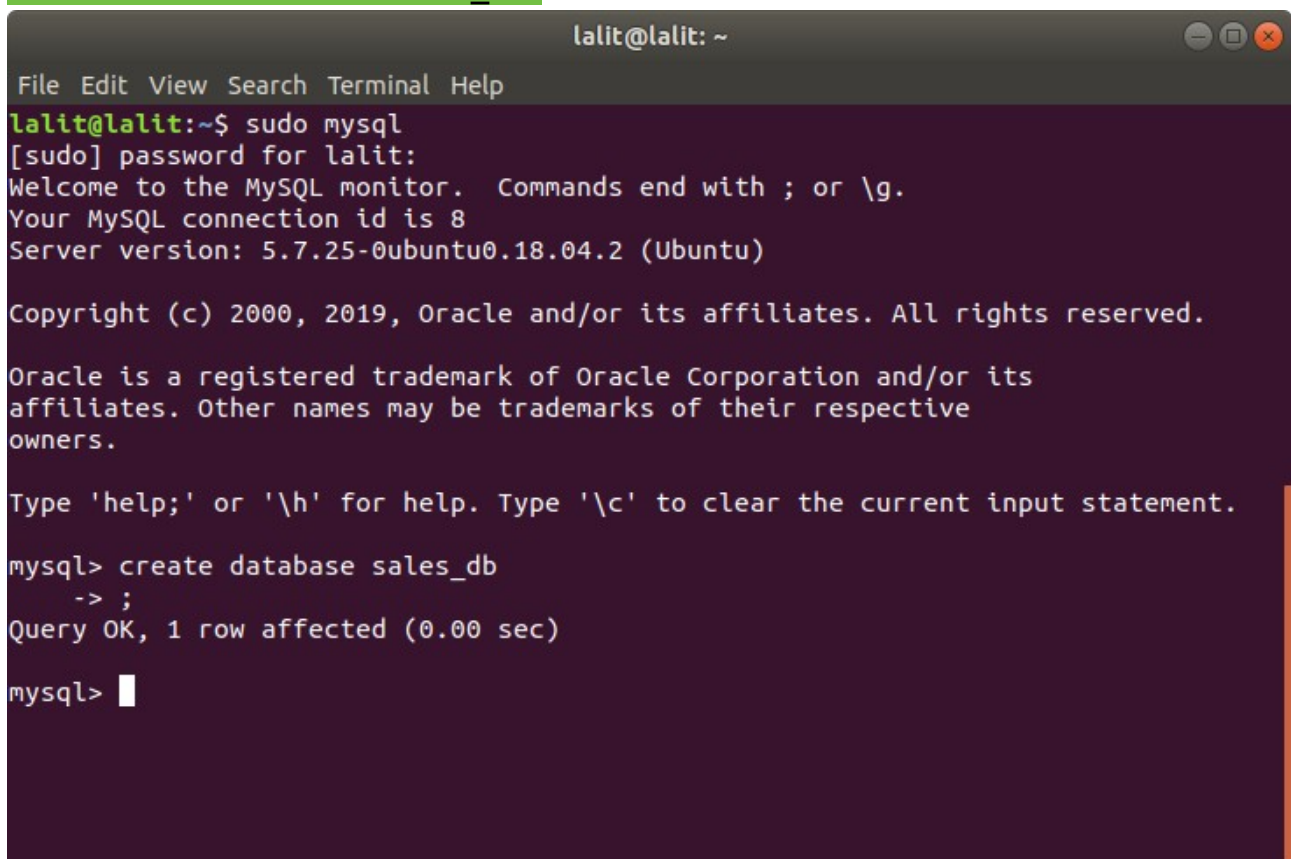


INTRODUCTION TO DATABASE
ASSIGNMENT
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GROUP-5

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

CREATE DATABASE SALES_DB

A screenshot of a terminal window titled 'lalit@lalit: ~'. The terminal shows the command 'sudo mysql' being executed, followed by a password prompt and a welcome message from the MySQL monitor. The user then enters 'create database sales_db' at the mysql prompt, and the terminal displays 'Query OK, 1 row affected (0.00 sec)'.

2.Design Schema

Here i am creating 4 tables sales_person, items, customer and order_details to solve the question.

sales_person will contain details of sales person and as sales person is can be manager.so, we have is_manager to set 1 or 0.

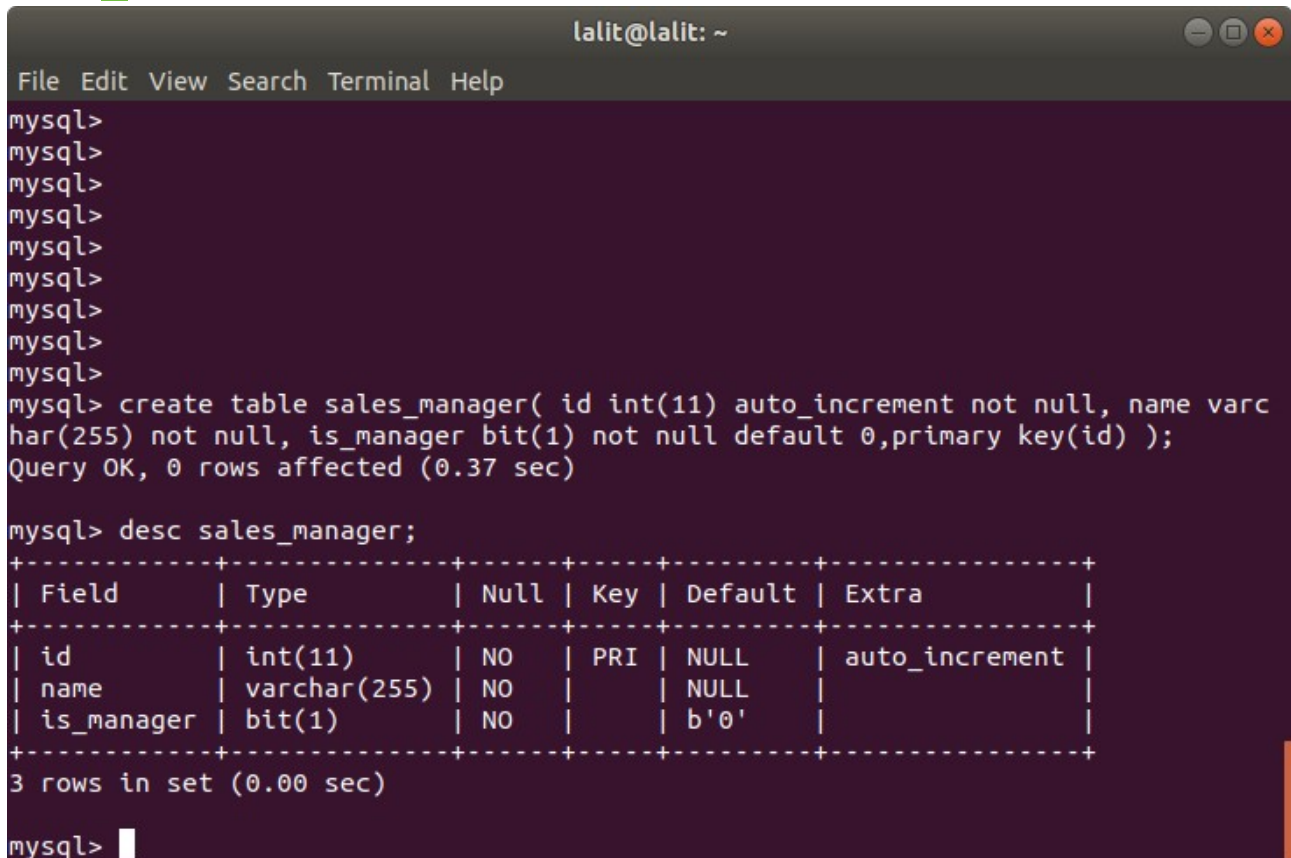
customer table will store all information about customer.

Items table will have information of all items.

order_details table will contain ids of sales_person, customer and item bought by customer. There is order id to uniquely identify each order.

3.Create tables

```
create table sales_person id int(11) auto_increment not null,  
name varchar(255) not null, is_manager bit(1) not null default '0',  
);
```



The screenshot shows a MySQL terminal window with the following content:

```
mysql>  
mysql>  
mysql>  
mysql>  
mysql>  
mysql>  
mysql>  
mysql>  
mysql>  
mysql> create table sales_manager( id int(11) auto_increment not null, name varchar(255) not null, is_manager bit(1) not null default 0,primary key(id) );  
Query OK, 0 rows affected (0.37 sec)  
  
mysql> desc sales_manager;  
+-----+-----+-----+-----+-----+-----+  
| Field      | Type          | Null | Key | Default | Extra          |  
+-----+-----+-----+-----+-----+-----+  
| id         | int(11)       | NO   | PRI | NULL    | auto_increment |  
| name       | varchar(255)  | NO   |     | NULL    |                |  
| is_manager | bit(1)        | NO   |     | b'0'    |                |  
+-----+-----+-----+-----+-----+-----+  
3 rows in set (0.00 sec)  
  
mysql> 
```

```
create table customer( id int(11) auto_increment not null, name  
varchar(255) not null, gender varchar(1) not null,phone varchar(11)  
not null,primary key(id) );
```

```
lalit@lalit: ~  
File Edit View Search Terminal Help  
mysql> create table customer( id int(11) auto_increment not null, name varchar(255) not null, gender varchar(1) not null, phone varchar(11) not null, primary key(id) );  
Query OK, 0 rows affected (0.34 sec)  
  
mysql> desc customer;  
+-----+-----+-----+-----+-----+-----+  
| Field | Type          | Null | Key | Default | Extra          |  
+-----+-----+-----+-----+-----+-----+  
| id    | int(11)       | NO   | PRI | NULL    | auto_increment |  
| name  | varchar(255)  | NO   |     | NULL    |                |  
| gender| varchar(1)    | NO   |     | NULL    |                |  
| phone | varchar(11)   | NO   |     | NULL    |                |  
+-----+-----+-----+-----+-----+-----+  
4 rows in set (0.00 sec)  
  
mysql> 
```

```
create table order_details( id int(11) auto_increment not null,item_id int(11) not null,customer_id int(11) not null,sales_person_id int(11) not null,primary key(id) );
```

```
lalit@lalit: ~  
File Edit View Search Terminal Help  
mysql> create table order_details( id int(11) auto_increment not null,item_id in  
t(11) not null,customer_id int(11) not null,sales_person_id int(11) not null,pr  
imary key(id) );  
Query OK, 0 rows affected (0.33 sec)  
  
mysql> desc order_details;  
+-----+-----+-----+-----+-----+-----+  
| Field          | Type      | Null | Key | Default | Extra          |  
+-----+-----+-----+-----+-----+-----+  
| id             | int(11)   | NO   | PRI | NULL    | auto_increment |  
| item_id        | int(11)   | NO   |     | NULL    |                |  
| customer_id    | int(11)   | NO   |     | NULL    |                |  
| sales_person_id | int(11)   | NO   |     | NULL    |                |  
+-----+-----+-----+-----+-----+-----+  
4 rows in set (0.00 sec)  
  
mysql> 
```

```
create table items(id int(11) auto_increment not null,name  
varchar(100) not null,cost int(11) not null,primary key(id) );
```

```
lalit@lalit: ~  
File Edit View Search Terminal Help  
mysql> create table items(id int(11) auto_increment not null,name varchar(100)  
not null,cost int(11) not null,primary key(id) );  
Query OK, 0 rows affected (0.38 sec)  
  
mysql> desc items;  
+-----+-----+-----+-----+-----+-----+  
| Field | Type          | Null | Key | Default | Extra          |  
+-----+-----+-----+-----+-----+-----+  
| id     | int(11)       | NO   | PRI | NULL    | auto_increment |  
| name   | varchar(100)  | NO   |     | NULL    |                |  
| cost   | int(11)       | NO   |     | NULL    |                |  
+-----+-----+-----+-----+-----+-----+  
3 rows in set (0.00 sec)  
  
mysql> 
```

```
lalit@lalit: ~  
File Edit View Search Terminal Help  
mysql> desc customer;  
+-----+-----+-----+-----+-----+-----+  
| Field | Type          | Null | Key | Default | Extra          |  
+-----+-----+-----+-----+-----+-----+  
| id    | int(11)       | NO   | PRI | NULL    | auto_increment |  
| name  | varchar(255)  | NO   |     | NULL    |                |  
| gender| varchar(1)    | NO   |     | NULL    |                |  
| phone | varchar(11)   | NO   |     | NULL    |                |  
+-----+-----+-----+-----+-----+-----+  
4 rows in set (0.00 sec)  
  
mysql> insert into customer values (1,'abc','f','123456789');  
Query OK, 1 row affected (0.08 sec)  
  
mysql> insert into customer values (2,'xyz','m','987654321');  
Query OK, 1 row affected (0.09 sec)  
  
mysql> select * from customer;  
+-----+-----+-----+-----+  
| id | name | gender | phone |  
+-----+-----+-----+-----+  
| 1  | abc  | f      | 123456789 |  
| 2  | xyz  | m      | 987654321 |  
+-----+-----+-----+-----+  
2 rows in set (0.00 sec)  
  
mysql> █
```

4.Insert sample data

```
insert into sales_person values (1,'jack',1);
```

```
lalit@lalit: ~  
File Edit View Search Terminal Help  
mysql> desc sales_person;  
+-----+-----+-----+-----+-----+-----+  
| Field      | Type          | Null | Key | Default | Extra          |  
+-----+-----+-----+-----+-----+-----+  
| id         | int(11)       | NO   | PRI | NULL    | auto_increment |  
| name       | varchar(255)  | NO   |     | NULL    |                |  
| is_manager | bit(1)        | NO   |     | b'0'    |                |  
+-----+-----+-----+-----+-----+-----+  
3 rows in set (0.00 sec)  
  
mysql> insert into sales_person values (1,'sp1',0);  
Query OK, 1 row affected (0.09 sec)  
  
mysql> insert into sales_person values (2,'sp2',1);  
Query OK, 1 row affected (0.03 sec)  
  
mysql> select * from sales_person;  
+-----+-----+-----+  
| id | name | is_manager |  
+-----+-----+-----+  
| 1  | sp1  |           |  
| 2  | sp2  | 001       |  
+-----+-----+-----+  
2 rows in set (0.00 sec)  
  
mysql> 
```

insert into order_details values(5,2,3,3);

```
lalit@lalit: ~  
File Edit View Search Terminal Help  
mysql> desc order_details;  
+-----+-----+-----+-----+-----+-----+  
| Field      | Type          | Null | Key | Default | Extra          |  
+-----+-----+-----+-----+-----+-----+  
| id         | int(11)       | NO   | PRI | NULL    | auto_increment |  
| item_id    | int(11)       | NO   |     | NULL    |                |  
| customer_id | int(11)      | NO   |     | NULL    |                |  
| sales_person_id | int(11)     | NO   |     | NULL    |                |  
+-----+-----+-----+-----+-----+-----+  
4 rows in set (0.00 sec)  
  
mysql> insert into order_details values (1,1,1,1);  
Query OK, 1 row affected (0.10 sec)  
  
mysql> insert into order_details values (2,2,1,1);  
Query OK, 1 row affected (0.09 sec)
```

insert into items values (3,'tv',35000);

```
lalit@lalit: ~  
File Edit View Search Terminal Help  
mysql> desc items;  
+-----+-----+-----+-----+-----+-----+  
| Field | Type          | Null | Key | Default | Extra          |  
+-----+-----+-----+-----+-----+-----+  
| id    | int(11)       | NO   | PRI | NULL    | auto_increment |  
| name  | varchar(100)  | NO   |     | NULL    |                |  
| cost  | int(11)       | NO   |     | NULL    |                |  
+-----+-----+-----+-----+-----+-----+  
3 rows in set (0.00 sec)  
  
mysql> insert into items values (1,'laptop',20000);  
Query OK, 1 row affected (0.10 sec)  
  
mysql> insert into items values (2,'computer',15000);  
Query OK, 1 row affected (0.09 sec)  
  
mysql> select * from items;  
+-----+-----+-----+  
| id | name      | cost |  
+-----+-----+-----+  
| 1  | laptop    | 20000 |  
| 2  | computer  | 15000 |  
+-----+-----+-----+  
2 rows in set (0.00 sec)  
  
mysql> 
```

5. Find the sales person have multiple orders.

```
select * from sales_person where id in (select sales_person_id  
from order_details group by sales_person_id having  
count(sales_person_id)>1);
```



```
lalit@lalit: ~  
File Edit View Search Terminal Help  
mysql>  
mysql>  
mysql>  
mysql>  
mysql>  
mysql>  
mysql>  
mysql>  
mysql>  
mysql>  
mysql>  
mysql>  
mysql>  
mysql>  
mysql>  
mysql>  
mysql> select * from sales_person where id =(select sales_person_id  from order_  
details group by sales_person_id having count(sales_person_id)>1);  
+-----+-----+-----+  
| id | name | is_manager |  
+-----+-----+-----+  
| 1 | sp1 | |  
+-----+-----+-----+  
1 row in set (0.00 sec)  
  
mysql> 
```

6. Find the all sales person details along with order details
select sales_person.name , customer.name , items.name,
items.cost from sales_person join order_details on
sales_person.id=order_details.sales_person_id join customer on
order_details.customer_id = customer.id join items on
order_details.item_id = items.id;

```
lalit@lalit: ~  
File Edit View Search Terminal Help  
mysql> select sales_person.name , customer.name , items.name, items.cost  
-> from sales_person join order_details on sales_person.id=order_details.sal  
es_person_id  
-> join customer on order_details.customer_id = customer.id  
-> join items on order_details.item_id = items.id;  
+-----+-----+-----+-----+  
| name | name | name | cost |  
+-----+-----+-----+-----+  
| sp1 | abc | laptop | 20000 |  
| sp1 | abc | computer | 15000 |  
| sp1 | xyz | laptop | 20000 |  
| sp1 | xyz | laptop | 20000 |  
+-----+-----+-----+-----+  
4 rows in set (0.00 sec)  
  
mysql> 
```


7.Create index

`create index item_id on items(id);`

```
lalit@lalit: ~  
File Edit View Search Terminal Help  
mysql>  
mysql>  
mysql>  
mysql>  
mysql>  
mysql>  
mysql>  
mysql>  
mysql>  
mysql>  
mysql>  
mysql> create index item_id on items(id);  
Query OK, 0 rows affected (0.37 sec)  
Records: 0 Duplicates: 0 Warnings: 0  
mysql>
```

8.How to show index on a table

`show index from items;`

```
lalit@lalit: ~  
File Edit View Search Terminal Help  
mysql> show index from items;  
+-----+-----+-----+-----+-----+-----+-----+-----+  
| Table | Non_unique | Key_name | Seq_in_index | Column_name | Collation | Cardinality | Sub_part | Packed | Null | Index_type | Comment | Index_comment |  
+-----+-----+-----+-----+-----+-----+-----+-----+  
| items | 0 | PRIMARY | 1 | id | A | 4 | NULL | NULL | | BTREE | | |  
| items | 1 | item_id | 1 | 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

`select sales_person.name , customer.name , order_details.id from
sales_person join order_details on
sales_person.id=order_details.sales_person_id join customer on
order_details.customer_id = customer.id join items on
order_details.item_id = items.id;`

lalit@lalit: ~

File Edit View Search Terminal Help

```
mysql> select sales_person.name , customer.name , order_details.id from sales_pe  
rson join order_details on sales_person.id=order_details.sales_person_id join cu  
stomer on order_details.customer_id = customer.id join items on order_details.it  
em_id = items.id;
```

```
+-----+-----+-----+  
| name | name | id |  
+-----+-----+-----+  
| sp1  | abc  | 1  |  
| sp1  | abc  | 2  |  
| sp1  | xyz  | 3  |  
| sp1  | xyz  | 4  |  
| sp2  | jack | 5  |  
+-----+-----+-----+
```

5 rows in set (0.00 sec)

```
mysql> 
```