CSE370 : Database Systems

Assignment 03 | Fall 2024

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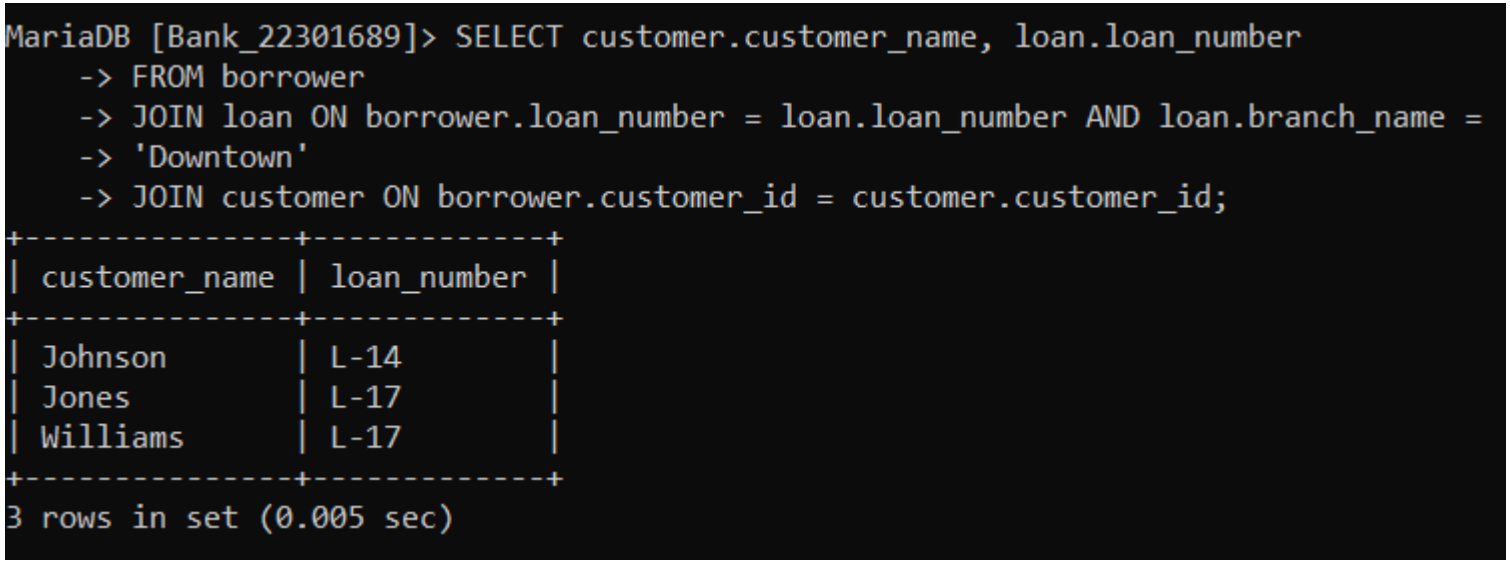
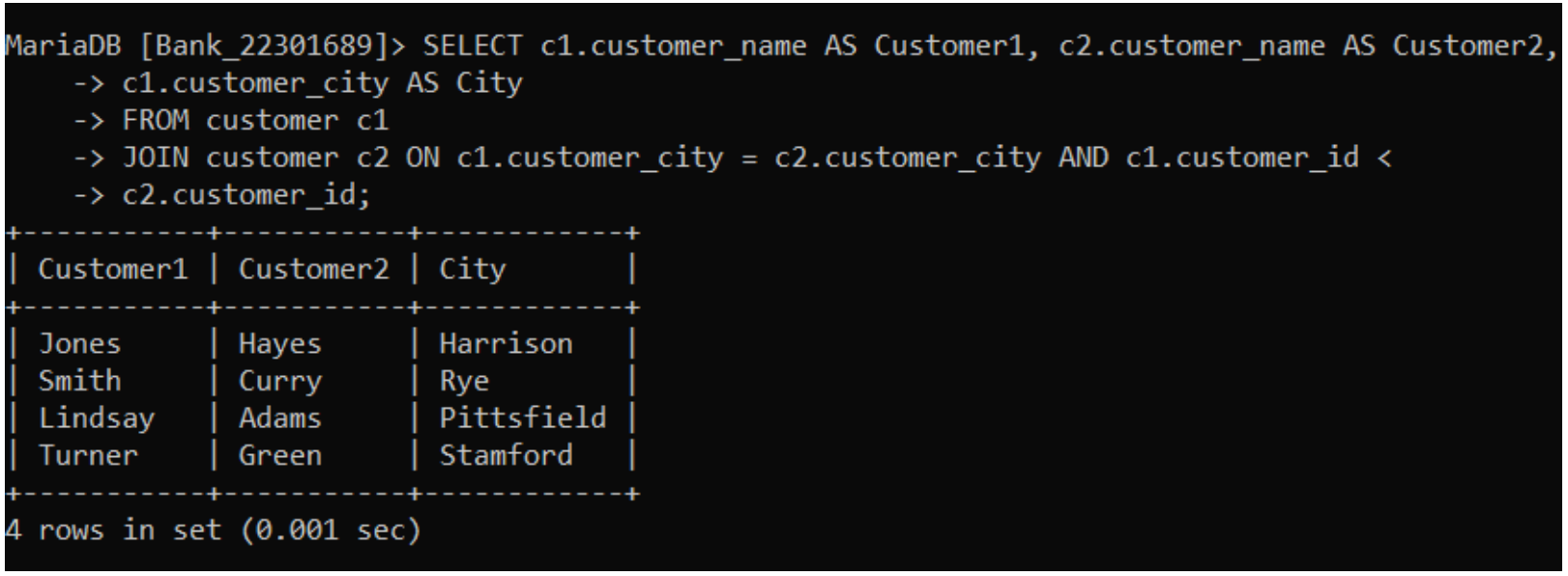
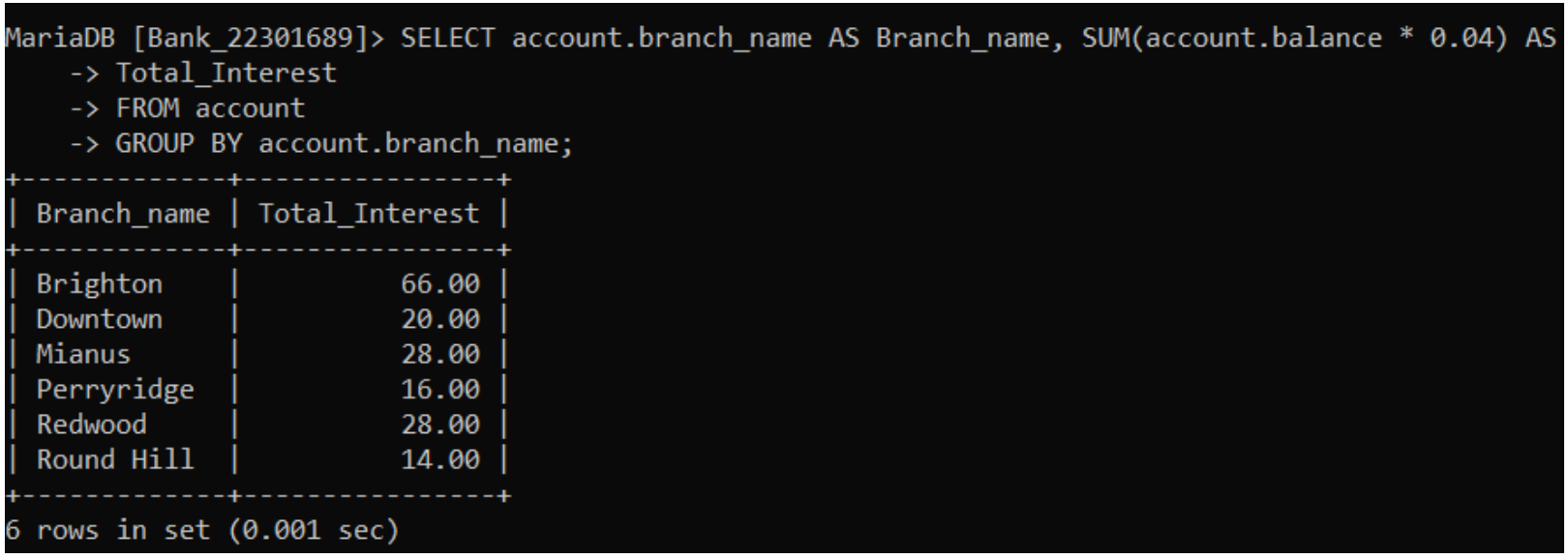
No 1 Query (as Plain Text)	**Answer to the Q. No-01** SELECT customer.customer_name, loan.loan_number FROM borrower JOIN loan ON borrower.loan_number = loan.loan_number AND loan.branch_name = 'Downtown' JOIN customer ON borrower.customer_id = customer.customer_id;
No 1 SS (of Query & Output in Shell)	

No 2 Query (as Plain Text)	**Answer to the Q. No-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;
No 2 SS (of Query & Output in Shell)	

```
MariaDB [Bank_22301689]> 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)
```

No 3 Query (as Plain Text)	**Answer to the Q. No-03** SELECT account.branch_name AS Branch_name, SUM(account.balance * 0.04) AS Total_Interest FROM account GROUP BY account.branch_name;
No 3 SS (of Query & Output in Shell)	

```
MariaDB [Bank_22301689]> 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)
```

No 4 Query (as Plain Text)	**Answer to the Q. No-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;

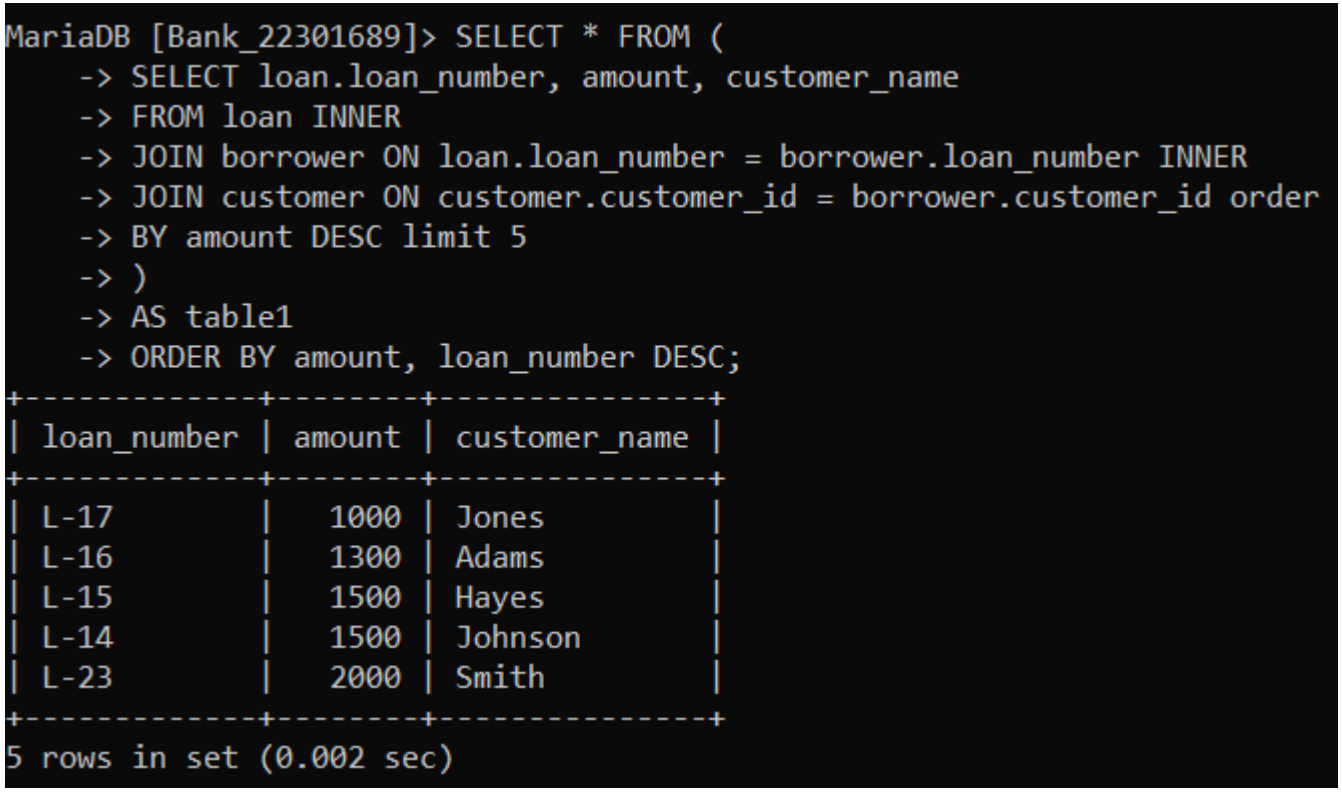
No 4 SS
(of Query & Output in Shell)

```
MariaDB [Bank_22301689]> 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)
```

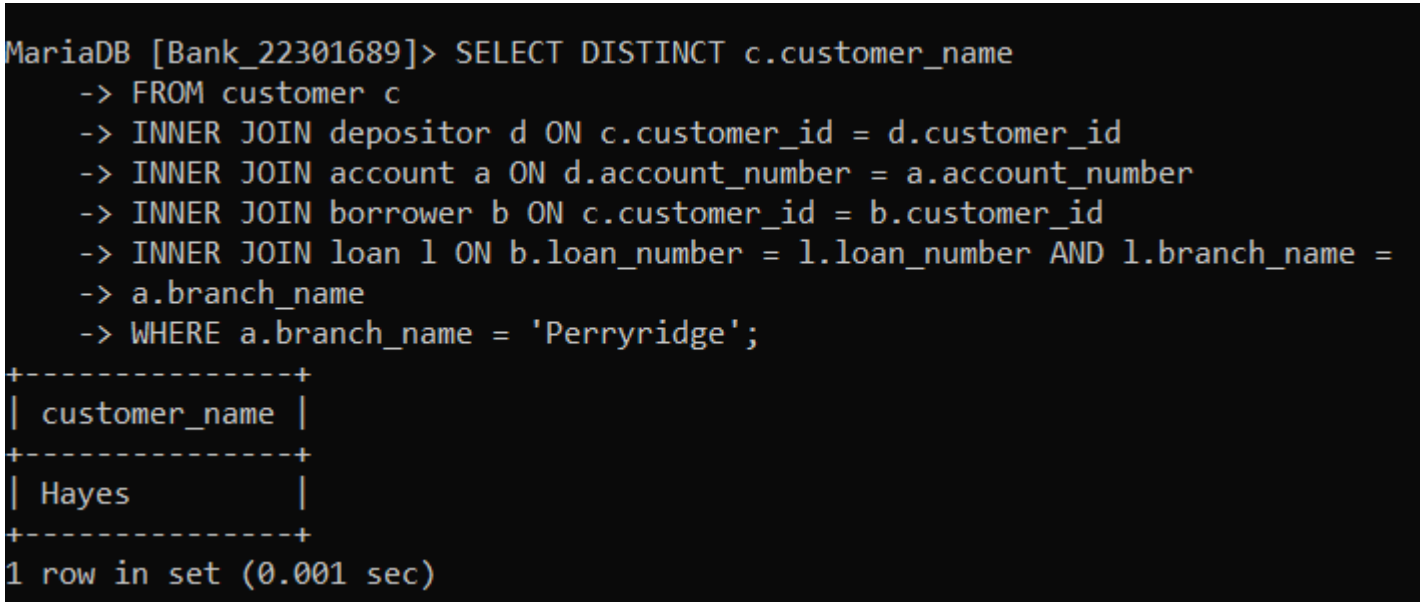
No 5 Query
(as Plain Text)

Answer to the Q. No-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;
No 5 SS (of Query & Output in Shell)	

```
MariaDB [Bank_22301689]> 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 (0.002 sec)
```

No 6 Query (as Plain Text)	**Answer to the Q. No-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';
No 6 SS (of Query & Output in Shell)	

No 7 Query (as Plain Text)	**Answer to the Q. No-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;
```

No 7 SS
(of Query & Output in Shell)

```
MariaDB [Bank_22301689]> 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)
```