

Introduction To Databases

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.

```
mysql> create database sales_mgt;  
Query OK, 1 row affected (0.00 sec)  
  
mysql> show databases;  
+-----+  
| Database |  
+-----+  
| information_schema |  
| bootcamp |  
| health |  
| mysql |  
| performance_schema |  
| sales_mgt |  
| sys |  
+-----+  
7 rows in set (0.01 sec)
```

2.Design Schema.

3.Create tables.

```
mysql> use sales_mgt;  
Database changed
```

To create table customer:

```
mysql> create table customer(id int primary key auto_increment, name varchar(40), contact_no varchar(30), address text);  
Query OK, 0 rows affected (0.03 sec)
```

```
mysql> desc customer;
```

Field	Type	Null	Key	Default	Extra
id	int(11)	NO	PRI	NULL	auto_increment
name	varchar(40)	YES		NULL	
contact_no	varchar(30)	YES		NULL	
address	text	YES		NULL	

4 rows in set (0.01 sec)

To create table sales_person:

```
mysql> create table sales_person(  
-> id int primary key auto_increment,  
-> name varchar(40),  
-> contact_no varchar(30),  
-> address text);  
Query OK, 0 rows affected (0.03 sec)
```

```
mysql> desc sales_person;
```

Field	Type	Null	Key	Default	Extra
id	int(11)	NO	PRI	NULL	auto_increment
name	varchar(40)	YES		NULL	
contact_no	varchar(30)	YES		NULL	
address	text	YES		NULL	

4 rows in set (0.00 sec)

To create table orders:

```
mysql> create table orders(id int primary key auto_increment, quantity int
, price int, customerId int, sales_personId int, FOREIGN KEY (customerId)
REFERENCES customer(id), FOREIGN KEY (sales_personId) REFERENCES sales_per
son(id));
Query OK, 0 rows affected (0.04 sec)

mysql> desc orders;
+-----+-----+-----+-----+-----+-----+
| Field          | Type      | Null | Key | Default | Extra          |
+-----+-----+-----+-----+-----+-----+
| id             | int(11)   | NO   | PRI | NULL    | auto_increment |
| quantity       | int(11)   | YES  |     | NULL    |                |
| price          | int(11)   | YES  |     | NULL    |                |
| customerId     | int(11)   | YES  | MUL | NULL    |                |
| sales_personId | int(11)   | YES  | MUL | NULL    |                |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.01 sec)
```

4.Insert sample data.

```
mysql> INSERT INTO customer(name,contact_no,address)
-> VALUES
-> ('ruhi',9546230123,'delhi'),
-> ('rashi',9532231456,'delhi');
Query OK, 2 rows affected (0.01 sec)
```

```
mysql> select * from customer;
+-----+-----+-----+-----+
| id | name  | contact_no | address |
+-----+-----+-----+-----+
| 1  | ruhi  | 9546230123 | delhi   |
| 2  | rashi | 9532231456 | delhi   |
| 3  | sakhi | 9411237689 | noida   |
+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

```
mysql> INSERT INTO sales_person(name,contact_no,address)
-> VALUES
-> ('steve',9766091236,'noida'),
-> ('john',8834215679, 'delhi'),
-> ('mohit', 8562314578,'noida');
Query OK, 3 rows affected (0.01 sec)
Records: 3  Duplicates: 0  Warnings: 0
```

```
mysql> select * from sales_person;
+-----+-----+-----+-----+
| id | name | contact_no | address |
+-----+-----+-----+-----+
| 1 | steve | 9766091236 | noida |
| 2 | john | 8834215679 | delhi |
| 3 | mohit | 8562314578 | noida |
+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

```
mysql> INSERT INTO orders(quantity,price,customerId,sales_personId)
-> VALUES
-> (2,400,1,1),
-> (7,300,1,2),
-> (10,800,2,1),
-> (10,1000,3,2),
-> (5,3500,3,3),
-> (12,4000,1,2),
-> (3,5000,1,3);
Query OK, 7 rows affected (0.03 sec)
Records: 7  Duplicates: 0  Warnings: 0
```

```
mysql> select * from orders;
+-----+-----+-----+-----+-----+
| id | quantity | price | customerId | sales_personId |
+-----+-----+-----+-----+-----+
| 1 | 2 | 400 | 1 | 1 |
| 2 | 7 | 300 | 1 | 2 |
| 3 | 10 | 800 | 2 | 1 |
| 4 | 10 | 1000 | 3 | 2 |
| 5 | 5 | 3500 | 3 | 3 |
| 6 | 12 | 4000 | 1 | 2 |
| 7 | 3 | 5000 | 1 | 3 |
+-----+-----+-----+-----+-----+
7 rows in set (0.00 sec)
```


5. Find the sales person have multiple orders.

```
mysql> select salesid,salesname,contact_no,address,COUNT(salesid) from
o.id as orderid,s.id as salesid,s.name as salesname,s.contact_no,s.address fro
m orders as o left join sales_person as s on o.sales_personId=s.id) as a GROUP
BY salesid HAVING COUNT(salesid)>1;
```

salesid	salesname	contact_no	address	COUNT(salesid)
1	steve	9766091236	noida	2
2	john	8834215679	delhi	3
3	mohit	8562314578	noida	2

3 rows in set (0.00 sec)

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

```
mysql> SELECT s.name,o.id as orderid FROM sales_person as s LEFT JOIN orders as o ON s.id=o.id;
```

name	orderid
steve	1
john	2
mohit	3

3 rows in set (0.00 sec)

7. Question7: Create index.

8: How to show index on a table.

Ans.7 and Ans.8 are in the same screenshot.

```
mysql> SHOW INDEXES from orders;
```

Table	Non_unique	Key_name	Seq_in_index	Column_name	Collation	Cardinality	Sub_part	Packed	Null	Index_type	Comment
orders	0	PRIMARY	1	id	A	7		NULL	NULL		BTREE
orders	1	customerId	1	customerId	A	7		NULL	NULL	YES	BTREE
Terminal	1	sales_personId	1	sales_personId	A	7		NULL	NULL	YES	BTREE

3 rows in set (0.00 sec)

```
mysql> SHOW INDEXES from orders;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| Table | Non_unique | Key_name      | Seq_in_index | Column_name  | Collation | Cardinality | Sub_part | Packed | Null | Index_type | Comment |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| orders | 0 | PRIMARY      | 1 | id           | A         | 7 | NULL | NULL | YES | BTREE | |
| orders | 1 | customerId    | 1 | customerId    | A         | 3 | NULL | NULL | YES | BTREE | |
| orders | 1 | sales_personId | 1 | sales_personId | A         | 3 | NULL | NULL | YES | BTREE | |
| orders | 1 | order_quantity | 1 | quantity      | A         | 6 | NULL | NULL | YES | BTREE | |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

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

```
mysql> SELECT o.id as order_no,s.name as sales_person_name,c.name as customer_name
FROM orders as o LEFT JOIN sales_person as s ON o.sales_personId=s.id LEFT JOIN c
ustomer as c ON o.customerId = c.id;
+-----+-----+-----+
| order_no | sales_person_name | customer_name |
+-----+-----+-----+
| 1 | steve | ruhi |
| 3 | steve | rashu |
| 2 | john | ruhi |
| 4 | john | sakhi |
| 6 | john | ruhi |
| 5 | mohit | sakhi |
| 7 | mohit | ruhi |
+-----+-----+-----+
7 rows in set (0.00 sec)
```