customer c
    -> JOIN borrower b ON c.customer_id = b.customer_id
    -> JOIN loan l ON b.loan_number = l.loan_number
    -> WHERE c.customer_id IN (
    ->      SELECT b2.customer_id
    ->      FROM borrower b2
    ->      GROUP BY b2.customer_id
    ->      HAVING COUNT(*) >= 2
    -> )
    -> GROUP BY c.customer_id
    -> ORDER BY total_loan DESC;
+---------------+-----------------+------------+
| customer_name | number_of_loans | total_loan |
+---------------+-----------------+------------+
| Smith         |               2 |       2900 |
+---------------+-----------------+------------+
1 row in set (0.001 sec)
```