

select customer.customer\_id,customer\_name,customer\_city,account\_number from depositor  
inner join customer on customer.customer\_id= depositor.customer\_id;

```
MariaDB [bank1]> select customer.customer_id,customer_name,customer_city,account_number from depositor inner join customer on customer.customer_id= depositor.customer_id;
```

customer_id	customer_name	customer_city	account_number
C-101	Jones	Harrison	A-217
C-201	Smith	Rye	A-215
C-211	Hayes	Harrison	A-102
C-215	Lindsay	Pittsfield	A-222
C-220	Turner	Stamford	A-305
C-226	Johnson	Palo Alto	A-101
C-226	Johnson	Palo Alto	A-201

7 rows in set (0.001 sec)

select customer.customer\_id,customer\_name,customer\_city,account\_number from depositor  
left join customer on customer.customer\_id= depositor.customer\_id;

```
MariaDB [bank1]> select customer.customer_id,customer_name,customer_city,account_number from depositor left join customer on customer.customer_id= depositor.customer_id;
```

customer_id	customer_name	customer_city	account_number
C-101	Jones	Harrison	A-217
C-201	Smith	Rye	A-215
C-211	Hayes	Harrison	A-102
C-215	Lindsay	Pittsfield	A-222
C-220	Turner	Stamford	A-305
C-226	Johnson	Palo Alto	A-101
C-226	Johnson	Palo Alto	A-201

7 rows in set (0.000 sec)

select customer.customer\_id,customer\_name,customer\_city,account\_number from customer  
left join depositor on customer.customer\_id= depositor.customer\_id;

```
MariaDB [bank1]> select customer.customer_id,customer_name,customer_city,account_number from customer left join depositor on customer.customer_id= depositor.customer_id;
```

customer_id	customer_name	customer_city	account_number
C-101	Jones	Harrison	A-217
C-201	Smith	Rye	A-215
C-211	Hayes	Harrison	A-102
C-212	Curry	Rye	NULL
C-215	Lindsay	Pittsfield	A-222
C-220	Turner	Stamford	A-305
C-222	Williams	Princeton	NULL
C-225	Adams	Pittsfield	NULL
C-226	Johnson	Palo Alto	A-101
C-226	Johnson	Palo Alto	A-201
C-233	Glenn	Woodside	NULL
C-234	Brooks	Brooklyn	NULL
C-255	Green	Stamford	NULL

13 rows in set (0.000 sec)

select customer\_name,customer\_city,account.account\_number,balance,branch\_name from  
((depositor inner join customer on depositor.customer\_id=customer.customer\_id) inner join  
account on depositor.account\_number=account.account\_number);

```
MariaDB [bank1]> select customer_name,customer_city,account.account_number,balance,branch_name from ((depositor inner join customer on depositor.customer_id=customer.customer_id) inner join account on depositor.account_number=account.account_number);
```

customer_name	customer_city	account_number	balance	branch_name
Jones	Harrison	A-217	750	Brighton
Smith	Rye	A-215	700	Mianus
Hayes	Harrison	A-102	400	Perryridge
Lindsay	Pittsfield	A-222	700	Redwood
Turner	Stamford	A-305	350	Round Hill
Johnson	Palo Alto	A-101	500	Downtown
Johnson	Palo Alto	A-201	900	Brighton

7 rows in set (0.000 sec)

select customer\_name,borrower.loan\_number from borrower inner join loan on  
borrower.loan\_number=loan.loan\_number and loan.branch\_name='Down  
town' inner join customer on borrower.customer\_id= customer.customer\_id;

## Assignment03.

1.

select customer\_name,borrower.loan\_number from ((borrower inner join customer on customer.customer\_id=borrower.customer\_id) inner join loan on borrower.loan\_number=loan.loan\_number) where loan.branch\_name='Downtown';

```
MariaDB [assignment03]> select customer_name,borrower.loan_number from ((borrower inner join customer on customer.customer_id=borrower.customer_id) inner join loan on borrower.loan_number=loan.loan_number) where loan.branch_name='Downtown';
```

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

```
3 rows in set (0.001 sec)
```

2.

select c1.customer\_name as Customer1,c2.customer\_name as Customer2,c1.customer\_city as City from customer c1 inner join customer c2 on c1.customer\_city=c2.customer\_city and c1.customer\_id<c2.customer\_id;

```
MariaDB [assignment03]> select c1.customer_name as Customer1,c2.customer_name as Customer2,c1.customer_city as City from customer c1 inner 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 (0.004 sec)
```

3.

select branch\_name as Branch\_name,sum(balance\*4/100) as Total\_Interest from account group by branch\_name;

```
MariaDB [assignment03]> select branch_name as Branch_name,sum(balance*4/100) as Total_Interest from account group by branch_name;
```

Branch_name	Total_Interest
Brighton	66.0000
Downtown	20.0000
Mianus	28.0000
Perryridge	16.0000
Redwood	28.0000
Round Hill	14.0000

```
6 rows in set (0.001 sec)
```

4. select a.account\_number,c.customer\_city from ((customer c inner join depositor d on c.customer\_id=d.customer\_id) inner join account a on a.account\_number=d.account\_number) where balance=(select max(balance) from (account a1 inner join depositor d1 on a1.account\_number=d1.account\_number)inner join customer c1 on c1.customer\_id=d1.customer\_id where c.customer\_city=c1.customer\_city);

```
MariaDB [bank]> select a.branch_name,account_number,balance from branch b inner join account a on b.branch_name=a.branch_name where balance=(select max(balance) from account a1 inner join branch b1 on a1.branch_name=b1.branch_name where b.branch_city=b1.branch_city);
```

branch_name	account_number	balance
Brighton	A-201	900
Mianus	A-215	700
Redwood	A-222	700

3 rows in set (0.001 sec)

5.

```
MariaDB [bank]> Select loan.loan_number,amount,customer_name from ((borrower inner join loan on loan.loan_number=borrower.loan_number)inner join customer on customer.customer_id=borrower.customer_id )order by amount asc,loan.loan_number desc 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 (0.000 sec)

Select loan.loan\_number,amount,customer\_name from ((borrower inner join loan on loan.loan\_number=borrower.loan\_number)inner join customer on customer.customer\_id=borrower.customer\_id )order by amount asc,loan.loan\_number desc limit 5;

6.

```
MariaDB [bank]> select distinct customer_name from (((borrower inner join customer on customer.customer_id= borrower.customer_id) inner join loan on loan.loan_number=borrower.loan_number)inner join depositor on depositor.customer_id=borrower.customer_id)inner join account on depositor.account_number=account.account_number) where loan.branch_name='Perryridge';
```

customer_name
Hayes

1 row in set (0.000 sec)

select distinct customer\_name from (((borrower inner join customer on customer.customer\_id= borrower.customer\_id) inner join loan on loan.loan\_number=borrower.loan\_number)inner join depositor on depositor.customer\_id=borrower.customer\_id)inner join account on depositor.account\_number=account.account\_number) where loan.branch\_name='Perryridge';

7.

```
MariaDB [bank]> select customer_name,sum(amount) as total_amount from((customer inner join borrower on customer.customer_id=borrower.customer_id)inner join loan on borrower.loan_number=loan.loan_number) group by borrower.customer_id having count(*)>=2;
```

customer_name	total_amount
Smith	2900

1 row in set (0.000 sec)

select customer\_name,sum(amount) as total\_amount from((customer inner join borrower on customer.customer\_id=borrower.customer\_id)inner join loan on borrower.loan\_number=loan.loan\_number) group by borrower.customer\_id having count(\*)>=2;

## Task 06

1. select customer\_name, customer\_city from ((customer inner join borrower on customer.customer\_id=borrower.customer\_id) inner join loan on borrower.loan\_number=loan.loan\_number) where loan.branch\_name='Perryridge';

```
MariaDB [bank]> select customer_name, customer_city from ((customer inner join borrower on customer.customer_id=borrower.customer_id) inner join loan on borrower.loan_number=loan.loan_number) where loan.branch_name='Perryridge';
```

customer_name	customer_city
Hayes	Harrison
Adams	Pittsfield

```
2 rows in set (0.000 sec)
```

2. select account.account\_number from (((account inner join depositor on account.account\_number=depositor.account\_number) inner join borrower on borrower.customer\_id=depositor.customer\_id) inner join loan on borrower.loan\_number=loan.loan\_number) where account.balance between 700 and 900;

```
MariaDB [bank]> select account.account_number from (((account inner join depositor on account.account_number=depositor.account_number) inner join borrower on borrower.customer_id=depositor.customer_id) inner join loan on borrower.loan_number=loan.loan_number) where account.balance between 700 and 900;
```

account_number
A-217
A-215
A-215
A-201

```
4 rows in set (0.001 sec)
```

3. select customer\_name from customer where customer\_street like '%Hill';

```
MariaDB [bank]> select customer_name from customer where customer_street like '%Hill';
```

customer_name
Glenn

```
1 row in set (0.000 sec)
```

4. select branch\_name from branch where assets > any(select assets from branch where branch\_city='Brooklyn');

```
MariaDB [bank]> select branch_name from branch where assets > any(select assets from branch where branch_city='Brooklyn');
```

branch_name
Downtown
Round Hill

```
2 rows in set (0.001 sec)
```

5.select branch\_name from branch where assets>all(select assets from branch where branch\_city='Horseneck');

```
MariaDB [bank]> select branch_name from branch where assets>all(select assets from branch where branch_city='Horseneck');
+-----+
| branch_name |
+-----+
| Downtown    |
+-----+
1 row in set (0.001 sec)
```

6.select customer\_name from ((customer inner join depositor on customer.customer\_id=depositor.customer\_id)inner join account on account.account\_number=depositor.account\_number) where account.branch\_name='Brighton' order by customer\_name asc;

```
MariaDB [bank]> select customer_name from ((customer inner join depositor on customer.customer_id=depositor.customer_id)inner join account on account.account_number=depositor.account_number) where account.branch_name='Brighton' order by customer_name asc;
+-----+
| customer_name |
+-----+
| Johnson       |
| Jones         |
+-----+
2 rows in set (0.001 sec)
```

7. select \* from loan order by amount desc;select \* from loan order by loan\_number asc;

```
MariaDB [bank]> select * from loan order by amount desc;select * from loan order by loan_number asc;
+-----+-----+-----+
| loan_number | branch_name | amount |
+-----+-----+-----+
| L-23        | Redwood     | 2000   |
| L-14        | Downtown    | 1500   |
| L-15        | Perryridge  | 1500   |
| L-16        | Perryridge  | 1300   |
| L-17        | Downtown    | 1000   |
| L-11        | Round Hill  | 900    |
| L-93        | Mianus      | 500    |
+-----+-----+-----+
7 rows in set (0.001 sec)

+-----+-----+-----+
| loan_number | branch_name | amount |
+-----+-----+-----+
| L-11        | Round Hill  | 900    |
| L-14        | Downtown    | 1500   |
| L-15        | Perryridge  | 1500   |
| L-16        | Perryridge  | 1300   |
| L-17        | Downtown    | 1000   |
| L-23        | Redwood     | 2000   |
| L-93        | Mianus      | 500    |
+-----+-----+-----+
7 rows in set (0.000 sec)
```

8. select branch\_name from ((account inner join depositor on account.account\_number=depositor.account\_number) inner join customer on customer.customer\_id=depositor.customer\_id) group by branch\_name having avg(balance)>=700;

```
MariaDB [bank]> select branch_name from ((account inner join depositor on account.account_number=depositor.account_number) inner join customer on customer.customer_id=depositor.customer_id) group by branch_name having avg(balance)>=700;
```

branch_name
Brighton
Mianus
Redwood

3 rows in set (0.001 sec)

9. select customer\_name, account.account\_number from ((customer inner join depositor on customer.customer\_id=depositor.customer\_id) inner join account on account.account\_number=depositor.account\_number) order by balance desc limit 3;

```
MariaDB [bank]> select customer_name, account.account_number from ((customer inner join depositor on customer.customer_id=depositor.customer_id) inner join account on account.account_number=depositor.account_number) order by balance desc limit 3;
```

customer_name	account_number
Johnson	A-201
Jones	A-217
Smith	A-215

3 rows in set (0.001 sec)

## Task 07

1. select distinct customer\_name from ((customer inner join depositor on customer.customer\_id=depositor.customer\_id) inner join account on account.account\_number=depositor.account\_number) where branch\_name in (select branch\_name from ((account inner join depositor on depositor.account\_number=account.account\_number) inner join customer on customer.customer\_id=depositor.customer\_id) where customer.customer\_name='Johnson');

```
MariaDB [bank]> select distinct customer_name from ((customer inner join depositor on customer.customer_id=depositor.customer_id) inner join account on account.account_number=depositor.account_number) where branch_name in (select branch_name from ((account inner join depositor on depositor.account_number=account.account_number) inner join customer on customer.customer_id=depositor.customer_id) where customer.customer_name='Johnson');
```

customer_name
Jones
Johnson

2 rows in set (0.001 sec)

2. select customer\_name from ((customer inner join depositor on customer.customer\_id=depositor.customer\_id) inner join account on depositor.account\_number=account.account\_number) where branch\_name='Mianus' and customer.customer\_id not in (select customer\_id from borrower where loan\_number in (select loan\_number from loan where branch\_name='Mianus'));

```

MariaDB [bank]> select customer_name from ((customer inner join depositor on customer.customer_id=depositor.customer_id)inner join account on depositor.account_number=account.account_number)where branch_name='Mianus' and customer.customer_id not in (select customer_id from borrower where loan_number in (select loan_number from loan where branch_name='Mianus'));
+-----+
| customer_name |
+-----+
| Smith         |
+-----+
1 row in set (0.001 sec)

```

3.select branch\_name,count(customer.customer\_id) as number\_of\_customer from((customer inner join depositor on customer.customer\_id=depositor.customer\_id)inner join account on depositor.account\_number=account.account\_number) group by branch\_name;

```

MariaDB [bank]> select branch_name,count(customer.customer_id) as number_of_customer from((customer inner join depositor on customer.customer_id=depositor.customer_id)inner join account on depositor.account_number=account.account_number) group by branch_name;
+-----+-----+
| branch_name | number_of_customer |
+-----+-----+
| Brighton   | 2                  |
| Downtown   | 1                  |
| Mianus      | 1                  |
| Perryridge | 1                  |
| Redwood    | 1                  |
| Round Hill | 1                  |
+-----+-----+
6 rows in set (0.001 sec)

```

4.select avg(balance) from((account inner join depositor on account.account\_number=depositor.account\_number)inner join customer on customer.customer\_id=depositor.customer\_id) where customer\_city='Palo Alto' group by customer.customer\_id having count(account.account\_number)>=2;

```

MariaDB [bank]> select avg(balance) from((account inner join depositor on account.account_number=depositor.account_number)inner join customer on customer.customer_id=depositor.customer_id) where customer_city='Palo Alto' group by customer.customer_id having count(distinct account.account_number)>=2;
+-----+
| avg(balance) |
+-----+
| 700.0000     |
+-----+
1 row in set (0.001 sec)

```

5. select customer\_name,account\_number from(select customer\_name,account.account\_number,row\_number()over (order by balance desc) as rownum from ((customer inner join depositor on customer.customer\_id=depositor.customer\_id)inner join account on account.account\_number=depositor.account\_number)) as result where rownum=3;

```

MariaDB [bank]> select customer_name,account_number from(select customer_name,account.account_number,row_number()over (order by balance desc) as rownum from ((customer inner join depositor on customer.customer_id=depositor.customer_id)inner join account on account.account_number=depositor.account_number)) as result where rownum=3;
+-----+-----+
| customer_name | account_number |
+-----+-----+
| Smith         | A-215         |
+-----+-----+
1 row in set (0.001 sec)

```