Assignment No:-59

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MYSQL QUESTIONS:

```
CREATE TABLE employees (
id INT NOT NULL AUTO_INCREMENT,
first_name VARCHAR(255) NOT NULL,
last_name VARCHAR(255) NOT NULL,
department VARCHAR(255) NOT NULL,
salary INT NOT NULL,
hire_date DATE NOT NULL,
birthdate DATE NOT NULL,
PRIMARY KEY (id)
);

INSERT INTO employees (first_name, last_name, department, salary, hire_date, birthdate)
VALUES
('John', 'Doe', 'sales', 50000, '2022-01-01', '1980-01-01'),
('Jane', 'Smith', 'marketing', 60000, '2022-02-01', '1981-02-01'),
('Michael', 'Brown', 'engineering', 70000, '2022-03-01', '1982-03-01');
```

1. Write a query to select all the rows from the employees table.

```
mysql> select * from employees;
+----+------------+-----------+-------------+--------+------------+------------+
| id | first_name | last_name | department  | salary | hire_date  | birthdate  |
+----+------------+-----------+-------------+--------+------------+------------+
|  1 | John       | Doe       | sales       |  50000 | 2022-01-01 | 1980-01-01 |
|  2 | Jane       | Smith     | marketing   |  60000 | 2022-02-01 | 1981-02-01 |
|  3 | Michael    | Brown     | engineering |  70000 | 2022-03-01 | 1982-03-01 |
+----+------------+-----------+-------------+--------+------------+------------+
3 rows in set (0.00 sec)
```

2. Write a query to select all the employees who are in the sales department.

```
mysql> select * from employees where department="sales";
+----+------------+-----------+------------+--------+------------+------------+
| id | first_name | last_name | department | salary | hire_date  | birthdate  |
+----+------------+-----------+------------+--------+------------+------------+
|  1 | John       | Doe       | sales      |  50000 | 2022-01-01 | 1980-01-01 |
+----+------------+-----------+------------+--------+------------+------------+
1 row in set (0.00 sec)
```

3. Write a query to select all the employees who have a salary greater than $50,000.

```
mysql> select * from employees where salary>50000;
+----+------------+-----------+-------------+--------+------------+------------+
| id | first_name | last_name | department  | salary | hire_date  | birthdate  |
+----+------------+-----------+-------------+--------+------------+------------+
|  2 | Jane       | Smith     | marketing   |  60000 | 2022-02-01 | 1981-02-01 |
|  3 | Michael    | Brown     | engineering |  70000 | 2022-03-01 | 1982-03-01 |
+----+------------+-----------+-------------+--------+------------+------------+
2 rows in set (0.00 sec)
```

4. Write a query to select the average salary of all the employees.

```
mysql> select avg(salary) As Average_Salary from employees;
+-----------------+
| Average_Salary  |
+-----------------+
|     60000.0000  |
+-----------------+
1 row in set (0.01 sec)
```

5. Write a query to select the highest and lowest salaries in the employees table.

```
mysql> select max(salary) As Max_Salary,min(salary)As Min_salary from employees;
+------------+------------+
| Max_Salary | Min_salary |
+------------+------------+
|      70000 |      50000 |
+------------+------------+
1 row in set (0.00 sec)
```

6. Write a query to select all the employees who were hired in the year 2022.

```
mysql> select * from employees where hire_date>'2022-01-01' && hire_date<'2022-12-31' ;
+----+------------+-----------+-------------+--------+------------+------------+
| id | first_name | last_name | department  | salary | hire_date  | birthdate  |
+----+------------+-----------+-------------+--------+------------+------------+
|  2 | Jane       | Smith     | marketing   |  60000 | 2022-02-01 | 1981-02-01 |
|  3 | Michael    | Brown     | engineering |  70000 | 2022-03-01 | 1982-03-01 |
+----+------------+-----------+-------------+--------+------------+------------+
2 rows in set, 1 warning (0.00 sec)
```

7. Write a query to select all the employees who have the same last name as you.

```
mysql> select * from employees where last_name='doe';
+----+------------+-----------+------------+--------+------------+------------+
| id | first_name | last_name | department | salary | hire_date  | birthdate  |
+----+------------+-----------+------------+--------+------------+------------+
|  1 | John       | Doe       | sales      |  50000 | 2022-01-01 | 1980-01-01 |
+----+------------+-----------+------------+--------+------------+------------+
1 row in set (0.00 sec)
```

8. Write a query to select all the employees who are younger than you.

```
mysql> select * from employees where  birthdate>'1981-01-01';
+----+------------+-----------+-------------+--------+------------+------------+
| id | first_name | last_name | department  | salary | hire_date  | birthdate  |
+----+------------+-----------+-------------+--------+------------+------------+
|  2 | Jane       | Smith     | marketing   |  60000 | 2022-02-01 | 1981-02-01 |
|  3 | Michael    | Brown     | engineering |  70000 | 2022-03-01 | 1982-03-01 |
+----+------------+-----------+-------------+--------+------------+------------+
2 rows in set (0.00 sec)
```

9. Write a query to select all the employees who are older than you.

```
mysql> select * from employees where  birthdate>'1971-01-01';
+----+------------+-----------+-------------+--------+------------+------------+
| id | first_name | last_name | department  | salary | hire_date  | birthdate  |
+----+------------+-----------+-------------+--------+------------+------------+
|  1 | John       | Doe       | sales       |  50000 | 2022-01-01 | 1980-01-01 |
|  2 | Jane       | Smith     | marketing   |  60000 | 2022-02-01 | 1981-02-01 |
|  3 | Michael    | Brown     | engineering |  70000 | 2022-03-01 | 1982-03-01 |
+----+------------+-----------+-------------+--------+------------+------------+
3 rows in set (0.00 sec)
```

10. Write a query to select all the employees who are within 5 years of your age.

```
mysql> select * from employees where  birthdate between date_sub('1976-07-02', interval 5 year)and date_add('1976-07-02'
, interval 5 year);
+----+------------+-----------+------------+--------+------------+------------+
| id | first_name | last_name | department | salary | hire_date  | birthdate  |
+----+------------+-----------+------------+--------+------------+------------+
|  1 | John       | Doe       | sales      |  50000 | 2022-01-01 | 1980-01-01 |
|  2 | Jane       | Smith     | marketing  |  60000 | 2022-02-01 | 1981-02-01 |
+----+------------+-----------+------------+--------+------------+------------+
2 rows in set (0.00 sec)
```

12. Write a query to select all the employees who have a salary between $50,000 and $60,000.

```
mysql> select * from employees where salary between 50000 and 60000;
+----+------------+-----------+------------+--------+------------+------------+
| id | first_name | last_name | department | salary | hire_date  | birthdate  |
+----+------------+-----------+------------+--------+------------+------------+
|  1 | John       | Doe       | sales      |  50000 | 2022-01-01 | 1980-01-01 |
|  2 | Jane       | Smith     | marketing  |  60000 | 2022-02-01 | 1981-02-01 |
+----+------------+-----------+------------+--------+------------+------------+
2 rows in set (0.00 sec)

mysql>
```

13. Write a query to select all the employees who were hired in the month of January 2022.

```
mysql> select * from employees where hire_date>='2022-01-01' && hire_date<='2022-01-31' ;
+----+------------+-----------+------------+--------+------------+------------+
| id | first_name | last_name | department | salary | hire_date  | birthdate  |
+----+------------+-----------+------------+--------+------------+------------+
|  1 | John       | Doe       | sales      |  50000 | 2022-01-01 | 1980-01-01 |
+----+------------+-----------+------------+--------+------------+------------+
1 row in set, 1 warning (0.00 sec)
```

14. Write a query to select all the employees who have the same first name as you.

```
mysql> select * from employees where first_name='john';
+----+------------+-----------+------------+--------+------------+------------+
| id | first_name | last_name | department | salary | hire_date  | birthdate  |
+----+------------+-----------+------------+--------+------------+------------+
|  1 | John       | Doe       | sales      |  50000 | 2022-01-01 | 1980-01-01 |
+----+------------+-----------+------------+--------+------------+------------+
1 row in set (0.00 sec)
```

15. Write a query to select all the employees who are within 10 years of your age.

```
mysql> select * from employees where birthdate between date_sub('1991-01-01',interval 10 year) and date_add('1991-01-01',interval 10 year);
+----+------------+-----------+-------------+--------+------------+------------+
| id | first_name | last_name | department  | salary | hire_date  | birthdate  |
+----+------------+-----------+-------------+--------+------------+------------+
|  2 | Jane       | Smith     | marketing   |  60000 | 2022-02-01 | 1981-02-01 |
|  3 | Michael    | Brown     | engineering |  70000 | 2022-03-01 | 1982-03-01 |
+----+------------+-----------+-------------+--------+------------+------------+
2 rows in set (0.00 sec)
```

16. Write a query to select all the employees who are in the sales department and have a salary greater than $50,000.

```
mysql> select * from employees where department='sales'and salary>=50000;
+----+------------+-----------+------------+--------+------------+------------+
| id | first_name | last_name | department | salary | hire_date  | birthdate  |
+----+------------+-----------+------------+--------+------------+------------+
|  1 | John       | Doe       | sales      |  50000 | 2022-01-01 | 1980-01-01 |
+----+------------+-----------+------------+--------+------------+------------+
1 row in set (0.00 sec)
```

17. Write a query to select all the employees who are in the marketing department and were hired in the year 2022.

```
mysql> select * from employees where department='marketing'or hire_date>='2022-01-01' and hire_date<='2022-01-31';
+----+------------+-----------+------------+--------+------------+------------+
| id | first_name | last_name | department | salary | hire_date  | birthdate  |
+----+------------+-----------+------------+--------+------------+------------+
|  1 | John       | Doe       | sales      |  50000 | 2022-01-01 | 1980-01-01 |
|  2 | Jane       | Smith     | marketing  |  60000 | 2022-02-01 | 1981-02-01 |
+----+------------+-----------+------------+--------+------------+------------+
2 rows in set (0.00 sec)
```

18. Write a query to select all the employees who are in the engineering department and have a salary between $60,000 and $70,000.

```
mysql> select * from employees where department='engineering' and salary between 60000 and 70000;
+----+------------+-----------+-------------+--------+------------+------------+
| id | first_name | last_name | department  | salary | hire_date  | birthdate  |
+----+------------+-----------+-------------+--------+------------+------------+
|  3 | Michael    | Brown     | engineering |  70000 | 2022-03-01 | 1982-03-01 |
+----+------------+-----------+-------------+--------+------------+------------+
1 row in set (0.00 sec)
```

19. Write a query to select all the employees who are in the sales department or the marketing department.

```
mysql> select * from employees where department between 'marketing' and 'sales';
+----+------------+-----------+------------+--------+------------+------------+
| id | first_name | last_name | department | salary | hire_date  | birthdate  |
+----+------------+-----------+------------+--------+------------+------------+
|  1 | John       | Doe       | sales      |  50000 | 2022-01-01 | 1980-01-01 |
|  2 | Jane       | Smith     | marketing  |  60000 | 2022-02-01 | 1981-02-01 |
+----+------------+-----------+------------+--------+------------+------------+
2 rows in set (0.00 sec)
```

20. Write a query to select all the employees who are in the engineering department and not in the sales department.

```
mysql> select * from employees where department='engineering' and department !='sales';
+----+------------+-----------+-------------+--------+------------+------------+
| id | first_name | last_name | department  | salary | hire_date  | birthdate  |
+----+------------+-----------+-------------+--------+------------+------------+
|  3 | Michael    | Brown     | engineering |  70000 | 2022-03-01 | 1982-03-01 |
+----+------------+-----------+-------------+--------+------------+------------+
1 row in set (0.00 sec)
```

21. Write a query to select all the employees who are in the sales department, the marketing department, or the engineering department.

```
mysql> select * from employees where department='engineering' or department ='sales' or department ='marketing';
+----+------------+-----------+-------------+--------+------------+------------+
| id | first_name | last_name | department  | salary | hire_date  | birthdate  |
+----+------------+-----------+-------------+--------+------------+------------+
|  1 | John       | Doe       | sales       |  50000 | 2022-01-01 | 1980-01-01 |
|  2 | Jane       | Smith     | marketing   |  60000 | 2022-02-01 | 1981-02-01 |
|  3 | Michael    | Brown     | engineering |  70000 | 2022-03-01 | 1982-03-01 |
+----+------------+-----------+-------------+--------+------------+------------+
3 rows in set (0.00 sec)
```

23. Write a query to select all the employees who have a salary greater than the average salary.

```
mysql> select * from employees where salary>(select avg(salary) from employees);
+----+------------+-----------+-------------+--------+------------+------------+
| id | first_name | last_name | department  | salary | hire_date  | birthdate  |
+----+------------+-----------+-------------+--------+------------+------------+
|  3 | Michael    | Brown     | engineering |  70000 | 2022-03-01 | 1982-03-01 |
+----+------------+-----------+-------------+--------+------------+------------+
1 row in set (0.00 sec)

mysql>
```

24. Write a query to select all the employees who have been with the company for more than 5 years.

```
mysql> select * from employees where hire_date <=date_add(curdate(),interval 5 year);
+----+------------+-----------+-------------+--------+------------+------------+
| id | first_name | last_name | department  | salary | hire_date  | birthdate  |
+----+------------+-----------+-------------+--------+------------+------------+
|  1 | John       | Doe       | sales       |  50000 | 2022-01-01 | 1980-01-01 |
|  2 | Jane       | Smith     | marketing   |  60000 | 2022-02-01 | 1981-02-01 |
|  3 | Michael    | Brown     | engineering |  70000 | 2022-03-01 | 1982-03-01 |
+----+------------+-----------+-------------+--------+------------+------------+
3 rows in set (0.00 sec)
```

25. Write a query to select all the employees who have a last name that starts with the letter "M".

```
mysql> select * from employees where last_name like '%m';
Empty set (0.00 sec)

mysql>
```

26. Write a query to select all the employees who have a first name that starts with the letter "J" and a last name that starts with the letter "D".

```
mysql> select * from employees where first_name like 'j%' and last_name like 'd%';
+----+------------+-----------+------------+--------+------------+------------+
| id | first_name | last_name | department | salary | hire_date  | birthdate  |
+----+------------+-----------+------------+--------+------------+------------+
|  1 | John       | Doe       | sales      |  50000 | 2022-01-01 | 1980-01-01 |
+----+------------+-----------+------------+--------+------------+------------+
1 row in set (0.00 sec)
```

27. Write a query to select all the employees who have a salary greater than $50,000 and have been with the company for more than 5 years.

```
mysql> select * from employees where hire_date<= date_add(curdate(),interval 5 year) and salary>50000;
+----+------------+-----------+-------------+--------+------------+------------+
| id | first_name | last_name | department  | salary | hire_date  | birthdate  |
+----+------------+-----------+-------------+--------+------------+------------+
|  2 | Jane       | Smith     | marketing   |  60000 | 2022-02-01 | 1981-02-01 |
|  3 | Michael    | Brown     | engineering |  70000 | 2022-03-01 | 1982-03-01 |
+----+------------+-----------+-------------+--------+------------+------------+
2 rows in set (0.00 sec)
```

28. Write a query to select all the employees who have a last name that starts with the letter "M" and are in the sales department.

```
mysql> select * from employees where last_name like 'm%' and department ='sales';
Empty set (0.00 sec)
```

29. Write a query to select all the employees who have a first name that starts with the letter "J" and a last name that starts with the letter "D" and are in the marketing department.

```
mysql> select * from employees where first_name like 'j%'and last_name like 'd%' and department ='marketing';
Empty set (0.00 sec)

mysql>
```

30. Write a query to select all the employees who have a salary greater than $50,000 and have been with the company for more than 5 years and are in the sales department.

```
mysql> select * from employees where hire_date<= date_add(curdate(),interval 5 year) and salary>50000 and department='sales';
Empty set (0.00 sec)

mysql>
```

31. Write a query to select all the employees who have a last name that starts with the letter "M" and are in the sales department or the marketing department.

```
mysql> select * from employees where last_name like 'm%' and department =' marketing';
Empty set (0.00 sec)

mysql>
```

32. Write a query to select all the employees who have a first name that starts with the letter "J" and a last name that starts with the letter "D" and are in the marketing department or the engineering department.

```
1 row in set (0.00 sec)

mysql> select * from employees where first_name like 'j%'and last_name like 'd%' and department ='marketing' and department='engineering';
Empty set (0.00 sec)

mysql>
```