Database and Management System Lab

Lab Experiment – 4

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Title: To understand and apply the concept of Constraints.
Objective: To understand the concept of data constraints that is enforced on data being stored in the table. Focus on Primary Key and the Foreign Key.

1.

```
mysql> CREATE TABLE CLIENT_MASTER (
    ->     CLIENTNO VARCHAR(6) PRIMARY KEY CHECK (CLIENTNO LIKE 'C%'),
    ->     NAME VARCHAR(20) NOT NULL,
    ->     ADDRESS1 VARCHAR(30),
    ->     ADDRESS2 VARCHAR(30),
    ->     CITY VARCHAR(15),
    ->     PINCODE INT(8),
    ->     STATE VARCHAR(15),
    ->     BALDUE DECIMAL(10,2)
    -> );
Query OK, 0 rows affected, 1 warning (0.01 sec)

mysql> CREATE TABLE PRODUCT_MASTER (
    ->     PRODUCTNO VARCHAR(6) PRIMARY KEY CHECK (PRODUCTNO LIKE 'P%'),
    ->     DESCRIPTION VARCHAR(15) NOT NULL,
    ->     PROFITPERCENT DECIMAL(4,2) NOT NULL,
    ->     UNIT_MEASURE VARCHAR(10) NOT NULL,
    ->     QTYONHAND INT(8) NOT NULL,
    ->     REORDERLVL INT(8) NOT NULL,
    ->     SELLPRICE DECIMAL(8,2) NOT NULL,
    ->     COSTPRICE DECIMAL(8,2) NOT NULL
    -> );
Query OK, 0 rows affected, 2 warnings (0.01 sec)

mysql> CREATE TABLE SALESMAN_MASTER (
    ->     SALESMANNO VARCHAR(6) PRIMARY KEY CHECK (SALESMANNO LIKE 'S%'),
    ->     SALESMANNAME VARCHAR(20) NOT NULL,
    ->     ADDRESS1 VARCHAR(30) NOT NULL,
    ->     ADDRESS2 VARCHAR(30),
    ->     CITY VARCHAR(20),
    ->     PINCODE INT(8),
    ->     STATE VARCHAR(20),
    ->     SALAMT REAL(8,2) NOT NULL CHECK (SALAMT != 0),
    ->     TGTTOGET DECIMAL(6,2) NOT NULL CHECK (TGTTOGET != 0),
    ->     YTDSALES DOUBLE(6,2) NOT NULL,
    ->     REMARKS VARCHAR(60)
    -> );
Query OK, 0 rows affected, 3 warnings (0.01 sec)
```

A)

```
mysql> CREATE TABLE SALESMAN_MASTER (
    ->     SALESMANNO VARCHAR(6) PRIMARY KEY CHECK (SALESMANNO LIKE 'S%'),
    ->     SALESMANNAME VARCHAR(20) NOT NULL,
    ->     ADDRESS1 VARCHAR(30) NOT NULL,
    ->     ADDRESS2 VARCHAR(30),
    ->     CITY VARCHAR(20),
    ->     PINCODE INT(8),
    ->     STATE VARCHAR(20),
    ->     SALAMT REAL(8,2) NOT NULL CHECK (SALAMT != 0),
    ->     TGTTOGET DECIMAL(6,2) NOT NULL CHECK (TGTTOGET != 0),
    ->     YTDSALES DOUBLE(6,2) NOT NULL,
    ->     REMARKS VARCHAR(60)
    -> );
Query OK, 0 rows affected, 3 warnings (0.01 sec)
```

B)

```
mysql> INSERT INTO CLIENT_MASTER (CLIENTNO, NAME, CITY, PINCODE, STATE, BALDUE)
    -> VALUES
    ->     ('C00001', 'Ivan bayross', 'Mumbai', 400054, 'Maharashtra', 15000),
    ->     ('C00002', 'Mamta muzumdar', 'Madras', 780001, 'Tamil Nadu', 0),
    ->     ('C00003', 'Chhaya bankar', 'Mumbai', 400057, 'Maharashtra', 5000),
    ->     ('C00004', 'Ashwini joshi', 'Bangalore', 560001, 'Karnataka', 0),
    ->     ('C00005', 'Hansel colaco', 'Mumbai', 400060, 'Maharashtra', 2000),
    ->     ('C00006', 'Deepak sharma', 'Mangalore', 560050, 'Karnataka', 0);
Query OK, 6 rows affected (0.01 sec)
Records: 6  Duplicates: 0  Warnings: 0
```

C)

```
mysql> INSERT INTO PRODUCT_MASTER (PRODUCTNO, DESCRIPTION, PROFITPERCENT, UNIT_MEASURE, QTYONHAND, REORDERLVL, SELLPRICE, COSTPRICE)
    -> VALUES
    ->     ('P00001', 'T-Shirt', 5, 'Piece', 200, 50, 350, 250),
    ->     ('P0345', 'Shirts', 6, 'Piece', 150, 50, 500, 350),
    ->     ('P06734', 'Cotton jeans', 5, 'Piece', 100, 20, 600, 450),
    ->     ('P07865', 'Jeans', 5, 'Piece', 100, 20, 750, 500),
    ->     ('P07868', 'Trousers', 2, 'Piece', 150, 50, 850, 550),
    ->     ('P07885', 'Pull Overs', 2.5, 'Piece', 80, 30, 700, 450),
    ->     ('P07965', 'Denim jeans', 4, 'Piece', 100, 40, 350, 250),
    ->     ('P07975', 'Lycra tops', 5, 'Piece', 70, 30, 300, 175),
    ->     ('P08865', 'Skirts', 5, 'Piece', 75, 30, 450, 300);
Query OK, 9 rows affected (0.00 sec)
Records: 9  Duplicates: 0  Warnings: 0
```

D)

```
mysql> ALTER TABLE SALESMAN_MASTER
    -> DROP COLUMN SALAMT;
Query OK, 0 rows affected (0.01 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> ALTER TABLE SALESMAN_MASTER
    -> DROP COLUMN TGTTOGET;
Query OK, 0 rows affected (0.01 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> ALTER TABLE SALESMAN_MASTER
    -> DROP COLUMN YTDSALES;
Query OK, 0 rows affected (0.01 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> ALTER TABLE SALESMAN_MASTER
    -> DROP COLUMN REMARKS;
Query OK, 0 rows affected (0.01 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> INSERT INTO SALESMAN_MASTER (SALESMANNO, SALESMANNAME, ADDRESS1, ADDRESS2, CITY, PINCODE, STATE)
    -> VALUES
    ->     ('S00001', 'Aman', 'A/14', 'Worli', 'Mumbai', 400002, 'Maharashtra'),
    ->     ('S00002', 'Omkar', '65', 'Nariman', 'Mumbai', 400001, 'Maharashtra'),
    ->     ('S00003', 'Raj', 'P-7', 'Bandra', 'Mumbai', 400032, 'Maharashtra'),
    ->     ('S00004', 'Ashish', 'A/5', 'Juhu', 'Mumbai', 400044, 'Maharashtra');
Query OK, 4 rows affected (0.00 sec)
Records: 4  Duplicates: 0  Warnings: 0
```

2. **A)**

```
mysql> SELECT NAME FROM CLIENT_MASTER;
+-----------------+
| NAME            |
+-----------------+
| Ivan bayross    |
| Mamta muzumdar  |
| Chhaya bankar   |
| Ashwini joshi   |
| Hansel colaco   |
| Deepak sharma   |
+-----------------+
6 rows in set (0.00 sec)
```

B)

```
mysql> SELECT * FROM CLIENT_MASTER;
+----------+----------------+----------+----------+-----------+---------+-------------+----------+
| CLIENTNO | NAME           | ADDRESS1 | ADDRESS2 | CITY      | PINCODE | STATE       | BALDUE   |
+----------+----------------+----------+----------+-----------+---------+-------------+----------+
| C00001   | Ivan bayross   | NULL     | NULL     | Mumbai    | 400054  | Maharashtra | 15000.00 |
| C00002   | Mamta muzumdar | NULL     | NULL     | Madras    | 780001  | Tamil Nadu  |     0.00 |
| C00003   | Chhaya bankar  | NULL     | NULL     | Mumbai    | 400057  | Maharashtra |  5000.00 |
| C00004   | Ashwini joshi  | NULL     | NULL     | Bangalore | 560001  | Karnataka   |     0.00 |
| C00005   | Hansel colaco  | NULL     | NULL     | Mumbai    | 400060  | Maharashtra |  2000.00 |
| C00006   | Deepak sharma  | NULL     | NULL     | Mangalore | 560050  | Karnataka   |     0.00 |
+----------+----------------+----------+----------+-----------+---------+-------------+----------+
6 rows in set (0.00 sec)
```

C)

```
mysql> SELECT NAME, CITY, STATE FROM CLIENT_MASTER;
+-----------------+-----------+-------------+
| NAME            | CITY      | STATE       |
+-----------------+-----------+-------------+
| Ivan bayross    | Mumbai    | Maharashtra |
| Mamta muzumdar  | Madras    | Tamil Nadu  |
| Chhaya bankar   | Mumbai    | Maharashtra |
| Ashwini joshi   | Bangalore | Karnataka   |
| Hansel colaco   | Mumbai    | Maharashtra |
| Deepak sharma   | Mangalore | Karnataka   |
+-----------------+-----------+-------------+
6 rows in set (0.00 sec)
```

D)

```
mysql> SELECT DESCRIPTION FROM PRODUCT_MASTER;
+--------------+
| DESCRIPTION  |
+--------------+
| T-Shirt      |
| Shirts       |
| Cotton jeans |
| Jeans        |
| Trousers     |
| Pull Overs   |
| Denim jeans  |
| Lycra tops   |
| Skirts       |
+--------------+
9 rows in set (0.00 sec)
```

E)

```
mysql> SELECT * FROM CLIENT_MASTER WHERE CITY = 'Mumbai';
+----------+---------------+----------+----------+--------+---------+-------------+----------+
| CLIENTNO | NAME          | ADDRESS1 | ADDRESS2 | CITY   | PINCODE | STATE       | BALDUE   |
+----------+---------------+----------+----------+--------+---------+-------------+----------+
| C00001   | Ivan bayross  | NULL     | NULL     | Mumbai | 400054  | Maharashtra | 15000.00 |
| C00003   | Chhaya bankar | NULL     | NULL     | Mumbai | 400057  | Maharashtra |  5000.00 |
| C00005   | Hansel colaco | NULL     | NULL     | Mumbai | 400060  | Maharashtra |  2000.00 |
+----------+---------------+----------+----------+--------+---------+-------------+----------+
3 rows in set (0.00 sec)
```

3. **A)**

```
mysql> UPDATE CLIENT_MASTER SET CITY = 'Bangalore' WHERE CLIENTNO = 'C00005';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

B)

```
mysql> UPDATE CLIENT_MASTER SET BALDUE = 1000 WHERE CLIENTNO = 'C00001';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

C)

```
mysql> UPDATE PRODUCT_MASTER SET COSTPRICE = 950 WHERE DESCRIPTION = 'Trousers';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

D)

```
mysql> UPDATE SALESMAN_MASTER SET CITY = 'Pune';
Query OK, 4 rows affected (0.01 sec)
Rows matched: 4  Changed: 4  Warnings: 0
```

4. **B)**

```
mysql> DELETE FROM PRODUCT_MASTER WHERE QTYONHAND = 100;
Query OK, 3 rows affected (0.00 sec)
```

C)

```
mysql> DELETE FROM CLIENT_MASTER WHERE STATE = 'Tamil Nadu';
Query OK, 1 row affected (0.00 sec)
```

5. **A)**

```
mysql> ALTER TABLE CLIENT_MASTER ADD COLUMN TELEPHONE INT;
Query OK, 0 rows affected (0.01 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

B)

```
mysql> ALTER TABLE PRODUCT_MASTER MODIFY COLUMN SELLPRICE DECIMAL(10,2);
Query OK, 6 rows affected (0.03 sec)
Records: 6  Duplicates: 0  Warnings: 0
```

6.

```
mysql> DROP TABLE CLIENT_MASTER;
Query OK, 0 rows affected (0.01 sec)
```