

DBMS EXERCISE

Problem Statement: There can be multiple customers, who can place multiple orders on the site. Now a sales person can handle these orders will distribute into multiple sales persons (One order will be assign to one salesperson only). So a sales person can have multiple orders of multiple customers

1. Create Database

```
File Edit View Search Terminal Help
suraj@suraj: ~$ sudo mysql --defaults-file=/etc/mysql/debian.cnf
[sudo] password for suraj:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 13
Server version: 5.7.29-0ubuntu0.18.04.1 (Ubuntu)

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> create database exercise;
Query OK, 1 row affected (0.00 sec)

mysql> show databases;
+-----+
| Database |
+-----+
| information_schema |
| db_session |
| exercise |
| mysql |
| performance_schema |
| sys |
+-----+
6 rows in set (0.00 sec)

mysql> 
```

2. Design Schema (i) Orders table Schema

```
mysql> desc orders;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| order_no | int(11) | NO | PRI | NULL | auto_increment |
| order_amt | int(11) | YES | | NULL | |
| cust_name | varchar(30) | NO | | NULL | |
| cust_id | int(11) | NO | UNI | NULL | |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql> 
```

(ii) Sales table schema

```
mysql> desc sales;
+-----+-----+-----+-----+-----+-----+
| Field          | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| order_no       | int(11)       | YES  | MUL | NULL     |       |
| salesper_id    | int(11)       | NO   |     | NULL     |       |
| salesper_name  | varchar(30)   | NO   |     | NULL     |       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> 
```

3. Create tables

(i) Order Table

```
mysql> use exercise;
Database changed
mysql> create table orders(order_no int AUTO_INCREMENT PRIMARY KEY,
-> order_amt int,
-> cust_name varchar(30) NOT NULL,
-> cust_id int NOT NULL);
Query OK, 0 rows affected (0.01 sec)
```

```
mysql> ALTER TABLE orders MODIFY cust_id int(11) UNIQUE NOT NULL;
Query OK, 0 rows affected (0.02 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

(ii) SalesTABLE

```
mysql> create table sales(order_no int,
-> salesper_id int NOT NULL,
-> salesper_name varchar(30) NOT NULL,
-> FOREIGN KEY(order_no) REFERENCES orders(order_no)
-> );
Query OK, 0 rows affected (0.06 sec)
```

4. Insert sample data

(i) Order Table

```
File Edit View Search Terminal Help
10%
mysql> insert into orders(order_no,order_amt,cust_name,cust_id) values(3,750,"vi
shal",14);
Query OK, 1 row affected (0.01 sec)

mysql> insert into orders(order_no,order_amt,cust_name,cust_id) values(3,750,"sa
meer",15);
ERROR 1062 (23000): Duplicate entry '3' for key 'PRIMARY'
mysql> insert into orders(order_no,order_amt,cust_name,cust_id) values(4,750,"sa
meer",15);
Query OK, 1 row affected (0.01 sec)

mysql> insert into orders(order_no,order_amt,cust_name,cust_id) values(5,850,"ja
cob",16);
Query OK, 1 row affected (0.01 sec)

mysql> insert into orders(order_no,order_amt,cust_name,cust_id) values(5,850,"jo
hn",17);
ERROR 1062 (23000): Duplicate entry '5' for key 'PRIMARY'
mysql> insert into orders(order_no,order_amt,cust_name,cust_id) values(6,850,"jo
hn",17);
Query OK, 1 row affected (0.01 sec)

mysql>
```

```
mysql> select * from orders;
+-----+-----+-----+-----+
| order_no | order_amt | cust_name | cust_id |
+-----+-----+-----+-----+
| 1 | 550 | suraj | 12 |
| 2 | 650 | sunny | 13 |
| 3 | 750 | vishal | 14 |
| 4 | 750 | sameer | 15 |
| 5 | 850 | jacob | 16 |
| 6 | 850 | john | 17 |
+-----+-----+-----+-----+
6 rows in set (0.00 sec)
```

(ii) SALES TABLE

```
suraj@suraj: ~  
File Edit View Search Terminal Help  
");  
Query OK, 1 row affected (0.00 sec)  
  
mysql> insert into sales(order_no,salesper_id,salesper_name) values(2,102,"ajay"  
);  
Query OK, 1 row affected (0.00 sec)  
  
mysql> insert into sales(order_no,salesper_id,salesper_name) values(3,101,"rahul"  
);  
Query OK, 1 row affected (0.01 sec)  
  
mysql> insert into sales(order_no,salesper_id,salesper_name) values(4,102,"ajay"  
);  
Query OK, 1 row affected (0.00 sec)  
  
mysql> insert into sales(order_no,salesper_id,salesper_name) values(5,103,"himan  
shu");  
Query OK, 1 row affected (0.00 sec)  
  
mysql> insert into sales(order_no,salesper_id,salesper_name) values(6,104,"amit"  
);  
Query OK, 1 row affected (0.01 sec)  
  
mysql> 
```

```
mysql> select * from sales;  
+-----+-----+-----+  
| order_no | salesper_id | salesper_name |  
+-----+-----+-----+  
|          1 |          101 | rahul         |  
|          2 |          102 | ajay          |  
|          3 |          101 | rahul         |  
|          4 |          102 | ajay          |  
|          5 |          103 | himanshu      |  
|          6 |          104 | amit          |  
+-----+-----+-----+  
6 rows in set (0.00 sec)  
  
mysql> 
```


5. Find the sales person have multiple orders.

```
mysql> select salesper_name,COUNT(order_no) from sales GROUP BY salesper_name HAVING COUNT(*) > 1;
```

salesper_name	COUNT(order_no)
ajay	2
rahul	2

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

6. Find the all sales person details along with order details

```
mysql> select salesper_name,salesper_id,sales.order_no,order_amt from sales inner join orders on sales.order_no = orders.order_no;
```

salesper_name	salesper_id	order_no	order_amt
rahul	101	1	550
ajay	102	2	650
rahul	101	3	750
ajay	102	4	750
himanshu	103	5	850
amit	104	6	850

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

```
mysql>
```

7. Create index

```
mysql> ALTER TABLE sales ADD INDEX salesper_id(salesper_id);
Query OK, 0 rows affected (0.02 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

8. How to show index on a table

```
mysql> SHOW INDEX from sales;
+-----+-----+-----+-----+-----+-----+-----+
| Table | Non_unique | Key_name | Seq_in_index | Column_name | Collation | Cardinality |
| Sub_part | Packed | Null | Index_type | Comment | Index_comment |
+-----+-----+-----+-----+-----+-----+-----+
| sales |          1 | order_no |          1 | order_no    | A          |          6 |
|          | NULL | NULL | YES | BTREE |          |          |
| sales |          1 | salesper_id |          1 | salesper_id | A          |          4 |
|          | NULL | NULL |      | BTREE |          |          |
+-----+-----+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> 
```

9. Find the order number, sale person name, along with the customer to whom that order belongs to

```
mysql> select sales.order_no,salesper_name,cust_name from sales inner join order
s on sales.order_no = orders.order_no;
+-----+-----+-----+
| order_no | salesper_name | cust_name |
+-----+-----+-----+
|          1 | rahul         | suraj     |
|          2 | ajay          | sunny     |
|          3 | rahul         | vishal    |
|          4 | ajay          | sameer    |
|          5 | himanshu      | jacob     |
|          6 | amit          | john      |
+-----+-----+-----+
6 rows in set (0.00 sec)

mysql> 
```