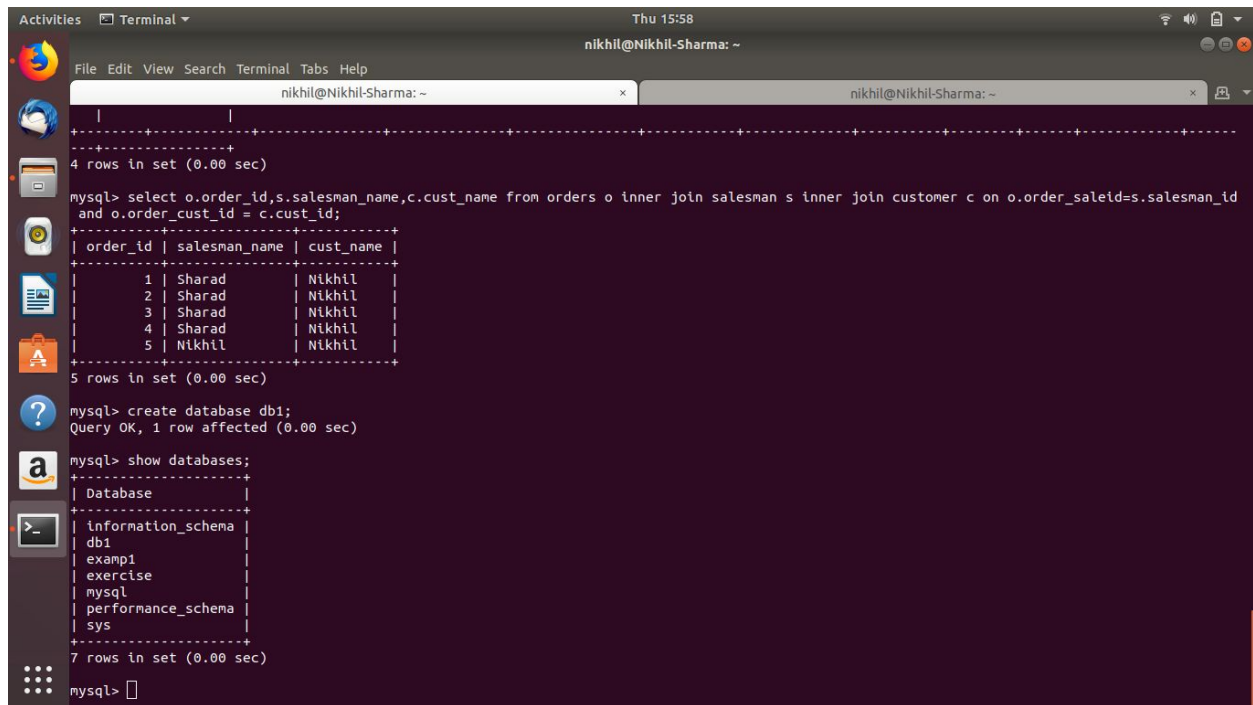


Q1.Create Database

Ans. create database db1;



Terminal screenshot showing MySQL commands and results for Q1. The terminal window is titled 'nikhil@Nikhil-Sharma: ~' and shows the following commands and output:

```
mysql> select o.order_id,s.salesman_name,c.cust_name from orders o inner join salesman s inner join customer c on o.order_saleid=s.salesman_id and o.order_cust_id = c.cust_id;
```

order_id	salesman_name	cust_name
1	Sharad	Nikhil
2	Sharad	Nikhil
3	Sharad	Nikhil
4	Sharad	Nikhil
5	Nikhil	Nikhil

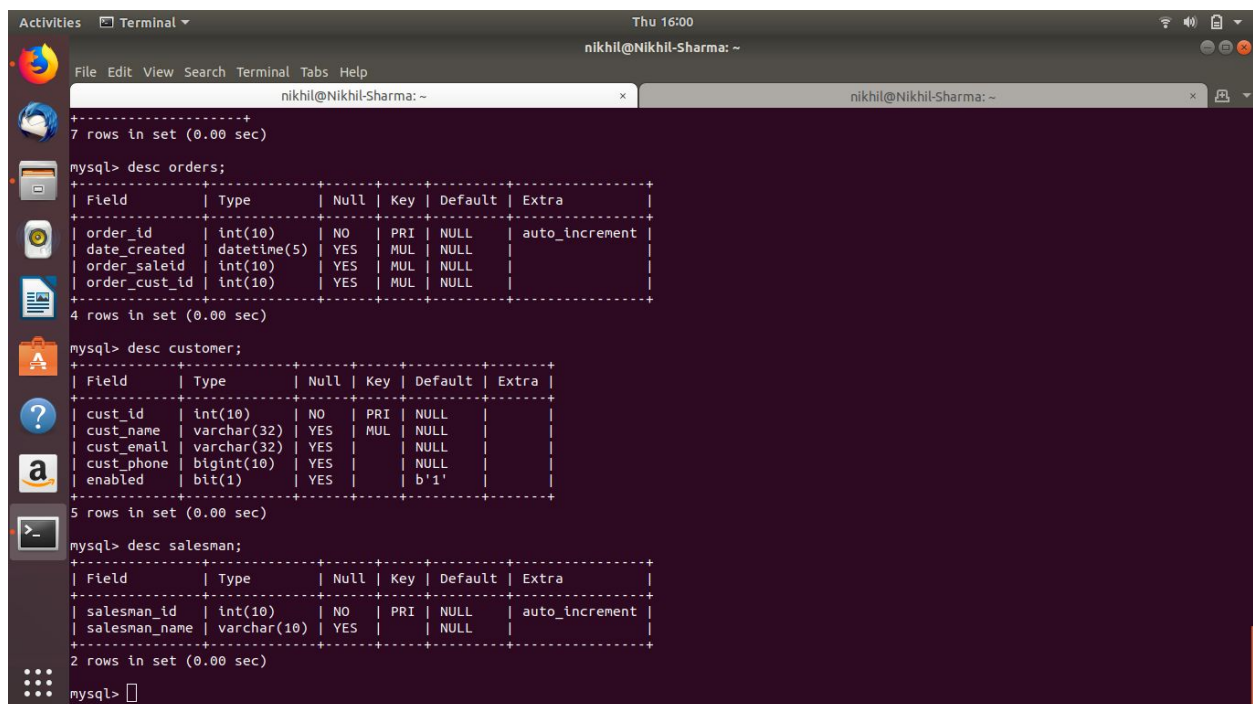
```
mysql> create database db1;
Query OK, 1 row affected (0.00 sec)

mysql> show databases;
```

Database
information_schema
db1
examp1
exercise
mysql
performance_schema
sys

Q2.Design Schema

Ans.



Terminal screenshot showing MySQL commands and results for Q2. The terminal window is titled 'nikhil@Nikhil-Sharma: ~' and shows the following commands and output:

```
mysql> desc orders;
```

Field	Type	Null	Key	Default	Extra
order_id	int(10)	NO	PRI	NULL	auto_increment
date_created	datetime(5)	YES	MUL	NULL	
order_saleid	int(10)	YES	MUL	NULL	
order_cust_id	int(10)	YES	MUL	NULL	

```
mysql> desc customer;
```

Field	Type	Null	Key	Default	Extra
cust_id	int(10)	NO	PRI	NULL	
cust_name	varchar(32)	YES	MUL	NULL	
cust_email	varchar(32)	YES		NULL	
cust_phone	bigint(10)	YES		NULL	
enabled	bit(1)	YES		b'1'	

```
mysql> desc salesman;
```

Field	Type	Null	Key	Default	Extra
salesman_id	int(10)	NO	PRI	NULL	auto_increment
salesman_name	varchar(10)	YES		NULL	

Q3.Create tables

Ans.

```
Activities Terminal Wed 12:06
nikhil@Nikhil-Sharma: ~

mysql> create table customer(cust_id int(10),cust_name varchar(32), cust_email varchar(32), cust_contact bigint(10), primary key(cust_id));
Query OK, 0 rows affected (0.02 sec)

mysql> insert into customer values(1,"Nikhil","nikhilsolus99",7518218582);
Query OK, 1 row affected (0.03 sec)

mysql> alter table customer modify(cust_contact bigint(20));
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax
to use near '(cust_contact bigint(20))' at line 1
mysql> alter table customer modify cust_contact bigint(20);
Query OK, 0 rows affected (0.02 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> alter table customer change cust_contact cust_phone bigint(10);
Query OK, 0 rows affected (0.01 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> alter table customer add enabled bit(1);
Query OK, 0 rows affected (0.06 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> des customer;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax
to use near 'des customer' at line 1
mysql> desc customer;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| cust_id | int(10) | NO | PRI | NULL | |
| cust_name | varchar(32) | YES | | NULL | |
| cust_email | varchar(32) | YES | | NULL | |
| cust_phone | bigint(10) | YES | | NULL | |
| enabled | bit(1) | YES | | NULL | |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql>
```

Q4.Insert sample data

Ans.

```
Activities Terminal Thu 15:06
nikhil@Nikhil-Sharma: ~

mysql> insert into orders values(1,now(),1,1);
ERROR 1452 (23000): Cannot add or update a child row: a foreign key constraint fails ('exercise`.`orders`, CONSTRAINT `orders_ibfk_1` FOREIGN
KEY (`order_saleid`) REFERENCES `salesman` (`salesman_id`))
mysql> insert into orders values(1,now());
ERROR 1136 (21S01): Column count doesn't match value count at row 1
mysql> insert into salesman values(1,'Sharad');
Query OK, 1 row affected (0.04 sec)

mysql> insert into orders values(1,now(),1,1);
Query OK, 1 row affected (0.04 sec)

mysql> insert into salesman values(2,'Nikhil');
Query OK, 1 row affected (0.04 sec)

mysql> insert into salesman values(3,'min');
Query OK, 1 row affected (0.03 sec)

mysql> insert into salesman values(4,'tushar');
Query OK, 1 row affected (0.04 sec)

mysql> insert into order values(2,now(),1,1);
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax
to use near 'order values(2,now(),1,1)' at line 1
mysql> insert into orders values(2,now(),1,1);
Query OK, 1 row affected (0.04 sec)

mysql> insert into orders values(3,now(),1,1);
Query OK, 1 row affected (0.03 sec)

mysql> insert into orders values(4,now(),1,1);
Query OK, 1 row affected (0.03 sec)

mysql> insert into orders values(5,now(),2,2);
ERROR 1452 (23000): Cannot add or update a child row: a foreign key constraint fails ('exercise`.`orders`, CONSTRAINT `orders_ibfk_2` FOREIGN
KEY (`order_cust_id`) REFERENCES `customer` (`cust_id`))
mysql> insert into orders values(5,now(),2,1);
Query OK, 1 row affected (0.04 sec)
```

Q5.Find the sales person have multiple orders.

Ans.

```
Activities Terminal Fri 09:44
nikhil@Nikhil-Sharma: ~
File Edit View Search Terminal Tabs Help
nikhil@Nikhil-Sharma: ~
+-----+
| cust_phone | bigint(10) | YES | NULL |
| enabled    | bit(1)     | YES | b'1'  |
+-----+
5 rows in set (0.00 sec)

mysql> desc salesman;
+-----+
| Field      | Type      | Null | Key | Default | Extra      |
+-----+
| salesman_id | int(10)   | NO   | PRI | NULL    | auto_increment |
| salesman_name | varchar(10) | YES | NULL |         |              |
+-----+
2 rows in set (0.00 sec)

mysql> select distinct s.salesman_name from orders o inner join salesman s on o.order_saleid = s.salesman_id and count(s.salesman)>1;
ERROR 1111 (HY000): Invalid use of group function
mysql> select s.salesman_name from orders o inner join salesman s on o.order_saleid = s.salesman_id and count(s.salesman)>1;
ERROR 1111 (HY000): Invalid use of group function
mysql> select distinct s.salesman_name from orders o inner join salesman s on o.order_saleid = s.salesman_id where count(o.order_id)>1;
ERROR 1111 (HY000): Invalid use of group function
mysql> select salesman_name from salesman where salesman_name in (select distinct salesman_name from orders b where ( select * from orders a where a.salesman_id = b.salesman_id and a.order_id = b.order_id));
ERROR 1054 (42S22): Unknown column 'a.salesman_id' in 'where clause'
mysql> select salesman_name from salesman where salesman_name in (select distinct salesman_name from orders b where exists ( select * from orders a where a.salesman_id = b.salesman_id and a.order_id = b.order_id));
ERROR 1054 (42S22): Unknown column 'a.salesman_id' in 'where clause'
mysql> select s.salesman_name from orders o inner join salesman s on o.order_saleid = s.salesman_id group by s.salesman_name having count(s.salesman_name)>2;
+-----+
| salesman_name |
+-----+
| Sharad       |
+-----+
1 row in set (0.00 sec)

mysql>
```

Q6.Find the all sales person details along with order details

Ans.

```
Activities Terminal Thu 14:44
nikhil@Nikhil-Sharma: ~
File Edit View Search Terminal Help
+-----+
| 5 | 2020-02-06 14:32:28.000000 | 2 | 1 |
+-----+
5 rows in set (0.00 sec)

mysql> select s.name from orders o inner join salesman s on o.order_saleid=s.salesman_id;
ERROR 1054 (42S22): Unknown column 's.name' in 'field list'
mysql> select s.salesman_name from orders o inner join salesman s on o.order_saleid=s.salesman_id;
+-----+
| salesman_name |
+-----+
| Sharad       |
| Sharad       |
| Sharad       |
| Sharad       |
| Nikhil       |
+-----+
5 rows in set (0.00 sec)

mysql> mysql> select * from orders o inner join salesman s on o.order_saleid=s.salesman_id;
+-----+
| order_id | date_created          | order_saleid | order_cust_id | salesman_id | salesman_name |
+-----+
| 1 | 2020-02-06 14:28:17.000000 | 1 | 1 | 1 | Sharad |
| 2 | 2020-02-06 14:31:35.000000 | 1 | 1 | 1 | Sharad |
| 3 | 2020-02-06 14:31:44.000000 | 1 | 1 | 1 | Sharad |
| 4 | 2020-02-06 14:31:50.000000 | 1 | 1 | 1 | Sharad |
| 5 | 2020-02-06 14:32:28.000000 | 2 | 1 | 2 | Nikhil |
+-----+
5 rows in set (0.00 sec)

mysql> create index idx on orders date_created;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'date_created' at line 1
mysql> create index idx on orders (date_created);
Query OK, 0 rows affected (0.04 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql>
```

Q7.Create index

Ans.

```
Activities Terminal Thu 14:44
nikhil@Nikhil-Sharma: ~

File Edit View Search Terminal Help

+-----+
| order_id | date_created | order_saleid | order_cust_id | salesman_id | salesman_name |
+-----+
| 1 | 2020-02-06 14:28:17.00000 | 1 | 1 | 1 | Sharad |
| 2 | 2020-02-06 14:31:35.00000 | 1 | 1 | 1 | Sharad |
| 3 | 2020-02-06 14:31:44.00000 | 1 | 1 | 1 | Sharad |
| 4 | 2020-02-06 14:31:50.00000 | 1 | 1 | 1 | Sharad |
| 5 | 2020-02-06 14:32:28.00000 | 2 | 1 | 2 | Nikhil |
+-----+
5 rows in set (0.00 sec)

mysql> create index idx on orders date_created;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax
to use near 'date_created' at line 1
mysql> create index idx on orders (date_created);
Query OK, 0 rows affected (0.04 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> show index 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 | order_id | A | 4 | NULL | NULL | YES | BTREE | |
| orders | 1 | order_saleid | 1 | order_saleid | A | 1 | NULL | NULL | YES | BTREE | |
| orders | 1 | order_cust_id | 1 | order_cust_id | A | 1 | NULL | NULL | YES | BTREE | |
| orders | 1 | idx | 1 | date_created | A | 5 | NULL | NULL | YES | BTREE | |
+-----+
4 rows in set (0.00 sec)

mysql>
```

Q8.How to show index on a table.

Ans.

```
Activities Terminal Thu 14:44
nikhil@Nikhil-Sharma: ~

File Edit View Search Terminal Help

+-----+
| order_id | date_created | order_saleid | order_cust_id | salesman_id | salesman_name |
+-----+
| 1 | 2020-02-06 14:28:17.00000 | 1 | 1 | 1 | Sharad |
| 2 | 2020-02-06 14:31:35.00000 | 1 | 1 | 1 | Sharad |
| 3 | 2020-02-06 14:31:44.00000 | 1 | 1 | 1 | Sharad |
| 4 | 2020-02-06 14:31:50.00000 | 1 | 1 | 1 | Sharad |
| 5 | 2020-02-06 14:32:28.00000 | 2 | 1 | 2 | Nikhil |
+-----+
5 rows in set (0.00 sec)

mysql> create index idx on orders date_created;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax
to use near 'date_created' at line 1
mysql> create index idx on orders (date_created);
Query OK, 0 rows affected (0.04 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> show index 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 | order_id | A | 4 | NULL | NULL | YES | BTREE | |
| orders | 1 | order_saleid | 1 | order_saleid | A | 1 | NULL | NULL | YES | BTREE | |
| orders | 1 | order_cust_id | 1 | order_cust_id | A | 1 | NULL | NULL | YES | BTREE | |
| orders | 1 | idx | 1 | date_created | A | 5 | NULL | NULL | YES | BTREE | |
+-----+
4 rows in set (0.00 sec)

mysql>
```

Q9.Find the order number, sale person name, along with the customer to whom that order belongs to.

Ans.

```
Activities Terminal Thu 14:52
nikhil@Nikhil-Sharma: ~

to use near 'date_created' at line 1
mysql> create index idx on orders (date_created);
Query OK, 0 rows affected (0.04 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> show index 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 | order_id | A | 4 | NULL | NULL | YES | BTREE | |
| orders | 1 | order_saleid | 1 | order_saleid | A | 1 | NULL | NULL | YES | BTREE | |
| orders | 1 | order_cust_id | 1 | order_cust_id | A | 1 | NULL | NULL | YES | BTREE | |
| orders | 1 | idx | 1 | date_created | A | 5 | NULL | NULL | YES | BTREE | |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql> select o.order_id,s.salesman_name,c.cust_name from orders o inner join salesman s inner join customer c on o.order_saleid=s.salesman_id
and o.order_cust_id = c.cust_id;
+-----+-----+-----+
| order_id | salesman_name | cust_name |
+-----+-----+-----+
| 1 | Sharad | Nikhil |
| 2 | Sharad | Nikhil |
| 3 | Sharad | Nikhil |
| 4 | Sharad | Nikhil |
| 5 | Nikhil | Nikhil |
+-----+-----+-----+
5 rows in set (0.00 sec)

mysql>
```