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```
1 select version();
```

```
version()
```

```
11.4.4-MariaDB-deb12
```



```
1 create database Bank_24241189;
2 use Bank_24241189;
```



```
1 v create table customer (
2   customer_id varchar(10) not null,
3   customer_name varchar(20) not null,
4   customer_street varchar(30),
5   customer_city varchar(30),
6   primary key (customer_id));
```



```
1 v create table branch (
2   branch_name varchar(15),
3   branch_city varchar(30),
4   assets int,
5   primary key (branch_name),
6   check (assets >= 0));
```



```
1 v create table account (
2   branch_name varchar(15),
3   account_number varchar(10) not null,
4   balance int,
5   primary key (account_number),
6   check (balance >= 0));
```



```
1 v create table loan (
2   loan_number varchar(10) not null,
3   branch_name varchar(15),
4   amount int,
5   primary key (loan_number));
```



```
1 v create table depositor (
2   customer_id varchar(10) not null,
3   account_number varchar(10) not null,
4   primary key (customer_id,account_number),
5   foreign key (customer_id) references customer(customer_id),
6   foreign key (account_number) references account(account_number));
```



```
1 v create table borrower (
2   customer_id varchar(10) not null,
3   loan_number varchar(10) not null,
4   primary key (customer_id, loan_number),
5   foreign key (customer_id) references customer(customer_id),
6   foreign key (loan_number) references loan(loan_number));
```

```

1 insert into customer values
2 ('C-101', 'Jones', 'Main', 'Harrison'),
3 ('C-201', 'Smith', 'North', 'Rye'),
4 ('C-211', 'Hayes', 'Main', 'Harrison'),
5 ('C-212', 'Curry', 'North', 'Rye'),
6 ('C-215', 'Lindsay', 'Park', 'Pittsfield'),
7 ('C-220', 'Turner', 'Putnam', 'Stamford'),
8 ('C-222', 'Williams', 'Nassau', 'Princeton'),
9 ('C-225', 'Adams', 'Spring', 'Pittsfield'),
10 ('C-226', 'Johnson', 'Alma', 'Palo Alto'),
11 ('C-233', 'Glenn', 'Sand Hill', 'Woodside'),
12 ('C-234', 'Brooks', 'Senator', 'Brooklyn'),
13 ('C-255', 'Green', 'Walnut', 'Stamford');
14 insert into branch values
15 ('Downtown', 'Brooklyn', 9000000),
16 ('Redwood', 'Palo Alto', 2100000),
17 ('Perryridge', 'Horseneck', 1700000),
18 ('Mianus', 'Horseneck', 400000),
19 ('Round Hill', 'Horseneck', 8000000),
20 ('Pownal', 'Bennington', 300000),
21 ('North Town', 'Rye', 3700000),
22 ('Brighton', 'Brooklyn', 7100000);
23
24
25 insert into account values
26 ('Downtown', 'A-101', 500),
27 ('Mianus', 'A-215', 700),
28 ('Perryridge', 'A-102', 400),
29 ('Round Hill', 'A-305', 350),
30 ('Brighton', 'A-201', 900),
31 ('Redwood', 'A-222', 700),
32 ('Brighton', 'A-217', 750);
33 insert into loan values
34 ('L-17', 'Downtown', 1000),
35 ('L-23', 'Redwood', 2000),
36 ('L-15', 'Perryridge', 1500),
37 ('L-14', 'Downtown', 1500),
38 ('L-93', 'Mianus', 500),
39 ('L-11', 'Round Hill', 900),
40 ('L-16', 'Perryridge', 1300);
41 insert into depositor values
42 ('C-226', 'A-101'),
43 ('C-201', 'A-215'),
44 ('C-211', 'A-102'),
45 ('C-220', 'A-305'),
46 ('C-226', 'A-201'),
47 ('C-101', 'A-217'),
48 ('C-215', 'A-222');
49 insert into borrower values
50 ('C-101', 'L-17'),
51 ('C-201', 'L-23'),
52 ('C-211', 'L-15'),
53 ('C-226', 'L-14'),
54 ('C-212', 'L-93'),
55 ('C-201', 'L-11'),
56 ('C-222', 'L-17'),
57 ('C-225', 'L-16');
58
59

```

Records: 12 Duplicates: 0 Warnings: 0

Records: 8 Duplicates: 0 Warnings: 0

Records: 7 Duplicates: 0 Warnings: 0

Records: 7 Duplicates: 0 Warnings: 0

Records: 7 Duplicates: 0 Warnings: 0

Records: 8 Duplicates: 0 Warnings: 0

```

1 v select m.customer_name,z.loan_number from customer m,borrower z,loan k
2   where m.customer_id=z.customer_id and z.loan_number=k.loan_number
3     and k.branch_name='Downtown';
4

```

customer_name	loan_number
Johnson	L-14
Jones	L-17
Williams	L-17

```

1 v select m1.customer_name,m2.customer_name,m1.customer_city from customer m1, customer m2
2   where m1.customer_city = m2.customer_city and m1.customer_id < m2.customer_id;
3

```

customer_name	customer_name	customer_city
Jones	Hayes	Harrison
Smith	Curry	Rye
Lindsay	Adams	Pittsfield
Turner	Green	Stamford

```

1 SELECT x.branch_name, SUM(x.balance * 0.04) from account x group by x.branch_name;

```

branch_name	SUM(x.balance * 0.04)
Brighton	66.00
Downtown	20.00
Mianus	28.00
Perryridge	16.00
Redwood	28.00
Round Hill	14.00

```

1 v select x.account_number,y.branch_city from account x,branch y
2   where x.branch_name = y.branch_name and
3     (y.branch_city, x.balance) in
4     (select y.branch_city, max(x.balance) from account x,branch y
5       where x.branch_name = y.branch_name group by y.branch_city);
6

```

account_number	branch_city
A-201	Brooklyn
A-215	Horseneck
A-222	Palo Alto

```

1 v select k.loan_number, k.amount, m.customer_name from loan k,borrower z,customer m
2   where k.loan_number = z.loan_number and z.customer_id = m.customer_id
3   order by k.amount asc, k.loan_number desc limit 5;
4

```

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

```

1 v SELECT DISTINCT m.customer_name
2 FROM customer m, depositor a, account x, borrower z, loan q
3 WHERE m.customer_id = a.customer_id
4   AND a.account_number = x.account_number
5   AND m.customer_id = z.customer_id
6   AND z.loan_number = q.loan_number
7   AND x.branch_name = 'Perryridge'
8   AND q.branch_name = 'Perryridge';
9

```

customer_name
---------------

```
1 v SELECT m.customer_name, SUM(q.amount)
2 FROM customer m, borrower z, loan q
3 WHERE m.customer_id = z.customer_id
4       AND z.loan_number = q.loan_number
5 GROUP BY m.customer_id, m.customer_name
6 HAVING COUNT(*) >= 2;
7 |
```

customer_name	SUM(q.amount)
Smith	2900