Lab - 5

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MySQL 8.0 Command Line Client

```
mysql> SELECT customer_name FROM depositor UNION (SELECT customer_name FROM borrower);
+---------------+
| customer_name |
+---------------+
| Johnson       |
| Hayes         |
| Smith         |
| Jones         |
| Lindsay       |
| Turner        |
| Adams         |
| Williams      |
| Curry         |
+---------------+
9 rows in set (0.00 sec)

mysql> SELECT DISTINCT customer_name FROM loan NATURAL JOIN borrower WHERE customer_name IN (SELECT custo
mer_name FROM account NATURAL JOIN depositor);
+---------------+
| customer_name |
+---------------+
| Jones         |
| Hayes         |
| Smith         |
+---------------+
3 rows in set (0.00 sec)
```

MySQL 8.0 Command Line Client

```
mysql> SELECT DISTINCT customer_name FROM loan NATURAL JOIN borrower WHERE customer_name NOT IN (SELECT c
ustomer_name FROM account NATURAL JOIN depositor);
+---------------+
| customer_name |
+---------------+
| Williams      |
| Curry         |
| Adams         |
+---------------+
3 rows in set (0.00 sec)

mysql> SELECT DISTINCT L.branch_name FROM branch AS L, branch AS M WHERE L.ASSETS > M.ASSETS and M.branch
_city = "BROOKLYN";
+-------------+
| branch_name |
+-------------+
| Downtown    |
| Round Hill  |
+-------------+
2 rows in set (0.00 sec)

mysql> SELECT branch_name FROM branch WHERE ASSETS > SOME (SELECT ASSETS FROM branch WHERE branch_city =
"BROOKLYN");
+-------------+
| branch_name |
+-------------+
| Downtown    |
| Round Hill  |
+-------------+
2 rows in set (0.00 sec)
```

MySQL 8.0 Command Line Client — □ ✕

```
mysql> SELECT branch_name FROM account GROUP BY branch_name HAVING AVG (balance) >= ALL ( SELECT AVG (b
alance) FROM account GROUP BY branch_name);
+-------------+
| branch_name |
+-------------+
| Brighton    |
+-------------+
1 row in set (0.00 sec)

mysql> SELECT DISTINCT customer_name FROM borrower WHERE EXISTS ( SELECT * FROM depositor WHERE deposit
or.customer_name = borrower.customer_name);
+---------------+
| customer_name |
+---------------+
| Hayes         |
| Jones         |
| Smith         |
+---------------+
3 rows in set (0.00 sec)

mysql>
```

MySQL 8.0 Command Line Client — □ ✕

```
mysql> SELECT * FROM loan NATURAL JOIN borrower;
+-------------+-------------+--------+---------------+
| loan_number | branch_name | amount | customer_name |
+-------------+-------------+--------+---------------+
| L-11        | Round Hill  |    900 | Smith         |
| L-15        | Perryridge  |   1500 | Hayes         |
| L-16        | Perryridge  |   1300 | Adams         |
| L-17        | Downtown    |   1000 | Jones         |
| L-17        | Downtown    |   1000 | Williams      |
| L-23        | Redwood     |   2000 | Smith         |
| L-93        | Mianus      |    500 | Curry         |
+-------------+-------------+--------+---------------+
7 rows in set (0.00 sec)

mysql> SELECT * FROM loan INNER JOIN borrower ON borrower.loan_number = loan.loan_number;
+-------------+-------------+--------+---------------+-------------+
| loan_number | branch_name | amount | customer_name | loan_number |
+-------------+-------------+--------+---------------+-------------+
| L-11        | Round Hill  |    900 | Smith         | L-11        |
| L-15        | Perryridge  |   1500 | Hayes         | L-15        |
| L-16        | Perryridge  |   1300 | Adams         | L-16        |
| L-17        | Downtown    |   1000 | Jones         | L-17        |
| L-17        | Downtown    |   1000 | Williams      | L-17        |
| L-23        | Redwood     |   2000 | Smith         | L-23        |
| L-93        | Mianus      |    500 | Curry         | L-93        |
+-------------+-------------+--------+---------------+-------------+
7 rows in set (0.00 sec)
```

MySQL 8.0 Command Line Client — □ ✕

```
mysql> SELECT * FROM loan NATURAL RIGHT OUTER JOIN borrower;
+-------------+---------------+-------------+--------+
| loan_number | customer_name | branch_name | amount |
+-------------+---------------+-------------+--------+
| L-11        | Smith         | Round Hill  |    900 |
| L-15        | Hayes         | Perryridge  |   1500 |
| L-16        | Adams         | Perryridge  |   1300 |
| L-17        | Jones         | Downtown    |   1000 |
| L-17        | Williams      | Downtown    |   1000 |
| L-23        | Smith         | Redwood     |   2000 |
| L-93        | Curry         | Mianus      |    500 |
+-------------+---------------+-------------+--------+
7 rows in set (0.00 sec)

mysql> SELECT * FROM borrower RIGHT OUTER JOIN loan ON borrower.loan_number = loan.loan_number;
+---------------+-------------+-------------+-------------+--------+
| customer_name | loan_number | loan_number | branch_name | amount |
+---------------+-------------+-------------+-------------+--------+
| Smith         | L-11        | L-11        | Round Hill  |    900 |
| NULL          | NULL        | L-14        | Downtown    |   1500 |
| Hayes         | L-15        | L-15        | Perryridge  |   1500 |
| Adams         | L-16        | L-16        | Perryridge  |   1300 |
| Jones         | L-17        | L-17        | Downtown    |   1000 |
| Williams      | L-17        | L-17        | Downtown    |   1000 |
| Smith         | L-23        | L-23        | Redwood     |   2000 |
| Curry         | L-93        | L-93        | Mianus      |    500 |
+---------------+-------------+-------------+-------------+--------+
8 rows in set (0.00 sec)
```

MySQL 8.0 Command Line Client

```
mysql> SELECT * FROM loan NATURAL LEFT OUTER JOIN borrower;
+-------------+-------------+--------+---------------+
| loan_number | branch_name | amount | customer_name |
+-------------+-------------+--------+---------------+
| L-11        | Round Hill  |    900 | Smith         |
| L-14        | Downtown    |   1500 | NULL          |
| L-15        | Perryridge  |   1500 | Hayes         |
| L-16        | Perryridge  |   1300 | Adams         |
| L-17        | Downtown    |   1000 | Jones         |
| L-17        | Downtown    |   1000 | Williams      |
| L-23        | Redwood     |   2000 | Smith         |
| L-93        | Mianus      |    500 | Curry         |
+-------------+-------------+--------+---------------+
8 rows in set (0.00 sec)

mysql> SELECT * FROM borrower LEFT OUTER JOIN loan ON borrower.loan_number = loan.loan_number;
+---------------+-------------+-------------+-------------+--------+
| customer_name | loan_number | loan_number | branch_name | amount |
+---------------+-------------+-------------+-------------+--------+
| Smith         | L-11        | L-11        | Round Hill  |    900 |
| Hayes         | L-15        | L-15        | Perryridge  |   1500 |
| Adams         | L-16        | L-16        | Perryridge  |   1300 |
| Jones         | L-17        | L-17        | Downtown    |   1000 |
| Williams      | L-17        | L-17        | Downtown    |   1000 |
| Smith         | L-23        | L-23        | Redwood     |   2000 |
| Curry         | L-93        | L-93        | Mianus      |    500 |
+---------------+-------------+-------------+-------------+--------+
7 rows in set (0.00 sec)
```

```
MySQL 8.0 Command Line Client                                                        —    □    ×
mysql> SELECT * FROM loan FULL JOIN borrower;
+-------------+-------------+--------+---------------+-------------+
| loan_number | branch_name | amount | customer_name | loan_number |
+-------------+-------------+--------+---------------+-------------+
| L-93        | Mianus      |    500 | Smith         | L-11        |
| L-23        | Redwood     |   2000 | Smith         | L-11        |
| L-17        | Downtown    |   1000 | Smith         | L-11        |
| L-16        | Perryridge  |   1300 | Smith         | L-11        |
| L-15        | Perryridge  |   1500 | Smith         | L-11        |
| L-14        | Downtown    |   1500 | Smith         | L-11        |
| L-11        | Round Hill  |    900 | Smith         | L-11        |
| L-93        | Mianus      |    500 | Hayes         | L-15        |
| L-23        | Redwood     |   2000 | Hayes         | L-15        |
| L-17        | Downtown    |   1000 | Hayes         | L-15        |
| L-16        | Perryridge  |   1300 | Hayes         | L-15        |
| L-15        | Perryridge  |   1500 | Hayes         | L-15        |
| L-14        | Downtown    |   1500 | Hayes         | L-15        |
| L-11        | Round Hill  |    900 | Hayes         | L-15        |
| L-93        | Mianus      |    500 | Adams         | L-16        |
| L-23        | Redwood     |   2000 | Adams         | L-16        |
| L-17        | Downtown    |   1000 | Adams         | L-16        |
| L-16        | Perryridge  |   1300 | Adams         | L-16        |
| L-15        | Perryridge  |   1500 | Adams         | L-16        |
| L-14        | Downtown    |   1500 | Adams         | L-16        |
| L-11        | Round Hill  |    900 | Adams         | L-16        |
| L-93        | Mianus      |    500 | Jones         | L-17        |
| L-23        | Redwood     |   2000 | Jones         | L-17        |
| L-17        | Downtown    |   1000 | Jones         | L-17        |
| L-16        | Perryridge  |   1300 | Jones         | L-17        |
| L-15        | Perryridge  |   1500 | Jones         | L-17        |
| L-14        | Downtown    |   1500 | Jones         | L-17        |
| L-11        | Round Hill  |    900 | Jones         | L-17        |
| L-93        | Mianus      |    500 | Williams      | L-17        |
| L-23        | Redwood     |   2000 | Williams      | L-17        |
| L-17        | Downtown    |   1000 | Williams      | L-17        |
| L-16        | Perryridge  |   1300 | Jones         | L-17        |
| L-15        | Perryridge  |   1500 | Jones         | L-17        |
| L-14        | Downtown    |   1500 | Jones         | L-17        |
| L-11        | Round Hill  |    900 | Jones         | L-17        |
| L-93        | Mianus      |    500 | Williams      | L-17        |
| L-23        | Redwood     |   2000 | Williams      | L-17        |
| L-17        | Downtown    |   1000 | Williams      | L-17        |
| L-16        | Perryridge  |   1300 | Williams      | L-17        |
| L-15        | Perryridge  |   1500 | Williams      | L-17        |
| L-14        | Downtown    |   1500 | Williams      | L-17        |
| L-11        | Round Hill  |    900 | Williams      | L-17        |
| L-93        | Mianus      |    500 | Smith         | L-23        |
| L-23        | Redwood     |   2000 | Smith         | L-23        |
| L-17        | Downtown    |   1000 | Smith         | L-23        |
| L-16        | Perryridge  |   1300 | Smith         | L-23        |
| L-15        | Perryridge  |   1500 | Smith         | L-23        |
| L-14        | Downtown    |   1500 | Smith         | L-23        |
| L-11        | Round Hill  |    900 | Smith         | L-23        |
| L-93        | Mianus      |    500 | Curry         | L-93        |
| L-23        | Redwood     |   2000 | Curry         | L-93        |
| L-17        | Downtown    |   1000 | Curry         | L-93        |
| L-16        | Perryridge  |   1300 | Curry         | L-93        |
| L-15        | Perryridge  |   1500 | Curry         | L-93        |
| L-14        | Downtown    |   1500 | Curry         | L-93        |
| L-11        | Round Hill  |    900 | Curry         | L-93        |
+-------------+-------------+--------+---------------+-------------+
49 rows in set (0.03 sec)
```