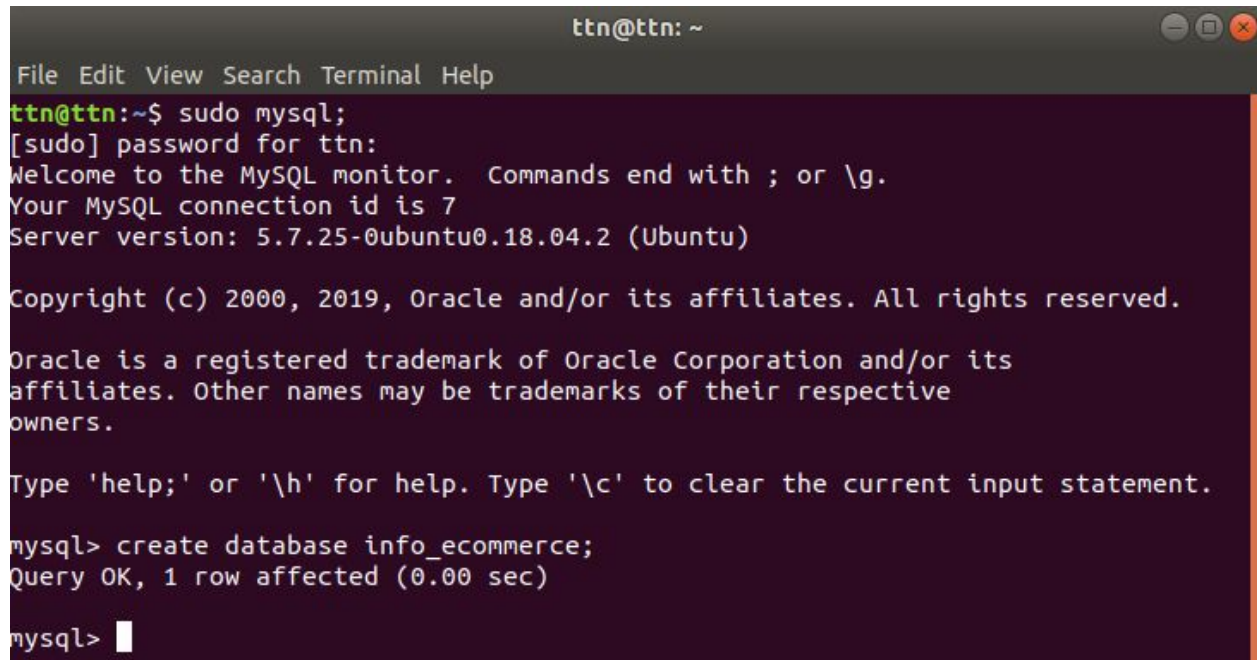


Ans 1-Creating the database 'info_ecommerce'

A terminal window titled 'ttn@ttn: ~' with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal shows the command 'sudo mysql;' being executed. It prompts for a password, then displays the MySQL welcome message, connection ID (7), and server version (5.7.25-0ubuntu0.18.04.2). It also shows copyright and trademark information. Finally, the command 'mysql> create database info_ecommerce;' is executed, resulting in 'Query OK, 1 row affected (0.00 sec)' and the prompt 'mysql>' is shown again.

```
ttn@ttn: ~  
File Edit View Search Terminal Help  
ttn@ttn:~$ sudo mysql;  
[sudo] password for ttn:  
Welcome to the MySQL monitor.  Commands end with ; or \g.  
Your MySQL connection id is 7  
Server version: 5.7.25-0ubuntu0.18.04.2 (Ubuntu)  
  
Copyright (c) 2000, 2019, Oracle and/or its affiliates. All rights reserved.  
  
Oracle is a registered trademark of Oracle Corporation and/or its  
affiliates. Other names may be trademarks of their respective  
owners.  
  
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.  
  
mysql> create database info_ecommerce;  
Query OK, 1 row affected (0.00 sec)  
  
mysql> 
```

Ans 2- Schema Objects:-

1- Tables (Customers & Sales)

2-Indexes(sales_index,cstmre_index)

Customer_Attributes-(id,c_id,c_name,prdct_id,date_time,ordr_id)

Sales_Attributes-(id,s_id,s_name,s_contact,o_id)

Ans 3-Creating database tables

```
ttn@ttn: ~  
File Edit View Search Terminal Help  
  
mysql> use info_ecommerce;  
Database changed  
mysql> create table customers (id int not null,c_id int not null,c_name varchar(  
255),prdt_id int,date_time datetime, ordr_id int);  
Query OK, 0 rows affected (0.02 sec)  
  
mysql> desc customers;  
+-----+-----+-----+-----+-----+-----+  
| Field      | Type          | Null | Key | Default | Extra |  
+-----+-----+-----+-----+-----+-----+  
| id         | int(11)       | NO   |     | NULL    |       |  
| c_id       | int(11)       | NO   |     | NULL    |       |  
| c_name     | varchar(255)  | YES  |     | NULL    |       |  
| prdt_id    | int(11)       | YES  |     | NULL    |       |  
| date_time  | datetime      | YES  |     | NULL    |       |  
| ordr_id    | int(11)       | YES  |     | NULL    |       |  
+-----+-----+-----+-----+-----+-----+  
6 rows in set (0.00 sec)  
  
mysql> create table sales (id int not null, s_id int, s_name varchar(255),s_cont  
act int,o_id int);  
Query OK, 0 rows affected (0.02 sec)  
  
mysql> desc sales;  
+-----+-----+-----+-----+-----+-----+  
| Field      | Type          | Null | Key | Default | Extra |  
+-----+-----+-----+-----+-----+-----+  
| id         | int(11)       | NO   |     | NULL    |       |  
| s_id       | int(11)       | YES  |     | NULL    |       |  
| s_name     | varchar(255)  | YES  |     | NULL    |       |  
| s_contact  | int(11)       | YES  |     | NULL    |       |  
| o_id       | int(11)       | YES  |     | NULL    |       |  
+-----+-----+-----+-----+-----+-----+  
5 rows in set (0.00 sec)  
  
mysql> 
```

Ans 4- Inserting the data into customers and sales table

1-Customers Table

```
mysql> insert into customers values (1,1,'gaurav',1,'2019-02-06',1), (2,1,'gaurav',2,'2019-02-06',1), (3,2,'harsh',5,'2019-02-06',2), (4,1,'gaurav',3,'2019-02-06',3), (5,3,'himanshu',6,'2019-02-06',4), (6,3,'himanshu',5,'2019-02-06',4), (7,3,'himanshu',9,'2019-02-07',5), (8,4,'vivek',10,'2019-02-08',6), (9,6,'vishal',8,'2019-02-09',7), (10,5,'rahul',1,'2019-02-09',8);
Query OK, 10 rows affected (0.00 sec)
Records: 10  Duplicates: 0  Warnings: 0

mysql> select * from customers;
+----+-----+-----+-----+-----+-----+
| id | c_id | c_name | prdct_id | date_time          | ordr_id |
+----+-----+-----+-----+-----+-----+
| 1  | 1    | gaurav | 1        | 2019-02-06 00:00:00 | 1       |
| 2  | 1    | gaurav | 2        | 2019-02-06 00:00:00 | 1       |
| 3  | 2    | harsh  | 5        | 2019-02-06 00:00:00 | 2       |
| 4  | 1    | gaurav | 3        | 2019-02-06 00:00:00 | 3       |
| 5  | 3    | himanshu | 6      | 2019-02-06 00:00:00 | 4       |
| 6  | 3    | himanshu | 5      | 2019-02-06 00:00:00 | 4       |
| 7  | 3    | himanshu | 9      | 2019-02-07 00:00:00 | 5       |
| 8  | 4    | vivek  | 10       | 2019-02-08 00:00:00 | 6       |
| 9  | 6    | vishal  | 8        | 2019-02-09 00:00:00 | 7       |
| 10 | 5    | rahul   | 1        | 2019-02-09 00:00:00 | 8       |
+----+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)
```

2-Sales table

```
mysql> insert into sales values(1,20,'raj',2146,1),(2,22,'dev',8978,4),(3,20,'raj',2146,2), (4,21,'ali',7895,5),(5,21,'ali',7895,8), (6,23,'ram',1234,3),(7,23,'ram',1234,6),(8,24,'shyam',4321,7);
Query OK, 8 rows affected (0.00 sec)
Records: 8  Duplicates: 0  Warnings: 0

mysql> select * from sales;
+----+-----+-----+-----+-----+
| id | s_id | s_name | s_contact | o_id |
+----+-----+-----+-----+-----+
| 1  | 20   | raj    | 2146      | 1    |
| 2  | 22   | dev    | 8978      | 4    |
| 3  | 20   | raj    | 2146      | 2    |
| 4  | 21   | ali    | 7895      | 5    |
| 5  | 21   | ali    | 7895      | 8    |
| 6  | 23   | ram    | 1234      | 3    |
| 7  | 23   | ram    | 1234      | 6    |
| 8  | 24   | shyam  | 4321      | 7    |
+----+-----+-----+-----+-----+
8 rows in set (0.00 sec)

mysql> mysql>
```


Ans 5- sales person have multiple orders

```
mysql> select s_name from sales group by s_name having count(s_name)>1;
+-----+
| s_name |
+-----+
| ali    |
| raj    |
| ram    |
+-----+
3 rows in set (0.00 sec)

mysql>
```

Ans 6-query to find sales person details along with order details

```
mysql> select SLS.s_id,SLS.s_name,SLS.s_contact,CSTM.c_name,CSTM.date_time,CSTM.prduct_id, CSTM.ordr_id from customers as CSTM inner join sales
as SLS on CSTM.ordr_id= SLS.o_id;
+-----+-----+-----+-----+-----+-----+-----+
| s_id | s_name | s_contact | c_name | date_time | prduct_id | ordr_id |
+-----+-----+-----+-----+-----+-----+-----+
| 20 | raj | 2146 | gaurav | 2019-02-06 00:00:00 | 1 | 1 |
| 20 | raj | 2146 | gaurav | 2019-02-06 00:00:00 | 2 | 1 |
| 20 | raj | 2146 | harsh | 2019-02-06 00:00:00 | 5 | 2 |
| 23 | ram | 1234 | gaurav | 2019-02-06 00:00:00 | 3 | 3 |
| 22 | dev | 8978 | himanshu | 2019-02-06 00:00:00 | 6 | 4 |
| 22 | dev | 8978 | himanshu | 2019-02-06 00:00:00 | 5 | 4 |
| 21 | ali | 7895 | himanshu | 2019-02-07 00:00:00 | 9 | 5 |
| 23 | ram | 1234 | vivek | 2019-02-08 00:00:00 | 10 | 6 |
| 24 | shyam | 4321 | vishal | 2019-02-09 00:00:00 | 8 | 7 |
| 21 | ali | 7895 | rahul | 2019-02-09 00:00:00 | 1 | 8 |
+-----+-----+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)
```

Ans 7- Creating indexes for customers and sales table

```
mysql> mysql> create index cstmre_index on customers (c_id);
Query OK, 0 rows affected (0.03 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> create index sales_index on sales (s_id,s_contact);
Query OK, 0 rows affected (0.02 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql>
```

Ans 8- Showing index from all tables

```
mysql> show index from customers;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| Table | Non_unique | Key_name | Seq_in_index | Column_name | Collation | Cardinality | Sub_part | Packed | Null | Index_type | Comment |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| customers | 1 | cstmr_index | 1 | c_id | A | 6 | NULL | NULL | YES | BTREE | |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)

mysql> show index from sales;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| Table | Non_unique | Key_name | Seq_in_index | Column_name | Collation | Cardinality | Sub_part | Packed | Null | Index_type | Comment |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| sales | 1 | sales_index | 1 | s_id | A | 5 | NULL | NULL | YES | BTREE | |
| sales | 1 | sales_index | 2 | s_contact | A | 5 | NULL | NULL | YES | BTREE | |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql>
```

Ans 9- query to find order number, sales person name, along with the customer name

```
mysql> select distinct SLS.o_id, SLS.s_name, CSTM.c_name from
customers as CSTM inner join sales as SLS on CSTM.ordr_id= SLS.o_id;
+-----+-----+-----+
| o_id | s_name | c_name |
+-----+-----+-----+
| 1 | raj | gaurav |
| 2 | raj | harsh |
| 3 | ram | gaurav |
| 4 | dev | himanshu |
| 5 | ali | himanshu |
| 6 | ram | vivek |
| 7 | shyam | vishal |
| 8 | ali | rahul |
+-----+-----+-----+
8 rows in set (0.00 sec)

mysql>
```