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

ANSWER: 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_22299510]>  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 (0.038 sec)
```

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

answer: 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_22299510]>  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 (0.032 sec)
```

3.If the bank gives out 4% interest to all accounts, show the total interest across each branch. Print Branch_name, Total_Interest [2]

answer: SELECT account.branch_name AS Branch_name,

-> SUM(account.balance * 0.04) AS Total_Interest

-> FROM account GROUP BY account.branch_name;

```
MariaDB [bank_22299510]>  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 (0.004 sec)
```

4.Find account numbers with the highest balances for each city in the database [2]

answer: SELECT acc.account_number, acc.balance, b.branch_city FROM

-> account acc

-> INNER JOIN branch b ON acc.branch_name = b.branch_name

-> WHERE acc.balance = (

-> SELECT MAX(acc2.balance) FROM account acc2

-> INNER JOIN branch b2 ON acc2.branch_name = b2.branch_name

-> WHERE b2.branch_city = b.branch_city

->)

-> ORDER BY b.branch_city;

```
MariaDB [bank_22299510]> SELECT acc.account_number, acc.balance, b.branch_city FROM
    -> account acc
    -> INNER JOIN branch b ON acc.branch_name = b.branch_name
    -> WHERE acc.balance = (
    -> SELECT MAX(acc2.balance) FROM account acc2
    -> INNER JOIN branch b2 ON acc2.branch_name = b2.branch_name
    -> WHERE b2.branch_city = b.branch_city
    -> )
    -> ORDER BY b.branch_city;
+----------------+---------+-------------+
| account_number | balance | branch_city |
+----------------+---------+-------------+
| A-201          |     900 | Brooklyn    |
| A-215          |     700 | Horseneck   |
| A-222          |     700 | Palo Alto   |
+----------------+---------+-------------+
3 rows in set (0.002 sec)
```

5.Show the loan number, loan amount, and name of customers with 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]

answer: 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_22299510]>  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)
```

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

answer: SELECT DISTINCT c.customer_name FROM customer c

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

-> INNER JOIN account acc ON d.account_number =

-> acc.account_number

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

-> INNER JOIN loan l ON brr.loan_number = l.loan_number

-> AND l.branch_name = acc.branch_name

-> WHERE acc.branch_name = 'Perryridge';

```
MariaDB [bank_22299510]>  SELECT DISTINCT c.customer_name FROM customer c
    -> INNER JOIN depositor d ON c.customer_id = d.customer_id
    -> INNER JOIN account acc ON d.account_number =
    -> acc.account_number
    -> INNER JOIN borrower brr ON c.customer_id = brr.customer_id
    -> INNER JOIN loan l ON brr.loan_number = l.loan_number
    -> AND l.branch_name = acc.branch_name
    -> WHERE acc.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. [2]

answer: SELECT c.customer_name, SUM(l.amount) AS total_loan FROM

-> customer c

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

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

-> WHERE c.customer_id IN (

-> SELECT brr2.customer_id FROM borrower brr2 GROUP BY

-> brr2.customer_id HAVING COUNT(*) >= 2

->)

-> GROUP BY c.customer_id ORDER BY total_loan DESC;