

Experiment 4

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.

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Q- Create the tables described below:

```
mysql> CREATE DATABASE client;
Query OK, 1 row affected (0.02 sec)

mysql> USE client;
Database changed
mysql>
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 INTEGER CHECK (PINCODE >= 0),
    -> STATE VARCHAR(15),
    -> BALDUE DECIMAL(10, 2) DEFAULT 0.00
    -> );
Query OK, 0 rows affected (0.10 sec)

mysql>
mysql> CREATE TABLE PRODUCT_MASTER (
    -> PRODUCTNO VARCHAR(6),
    -> CHECK (PRODUCTNO LIKE 'P%'),
    -> DESCRIPTION VARCHAR(15) NOT NULL,
    -> PROFITPERCENT DECIMAL(4,2) NOT NULL,
    -> UNIT_MEASURE VARCHAR(10) NOT NULL,
    -> QTYONHAND INTEGER(8) NOT NULL,
    -> REORDERLVL INTEGER(8) NOT NULL,
    -> SELLPRICE DECIMAL(8,2) NOT NULL,
    -> COSTPRICE DECIMAL(8,2) NOT NULL
    -> );
Query OK, 0 rows affected, 2 warnings (0.02 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 INTEGER(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 (0.02 sec)

```
mysql>
```

```
mysql> -- Inserting elements into tables
```

```
mysql>
```

```
mysql> INSERT INTO CLIENT_MASTER (CLIENTNO, NAME, CITY, PINCODE, STATE, BALDUE) VALUES
-> ('C00001', 'Ivan bayross', 'Mumbai', 400054, 'Maharashtra', 15.00),
-> ('C00002', 'Mamta muzumdar', 'Madras', 780001, 'Tamil Nadu', 0.0),
-> ('C00003', 'Chhaya bankar', 'Mumbai', 400057, 'Maharashtra', 50.00),
-> ('C00004', 'Ashwini joshi', 'Bangalore', 560001, 'Karnataka', 0.0),
-> ('C00005', 'Hansel colaco', 'Mumbai', 400060, 'Maharashtra', 200.0),
-> ('C00006', 'Deepak sharma', 'Mangalore', 560050, 'Karnataka', 0.0);
```

Query OK, 6 rows affected (0.01 sec)

Records: 6 Duplicates: 0 Warnings: 0

```
mysql> SELECT * FROM CLIENT_MASTER;
```

CLIENTNO	NAME	ADDRESS1	ADDRESS2	CITY	PINCODE	STATE	BALDUE
C00001	Ivan bayross	NULL	NULL	Mumbai	400054	Maharashtra	15.00
C00002	Mamta muzumdar	NULL	NULL	Madras	780001	Tamil Nadu	0.00
C00003	Chhaya bankar	NULL	NULL	Mumbai	400057	Maharashtra	50.00
C00004	Ashwini joshi	NULL	NULL	Bangalore	560001	Karnataka	0.00
C00005	Hansel colaco	NULL	NULL	Mumbai	400060	Maharashtra	200.00
C00006	Deepak sharma	NULL	NULL	Mangalore	560050	Karnataka	0.00

```
mysql> INSERT INTO SALESMAN_MASTER (SALESMANNO, SALESMANNAME, ADDRESS1, ADDRESS2, CITY, PINCODE, STATE, SALAMT, TGTTOGET, YTDSALES) VALUES
-> ('S00001', 'Aman', 'A/14', 'Worli', 'Mumbai', 400002, 'Maharashtra', 8,5,5),
-> ('S00002', 'Omkar', '65', 'Nariman', 'Mumbai', 400001, 'Maharashtra', 7,5,5),
-> ('S00003', 'Raj', 'P-7', 'Bandra', 'Mumbai', 400032, 'Maharashtra', 9,5,5),
-> ('S00004', 'Ashish', 'A/5', 'Juhu', 'Mumbai', 400044, 'Maharashtra', 6,5,5);
```

Query OK, 4 rows affected (0.01 sec)

Records: 4 Duplicates: 0 Warnings: 0

```
mysql> SELECT * FROM SALESMAN_MASTER;
```

SALESMANNO	SALESMANNAME	ADDRESS1	ADDRESS2	CITY	PINCODE	STATE	SALAMT	TGTTOGET	YTDSALES	REMARKS
S00001	Aman	A/14	Worli	Mumbai	400002	Maharashtra	8.00	5.00	5.00	NULL
S00002	Omkar	65	Nariman	Mumbai	400001	Maharashtra	7.00	5.00	5.00	NULL
S00003	Raj	P-7	Bandra	Mumbai	400032	Maharashtra	9.00	5.00	5.00	NULL
S00004	Ashish	A/5	Juhu	Mumbai	400044	Maharashtra	6.00	5.00	5.00	NULL

4 rows in set (0.00 sec)

```
mysql>
```

```
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 (0.01 sec)

Records: 9 Duplicates: 0 Warnings: 0

```
mysql> SELECT * FROM PRODUCT_MASTER;
```

PRODUCTNO	DESCRIPTION	PROFITPERCENT	UNIT_MEASURE	QTYONHAND	REORDERLVL	SELLPRICE	COSTPRICE
P00001	T-Shirt	5.00	Piece	200	50	350.00	250.00
P0345	Shirts	6.00	Piece	150	50	500.00	350.00
P06734	Cotton jeans	5.00	Piece	100	20	600.00	450.00
P07865	Jeans	5.00	Piece	100	20	750.00	500.00
P07868	Trousers	2.00	Piece	150	50	850.00	550.00
P07885	Pull Overs	2.50	Piece	80	30	700.00	450.00
P07965	Denim jeans	4.00	Piece	100	40	350.00	250.00
P07975	Lycra tops	5.00	Piece	70	30	300.00	175.00
P08865	Skirts	5.00	Piece	75	30	450.00	300.00

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

```
mysql>
```

```
mysql> -- Queries
```

```
mysql> -- Exercise on retrieving records from a table.
```

```
mysql>
```

```
mysql> -- Find names of all clients
```

```
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)
```

```
mysql> -- Retrieve entire contents of CLIENT_MASTER
```

```
mysql> SELECT * FROM CLIENT_MASTER;
```

CLIENTNO	NAME	ADDRESS1	ADDRESS2	CITY	PINCODE	STATE	BALDUE
C00001	Ivan bayross	NULL	NULL	Mumbai	400054	Maharashtra	15.00
C00002	Mamta muzumdar	NULL	NULL	Madras	780001	Tamil Nadu	0.00
C00003	Chhaya bankar	NULL	NULL	Mumbai	400057	Maharashtra	50.00
C00004	Ashwini joshi	NULL	NULL	Bangalore	560001	Karnataka	0.00
C00005	Hansel colaco	NULL	NULL	Mumbai	400060	Maharashtra	200.00
C00006	Deepak sharma	NULL	NULL	Mangalore	560050	Karnataka	0.00

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

```
mysql> -- List all products available
```

```
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)
```

```

mysql> -- List names, city, and state of all clients
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)

mysql> -- List all clients located in Mumbai
mysql> SELECT * FROM CLIENT_MASTER WHERE CITY = 'Mumbai';
+-----+-----+-----+-----+-----+-----+-----+-----+
| CLIENTNO | NAME           | ADDRESS1 | ADDRESS2 | CITY   | PINCODE | STATE      | BALDUE |
+-----+-----+-----+-----+-----+-----+-----+-----+
| C00001   | Ivan bayross   | NULL     | NULL     | Mumbai | 400054  | Maharashtra | 15.00 |
| C00003   | Chhaya bankar | NULL     | NULL     | Mumbai | 400057  | Maharashtra | 50.00 |
| C00005   | Hansel colaco  | NULL     | NULL     | Mumbai | 400060  | Maharashtra | 200.00 |
+-----+-----+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> -- Find names of salesmen with a salary equal to Rs. 3000
mysql> SELECT SALESMANNAME FROM SALESMAN_MASTER WHERE SALAMT = 3000;
Empty set (0.00 sec)

mysql> -- Exercise on updating records in a table
mysql>
mysql> -- Change the city of ClientNo 'C00005' to 'Bangalore'
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

mysql> -- Change BalDue of ClientNo 'C00001' to Rs. 1000
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

mysql> -- Change the cost price of 'Trousers' to Rs. 950.00
mysql> UPDATE PRODUCT_MASTER SET COSTPRICE = 950 WHERE PRODUCTNO = 'P07868';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> -- Change the city of salesmen to 'Pune'
mysql> UPDATE SALESMAN_MASTER SET CITY = 'Pune';
Query OK, 4 rows affected (0.00 sec)
Rows matched: 4 Changed: 4 Warnings: 0

mysql>
mysql>
mysql> -- Delete all salesmen from Salesman_Master whose salaries are equal to Rs.3500.
mysql> DELETE FROM Salesman_Master
--> WHERE SALAMT = 3500;
Query OK, 0 rows affected (0.00 sec)

mysql>
mysql> -- Delete all products from Product_Master where the quantity on hand is equal to 100.
mysql> DELETE FROM Product_Master
--> WHERE QTYONHAND = 100;
Query OK, 3 rows affected (0.00 sec)

mysql>
mysql> -- Delete from Client_Master where the column state holds the value 'Tamil Nadu'.
mysql> DELETE FROM Client_Master
--> WHERE STATE = 'Tamil Nadu';

```

```
mysql>
mysql> -- Add a column called 'Telephone' of data type integer to the Client_Master table.
mysql> ALTER TABLE Client_Master
    -> ADD Telephone INT;
Query OK, 0 rows affected (0.02 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql>
mysql> -- Change the size of SellPrice column in Product_Master to 10, 2.
mysql> ALTER TABLE Product_Master
    -> MODIFY COLUMN SellPrice DECIMAL(10, 2);
Query OK, 6 rows affected (0.06 sec)
Records: 6 Duplicates: 0 Warnings: 0

mysql>
mysql> -- Destroy the table Client_Master along with its data.
mysql> DROP TABLE Client_Master;
```