DBMS LAB– 3

MySQL CONSTRAINTS and OPERATORS

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```
mysql> create table customers(
    -> CustomerID Int,
    -> Dateofbirth date,
    -> Gender varchar(5),
    -> CustomerName varchar(30),
    -> City varchar(20),
    -> country varchar(10)
    -> );
Query OK, 0 rows affected (0.04 sec)

mysql> create table products(
    -> CustomerID Int,
    -> ProductID int,
    -> ProductName varchar(20),
    -> Availability varchar(20),
    -> Price int
    -> );
Query OK, 0 rows affected (0.04 sec)
```

```
mysql> load data infile 'C:/ProgramData/MySQL/MySQL Server 8.0/Uploads/cust.txt' into table customers columns terminated by ',' lines terminated by '\n';
Query OK, 16 rows affected (0.01 sec)
Records: 16  Deleted: 0  Skipped: 0  Warnings: 0

mysql> select * from customers;
+------------+-------------+--------+--------------+-----------+----------+
| CustomerID | Dateofbirth | Gender | CustomerName | City      | country  |
+------------+-------------+--------+--------------+-----------+----------+
|       1000 | 1989-10-10  | m      | John         | Delhi     | India    |
|       1100 | 1979-01-10  | f      | Kens         | Berlin    | Germany  |
|       2505 | 1960-03-10  | f      | Kelvin       | Hamburg   | Germany  |
|       1205 | 1998-11-10  | m      | Monk         | Delhi     | India    |
|       1507 | 1992-08-10  | f      | mars         | Oslo      | norway   |
|       2004 | 1966-03-29  | f      | johny        | paris     | france   |
|        125 | 1999-12-10  | m      | Maggie       | Delhi     | India    |
|        150 | 1991-12-10  | f      | don          | Oslo      | norway   |
|        200 | 1968-11-29  | f      | lambie       | paris     | france   |
|       1105 | 1989-10-10  | m      | manish       | Delhi     | India    |
|       1106 | 1979-01-10  | f      | Kensive      | Berlin    | Germany  |
|         25 | 1944-03-10  | f      | mans         | Hamburg   | Germany  |
|         12 | 1996-11-10  | m      | Monk         | Hyderabad | India    |
|         15 | 1972-08-10  | f      | mars         | goa       | India    |
|         20 | 1966-03-29  | f      | johny        | paris     | france   |
|       1259 | 1999-12-10  | m      | Maggie       | Delhi     | India    |
+------------+-------------+--------+--------------+-----------+----------+
16 rows in set (0.01 sec)
```

```
mysql> load data infile 'C:/ProgramData/MySQL/MySQL Server 8.0/Uploads/prod.txt' into table products columns terminated by ',' lines terminated by '\n';
Query OK, 9 rows affected (0.02 sec)
Records: 9  Deleted: 0  Skipped: 0  Warnings: 0

mysql> select * from products;
+------------+-----------+-------------+--------------+-------+
| CustomerID | ProductID | ProductName | Availability | Price |
+------------+-----------+-------------+--------------+-------+
|          1 |      1000 | pen         | yes          |   100 |
|          2 |      1100 | toy         | no           |    10 |
|          3 |      2505 | pencil      | yes          |    30 |
|          4 |      1205 | duck        | yes          |    50 |
|          5 |      1507 | pearl       | no           |    60 |
|          6 |       200 | hat         | yes          |    10 |
|          7 |      2505 | pot         | no           |    90 |
|          8 |       150 | book        | yes          |   100 |
|          9 |      1100 | chalk       | no           |    10 |
+------------+-----------+-------------+--------------+-------+
9 rows in set (0.00 sec)
```

```
mysql> alter table customers add primary key (CustomerID);
Query OK, 0 rows affected (0.09 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> desc customers;
+--------------+-------------+------+-----+---------+-------+
| Field        | Type        | Null | Key | Default | Extra |
+--------------+-------------+------+-----+---------+-------+
| CustomerID   | int         | NO   | PRI | NULL    |       |
| Dateofbirth  | date        | YES  |     | NULL    |       |
| Gender       | varchar(5)  | YES  |     | NULL    |       |
| CustomerName | varchar(30) | YES  |     | NULL    |       |
| City         | varchar(20) | YES  |     | NULL    |       |
| country      | varchar(10) | YES  |     | NULL    |       |
+--------------+-------------+------+-----+---------+-------+
6 rows in set (0.01 sec)
```

```
mysql> alter table products add foreign key (ProductID) references customers (CustomerID);
Query OK, 9 rows affected (0.10 sec)
Records: 9  Duplicates: 0  Warnings: 0

mysql> desc products;
+--------------+-------------+------+-----+---------+-------+
| Field        | Type        | Null | Key | Default | Extra |
+--------------+-------------+------+-----+---------+-------+
| CustomerID   | int         | YES  |     | NULL    |       |
| ProductID    | int         | YES  | MUL | NULL    |       |
| ProductName  | varchar(20) | YES  |     | NULL    |       |
| Availability | varchar(20) | YES  |     | NULL    |       |
| Price        | int         | YES  |     | NULL    |       |
+--------------+-------------+------+-----+---------+-------+
5 rows in set (0.03 sec)
```

```
mysql> select * from customers where CustomerName like '%or%';
Empty set (0.00 sec)

mysql> insert into products values (2505, NULL, NULL, NULL,NULL);
Query OK, 1 row affected (0.01 sec)

mysql> select * from products;
+------------+-----------+-------------+--------------+-------+
| CustomerID | ProductID | ProductName | Availability | Price |
+------------+-----------+-------------+--------------+-------+
|          1 |      1000 | pen         | yes          |   100 |
|          2 |      1100 | toy         | no           |    10 |
|          3 |      2505 | pencil      | yes          |    30 |
|          4 |      1205 | duck        | yes          |    50 |
|          5 |      1507 | pearl       | no           |    60 |
|          6 |       200 | hat         | yes          |    10 |
|          7 |      2505 | pot         | no           |    90 |
|          8 |       150 | book        | yes          |   100 |
|          9 |      1100 | chalk       | no           |    10 |
|       2505 |      NULL | NULL        | NULL         |  NULL |
+------------+-----------+-------------+--------------+-------+
10 rows in set (0.02 sec)
```

```
mysql> select * from customers where country like 'Germany%' and City = "Berlin";
+------------+-------------+--------+--------------+--------+---------+
| CustomerID | Dateofbirth | Gender | CustomerName | City   | country |
+------------+-------------+--------+--------------+--------+---------+
|       1100 | 1979-01-10  | f      | Kens         | Berlin | Germany |
|       1106 | 1979-01-10  | f      | Kensive      | Berlin | Germany |
+------------+-------------+--------+--------------+--------+---------+
2 rows in set (0.00 sec)
```

```
mysql> select * from customers where country not like 'Germany%' ;
+------------+-------------+--------+--------------+-----------+---------+
| CustomerID | Dateofbirth | Gender | CustomerName | City      | country |
+------------+-------------+--------+--------------+-----------+---------+
|       1000 | 1989-10-10  | m      | John         | Delhi     | India   |
|       1205 | 1998-11-10  | m      | Monk         | Delhi     | India   |
|       1507 | 1992-08-10  | f      | mars         | Oslo      | norway  |
|       2004 | 1966-03-29  | f      | johny        | paris     | france  |
|        125 | 1999-12-10  | m      | Maggie       | Delhi     | India   |
|        150 | 1991-12-10  | f      | don          | Oslo      | norway  |
|        200 | 1968-11-29  | f      | lambie       | paris     | france  |
|       1105 | 1989-10-10  | m      | manish       | Delhi     | India   |
|         12 | 1996-11-10  | m      | Monk         | Hyderabad | India   |
|         15 | 1972-08-10  | f      | mars         | goa       | India   |
|         20 | 1966-03-29  | f      | johny        | paris     | france  |
|       1259 | 1999-12-10  | m      | Maggie       | Delhi     | India   |
+------------+-------------+--------+--------------+-----------+---------+
12 rows in set (0.00 sec)
```

```
mysql> select * from customers where city like 'a%' ;
Empty set (0.00 sec)

mysql> select * from customers where city like 'a%' and city like '%b' ;
Empty set (0.00 sec)
```

```
mysql> select * from customers where city not like 'a%' ;
+------------+------------+--------+--------------+----------+----------+
| CustomerID | Dateofbirth | Gender | CustomerName | City     | country  |
+------------+------------+--------+--------------+----------+----------+
|       1000 | 1989-10-10 | m      | John         | Delhi    | India    |
|       1100 | 1979-01-10 | f      | Kens         | Berlin   | Germany  |
|       2505 | 1960-03-10 | f      | Kelvin       | Hamburg  | Germany  |
|       1205 | 1998-11-10 | m      | Monk         | Delhi    | India    |
|       1507 | 1992-08-10 | f      | mars         | Oslo     | norway   |
|       2004 | 1966-03-29 | f      | johny        | paris    | france   |
|        125 | 1999-12-10 | m      | Maggie       | Delhi    | India    |
|        150 | 1991-12-10 | f      | don          | Oslo     | norway   |
|        200 | 1968-11-29 | f      | lambie       | paris    | france   |
|       1105 | 1989-10-10 | m      | manish       | Delhi    | India    |
|       1106 | 1979-01-10 | f      | Kensive      | Berlin   | Germany  |
|         25 | 1944-03-10 | f      | mans         | Hamburg  | Germany  |
|         12 | 1996-11-10 | m      | Monk         | Hyderabad| India    |
|         15 | 1972-08-10 | f      | mars         | goa      | India    |
|         20 | 1966-03-29 | f      | johny        | paris    | france   |
|       1259 | 1999-12-10 | m      | Maggie       | Delhi    | India    |
+------------+------------+--------+--------------+----------+----------+
16 rows in set (0.00 sec)
```

```
mysql> select * from customers where city like 'a%' or city like 'c%' or city like 's%' ;
Empty set (0.00 sec)

mysql> select * from customers where city regexp '^[A-Fa-f]';
+------------+-------------+--------+--------------+--------+----------+
| CustomerID | Dateofbirth | Gender | CustomerName | City   | country  |
+------------+-------------+--------+--------------+--------+----------+
|       1000 | 1989-10-10  | m      | John         | Delhi  | India    |
|       1100 | 1979-01-10  | f      | Kens         | Berlin | Germany  |
|       1205 | 1998-11-10  | m      | Monk         | Delhi  | India    |
|        125 | 1999-12-10  | m      | Maggie       | Delhi  | India    |
|       1105 | 1989-10-10  | m      | manish       | Delhi  | India    |
|       1106 | 1979-01-10  | f      | Kensive      | Berlin | Germany  |
|       1259 | 1999-12-10  | m      | Maggie       | Delhi  | India    |
+------------+-------------+--------+--------------+--------+----------+
7 rows in set (0.00 sec)

mysql> select * from customers where country not like 'france%' and country not like 'norway%';
+------------+-------------+--------+--------------+-----------+----------+
| CustomerID | Dateofbirth | Gender | CustomerName | City      | country  |
+------------+-------------+--------+--------------+-----------+----------+
|       1000 | 1989-10-10  | m      | John         | Delhi     | India    |
|       1100 | 1979-01-10  | f      | Kens         | Berlin    | Germany  |
|       2505 | 1960-03-10  | f      | Kelvin       | Hamburg   | Germany  |
|       1205 | 1998-11-10  | m      | Monk         | Delhi     | India    |
|        125 | 1999-12-10  | m      | Maggie       | Delhi     | India    |
|       1105 | 1989-10-10  | m      | manish       | Delhi     | India    |
|       1106 | 1979-01-10  | f      | Kensive      | Berlin    | Germany  |
|         25 | 1944-03-10  | f      | mans         | Hamburg   | Germany  |
|         12 | 1996-11-10  | m      | Monk         | Hyderabad | India    |
|         15 | 1972-08-10  | f      | mars         | goa       | India    |
|       1259 | 1999-12-10  | m      | Maggie       | Delhi     | India    |
+------------+-------------+--------+--------------+-----------+----------+
11 rows in set (0.00 sec)
```

```
mysql> select * from products where productname between 'hat' and 'pen' order by productname;
+------------+-----------+-------------+--------------+-------+
| CustomerID | ProductID | ProductName | Availability | Price |
+------------+-----------+-------------+--------------+-------+
|          6 |       200 | hat         | yes          |    10 |
|          5 |      1507 | pearl       | no           |    60 |
|          1 |      1000 | pen         | yes          |   100 |
+------------+-----------+-------------+--------------+-------+
3 rows in set (0.00 sec)
```

```
mysql> select products.productid, customers.customername, products.productname, products.price from products
    -> join customers
    -> on products.productid = customers.customerid
    -> where price = 100
    -> order by customername
    -> ;
+-----------+--------------+-------------+-------+
| productid | customername | productname | price |
+-----------+--------------+-------------+-------+
|       150 | don          | book        |   100 |
|      1000 | John         | pen         |   100 |
+-----------+--------------+-------------+-------+
2 rows in set (0.03 sec)
```

```
mysql> select customername
    -> from customers
    -> where exists
    -> (select productid from products where products.productid = customers.customerid and price = 1000);
Empty set (0.01 sec)
```

```
mysql> select column_name , constraint_name, referenced_column_name, referenced_table_name
    -> from information_schema.key_column_usage
    -> where table_name = 'products';
+-------------+-----------------+------------------------+-----------------------+
| COLUMN_NAME | CONSTRAINT_NAME | REFERENCED_COLUMN_NAME | REFERENCED_TABLE_NAME |
+-------------+-----------------+------------------------+-----------------------+
| ProductID   | products_ibfk_1 | CustomerID             | customers             |
+-------------+-----------------+------------------------+-----------------------+
1 row in set (0.00 sec)

mysql> alter table products
    -> drop foreign key products_ibfk_1;
Query OK, 0 rows affected (0.04 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

```
mysql> alter table customers
    -> drop primary key;
Query OK, 16 rows affected (0.10 sec)
Records: 16  Duplicates: 0  Warnings: 0

mysql> desc customers;
+--------------+-------------+------+-----+---------+-------+
| Field        | Type        | Null | Key | Default | Extra |
+--------------+-------------+------+-----+---------+-------+
| CustomerID   | int         | NO   |     | NULL    |       |
| Dateofbirth  | date        | YES  |     | NULL    |       |
| Gender       | varchar(5)  | YES  |     | NULL    |       |
| CustomerName | varchar(30) | YES  |     | NULL    |       |
| City         | varchar(20) | YES  |     | NULL    |       |
| country      | varchar(10) | YES  |     | NULL    |       |
+--------------+-------------+------+-----+---------+-------+
6 rows in set (0.00 sec)
```

```
mysql> delete from customers where city = 'victoria' and country = 'brazil';
Query OK, 0 rows affected (0.00 sec)

mysql> select * from customers;
+------------+-------------+--------+--------------+-----------+----------+
| CustomerID | Dateofbirth | Gender | CustomerName | City      | country  |
+------------+-------------+--------+--------------+-----------+----------+
|         12 | 1996-11-10  | m      | Monk         | Hyderabad | India    |
|         15 | 1972-08-10  | f      | mars         | goa       | India    |
|         20 | 1966-03-29  | f      | johny        | paris     | france   |
|         25 | 1944-03-10  | f      | mans         | Hamburg   | Germany  |
|        125 | 1999-12-10  | m      | Maggie       | Delhi     | India    |
|        150 | 1991-12-10  | f      | don          | Oslo      | norway   |
|        200 | 1968-11-29  | f      | lambie       | paris     | france   |
|       1000 | 1989-10-10  | m      | John         | Delhi     | India    |
|       1100 | 1979-01-10  | f      | Kens         | Berlin    | Germany  |
|       1105 | 1989-10-10  | m      | manish       | Delhi     | India    |
|       1106 | 1979-01-10  | f      | Kensive      | Berlin    | Germany  |
|       1205 | 1998-11-10  | m      | Monk         | Delhi     | India    |
|       1259 | 1999-12-10  | m      | Maggie       | Delhi     | India    |
|       1507 | 1992-08-10  | f      | mars         | Oslo      | norway   |
|       2004 | 1966-03-29  | f      | johny        | paris     | france   |
|       2505 | 1960-03-10  | f      | Kelvin       | Hamburg   | Germany  |
+------------+-------------+--------+--------------+-----------+----------+
16 rows in set (0.00 sec)
```