

Date: 15/04/2024

Task

1. Create a table Customer with columns cid and cname. cid should be a primary key in the table and cname should be NOT NULL.
2. Insert three customer data into the table.
3. Add columns age, city and phnum. Age > 20, city default value should be 'Bangalore' and phnum should be unique.
4. Turn on the transaction on.
5. Insert another two customer data into the table without city value.

```
mysql> CREATE TABLE Customer (  
->     cid INT PRIMARY KEY,  
->     cname VARCHAR(100) NOT NULL  
-> );  
Query OK, 0 rows affected (0.02 sec)  
  
mysql> INSERT INTO Customer (cid, cname) VALUES  
-> (1, 'John Smith'),  
-> (2, 'Alice Johnson'),  
-> (3, 'Michael Brown');  
Query OK, 3 rows affected (0.01 sec)  
Records: 3  Duplicates: 0  Warnings: 0  
  
mysql> ALTER TABLE Customer  
-> ADD COLUMN age INT CHECK (age > 20),  
-> ADD COLUMN city VARCHAR(100) DEFAULT 'Bangalore',  
-> ADD COLUMN phnum VARCHAR(20) UNIQUE;  
Query OK, 3 rows affected (0.10 sec)  
Records: 3  Duplicates: 0  Warnings: 0  
  
mysql> START TRANSACTION;  
Query OK, 0 rows affected (0.00 sec)  
  
mysql> INSERT INTO Customer (cid, cname, age, phnum)  
-> VALUES  
-> (4, 'Emily Wilson', 25, '123-456-7890'),  
-> (5, 'David Lee', 30, '987-654-3210');  
Query OK, 2 rows affected (0.00 sec)  
Records: 2  Duplicates: 0  Warnings: 0
```

6. Display data from the table.
7. Create a savepoint 'ins'.
8. Update the first age of all the customers.
9. Display data from the table.

```
mysql> SELECT * FROM Customer;
+-----+-----+-----+-----+-----+
| cid | cname          | age | city       | phnum          |
+-----+-----+-----+-----+-----+
| 1   | John Smith    | NULL | Bangalore  | NULL           |
| 2   | Alice Johnson | NULL | Bangalore  | NULL           |
| 3   | Michael Brown | NULL | Bangalore  | NULL           |
| 4   | Emily Wilson  | 25   | Bangalore  | 123-456-7890   |
| 5   | David Lee     | 30   | Bangalore  | 987-654-3210   |
+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)
```

```
mysql> SAVEPOINT ins;
Query OK, 0 rows affected (0.00 sec)
```

```
mysql> UPDATE Customer
    -> SET age = age + 1;
Query OK, 2 rows affected (0.01 sec)
Rows matched: 5  Changed: 2  Warnings: 0
```

```
mysql> SELECT * FROM Customer;
+-----+-----+-----+-----+-----+
| cid | cname          | age | city       | phnum          |
+-----+-----+-----+-----+-----+
| 1   | John Smith    | NULL | Bangalore  | NULL           |
| 2   | Alice Johnson | NULL | Bangalore  | NULL           |
| 3   | Michael Brown | NULL | Bangalore  | NULL           |
| 4   | Emily Wilson  | 26   | Bangalore  | 123-456-7890   |
| 5   | David Lee     | 31   | Bangalore  | 987-654-3210   |
+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)
```

10. Create savepoint 'up1';
11. Update all the customer's city of the first three customers.
12. Display data from the table.
13. Create savepoint 'up2'.
14. Roll back to up1.

```

mysql> SAVEPOINT up1;
Query OK, 0 rows affected (0.00 sec)

mysql> SET @row_number := 0;
Query OK, 0 rows affected (0.00 sec)

mysql>
mysql> UPDATE Customer
      -> SET city = 'New York'
      -> WHERE (SELECT @row_number := @row_number + 1) <= 3;
Query OK, 0 rows affected, 1 warning (0.00 sec)
Rows matched: 5  Changed: 0  Warnings: 1

mysql> SELECT * FROM Customer;
+----+-----+-----+-----+-----+
| cid | cname          | age | city      | phnum          |
+----+-----+-----+-----+-----+
| 1   | John Smith    | NULL | New York  | NULL           |
| 2   | Alice Johnson | NULL | New York  | NULL           |
| 3   | Michael Brown | NULL | New York  | NULL           |
| 4   | Emily Wilson  | 26  | New York  | 123-456-7890   |
| 5   | David Lee     | 31  | New York  | 987-654-3210   |
+----+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> SAVEPOINT up2;
Query OK, 0 rows affected (0.00 sec)

mysql> ROLLBACK TO up1;
Query OK, 0 rows affected (0.00 sec)

```

15. Display data from the table.
16. Commit.
17. Display data from the table.
18. Turn off the transactions.

```
mysql> SELECT * FROM Customer;
```

cid	cname	age	city	phnum
1	John Smith	NULL	New York	NULL
2	Alice Johnson	NULL	New York	NULL
3	Michael Brown	NULL	New York	NULL
4	Emily Wilson	26	New York	123-456-7890
5	David Lee	31	New York	987-654-3210

```
5 rows in set (0.00 sec)
```

```
mysql> COMMIT;
```

```
Query OK, 0 rows affected (0.01 sec)
```

```
mysql> SELECT * FROM Customer;
```

cid	cname	age	city	phnum
1	John Smith	NULL	New York	NULL
2	Alice Johnson	NULL	New York	NULL
3	Michael Brown	NULL	New York	NULL
4	Emily Wilson	26	New York	123-456-7890
5	David Lee	31	New York	987-654-3210

```
5 rows in set (0.00 sec)
```