

Assignment 6

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Question:

Consider the following relational schema and solve the following queries:

Customer(cust_id, name, street, city)

Account(acc_no, br_name, bal, cust_name)

Branch(br_name, city, assets)

Borrow(loan_no, br_name, amount)

Queries:

1. Find the branch name and city of the bank that borrow maximum no. of loans.
2. Find all loan numbers for loans with an amount greater than Rs. 12000/-
3. Find the names of all customers who live on the same street and city as 'Ram'.
4. Find all customers who have an account at all branches located at Kalyani.

Solution:

```
mysql> create database a6mouli;
```

Query OK, 1 row affected (0.19 sec)

```
mysql> show databases;
```

```
+-----+
| Database          |
+-----+
| A3mouli           |
| A4mouli           |
| A5mouli           |
| a6mouli           |
| information_schema |
| mouli             |
| mouli_assi2       |
| mysql             |
| performance_schema |
| sys               |
+-----+
```

10 rows in set (0.00 sec)

```
mysql> use a6mouli;
```

Database changed

```
mysql> create table Branch(
```

```
-> br_name varchar(20) primary key,
```

```
-> city varchar(15),
-> assets decimal(10, 2));
```

Query OK, 0 rows affected (0.94 sec)

mysql> desc Branch;

Field	Type	Null	Key	Default	Extra
br_name	varchar(20)	NO	PRI	NULL	
city	varchar(15)	YES		NULL	
assets	decimal(10,2)	YES		NULL	

3 rows in set (0.01 sec)

mysql> create table Customers(

```
-> cust_id varchar(10) primary key,
-> cust_name varchar(20),
-> street varchar(20),
-> city varchar(15) references Branch);
```

Query OK, 0 rows affected (0.60 sec)

mysql> desc Customers;

Field	Type	Null	Key	Default	Extra
cust_id	varchar(10)	NO	PRI	NULL	
cust_name	varchar(20)	YES		NULL	
street	varchar(20)	YES		NULL	
city	varchar(15)	YES		NULL	

4 rows in set (0.00 sec)

mysql> create table Account(

```
-> acc_no varchar(12) primary key,
-> br_name varchar(20) references Branch,
-> balance decimal(10, 2),
-> cust_name varchar(20) references Customers);
```

Query OK, 0 rows affected (0.52 sec)

mysql> desc Account;

Field	Type	Null	Key	Default	Extra
acc_no	varchar(12)	NO	PRI	NULL	
br_name	varchar(20)	YES		NULL	
balance	decimal(10,2)	YES		NULL	

cust_name	varchar(20)	YES		NULL		
-----------	-------------	-----	--	------	--	--

4 rows in set (0.01 sec)

```
mysql> create table Borrow(
  -> loan_no varchar(12) primary key,
  -> br_name varchar(20) references Branch,
  -> amount decimal(10,2));
```

Query OK, 0 rows affected (0.72 sec)

```
mysql> desc Borrow;
```

Field	Type	Null	Key	Default	Extra
loan_no	varchar(12)	NO	PRI	NULL	
br_name	varchar(20)	YES		NULL	
amount	decimal(10,2)	YES		NULL	

3 rows in set (0.01 sec)

```
mysql> INSERT INTO Branch (br_name, city, assets)
```

```
-> VALUES
```

```
-> ("Axis Bank", "Ranaghat", 1365.24),
-> ("Bandhan Bank", "Kalyani", 1256.89),
-> ("Bank Of India", "Kolkata", 4512.23),
-> ("Canara Bank", "Kolkata", 1025.15),
-> ("SBI Bank", "Ranaghat", 1689.36);
```

Query OK, 5 rows affected (0.12 sec)

Records: 5 Duplicates: 0 Warnings: 0

```
mysql> select * from Branch;
```

br_name	city	assets
Axis Bank	Ranaghat	1365.24
Bandhan Bank	Kalyani	1256.89
Bank Of India	Kolkata	4512.23
Canara Bank	Kolkata	1025.15
SBI Bank	Ranaghat	1689.36

5 rows in set (0.00 sec)

```
mysql> INSERT INTO Customers(cust_id, cust_name, street, city)
```

```
-> VALUES
```

```
-> ("CUS1", "Mouli", "Habibpur", "Ranaghat"),
-> ("CUS2", "Noorain", "Ghosh Para", "kalyani"),
```

```
-> ("CUS3", "Ammrisha", "College Street", "Kolkata"),
-> ("CUS4", "Nabanita", "Central Park", "Kolkata"),
-> ("CUS5", "Maya", "Civil Centre", "Ranaghat");
```

Query OK, 5 rows affected (0.09 sec)

Records: 5 Duplicates: 0 Warnings: 0

```
mysql> select * from Customers;
```

```
+-----+-----+-----+-----+
| cust_id | cust_name | street      | city  |
+-----+-----+-----+-----+
| CUS1    | Mouli     | Habibpur    | Ranaghat |
| CUS2    | Noorain   | Ghosh Para  | kalyani |
| CUS3    | Ammrisha  | College Street | Kolkata |
| CUS4    | Nabanita  | Central Park | Kolkata |
| CUS5    | Maya      | Civil Centre | Ranaghat |
+-----+-----+-----+-----+
```

5 rows in set (0.00 sec)

```
mysql> INSERT INTO Account (acc_no, br_name, balance, cust_name)
```

```
-> VALUES
-> ("1246XXX3492", "SBI Bank", 782937.35, "Noorain"),
-> ("1345XXX2347", "Axis Bank", 738120.66, "Mouli"),
-> ("1893XXX2974", "Bandhan Bank", 356784.26, "Ammrisha"),
-> ("2108XXX2398", "Bank Of India", 289794.12, "Nabanita"),
-> ("1357XXX4684", "Canara Bank", 467366.28, "Maya");
```

Query OK, 5 rows affected (0.19 sec)

Records: 5 Duplicates: 0 Warnings: 0

```
mysql> SELECT * FROM Account;
```

```
+-----+-----+-----+-----+
| acc_no   | br_name   | balance  | cust_name |
+-----+-----+-----+-----+
| 1246XXX3492 | SBI Bank  | 782937.35 | Noorain   |
| 1345XXX2347 | Axis Bank | 738120.66 | Mouli     |
| 1357XXX4684 | Canara Bank | 467366.28 | Maya      |
| 1893XXX2974 | Bandhan Bank | 356784.26 | Ammrisha  |
| 2108XXX2398 | Bank Of India | 289794.12 | Nabanita  |
+-----+-----+-----+-----+
```

5 rows in set (0.00 sec)

```
mysql> INSERT INTO Borrow (loan_no, br_name, amount)
```

```
-> VALUES
-> ("LOAN1", "SBI Bank", 20000),
-> ("LOAN2", "Axis Bank", 15000),
-> ("LOAN3", "Canara Bank", 49000),
```

```
-> ("LOAN4", "Bandhan Bank", 29455),
-> ("LOAN5", "Bank Of India", 29583);
Query OK, 5 rows affected (0.09 sec)
Records: 5 Duplicates: 0 Warnings: 0
```

```
mysql> SELECT * FROM Borrow;
+-----+-----+-----+
| loan_no | br_name | amount |
+-----+-----+-----+
| LOAN1   | SBI Bank | 20000.00 |
| LOAN2   | Axis Bank | 15000.00 |
| LOAN3   | Canara Bank | 49000.00 |
| LOAN4   | Bandhan Bank | 29455.00 |
| LOAN5   | Bank Of India | 29583.00 |
+-----+-----+-----+
5 rows in set (0.00 sec)
```

Queries

1. Find the branch name and city of the bank that borrow maximum no. of loans.

```
mysql> SELECT br_name, city FROM Branch
-> WHERE br_name = (SELECT br_name FROM Borrow
-> GROUP BY br_name
-> ORDER BY COUNT(loan_no)
-> DESC LIMIT 1);
+-----+-----+
| br_name | city |
+-----+-----+
| SBI Bank | Ranaghat |
+-----+-----+
1 row in set (0.03 sec)
```

2. Find all loan numbers for loans with an amount greater than Rs. 12000/-

```
mysql> SELECT loan_no FROM Borrow WHERE amount > 12000;
+-----+
| loan_no |
+-----+
| LOAN1   |
| LOAN2   |
| LOAN3   |
| LOAN4   |
| LOAN5   |
+-----+
5 rows in set (0.02 sec)
```

```
mysql> UPDATE Customers
-> SET cust_name = "Ram"
-> WHERE cust_id = "CUS5";
Query OK, 1 row affected (0.08 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

```
mysql> UPDATE Customers
-> SET street = "Civil Centre"
-> WHERE cust_id = "CUS2";
Query OK, 1 row affected (0.07 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

```
mysql> UPDATE Customers
-> SET street = "Civil Centre"
-> WHERE cust_id = "CUS4";
Query OK, 1 row affected (0.10 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

```
mysql> UPDATE Customers
-> SET city = "Ranaghat"
-> WHERE cust_id = "CUS2";
Query OK, 1 row affected (0.07 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

```
mysql> UPDATE Customers
-> SET city = "Ranaghat"
-> WHERE cust_id = "CUS4";
Query OK, 1 row affected (0.08 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

```
mysql> SELECT * FROM Customers;
+-----+-----+-----+-----+
| cust_id | cust_name | street      | city  |
+-----+-----+-----+-----+
| CUS1   | Mouli    | Habibpur    | Ranaghat |
| CUS2   | Noorain  | Civil Centre | Ranaghat |
| CUS3   | Ammrisha | College Street | Kolkata |
| CUS4   | Nabanita | Civil Centre | Ranaghat |
| CUS5   | Ram      | Civil Centre | Ranaghat |
+-----+-----+-----+-----+
5 rows in set (0.00 sec)
```

3. Find the names of all customers who live on the same street and city as 'Ram'.

```
mysql> SELECT cust_name FROM Customers
-> WHERE street =
-> (SELECT street FROM Customers
-> WHERE cust_name = "Ram")
-> AND city = (SELECT city FROM Customers
-> WHERE cust_name = "Ram");
```

```
+-----+
| cust_name |
+-----+
| Noorain   |
| Nabanita  |
| Ram       |
+-----+
```

3 rows in set (0.00 sec)

4. Find all customers who have an account at all branches located at Kalyani.

```
mysql> SELECT DISTINCT cust_name
-> FROM Account
-> WHERE br_name IN
-> (SELECT br_name FROM Branch
-> WHERE city = "Kalyani");
```

```
+-----+
| cust_name |
+-----+
| Ammrisha  |
+-----+
```

1 row in set (0.00 sec)

```
mysql>
```