# Experiment No: 7

**Aim:** Nested queries and complex queries

**Objective :** To understand various ways to retrieve data using nested and complex queries in SQL.

**Software Requirement**: MySQL 5.6 on Ubuntu 16.04

Write Query to create following tables and insert data in that as per given
Example 1:
Employee

```
mysql> CREATE TABLE employees (
    ->     employee_id INT PRIMARY KEY,
    ->     name VARCHAR(50),
    ->     salary DECIMAL(10, 2),
    ->     department_id INT
    -> );
Query OK, 0 rows affected (0.04 sec)

mysql> INSERT INTO employees (employee_id, name, salary, department_id) VALUES
    -> (1, 'Alice', 70000, 10),
    -> (2, 'Bob', 50000, 20),
    -> (3, 'Charlie', 60000, 10),
    -> (4, 'David', 55000, 20),
    -> (5, 'Eve', 72000, 30);
Query OK, 5 rows affected (0.06 sec)
Records: 5  Duplicates: 0  Warnings: 0
```

Project Assignment

```
mysql> select *from project_assignments;
+---------------+-------------+--------------+
| assignment_id | employee_id | project_name |
+---------------+-------------+--------------+
|             1 |           1 | Project X    |
|             2 |           2 | Project Y    |
|             3 |           3 | Project Z    |
+---------------+-------------+--------------+
3 rows in set (0.00 sec)
```

Higher Salary

Questions:

1) Insert employees who earn more than the average salary into a new table called "`high_earners`".
2) Increase the salary of employees in departments located in 'New York' by 10%.
3) Delete employees who are not assigned to any project.
4) Find employees who earn more than the average salary in their department

Example 2:
Customer

```
CREATE TABLE Customers (
    CustomerID INT PRIMARY KEY,
    CustomerName VARCHAR(100),
    Country VARCHAR(50)
);
OK, 0 rows affected (0.81 sec)
```

```
mysql>
mysql> select *from Customers;
+------------+--------------+---------+
| CustomerID | CustomerName | Country |
+------------+--------------+---------+
|          1 | Alice        | USA     |
|          2 | Bob          | Canada  |
|          3 | Charlie      | India   |
|          4 | David        | UK      |
+------------+--------------+---------+
```

Order:

```
CREATE TABLE Orders (
    OrderID INT PRIMARY KEY,
    OrderDate DATE,
    CustomerID INT,
    Amount DECIMAL(10, 2),
    FOREIGN KEY (CustomerID) REFERENCES Customers(CustomerID)
);
OK, 0 rows affected (1.46 sec)
```

```
mysql> select *from Orders;
+---------+------------+------------+--------+
| OrderID | OrderDate  | CustomerID | Amount |
+---------+------------+------------+--------+
|     101 | 2023-09-01 |          1 | 150.50 |
|     102 | 2023-09-05 |          2 | 250.00 |
|     103 | 2023-09-10 |          3 | 300.75 |
|     104 | 2023-09-12 |          1 |  50.25 |
|     105 | 2023-09-15 |          4 | 600.00 |
+---------+------------+------------+--------+
5 rows in set (0.00 sec)
```

Questions:

1) Find all customers who have placed an order worth more than $200.
2) Find the total order amount per customer
3) Find the customer(s) who have placed the highest total order amount.
4) Find orders that have the same amount as any other order (excluding itself).