CSE370
Assignment 3

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

```
select customer_name, B.loan_number from customer C, borrower B, loan L
   -> where C.customer_id=B.customer_id and L.loan_number=B.loan_number and
   -> L.branch_name='Downtown';
```

```
MariaDB [Bank]> select customer_name, B.loan_number from customer C, borrower B, loan L
    -> where C.customer_id=B.customer_id and L.loan_number=B.loan_number and
    -> L.branch_name='Downtown';
+---------------+-------------+
| customer_name | loan_number |
+---------------+-------------+
| Johnson       | L-14        |
| Jones         | L-17        |
| Williams      | L-17        |
+---------------+-------------+
3 rows in set (0.001 sec)
```

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

```
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_name!=c2.customer_name group by
city;
```

```
MariaDB [Bank]> 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_name!=c2.customer_name group by city;
+-----------+-----------+------------+
| Customer1 | Customer2 | city       |
+-----------+-----------+------------+
| Hayes     | Jones     | Harrison   |
| Adams     | Lindsay   | Pittsfield |
| Curry     | Smith     | Rye        |
| Green     | Turner    | Stamford   |
+-----------+-----------+------------+
4 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.

```
select branch_name, sum(account.balance*(4/100)) as total_interest from
   -> account group by branch_name;
```

```
MariaDB [Bank]> select branch_name, sum(account.balance*(4/100)) as total_interest from
    -> account group by branch_name;
+-------------+----------------+
| branch_name | total_interest |
+-------------+----------------+
| Brighton    |        66.0000 |
| Downtown    |        20.0000 |
| Mianus      |        28.0000 |
| Perryridge  |        16.0000 |
| Redwood     |        28.0000 |
| Round Hill  |        14.0000 |
+-------------+----------------+
6 rows in set (0.000 sec)
```

4. Find account numbers with the highest balances for each city in the database.

select A.account_number, max(A.balance) as highest from account A, branch
-> B where A.branch_name=B.branch_name group by B.branch_city;

```
MariaDB [Bank]> select A.account_number, max(A.balance) as highest from account A, branch
    -> B where A.branch_name=B.branch_name group by B.branch_city;
+----------------+---------+
| account_number | highest |
+----------------+---------+
| A-101          |     900 |
| A-102          |     700 |
| A-222          |     700 |
+----------------+---------+
3 rows in set (0.000 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]

select L.loan_number, L.amount, customer_name from customer C, borrower
-> B, loan L where C.customer_id=B.customer_id and L.loan_number=B.loan_number order by
-> L.amount desc, L.loan_number asc limit 5;

```
MariaDB [Bank]> select L.loan_number, L.amount, customer_name from customer C, borrower
    -> B, loan L where C.customer_id=B.customer_id and L.loan_number=B.loan_number order by
    -> L.amount desc, L.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)
```

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

select customer_name from customer C, depositor D, account A where
-> C.customer_id=D.customer_id and A.account_number=D.account_number and
-> A.branch_name='Perryridge' and C.customer_id in (select C.customer_id from customer C,
-> borrower B, loan L where C.customer_id=B.customer_id an L.loan_number=B.loan_number
-> and L.branch_name='Perryridge');

```
MariaDB [Bank]> select customer_name from customer C, depositor D, account A where
    -> C.customer_id=D.customer_id and A.account_number=D.account_number and
    -> A.branch_name='Perryridge' and C.customer_id in (select C.customer_id from customer C,
    -> borrower B, loan L where C.customer_id=B.customer_id and L.loan_number=B.loan_number
    -> and L.branch_name='Perryridge');
+---------------+
| 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.

select customer_name, sum(L.amount) as total_loan from loan L, borrower B,
-> customer C where B.loan_number=L.loan_number and C.customer_id=B.customer_id
group by C.customer_id having count(C.customer_id)=2;

```
MariaDB [Bank]> select customer_name, sum(L.amount) as total_loan from loan L, borrower B,
    -> customer C where B.loan_number=L.loan_number and C.customer_id=B.customer_id group by
    -> C.customer_id having count(C.customer_id)=2;
+---------------+------------+
| customer_name | total_loan |
+---------------+------------+
| Smith         |       2900 |
+---------------+------------+
1 row in set (0.000 sec)
```