CSE370
Lab Homework:04

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Section: 08

#Task_01

Command:

> select customer.customer_name,loan.loan_number from customer,loan,borrower where
> -> customer.customer_id=borrower.customer_id and
> borrower.loan_number=loan.loan_number and
> -> loan.branch_name = "Downtown";

Screenshot:

```
MariaDB [Lab_0]> select customer.customer_name,loan.loan_number from customer,loan,borrower where
    -> customer.customer_id=borrower.customer_id and borrower.loan_number=loan.loan_number and
    -> loan.branch_name = "Downtown";
+---------------+-------------+
| customer_name | loan_number |
+---------------+-------------+
| Johnson       | L-14        |
| Jones         | L-17        |
| Williams      | L-17        |
+---------------+-------------+
3 rows in set (0.002 sec)
```

#Task_02

Command:

> 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;

Screenshot:

```
MariaDB [Lab_0]> 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)
```

#Task_03

Command:

    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;

Screenshot:

```
MariaDB [Lab_0]> Select branch_name, sum(balance * 004) as total_interest from account group by bracnch_name;
ERROR 1054 (42S22): Unknown column 'bracnch_name' in 'group statement'
MariaDB [Lab_0]> Select branch_name, sum(balance * 004) as total_interest from account group by branch;
ERROR 1054 (42S22): Unknown column 'branch' in 'group statement'
MariaDB [Lab_0]> 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)
```

#Task_04

Command:

    select branch_name, sum(balance * 0.04) as Total_Interest from account group by branch_name;

Screenshot:

```
MariaDB [Lab_0]> 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)
```

#Task_05

Command:

>   ->   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
>
> ->)
>
> ->
>
> -> SELECT *
>
> -> FROM TopLoanRecords
>
> -> ORDER BY amount, loan_number DESC;

Screenshot:

```
MariaDB [Lab_0]> WITH TopLoanRecords AS (
    ->      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
    -> )
    ->
    -> SELECT *
    -> FROM TopLoanRecords
    -> 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 (0.000 sec)

MariaDB [Lab_0]>
```

#Task_06
Command:

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 =
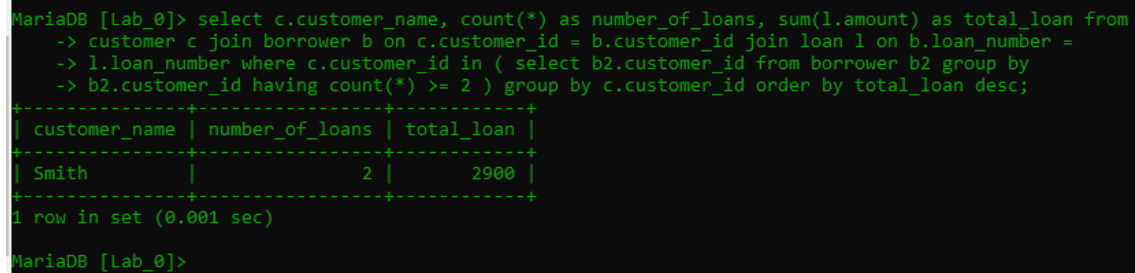'Perryridge';

Screenshot:

```
MariaDB [Lab_0]> 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';
+---------------+
| customer_name |
+---------------+
| Hayes         |
+---------------+
1 row in set (0.000 sec)
```

#Task_07

Command:

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;

Screenshot:

```
MariaDB [Lab_0]> 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)

MariaDB [Lab_0]>
```