

```
XAMPP for Windows - mysql -u root -p
Setting environment for using XAMPP for Windows.
USER@MONOXIDE c:\xampp
# mysql -u root -p
Enter password:
Welcome to the MariaDB monitor. Commands end with ; or \g.
Your MariaDB connection id is 11
Server version: 10.4.24-MariaDB mariadb.org binary distribution

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]> use avi
Database changed
MariaDB [avi]> create table customer(
->   customer_id varchar(10) not null,
->   customer_name varchar(20) not null,
->   customer_street varchar(30),
->   customer_city varchar(30),
->   primary key (customer_id)
-> );
Query OK, 0 rows affected (0.070 sec)

MariaDB [avi]> create table branch (
->   branch_name varchar(15),
->   branch_city varchar(30),
->   assets int,
->   primary key (branch_name),
->   check (assets >= 0)
-> );
Query OK, 0 rows affected (0.095 sec)

MariaDB [avi]> create table account(
->   branch_name varchar(15),
->   account_number varchar(10) not null,
->   balance int,
->   primary key (account_number),
->   check (balance >= 0)
-> );
```

XAMPP for Windows - mysql -u root -p

Query OK, 0 rows affected (0.092 sec)

```
MariaDB [avi]> create table loan(  
->   loan_number varchar(10) not null,  
->   branch_name varchar(15),  
->   amount int,  
->   primary key (loan_number)  
-> );  
Query OK, 0 rows affected (0.094 sec)
```

```
MariaDB [avi]> create table depositor(  
->   customer_id varchar(10) not null,  
->   account_number varchar(10) not null,  
->   primary key (customer_id,account_number),  
->   foreign key (customer_id) references customer(customer_id),  
->   foreign key (account_number) references account(account_number)  
-> );  
Query OK, 0 rows affected (0.091 sec)
```

```
MariaDB [avi]> create table borrower(  
->   customer_id varchar(10) not null,  
->   loan_number varchar(10) not null,  
->   primary key (customer_id, loan_number),  
->   foreign key (customer_id) references customer(customer_id),  
->   foreign key (loan_number) references loan(loan_number)  
-> );  
Query OK, 0 rows affected (0.089 sec)
```

```
MariaDB [avi]> insert into customer values  
-> ('C-101','Jones', 'Main', 'Harrison'),  
-> ('C-201','Smith', 'North', 'Rye'),  
-> ('C-211','Hayes', 'Main', 'Harrison'),  
-> ('C-212','Curry', 'North', 'Rye'),  
-> ('C-215','Lindsay', 'Park', 'Pittsfield'),  
-> ('C-220','Turner', 'Putnam', 'Stamford'),  
-> ('C-222','Williams', 'Nassau', 'Princeton'),  
-> ('C-225','Adams', 'Spring', 'Pittsfield'),  
-> ('C-226','Johnson', 'Alma', 'Palo Alto'),  
-> ('C-233','Glenn', 'Sand Hill', 'Woodside'),  
-> ('C-234','Brooks', 'Senator', 'Brooklyn'),
```

XAMPP for Windows - mysql -u root -p
-> ('C-255','Green', 'Walnut', 'Stamford');
Query OK, 12 rows affected (0.134 sec)
Records: 12 Duplicates: 0 Warnings: 0

MariaDB [avi]> insert into branch values
-> ('Downtown','Brooklyn',9000000),
-> ('Redwood','Palo Alto',2100000),
-> ('Perryridge','Horseneck',1700000),
-> ('Mianus','Horseneck',400000),
-> ('Round Hill','Horseneck',8000000),
-> ('Pownal', 'Bennington',300000),
-> ('North Town','Rye',3700000),
-> ('Brighton','Brooklyn',7100000);
Query OK, 8 rows affected (0.047 sec)
Records: 8 Duplicates: 0 Warnings: 0

MariaDB [avi]> insert into account values
-> ('Downtown','A-101',500),
-> ('Mianus','A-215',700),
-> ('Perryridge','A-102',400),
-> ('Round Hill','A-305',350),
-> ('Brighton','A-201',900),
-> ('Redwood','A-222',700),
-> ('Brighton','A-217',750);
Query OK, 7 rows affected (0.045 sec)
Records: 7 Duplicates: 0 Warnings: 0

MariaDB [avi]> insert into loan values
-> ('L-17', 'Downtown', 1000),
-> ('L-23', 'Redwood', 2000),
-> ('L-15', 'Perryridge', 1500),
-> ('L-14', 'Downtown', 1500),
-> ('L-93', 'Mianus', 500),
-> ('L-11', 'Round Hill', 900),
-> ('L-16', 'Perryridge',1300);
Query OK, 7 rows affected (0.007 sec)
Records: 7 Duplicates: 0 Warnings: 0

MariaDB [avi]> insert into depositor values
-> ('C-226', 'A-101'),

```
MariaDB [avi]> insert into depositor values
-> ('C-226', 'A-101'),
-> ('C-201', 'A-215'),
-> ('C-211', 'A-102'),
-> ('C-220', 'A-305'),
-> ('C-226', 'A-201'),
-> ('C-101', 'A-217'),
-> ('C-215', 'A-222');
Query OK, 7 rows affected (0.046 sec)
Records: 7  Duplicates: 0  Warnings: 0
```

```
MariaDB [avi]> insert into borrower values
-> ('C-101', 'L-17'),
-> ('C-201', 'L-23'),
-> ('C-211', 'L-15'),
-> ('C-226', 'L-14'),
-> ('C-212', 'L-93'),
-> ('C-201', 'L-11'),
-> ('C-222', 'L-17'),
-> ('C-225', 'L-16');
Query OK, 8 rows affected (0.046 sec)
Records: 8  Duplicates: 0  Warnings: 0
```

```
MariaDB [avi]> select c.customer_name,l.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 (0.058 sec)
```

```
MariaDB [avi]> (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_id!=c2.customer_id);
+-----+-----+-----+
| Customer1 | Customer2 | City      |
+-----+-----+-----+
```

3 rows in set (0.058 sec)

```
MariaDB [avi]> (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_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 (0.006 sec)

```
MariaDB [avi]> select b.branch_name,(a.balance*0.04) as Total_interest from branch b inner join account a on b.branch_name=a.branch_name  
-> ;
```

branch_name	Total_interest
Downtown	20.00
Perryridge	16.00
Brighton	36.00
Mianus	28.00
Brighton	30.00
Redwood	28.00
Round Hill	14.00

7 rows in set (0.043 sec)

```
MariaDB [avi]> select a.account_number from(account a inner join ( customer c inner join depositor d on c.customer_id=d.customer_id) on a.account_number=d.account_number) where (a.balance,c.customer_city) in(select max(a.balance),c.customer_city from (account a inner join ( customer c inner join depositor d on c.customer_id=d.customer_id) on a.account_number=d.account_number) group by c.customer_city);
```

account_number
A-217

XAMPP for Windows - mysql -u root -p

7 rows in set (0.043 sec)

```
MariaDB [avi]> select a.account_number from(account a inner join ( customer c inner join depositor d on c.customer_id=d.customer_id) on a.account_number=d.account_number) where (a.balance,c.customer_city) in(select max(a.balance),c.customer_city from (account a inner join ( customer c inner join depositor d on c.customer_id=d.customer_id) on a.account_number=d.account_number) group by c.customer_city);
```

account_number
A-217
A-215
A-222
A-305
A-201

5 rows in set (0.053 sec)

```
MariaDB [avi]> select l.loan_number,l.amount,c.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 limit 5;
```

loan_number	amount	customer_name
L-93	500	Curry
L-11	900	Smith
L-17	1000	Jones
L-17	1000	Williams
L-16	1300	Adams

5 rows in set (0.002 sec)

```
MariaDB [avi]> select c.customer_name from customer c,depositor d,account a,borrower b,loan l where c.customer_id=d.customer_id and d.account_number=a.account_number and c.customer_id=b.customer_id and b.loan_number=l.loan_number and l.branch_name="Perryridge" and a.branch_name="Perryridge";
```

customer_name
Hayes

1 row in set (0.002 sec)

```
MariaDB [avi]> select c.customer_name,sum(l.amount) as Total_Loan from (loan l inner join (customer c inner join borrower b on c.customer_id=b.customer_id) on l.loan_number=b.loan_number) group by b.customer_id having count(b.customer_id)>=2;
```

XAMPP for Windows - mysql -u root -p

```
+-----+
5 rows in set (0.053 sec)

MariaDB [avi]> select l.loan_number,l.amount,c.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 limit 5;
+-----+-----+-----+
| loan_number | amount | customer_name |
+-----+-----+-----+
| L-93        | 500   | Curry      |
| L-11        | 900   | Smith     |
| L-17        | 1000  | Jones     |
| L-17        | 1000  | Williams  |
| L-16        | 1300  | Adams     |
+-----+-----+-----+
5 rows in set (0.002 sec)

MariaDB [avi]> select c.customer_name from customer c,depositor d,account a,borrower b,loan l where c.customer_id=d.customer_id and d.account_number=a.account_number and c.customer_id=b.customer_id and b.loan_number=l.loan_number and l.branch_name="Perryridge" and a.branch_name="Perryridge";
+-----+
| customer_name |
+-----+
| Hayes         |
+-----+
1 row in set (0.002 sec)

MariaDB [avi]> select c.customer_name,sum(l.amount) as Total_Loan from (loan l inner join (customer c inner join borrower b on c.customer_id=b.customer_id) on l.loan_number=b.loan_number) group by b.customer_id having count(b.customer_id)>=2;
+-----+-----+
| customer_name | Total_Loan |
+-----+-----+
| Smith         |      2900 |
+-----+-----+
1 row in set (0.039 sec)

MariaDB [avi]> _
```