

# **ASSIGNMENT 3**

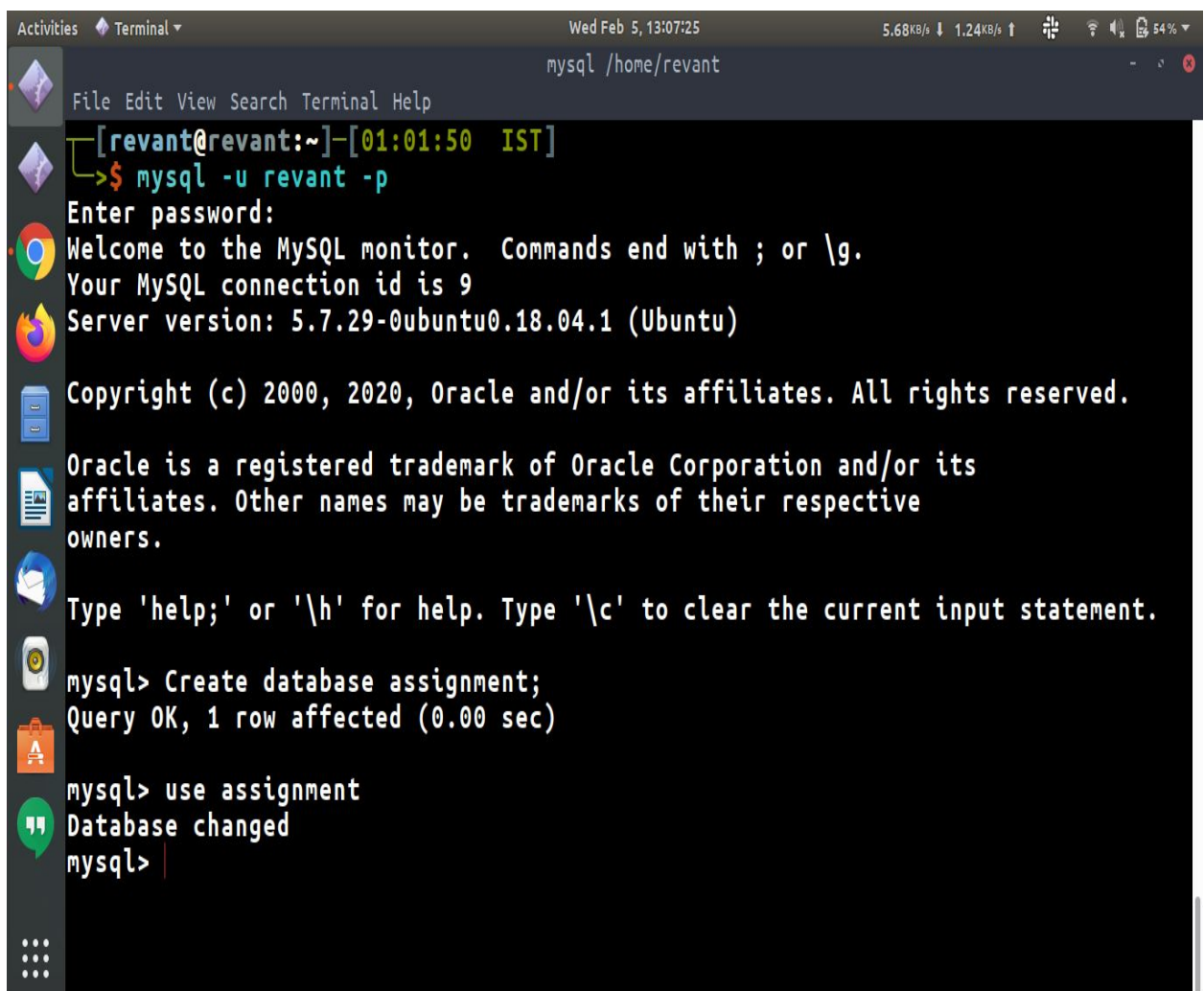


## *Introduction to Databases*

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**Submitted to - Mr. Harkesh Kumar.**

**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 .

## Create Database

A terminal window titled 'Terminal' with a dark background. The window shows the execution of MySQL commands. The user 'revant' is logged in. The terminal displays the MySQL prompt, the command to create a database, the confirmation message, the command to use the database, and the confirmation message. The terminal also shows the MySQL version and copyright information.

```
Activities Terminal Wed Feb 5, 13:07:25 5.68KB/s ↓ 1.24KB/s ↑ mysql /home/revant
File Edit View Search Terminal Help
[revant@revant:~]-[01:01:50 IST]
>$ mysql -u revant -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 9
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 assignment;
Query OK, 1 row affected (0.00 sec)

mysql> use assignment
Database changed
mysql> |
```

## Design Schema

Customers  $\rightarrow$  C

Orders  $\rightarrow$  O

Salesperson  $\rightarrow$  SP

C, O  $\rightarrow$  One to many

SP, O  $\rightarrow$  One to many

Customers

Sales Person

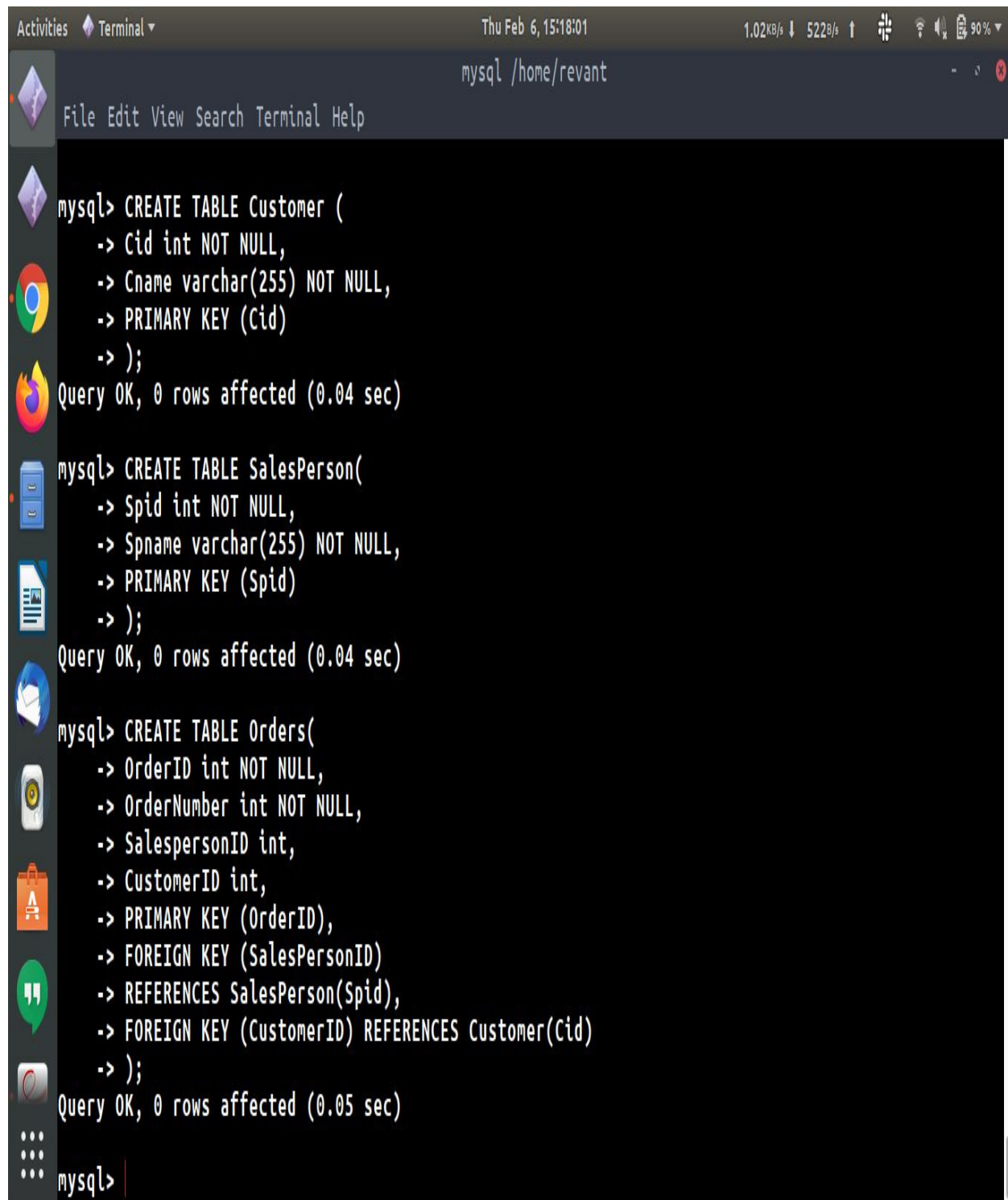
Cid	CName

SPid	SPname

Orders

SPid	Oid	OName	Cid

## Create tables



The image shows a terminal window titled 'Terminal' with the path 'mysql /home/revant'. The window contains three MySQL commands to create tables. The first command creates a 'Customer' table with columns 'Cid' (int, NOT NULL, PRIMARY KEY) and 'Cname' (varchar(255), NOT NULL). The second command creates a 'SalesPerson' table with columns 'Spid' (int, NOT NULL, PRIMARY KEY) and 'Spname' (varchar(255), NOT NULL). The third command creates an 'Orders' table with columns 'OrderID' (int, NOT NULL, PRIMARY KEY), 'OrderNumber' (int, NOT NULL), 'SalespersonID' (int, FOREIGN KEY to SalesPersonID), 'CustomerID' (int, FOREIGN KEY to CustomerID), and 'SalespersonID' (int, FOREIGN KEY to SalesPersonID). Each command is followed by a confirmation message: 'Query OK, 0 rows affected (0.04 sec)' for the first two and 'Query OK, 0 rows affected (0.05 sec)' for the third. The terminal window has a menu bar with 'File', 'Edit', 'View', 'Search', 'Terminal', and 'Help'. The status bar at the top shows 'Thu Feb 6, 15:18:01', '1.02KB/s', '522B/s', and '90%'.

```
mysql> CREATE TABLE Customer (  
-> Cid int NOT NULL,  
-> Cname varchar(255) NOT NULL,  
-> PRIMARY KEY (Cid)  
-> );  
Query OK, 0 rows affected (0.04 sec)  
  
mysql> CREATE TABLE SalesPerson(  
-> Spid int NOT NULL,  
-> Spname varchar(255) NOT NULL,  
-> PRIMARY KEY (Spid)  
-> );  
Query OK, 0 rows affected (0.04 sec)  
  
mysql> CREATE TABLE Orders(  
-> OrderID int NOT NULL,  
-> OrderNumber int NOT NULL,  
-> SalespersonID int,  
-> CustomerID int,  
-> PRIMARY KEY (OrderID),  
-> FOREIGN KEY (SalesPersonID)  
-> REFERENCES SalesPerson(Spid),  
-> FOREIGN KEY (CustomerID) REFERENCES Customer(Cid)  
-> );  
Query OK, 0 rows affected (0.05 sec)  
  
mysql>
```

# Insert sample data

```
Activities Terminal Thu Feb 6, 15:35:37 1.75KB/s 552B/s mysql /home/revant
File Edit View Search Terminal Help

mysql> INSERT INTO Customer (Cid, Cname)
-> VALUES (1,"CUST_A"),(2,"CUST_B");
Query OK, 2 rows affected (0.01 sec)
Records: 2 Duplicates: 0 Warnings: 0

mysql> INSERT INTO SalesPerson (Spid, Spname) VALUES (1,"SALESEPERSON_A"),(2,"SALESPERSON_B");
Query OK, 2 rows affected (0.01 sec)
Records: 2 Duplicates: 0 Warnings: 0

mysql> INSERT INTO Orders (OrderID,OrderNumber,SalesPersonID,CustomerID) VALUES (1,"Order_A",1,1),
(2,"Order_B",1,1),(3,"Order_C",1,1),(4,"Order_D",2,2);
ERROR 1366 (HY000): Incorrect integer value: 'Order_A' for column 'OrderNumber' at row 1
mysql> INSERT INTO Orders (OrderID,OrderNumber,SalesPersonID,CustomerID) VALUES (1,10,1,1),(2,20,1
,1),(3,30,1,1),(4,40,2,2);
Query OK, 4 rows affected (0.01 sec)
Records: 4 Duplicates: 0 Warnings: 0

mysql>
```

```
Activities Terminal Thu Feb 6, 15:36:40 724B/s 338B/s mysql /home/revant
File Edit View Search Terminal Help

mysql> Select * FROM Customer;
+----+-----+
| Cid | Cname |
+----+-----+
| 1   | CUST_A |
| 2   | CUST_B |
+----+-----+
2 rows in set (0.00 sec)

mysql> Select * from SalesPerson;
+----+-----+
| Spid | Spname |
+----+-----+
| 1    | SALESEPERSON_A |
| 2    | SALESPERSON_B |
+----+-----+
2 rows in set (0.00 sec)

mysql> Select * from Orders;
+----+-----+-----+-----+
| OrderID | OrderNumber | SalespersonID | CustomerID |
+----+-----+-----+-----+
| 1       | 10          | 1             | 1          |
| 2       | 20          | 1             | 1          |
| 3       | 30          | 1             | 1          |
| 4       | 40          | 2             | 2          |
+----+-----+-----+-----+
4 rows in set (0.00 sec)
```

**Find the sales person have multiple orders.**



**Find the all sales person details along with order details**

```
Activities Terminal Thu Feb 6, 16:03:45 226B/s 0B/s mysql /home/revant
File Edit View Search Terminal Help

mysql> SELECT Spid,Spname,OrderID,OrderNumber
-> FROM SalesPerson
-> INNER JOIN Orders
-> ON SalesPerson.Spid = Orders.SalesPersonID;
+-----+-----+-----+-----+
| Spid | Spname      | OrderID | OrderNumber |
+-----+-----+-----+-----+
| 1    | SALEPERSON_A | 1       | 10          |
| 1    | SALEPERSON_A | 2       | 20          |
| 1    | SALEPERSON_A | 3       | 30          |
| 2    | SALEPERSON_B | 4       | 40          |
+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql> |
```



## Create index

```
mysql> CREATE INDEX idx_Spname
-> ON SalesPerson (Spname);
Query OK, 0 rows affected (0.04 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> desc SalesPerson;
+-----+-----+-----+-----+-----+-----+
| Field | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| Spid  | int(11)       | NO   | PRI | NULL    |       |
| Spname | varchar(255)  | NO   | MUL | NULL    |       |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.01 sec)

mysql> |
```

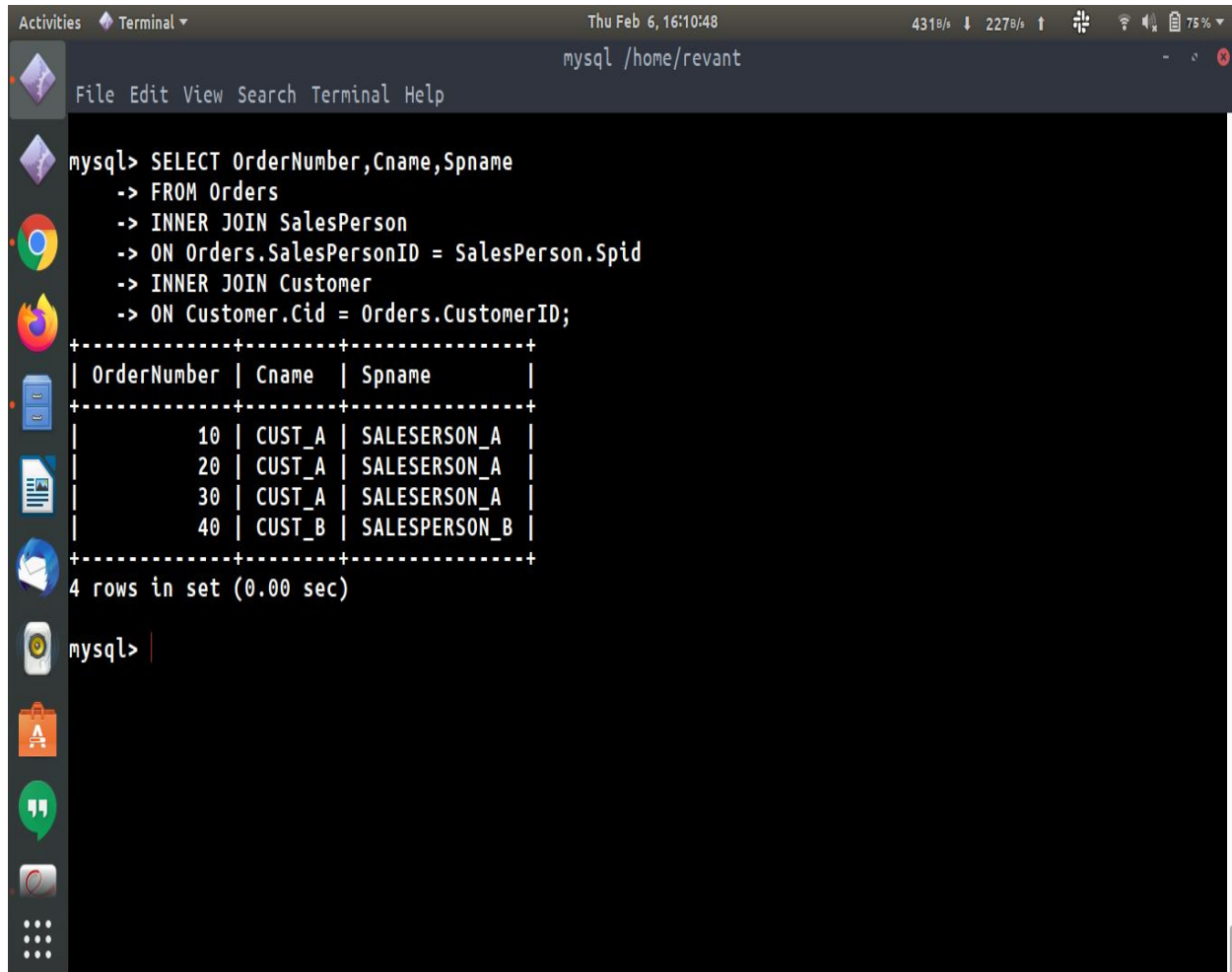
## How to show index on a table

```
mysql> CREATE INDEX idx_Spname
-> ON SalesPerson (Spname);
Query OK, 0 rows affected (0.04 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> desc SalesPerson;
+-----+-----+-----+-----+-----+-----+
| Field | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| Spid  | int(11)       | NO   | PRI | NULL    |       |
| Spname | varchar(255)  | NO   | MUL | NULL    |       |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.01 sec)

mysql> |
```

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



A terminal window titled 'Terminal' with a menu bar (File, Edit, View, Search, Terminal, Help) and a status bar (Thu Feb 6, 16:10:48, 431B/s, 227B/s, 75%). The terminal shows a MySQL session with the following commands and output:

```
mysql> SELECT OrderNumber,Cname,Spname
-> FROM Orders
-> INNER JOIN SalesPerson
-> ON Orders.SalesPersonID = SalesPerson.Spid
-> INNER JOIN Customer
-> ON Customer.Cid = Orders.CustomerID;
```

OrderNumber	Cname	Spname
10	CUST_A	SALESEPERSON_A
20	CUST_A	SALESEPERSON_A
30	CUST_A	SALESEPERSON_A
40	CUST_B	SALESPERSON_B

4 rows in set (0.00 sec)

```
mysql>
```