1. Consider two tables, customers and orders, with the following structures:

   Customers Table: customer_id (Primary Key) first_name Last_name

```
mysql> create table Customer(
    -> customerId varchar(10) PRIMARY KEY,
    -> firstName varchar(20),
    -> lastName varchar(20)
    -> );
Query OK, 0 rows affected (0.04 sec)

mysql> Insert into Customer (customerId,firstName,lastName) VALUES
    -> ('C001','Saurav','Pandey'),
    -> ('C002','Surya','Singh'),
    -> ('c003','Sunil','Tiwari');
Query OK, 3 rows affected (0.01 sec)
Records: 3  Duplicates: 0  Warnings: 0

mysql> select * from Customer;
+------------+-----------+----------+
| customerId | firstName | lastName |
+------------+-----------+----------+
| C001       | Saurav    | Pandey   |
| C002       | Surya     | Singh    |
| c003       | Sunil     | Tiwari   |
+------------+-----------+----------+
3 rows in set (0.00 sec)
```

Orders Table: order_id (Primary Key) customer_id (Foreign Key) order_date Total_amount

```
mysql> create table Orders(
    -> orderId Varchar(20) PRIMARY KEY,
    -> customerId varchar(10),
    -> FOREIGN KEY (customerId) REFERENCES Customer(customerId),
    -> orderDate DATE,
    -> totalAmount INT
    -> );
Query OK, 0 rows affected (0.12 sec)
```

```
mysql> INSERT INTO Orders (orderId, customerId, orderDate, totalAmount)
    -> VALUES ('123456', 'C001', '2024-02-01', 100),
    ->  ('127856', 'C002', '2024-02-03', 50),
    ->  ('433456', 'C003', '2024-02-05', 75);
Query OK, 3 rows affected (0.01 sec)
Records: 3  Duplicates: 0  Warnings: 0

mysql> select * from Orders;
+---------+------------+------------+-------------+
| orderId | customerId | orderDate  | totalAmount |
+---------+------------+------------+-------------+
| 123456  | C001       | 2024-02-01 |         100 |
| 127856  | C002       | 2024-02-03 |          50 |
| 433456  | C003       | 2024-02-05 |          75 |
+---------+------------+------------+-------------+
3 rows in set (0.00 sec)
```

Write an SQL query to retrieve the first and last names of customers along with the order date and total amount of their orders.

Use an INNER JOIN to connect the two tables.

```
mysql> SELECT c.firstName,c.lastName,o.orderDate,o.totalAmount
    -> FROM Customer c
    -> INNER JOIN Orders o ON c.customerId = o.customerId;
+-----------+----------+------------+-------------+
| firstName | lastName | orderDate  | totalAmount |
+-----------+----------+------------+-------------+
| Saurav    | Pandey   | 2024-02-01 |         100 |
| Surya     | Singh    | 2024-02-03 |          50 |
| Sunil     | Tiwari   | 2024-02-05 |          75 |
+-----------+----------+------------+-------------+
3 rows in set (0.01 sec)
```

2. Consider two tables, departments and employees, with the following structures:

   Departments Table: department_id (Primary Key) department_name

```
mysql> create table Departments(
    -> departmentId varchar(10) PRIMARY KEY,
    -> departmentName varchar(20)
    -> );
Query OK, 0 rows affected (0.04 sec)

mysql> Insert into Departments(departmentId,departmentName) VALUES
    -> ('567534','Management'),
    -> ('342387','Finance'),
    -> ('467368','Human Resource');
Query OK, 3 rows affected (0.01 sec)
Records: 3  Duplicates: 0  Warnings: 0

mysql> select * from Departments;
+--------------+----------------+
| departmentId | departmentName |
+--------------+----------------+
| 342387       | Finance        |
| 467368       | Human Resource |
| 567534       | Management     |
+--------------+----------------+
3 rows in set (0.00 sec)
```

Employees Table: employee_id (Primary Key) first_name last_name department_id (Foreign Key)

```
mysql> create table Employees(
    -> employeeId varchar(10) PRIMARY KEY,
    -> firstName varchar(20),
    -> lastName varchar(20),
    -> departmentId varchar(10),
    -> FOREIGN KEY (departmentId) REFERENCES Departments(departmentId)
    -> );
Query OK, 0 rows affected (0.06 sec)

mysql> Insert into Employees(employeeId,firstName,lastName,departmentId) VALUES
    -> ('0014','Saurav','Pandey','342387'),
    -> ('0015','Surya','Singh','467368'),
    -> ('0016','Aman','Kumar','567534');
Query OK, 3 rows affected (0.01 sec)
Records: 3  Duplicates: 0  Warnings: 0

mysql> select * from Employees;
+------------+-----------+----------+-------------+
| employeeId | firstName | lastName | departmentId |
+------------+-----------+----------+-------------+
| 0014       | Saurav    | Pandey   | 342387      |
| 0015       | Surya     | Singh    | 467368      |
| 0016       | Aman      | Kumar    | 567534      |
+------------+-----------+----------+-------------+
3 rows in set (0.00 sec)
```

Write an SQL query to retrieve a list of all departments and the names of employees who belong to each department. Use a LEFT JOIN to include departments that have no employees.

```
mysql> select d.departmentId,d.departmentName,e.firstName,e.lastName
    -> from Departments d
    -> LEFT JOIN Employees e on d.departmentId=e.departmentId;
+-------------+----------------+-----------+----------+
| departmentId | departmentName | firstName | lastName |
+-------------+----------------+-----------+----------+
| 342387      | Finance        | Saurav    | Pandey   |
| 467368      | Human Resource | Surya     | Singh    |
| 567534      | Management     | Aman      | Kumar    |
+-------------+----------------+-----------+----------+
3 rows in set (0.00 sec)
```