1. Consider following relation and solve the queries: Create different tables given below with
appropriate constraints like primary key, foreign key, check constrains, not null etc.
Account (Acc_no, branch_name,balance)
Branch (branch_name,branch_city,assets)
Customer (cust_name,cust_street,cust_city)
Depositor (cust_name,acc_no)
Loan (loan_no,branch_name,amount)
Borrower (cust_name,loan_no)

1. Create a View1 to display List all customers in alphabetical order who have loan from Pune_Station branch.

```
mysql> create view View1 AS
    -> select Borrower.cust_name, Borrower.loan_no, Loan.amount from Borrower
    -> inner join Loan on Borrower.loan_no = Loan.loan_no
    -> where branch_name="Pune-Station"
    -> Order By Borrower.cust_name ASC;
Query OK, 0 rows affected (0.12 sec)

mysql> select * from View1;
+----------------+---------+----------+
| cust_name      | loan_no | amount   |
+----------------+---------+----------+
| Aayush Jadhav  |    9001 | 89000.00 |
| Dnyanesh Deore |    9002 | 49000.00 |
| Nayan Bhadane  |    9005 | 62400.00 |
| Pranav Patil   |    9003 | 59000.00 |
| Sumit Shelar   |    9004 | 62000.00 |
+----------------+---------+----------+
5 rows in set (0.00 sec)
```

2. Create View2 on branch table by selecting any two columns and perform insert update delete operations.

```
mysql> create view View2 AS select branch_name,branch_city from Branch;
Query OK, 0 rows affected (0.12 sec)

mysql> insert into View2 values("Katraj-Branch","Katraj");
Query OK, 1 row affected (0.09 sec)

mysql> insert into View2 values("Swargate-Branch","Swargate");
Query OK, 1 row affected (0.09 sec)

mysql> select * from View2;
+----------------+-------------+
| branch_name    | branch_city |
+----------------+-------------+
| Akurdi-Branch  | PCMC        |
| Katraj-Branch  | Katraj      |
| Nigdi-Branch   | PCMC        |
| Pune-Station   | Pune        |
| Swargate-Branch| Swargate    |
| Yerwada-Branch | Pune        |
+----------------+-------------+
6 rows in set (0.00 sec)

mysql> update View2 set branch_city="Nashik" where branch_name="Katraj-Branch";
Query OK, 1 row affected (0.08 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> update View2 set branch_city="Nashik" where branch_name="Swargate-Branch";
Query OK, 1 row affected (0.10 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> select * from View2;
+----------------+-------------+
| branch_name    | branch_city |
+----------------+-------------+
```

```
| Akurdi-Branch  | PCMC        |
| Katraj-Branch  | Nashik      |
| Nigdi-Branch   | PCMC        |
| Pune-Station   | Pune        |
| Swargate-Branch| Nashik      |
| Yerwada-Branch | Pune        |
+----------------+-------------+
6 rows in set (0.00 sec)

mysql> delete from View2 where branch_city="Nashik";
Query OK, 2 rows affected (0.09 sec)

mysql> select * from View2;
+----------------+-------------+
| branch_name    | branch_city |
+----------------+-------------+
| Akurdi-Branch  | PCMC        |
| Nigdi-Branch   | PCMC        |
| Pune-Station   | Pune        |
| Yerwada-Branch | Pune        |
+----------------+-------------+
4 rows in set (0.00 sec)
```

3. Create View3 on borrower and depositor table by selecting any one column from each table perform insert update delete operations.
ANS. In Borrower and Deposiiter Table Contains Foreign Key Columns thats why we can't able to insert or update or delete operation on any table.

4. Create Union of left and right joint for all customers who have an account or loan or both at bank.

```
mysql> select Customer.cust_name from
Customer
-> left join Depositer ON Customer.cust_name = Depositer.cust_name
-> UNION
-> select Customer.cust_name from Customer
-> right join Borrower ON Customer.cust_name = Borrower.cust_name;
+------------------+
| cust_name        |
+------------------+
| Aayush Jadhav    |
| Abhishek Patil   |
| Anuj Jadhav      |
| Aryan Patil      |
| Chaitnya Mitkari |
| Dnyanesh Deore   |
| Gaurav Pawar     |
| Khushal Patil    |
| Nayan Bhadane    |
| Pradyumna Sawkar |
| Pranav Patil     |
| Prathmesh Dive   |
| Rahul Patil      |
| Sarthak Yere     |
| Sumit Shelar     |
| Tejas Danane     |
| Yash Patil       |
+------------------+
17 rows in set (0.00 sec)
```

5. Display content of View1,View2,View3.

```
mysql> select * from View1;
+----------------+---------+----------+
| cust_name      | loan_no | amount   |
+----------------+---------+----------+
| Aayush Jadhav  |    9001 | 89000.00 |
| Dnyanesh Deore |    9002 | 49000.00 |
| Nayan Bhadane  |    9005 | 62400.00 |
| Pranav Patil   |    9003 | 59000.00 |
```

```
| Sumit Shelar   |    9004 | 62000.00 |
+----------------+---------+----------+
5 rows in set (0.00 sec)

mysql> select * from View2;
+----------------+-------------+
| branch_name    | branch_city |
+----------------+-------------+
| Akurdi-Branch  | PCMC        |
| Nigdi-Branch   | PCMC        |
| Pune-Station   | Pune        |
| Yerwada-Branch | Pune        |
+----------------+-------------+
4 rows in set (0.00 sec)

mysql> select * from View3;
+---------------+--------+
| cust_name     | Acc_no |
+---------------+--------+
| Aryan Patil   |   1013 |
| Khushal Patil |   1015 |
| Yash Patil    |   2013 |
+---------------+--------+
3 rows in set (0.00 sec)

6. Create Simple and Unique index.
mysql> create index index1 ON Customer(cust_name);
Query OK, 0 rows affected (0.32 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> create unique index index2 on Borrower(loan_no);
Query OK, 0 rows affected (0.31 sec)
Records: 0  Duplicates: 0  Warnings: 0


7. Display index Information.
mysql> show indexes from Customer;
+----------+------------+----------+--------------+-------------+-----------
+-------------+----------+--------+------+------------+---------+---------------+
| Table    | Non_unique | Key_name | Seq_in_index | Column_name | Collation |
Cardinality | Sub_part | Packed | Null | Index_type | Comment | Index_comment |
+----------+------------+----------+--------------+-------------+-----------
+-------------+----------+--------+------+------------+---------+---------------+
| Customer |          0 | PRIMARY  |            1 | cust_name   | A
|          17 |     NULL | NULL   |      | BTREE      |         |               |
| Customer |          1 | index1   |            1 | cust_name   | A
|          17 |     NULL | NULL   |      | BTREE      |         |               |
+----------+------------+----------+--------------+-------------+-----------
+-------------+----------+--------+------+------------+---------+---------------+
2 rows in set (0.00 sec)

mysql> mysql> show indexes from Borrower;
+----------+------------+-----------+--------------+-------------+-----------
+-------------+----------+--------+------+------------+---------+---------------+
| Table    | Non_unique | Key_name  | Seq_in_index | Column_name | Collation |
Cardinality | Sub_part | Packed | Null | Index_type | Comment | Index_comment |
+----------+------------+-----------+--------------+-------------+-----------
+-------------+----------+--------+------+------------+---------+---------------+
| Borrower |          0 | index2    |            1 | loan_no     | A
|          10 |     NULL | NULL   | YES  | BTREE      |         |               |
| Borrower |          1 | loan_no   |            1 | loan_no     | A
|          10 |     NULL | NULL   | YES  | BTREE      |         |               |
| Borrower |          1 | cust_name |            1 | cust_name   | A
|          10 |     NULL | NULL   | YES  | BTREE      |         |               |
+----------+------------+-----------+--------------+-------------+-----------
+-------------+----------+--------+------+------------+---------+---------------+
3 rows in set (0.00 sec)
```

8. Truncate table Customer.

```
mysql> set FOREIGN_KEY_CHECKS = 0;
Query OK, 0 rows affected (0.00 sec)

mysql> truncate table Customer;
Query OK, 0 rows affected (0.04 sec)

mysql> set FOREIGN_KEY_CHECKS = 1;
Query OK, 0 rows affected (0.00 sec)

mysql> select * from Customer;
Empty set (0.00 sec)
```