

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.

```
mysql> CREATE TABLE Customer (cid VARCHAR(5), cname VARCHAR(15) NOT NULL, PRIMARY KEY(cid));
Query OK, 0 rows affected (0.22 sec)

mysql> DESC Customer;
+-----+-----+-----+-----+-----+
| Field | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| cid   | varchar(5)    | NO   | PRI | NULL    |       |
| cname | varchar(15)   | NO   |     | NULL    |       |
+-----+-----+-----+-----+-----+
2 rows in set (0.01 sec)
```

2. Insert three customer data into the table.

```
mysql> INSERT INTO Customer VALUES ('C01', 'Sam');
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO Customer VALUES ('C02', 'Daniel');
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO Customer VALUES ('C03', 'Ben');
Query OK, 1 row affected (0.01 sec)

mysql> SELECT * FROM Customer;
+-----+-----+
| cid | cname |
+-----+-----+
| C01 | Sam   |
| C02 | Daniel |
| C03 | Ben   |
+-----+-----+
3 rows in set (0.00 sec)
```

3. Add columns age, city and phnum. Age > 20, city default value should be 'Bangalore' and phnum should be unique.

```
mysql> ALTER TABLE Customer ADD (age INT CHECK(age > 20), city VARCHAR(15) DEFAULT 'Bangaluru', phno VARCHAR(10) UNIQUE);
Query OK, 3 rows affected (0.33 sec)
Records: 3 Duplicates: 0 Warnings: 0

mysql> DESC Customer;
+-----+-----+-----+-----+-----+
| Field | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| cid   | varchar(5)    | NO   | PRI | NULL    |       |
| cname | varchar(15)   | NO   |     | NULL    |       |
| age   | int           | YES  |     | NULL    |       |
| city  | varchar(15)   | YES  |     | Bengaluru |       |
| phno  | varchar(10)   | YES  | UNI | NULL    |       |
+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> SELECT * FROM Customer;
+-----+-----+-----+-----+-----+
| cid | cname | age | city      | phno |
+-----+-----+-----+-----+-----+
| C01 | Sam   | NULL | Bengaluru | NULL |
| C02 | Daniel | NULL | Bengaluru | NULL |
| C03 | Ben   | NULL | Bengaluru | NULL |
+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

4. Turn on the transaction on.

```
mysql> START TRANSACTION;
Query OK, 0 rows affected (0.00 sec)
```

5. Insert another two customer data into the table without city value.

```
mysql> INSERT INTO Customer (cid, cname, age, phno) VALUES ('C04', 'Jodie', 21, '1234567890');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Customer (cid, cname, age, phno) VALUES ('C05', 'Liam', 22, '2345678901');
Query OK, 1 row affected (0.00 sec)
```

6. Display data from the table.

```
mysql> SELECT * FROM Customer;
+-----+-----+-----+-----+-----+
| cid | cname | age | city | phno |
+-----+-----+-----+-----+-----+
| C01 | Sam   | NULL | Bengaluru | NULL |
| C02 | Daniel | NULL | Bengaluru | NULL |
| C03 | Ben   | NULL | Bengaluru | NULL |
| C04 | Jodie | 21   | Bengaluru | 1234567890 |
| C05 | Liam  | 22   | Bengaluru | 2345678901 |
+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)
```

7. Create a savepoint 'ins'.

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

8. Update the first age of all the customers.

```
mysql> UPDATE Customer SET age = 23 WHERE cid = 'C01';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> UPDATE Customer SET age = 24 WHERE cid = 'C02';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> UPDATE Customer SET age = 22 WHERE cid = 'C03';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0
```

9. Display data from the table.

```
mysql> SELECT * FROM Customer;
+-----+-----+-----+-----+-----+
| cid | cname | age | city | phno |
+-----+-----+-----+-----+-----+
| C01 | Sam   | 23   | Bengaluru | NULL |
| C02 | Daniel | 24   | Bengaluru | NULL |
| C03 | Ben   | 22   | Bengaluru | NULL |
| C04 | Jodie | 21   | Bengaluru | 1234567890 |
| C05 | Liam  | 22   | Bengaluru | 2345678901 |
+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)
```

10. Create savepoint 'up1';

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

11. Update all the customer's city of the first three customers.

```
mysql> UPDATE Customer SET city = 'Ujire' WHERE cid = 'C01';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> UPDATE Customer SET city = 'Udupi' WHERE cid = 'C02';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> UPDATE Customer SET city = 'Mangalore' WHERE cid = 'C03';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0
```

12. Display data from the table.

```
mysql> SELECT * FROM Customer;
+----+-----+-----+-----+-----+
| cid | cname | age | city | phno |
+----+-----+-----+-----+-----+
| C01 | Sam | 23 | Ujire | NULL |
| C02 | Daniel | 24 | Udupi | NULL |
| C03 | Ben | 22 | Mangalore | NULL |
| C04 | Jodie | 21 | Bengaluru | 1234567890 |
| C05 | Liam | 22 | Bengaluru | 2345678901 |
+----+-----+-----+-----+-----+
5 rows in set (0.00 sec)
```

13. Create savepoint 'up2'.

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

14. Roll back to up1.

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

15. Display data from the table.

```
mysql> SELECT * FROM Customer;
+----+-----+-----+-----+-----+
| cid | cname | age | city | phno |
+----+-----+-----+-----+-----+
| C01 | Sam | 23 | Bengaluru | NULL |
| C02 | Daniel | 24 | Bengaluru | NULL |
| C03 | Ben | 22 | Bengaluru | NULL |
| C04 | Jodie | 21 | Bengaluru | 1234567890 |
| C05 | Liam | 22 | Bengaluru | 2345678901 |
+----+-----+-----+-----+-----+
5 rows in set (0.00 sec)
```

16. Commit.

```
mysql> COMMIT;
Query OK, 0 rows affected (0.01 sec)
```

17. Display data from the table.

```
mysql> SELECT * FROM Customer;
+----+-----+-----+-----+-----+
| cid | cname | age | city | phno |
+----+-----+-----+-----+-----+
| C01 | Sam | 23 | Bengaluru | NULL |
| C02 | Daniel | 24 | Bengaluru | NULL |
| C03 | Ben | 22 | Bengaluru | NULL |
| C04 | Jodie | 21 | Bengaluru | 1234567890 |
| C05 | Liam | 22 | Bengaluru | 2345678901 |
+----+-----+-----+-----+-----+
5 rows in set (0.00 sec)
```

18. Turn off the transactions.

```
mysql> SET AUTOCOMMIT = 1;  
Query OK, 0 rows affected (0.01 sec)
```