LAB 05

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Q1.

```
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)
```

Q2.

```
mysql> select distinct customer_name from borrower
    -> where customer_name in (
    -> select customer_name from depositor);
+---------------+
| customer_name |
+---------------+
| Smith         |
| Hayes         |
| Jones         |
+---------------+
3 rows in set (0.01 sec)
```

Q3.

```
mysql> select distinct customer_name
    -> from borrower
    -> where customer_name not in (
    -> select customer_name from depositor);
+---------------+
| customer_name |
+---------------+
| Adams         |
| Williams      |
| Curry         |
+---------------+
3 rows in set (0.00 sec)
```

Q4.

```
mysql> select A.branch_name
    -> from branch as A, branch as B
    -> where A.assets > B.assets
    -> and B.branch_city = "Brooklyn";
+-------------+
| branch_name |
+-------------+
| Downtown    |
| Round Hill  |
+-------------+
2 rows in set (0.01 sec)
```

Q5.

```
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)
```

Q6.

```
mysql> select branch_name from account group by branch_name
    -> having avg(balance) >= all (
    -> select avg(balance) from account group by branch_name);
+-------------+
| branch_name |
+-------------+
| Brighton    |
+-------------+
1 row in set (0.01 sec)
```

Q7.

```
mysql> select customer_name from depositor
    -> where exists(
    -> select customer_name from borrower);
+---------------+
| customer_name |
+---------------+
| Johnson       |
| Hayes         |
| Johnson       |
| Smith         |
| Jones         |
| Lindsay       |
| Turner        |
+---------------+
7 rows in set (0.00 sec)
```

Q8.

```
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 (0.01 sec)
```

Q9.

```
mysql> select * from loan inner join borrower
    -> on loan.loan_number = borrower.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)
```

Q10.

```
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)
```

Q11.

```
mysql> select * from loan right outer join borrower using(loan_number);
+-------------+---------------+-------------+--------+
| 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)
```

Q12.

```
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)
```

Q13.

```
mysql> select * from loan left outer join borrower using (loan_number);
+-------------+-------------+--------+---------------+
| 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)
```

Q14.

```
mysql> select loan_number, customer_name, branch_name, amount from loan left outer join borrower
    -> using (loan_number)
    -> union
    -> select loan_number, customer_name, branch_name, amount from loan right outer join borrower
    -> using(loan_number);
+-------------+---------------+-------------+--------+
| loan_number | customer_name | branch_name | amount |
+-------------+---------------+-------------+--------+
| L-11        | Smith         | Round Hill  |    900 |
| L-14        | NULL          | Downtown    |   1500 |
| 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 |
+-------------+---------------+-------------+--------+
8 rows in set (0.00 sec)
```

Date/ Time operations

1.

```
mysql>  select current_date();
+----------------+
| current_date() |
+----------------+
| 2022-09-21     |
+----------------+
1 row in set (0.00 sec)
```

2.

```
mysql> select current_time();
+----------------+
| current_time() |
+----------------+
| 16:33:55       |
+----------------+
1 row in set (0.00 sec)
```

3.

```
mysql> select current_timestamp();
+---------------------+
| current_timestamp() |
+---------------------+
| 2022-09-21 16:34:31 |
+---------------------+
1 row in set (0.00 sec)
```

4.

```
mysql> select datediff("2017-06-25 09:34:21", "2017-06-15 15:25:35");
+-----------------------------------------------------+
| datediff("2017-06-25 09:34:21", "2017-06-15 15:25:35") |
+-----------------------------------------------------+
|                                                  10 |
+-----------------------------------------------------+
1 row in set (0.00 sec)
```

5.

```
mysql> select adddate("2022-09-21 04:39:00", interval 1 hour);
+-----------------------------------------------+
| adddate("2022-09-21 04:39:00", interval 1 hour) |
+-----------------------------------------------+
| 2022-09-21 05:39:00                           |
+-----------------------------------------------+
1 row in set (0.00 sec)
```

6.

```
mysql> select addtime("2022-09-21 04:39:00", "02:01:00");
+-----------------------------------------+
| addtime("2022-09-21 04:39:00", "02:01:00") |
+-----------------------------------------+
| 2022-09-21 06:40:00                     |
+-----------------------------------------+
1 row in set (0.00 sec)
```