CSE370

Lab Assignment - 3

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Section : 3

1. **Find the name and loan number of all customers having a loan at the Downtown branch. [2]**

   Query - select customer_name,loan.loan_number from ((customer inner join borrower on customer.customer_id = borrower.customer_id) inner join loan on loan.loan_number = borrower.loan_number) where loan.branch_name = 'Downtown';

```
MariaDB [23241078_lab3]> select customer_name,loan.loan_number from ((customer inner join borrower on customer.customer_id =
 borrower.customer_id) inner join loan on loan.loan_number = borrower.loan_number) where loan.branch_name = 'Downtown';
+---------------+-------------+
| customer_name | loan_number |
+---------------+-------------+
| Johnson       | L-14        |
| Jones         | L-17        |
| Williams      | L-17        |
+---------------+-------------+
3 rows in set (0.002 sec)
```

2. **Find all the possible pairs of customers who are from the same city. show in the format Customer1, Customer2, City. [2]**

   Query - select c1.customer_name as Customer1, c2.customer_name as Customer2,c1.customer_city as City from (customer c1 inner join customer c2 on c1.customer_city = c2.customer_city) where c1.customer_id <> c2.customer_id;

```
MariaDB [23241078_lab3]> select c1.customer_name as Customer1, c2.customer_name as Customer2,c1.customer_city as City from (
customer c1 inner join customer c2 on c1.customer_city = c2.customer_city) where c1.customer_id <> c2.customer_id;
+-----------+-----------+------------+
| Customer1 | Customer2 | City       |
+-----------+-----------+------------+
| Hayes     | Jones     | Harrison   |
| Curry     | Smith     | Rye        |
| Jones     | Hayes     | Harrison   |
| Smith     | Curry     | Rye        |
| Adams     | Lindsay   | Pittsfield |
| Green     | Turner    | Stamford   |
| Lindsay   | Adams     | Pittsfield |
| Turner    | Green     | Stamford   |
+-----------+-----------+------------+
8 rows in set (0.001 sec)
```

3. **If the bank gives out 4% interest to all accounts, show the total interest across each branch. Print Branch_name, Total_Interest [1]**

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

```
MariaDB [23241078_lab3]> select branch_name as 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 (0.001 sec)
```

4. **Find account numbers with the highest balances for each city in the database [1]**

   Query - select customer_city, account.account_number, max(balance) from customer inner join depositor on customer.customer_id = depositor.customer_id inner join account on account.account_number = depositor.account_number group by customer_city;

```
MariaDB [23241078_lab3]> select customer_city, account.account_number, max(balance) from customer inner join depositor on cu
stomer.customer_id = depositor.customer_id inner join account on account.account_number = depositor.account_number group by
customer_city;
+---------------+----------------+--------------+
| customer_city | account_number | max(balance) |
+---------------+----------------+--------------+
| Harrison      | A-217          |          750 |
| Palo Alto     | A-101          |          900 |
| Pittsfield    | A-222          |          700 |
| Rye           | A-215          |          700 |
| Stamford      | A-305          |          350 |
+---------------+----------------+--------------+
5 rows in set (0.002 sec)
```

5. **Show the loan number, loan amount, and name of customers who have the top 5 highest loan amounts. The data should be sorted by increasing amounts, then decreasing loan numbers in case of the same loan amount. [Hint for top 5 check the "limit" keyword in mysql] [2]**

   Query - select loan.loan_number, amount as loan_amount, customer_name from ((customer inner join borrower on borrower.customer_id = customer.customer_id) inner join loan on loan.loan_number = borrower.loan_number) order by amount desc, loan.loan_number asc limit 5;

```
MariaDB [23241078_lab3]> select loan.loan_number, amount as loan_amount, customer_name from ((customer inner join borrower o
n borrower.customer_id = customer.customer_id) inner join loan on loan.loan_number = borrower.loan_number) order by amount d
esc, loan.loan_number asc limit 5;
+-------------+-------------+---------------+
| loan_number | loan_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 (0.001 sec)
```

6. **Find the names of customers with an account and also a loan at the Perryridge branch. [2]**

   Query - select distinct c1.customer_name from customer c1 inner join depositor d1 on c1.customer_id = d1.customer_id inner join account a1 on a1.account_number = d1.account_number inner join borrower b1 on c1.customer_id = b1.customer_id inner join loan l1 on b1.loan_number = l1.loan_number where a1.branch_name = 'Perryridge' and l1.branch_name = 'Perryridge';

```
MariaDB [23241078_lab3]> select distinct c1.customer_name from customer c1 inner join depositor d1 on c1.customer_id = d1.cu
stomer_id inner join account a1 on a1.account_number = d1.account_number inner join borrower b1 on c1.customer_id = b1.custo
mer_id inner join loan l1 on b1.loan_number = l1.loan_number where a1.branch_name = 'Perryridge' and l1.branch_name = 'Perry
ridge';
+---------------+
| customer_name |
+---------------+
| Hayes         |
+---------------+
1 row in set (0.001 sec)
```

7. **Find the total loan amount of all customers having at least 2 loans from the bank. Show in format customer name, total_loan. [2]**

   Query - select c1.customer_name, sum(l1.amount) as total_loan from customer c1 inner join borrower b1 on c1.customer_id = b1.customer_id inner join loan l1 on b1.loan_number = l1.loan_number group by c1.customer_name having count(b1.loan_number) >= 2;

```
MariaDB [23241078_lab3]> select c1.customer_name, sum(l1.amount) as total_loan from customer c1 inner join borrower b1 on c1
.customer_id = b1.customer_id inner join loan l1 on b1.loan_number = l1.loan_number group by c1.customer_name having count(b
1.loan_number) >= 2;
+---------------+------------+
| customer_name | total_loan |
+---------------+------------+
| Smith         |       2900 |
+---------------+------------+
1 row in set (0.001 sec)
```