Database Assignment

1. **Create Database**

mysql> create database rdb;

Query OK, 1 row affected (0.00 sec)

mysql>

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

mysql> use rdb;
Database changed
mysql> select database;
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 '' at line 1
mysql> show databases;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| mysql              |
| performance_schema |
| rdb                |
| sys                |
+--------------------+
5 rows in set (0.01 sec)

mysql>
```
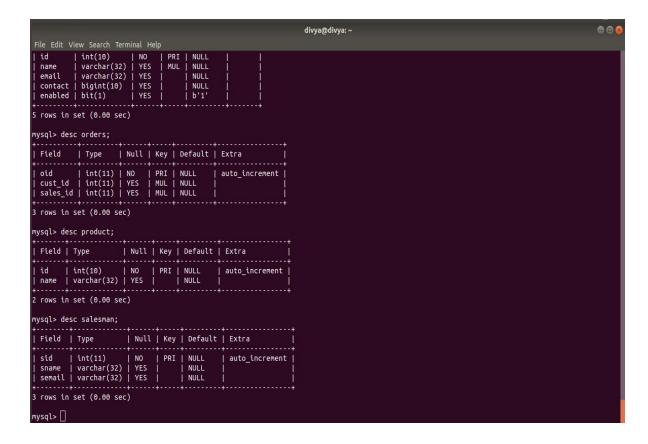
2. **Design Schema**

```
mysql> show tables;
+---------------+
| Tables_in_rdb |
+---------------+
| customer      |
| orders        |
| product       |
```

```
| salesman      |
+---------------+
4 rows in set (0.00 sec)

mysql> desc customer;
+---------+-------------+------+-----+---------+-------+
| Field   | Type        | Null | Key | Default | Extra |
+---------+-------------+------+-----+---------+-------+
| id      | int(10)     | NO   | PRI | NULL    |       |
| name    | varchar(32) | YES  | MUL | NULL    |       |
| email   | varchar(32) | YES  |     | NULL    |       |
| contact | bigint(10)  | YES  |     | NULL    |       |
| enabled | bit(1)      | YES  |     | b'1'    |       |
+---------+-------------+------+-----+---------+-------+
5 rows in set (0.00 sec)

mysql> desc orders;
+----------+---------+------+-----+---------+----------------+
| Field    | Type    | Null | Key | Default | Extra          |
+----------+---------+------+-----+---------+----------------+
| oid      | int(11) | NO   | PRI | NULL    | auto_increment |
| cust_id  | int(11) | YES  | MUL | NULL    |                |
| sales_id | int(11) | YES  | MUL | NULL    |                |
+----------+---------+------+-----+---------+----------------+
3 rows in set (0.00 sec)

mysql> desc product;
+-------+-------------+------+-----+---------+----------------+
| Field | Type        | Null | Key | Default | Extra          |
+-------+-------------+------+-----+---------+----------------+
| id    | int(10)     | NO   | PRI | NULL    | auto_increment |
| name  | varchar(32) | YES  |     | NULL    |                |
+-------+-------------+------+-----+---------+----------------+
2 rows in set (0.00 sec)
```

```
mysql> desc salesman;
+--------+-------------+------+-----+---------+----------------+
| Field  | Type        | Null | Key | Default | Extra          |
+--------+-------------+------+-----+---------+----------------+
| sid    | int(11)     | NO   | PRI | NULL    | auto_increment |
| sname  | varchar(32) | YES  |     | NULL    |                |
| semail | varchar(32) | YES  |     | NULL    |                |
+--------+-------------+------+-----+---------+----------------+
3 rows in set (0.00 sec)

mysql>
```

```
divya@divya: ~
File  Edit  View  Search  Terminal  Help
mysql> show tables;
+----------------+
| Tables_in_rdb  |
+----------------+
| customer       |
| orders         |
| product        |
| salesman       |
+----------------+
4 rows in set (0.00 sec)

mysql> desc customer;
+---------+-------------+------+-----+---------+-------+
| Field   | Type        | Null | Key | Default | Extra |
+---------+-------------+------+-----+---------+-------+
| id      | int(10)     | NO   | PRI | NULL    |       |
| name    | varchar(32) | YES  | MUL | NULL    |       |
| email   | varchar(32) | YES  |     | NULL    |       |
| contact | bigint(10)  | YES  |     | NULL    |       |
| enabled | bit(1)      | YES  |     | b'1'    |       |
+---------+-------------+------+-----+---------+-------+
5 rows in set (0.00 sec)

mysql> desc orders;
+----------+----------+------+-----+---------+----------------+
| Field    | Type     | Null | Key | Default | Extra          |
+----------+----------+------+-----+---------+----------------+
| oid      | int(11)  | NO   | PRI | NULL    | auto_increment |
| cust_id  | int(11)  | YES  | MUL | NULL    |                |
| sales_id | int(11)  | YES  | MUL | NULL    |                |
+----------+----------+------+-----+---------+----------------+
3 rows in set (0.00 sec)

mysql> desc product;
+-------+-------------+------+-----+---------+----------------+
| Field | Type        | Null | Key | Default | Extra          |
+-------+-------------+------+-----+---------+----------------+
| id    | int(10)     | NO   | PRI | NULL    | auto_increment |
```

```
                                    divya@divya: ~                          ● ● ✕
File  Edit  View  Search  Terminal  Help
| id      | int(10)     | NO  | PRI | NULL    |                |
| name    | varchar(32) | YES | MUL | NULL    |                |
| email   | varchar(32) | YES |     | NULL    |                |
| contact | bigint(10)  | YES |     | NULL    |                |
| enabled | bit(1)      | YES |     | b'1'    |                |
+---------+-------------+-----+-----+---------+------+
5 rows in set (0.00 sec)

mysql> desc orders;
+----------+---------+------+-----+---------+----------------+
| Field    | Type    | Null | Key | Default | Extra          |
+----------+---------+------+-----+---------+----------------+
| oid      | int(11) | NO   | PRI | NULL    | auto_increment |
| cust_id  | int(11) | YES  | MUL | NULL    |                |
| sales_id | int(11) | YES  | MUL | NULL    |                |
+----------+---------+------+-----+---------+----------------+
3 rows in set (0.00 sec)

mysql> desc product;
+-------+-------------+------+-----+---------+----------------+
| Field | Type        | Null | Key | Default | Extra          |
+-------+-------------+------+-----+---------+----------------+
| id    | int(10)     | NO   | PRI | NULL    | auto_increment |
| name  | varchar(32) | YES  |     | NULL    |                |
+-------+-------------+------+-----+---------+----------------+
2 rows in set (0.00 sec)

mysql> desc salesman;
+--------+-------------+------+-----+---------+----------------+
| Field  | Type        | Null | Key | Default | Extra          |
+--------+-------------+------+-----+---------+----------------+
| sid    | int(11)     | NO   | PRI | NULL    | auto_increment |
| sname  | varchar(32) | YES  |     | NULL    |                |
| semail | varchar(32) | YES  |     | NULL    |                |
+--------+-------------+------+-----+---------+----------------+
3 rows in set (0.00 sec)

mysql> 
```

3. Create tables

mysql> create table customer(id int(10), name varchar(32), email
varchar(32), contact int(10));
Query OK, 0 rows affected (0.04 sec)
mysql> show tables;
+---------------+
| Tables_in_rdb |
+---------------+
| customer |
+---------------+
1 row in set (0.00 sec)

mysql> desc customer;
+---------+-------------+------+-----+---------+-------+
| Field | Type | Null | Key | Default | Extra |

```
+---------+-------------+------+-----+---------+-------+
| id      | int(10)     | YES  |     | NULL    |       |
| name    | varchar(32) | YES  |     | NULL    |       |
| email   | varchar(32) | YES  |     | NULL    |       |
| contact | int(10)     | YES  |     | NULL    |       |
+---------+-------------+------+-----+---------+-------+
4 rows in set (0.02 sec)

mysql>
```

```
mysql> create table customer(id int(10), name varchar(32), email varchar(32), contact int(10));
Query OK, 0 rows affected (0.04 sec)

mysql> show tables;
+----------------+
| Tables_in_rdb  |
+----------------+
| customer       |
+----------------+
1 row in set (0.00 sec)

mysql> desc customer;
+---------+-------------+------+-----+---------+-------+
| Field   | Type        | Null | Key | Default | Extra |
+---------+-------------+------+-----+---------+-------+
| id      | int(10)     | YES  |     | NULL    |       |
| name    | varchar(32) | YES  |     | NULL    |       |
| email   | varchar(32) | YES  |     | NULL    |       |
| contact | int(10)     | YES  |     | NULL    |       |
+---------+-------------+------+-----+---------+-------+
4 rows in set (0.02 sec)

mysql>
```

4. Insert sample data

mysql> create table customer(customer_id int primary key, cust_name
varchar(32), sale_id int);
Query OK, 0 rows affected (0.03 sec)

mysql> insert into customer values(3002, 'Divya', 5001);
Query OK, 1 row affected (0.01 sec)

```
mysql> insert into customer values(3005, 'Riya', 5003);
Query OK, 1 row affected (0.01 sec)

mysql> insert into customer values(3007, 'Mansi', 5002);
Query OK, 1 row affected (0.02 sec)

mysql> insert into customer values(3008, 'Pragya', 5001);
Query OK, 1 row affected (0.01 sec)

mysql> insert into customer values(3009, 'Ratika', 5001);
Query OK, 1 row affected (0.00 sec)

mysql> desc customer;
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| customer_id | int(11)     | NO   | PRI | NULL    |       |
| cust_name   | varchar(32) | YES  |     | NULL    |       |
| sale_id     | int(11)     | YES  |     | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
3 rows in set (0.00 sec)

mysql> select* from customer;
+-------------+-----------+---------+
| customer_id | cust_name | sale_id |
+-------------+-----------+---------+
|        3002 | Divya     |    5001 |
|        3005 | Riya      |    5003 |
|        3007 | Mansi     |    5002 |
|        3008 | Pragya    |    5001 |
|        3009 | Ratika    |    5001 |
+-------------+-----------+---------+
5 rows in set (0.00 sec)
```

mysql>

```
mysql> create table customer(customer_id int primary key, cust_name varchar(32), sale_id int);
Query OK, 0 rows affected (0.03 sec)

mysql> insert into customer values(3002, 'Divya', 5001);
Query OK, 1 row affected (0.01 sec)

mysql> insert into customer values(3005, 'Riya', 5003);
Query OK, 1 row affected (0.01 sec)

mysql> insert into customer values(3007, 'Mansi', 5002);
Query OK, 1 row affected (0.02 sec)

mysql> insert into customer values(3008, 'Pragya', 5001);
Query OK, 1 row affected (0.01 sec)

mysql> insert into customer values(3009, 'Ratika', 5001);
Query OK, 1 row affected (0.00 sec)

mysql> desc_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 'desc_customer' at line 1
mysql> desc customer;
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| customer_id | int(11)     | NO   | PRI | NULL    |       |
| cust_name   | varchar(32) | YES  |     | NULL    |       |
| sale_id     | int(11)     | YES  |     | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
3 rows in set (0.00 sec)

mysql>
```

```
mysql> select* from customer;
+-------------+-----------+---------+
| customer_id | cust_name | sale_id |
+-------------+-----------+---------+
|        3002 | Divya     |    5001 |
|        3005 | Riya      |    5003 |
|        3007 | Mansi     |    5002 |
|        3008 | Pragya    |    5001 |
|        3009 | Ratika    |    5001 |
+-------------+-----------+---------+
5 rows in set (0.00 sec)

mysql>
```

5. Find the sales person have multiple orders.

mysql> select* from customer;
+-------------+-----------+---------+
| customer_id | cust_name | sale_id |

```
+-------------+-----------+---------+
|        3002 | Divya     |    5001 |
|        3005 | Riya      |    5003 |
|        3007 | Mansi     |    5002 |
|        3008 | Pragya    |    5001 |
|        3009 | Ratika    |    5001 |
+-------------+-----------+---------+
5 rows in set (0.00 sec)

mysql> select* from salesman;
+---------+-----------+-------------+
| sale_id | sale_name | sale_email  |
+---------+-----------+-------------+
|    5001 | john      | j@abc.com   |
|    5002 | jack      | joc@abc.com |
|    5003 | kim       | k@abc.com   |
+---------+-----------+-------------+
3 rows in set (0.00 sec)

mysql> SELECT * FROM salesman WHERE sale_id IN (SELECT DISTINCT
sale_id FROM customer a WHERE EXISTS (SELECT * FROM customer b
WHERE b.sale_id=a.sale_id AND b.cust_name<>a.cust_name));
+---------+-----------+------------+
| sale_id | sale_name | sale_email |
+---------+-----------+------------+
|    5001 | john      | j@abc.com  |
+---------+-----------+------------+
1 row in set (0.01 sec)

mysql>
```

```
File  Edit  View  Search  Terminal  Help
mysql> insert into salesman values(5002, 'jack', 'joc@abc.com');
Query OK, 1 row affected (0.01 sec)

mysql> insert into salesman values(5003, 'kim', 'k@abc.com');
Query OK, 1 row affected (0.01 sec)

mysql> select* from customer;
+-------------+-----------+---------+
| customer_id | cust_name | sale_id |
+-------------+-----------+---------+
|        3002 | Divya     |    5001 |
|        3005 | Riya      |    5003 |
|        3007 | Mansi     |    5002 |
|        3008 | Pragya    |    5001 |
|        3009 | Ratika    |    5001 |
+-------------+-----------+---------+
5 rows in set (0.00 sec)

mysql> select* from salesman;
+---------+-----------+-------------+
| sale_id | sale_name | sale_email  |
+---------+-----------+-------------+
|    5001 | john      | j@abc.com   |
|    5002 | jack      | joc@abc.com |
|    5003 | kim       | k@abc.com   |
+---------+-----------+-------------+
3 rows in set (0.00 sec)

mysql> SELECT * FROM salesman WHERE sale_id IN (SELECT DISTINCT sale_id FROM customer a WHERE EXISTS (SELECT * FROM customer b WHERE b.sale_id
=a.sale_id AND b.cust_name<>a.cust_name));
+---------+-----------+-------------+
| sale_id | sale_name | sale_email  |
+---------+-----------+-------------+
|    5001 | john      | j@abc.com   |
+---------+-----------+-------------+
1 row in set (0.01 sec)

mysql>
```

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

mysql> select* from salesman;
+---------+-----------+-------------+
| sale_id | sale_name | sale_email |
+---------+-----------+-------------+
5001	john	j@abc.com
5002	jack	joc@abc.com
5003	kim	k@abc.com
+---------+-----------+-------------+
3 rows in set (0.00 sec)

mysql> select* from orders;
+-----+-------------+-------------+
| oid | salesman_id | description |

```
+-----+------------+-------------+
|  1  |      5001 | Laptop     |
|  2  |      5002 | Phone      |
|  3  |      5003 | Phone      |
|  4  |      5001 | iPad       |
+-----+------------+-------------+
4 rows in set (0.00 sec)

mysql> select* from salesman s left join orders o on s.sale_id=o.salesman_id;
+---------+-----------+-------------+------+-------------+-------------+
| sale_id | sale_name | sale_email  | oid  | salesman_id | description |
+---------+-----------+-------------+------+-------------+-------------+
|    5001 | john      | j@abc.com   |  1   |        5001 | Laptop      |
|    5002 | jack      | joc@abc.com |  2   |        5002 | Phone       |
|    5003 | kim       | k@abc.com   |  3   |        5003 | Phone       |
|    5001 | john      | j@abc.com   |  4   |        5001 | iPad        |
+---------+-----------+-------------+------+-------------+-------------+
4 rows in set (0.00 sec)

mysql>
```

```
mysql> select* from salesman;                                  +---------+-----------+-------------+
| sale_id | sale_name | sale_email |
+---------+-----------+-------------+
|    5001 | john      | j@abc.com   |
|    5002 | jack      | joc@abc.com |
|    5003 | kim       | k@abc.com   |
+---------+-----------+-------------+
3 rows in set (0.00 sec)

mysql> select* from orders;
+-----+------------+-------------+
| oid | salesman_id | description |
+-----+------------+-------------+
|   1 |       5001 | Laptop      |
|   2 |       5002 | Phone       |
|   3 |       5003 | Phone       |
|   4 |       5001 | iPad        |
+-----+------------+-------------+
4 rows in set (0.00 sec)

mysql> select* from salesman s left join orders o on s.sale_id=o.salesman_id;
+---------+-----------+-------------+------+------------+-------------+
| sale_id | sale_name | sale_email  | oid  | salesman_id | description |
+---------+-----------+-------------+------+------------+-------------+
|    5001 | john      | j@abc.com   |   1  |       5001 | Laptop      |
|    5002 | jack      | joc@abc.com |   2  |       5002 | Phone       |
|    5003 | kim       | k@abc.com   |   3  |       5003 | Phone       |
|    5001 | john      | j@abc.com   |   4  |       5001 | iPad        |
+---------+-----------+-------------+------+------------+-------------+
4 rows in set (0.00 sec)

mysql>
```

7. Create index

mysql> create index cindex1 on customer(name);
Query OK, 0 rows affected (0.03 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql>

```
mysql> create index cindex1 on customer(name);
Query OK, 0 rows affected (0.03 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

8. How to show index on a table

mysql> show index from customer;

```
+----------+------------+----------+-------------+------------+----------+------------
+----------+--------+------+------------+---------+---------------+
| Table    | Non_unique | Key_name | Seq_in_index | Column_name |
Collation | Cardinality | Sub_part | Packed | Null | Index_type | Comment
| Index_comment |
+----------+------------+----------+-------------+------------+----------+------------
+----------+--------+------+------------+---------+---------------+
| customer |        0 | PRIMARY  |           1 | id         | A        |        5 |
NULL | NULL   |      | BTREE      |         |               |
| customer |        1 | cindex   |           1 | id         | A        |        5 |
NULL | NULL   |      | BTREE      |         |               |
| customer |        1 | cindex1  |           1 | name       | A        |        5 |
NULL | NULL   | YES  | BTREE      |         |               |
+----------+------------+----------+-------------+------------+----------+------------
+----------+--------+------+------------+---------+---------------+
3 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**

mysql> select oid, sale_name, cust_name from orders o inner join salesman s on o.salesman_id=s.sale_id inner join customer c on c.sale_id=s.sale_id;

```
+-----+-----------+-----------+
| oid | sale_name | cust_name |
+-----+-----------+-----------+
|   1 | john      | Divya     |
|   4 | john      | Divya     |
|   3 | kim       | Riya      |
|   2 | jack      | Mansi     |
|   1 | john      | Pragya    |
|   4 | john      | Pragya    |
|   1 | john      | Ratika    |
|   4 | john      | Ratika    |
+-----+-----------+-----------+
8 rows in set (0.00 sec)

mysql>
```