

```
mysql> CREATE DATABASE company_db;
Query OK, 1 row affected (0.03 sec)

mysql> USE company_db;
Database changed
mysql> CREATE TABLE departments(
    -> dept_id INT PRIMARY KEY,
    -> dept_name VARCHAR(50) NOT NULL UNIQUE
    -> );
Query OK, 0 rows affected (0.12 sec)
```

```
mysql> CREATE TABLE employees(
    -> emp_id INT PRIMARY KEY,
    -> emp_name VARCHAR(50) NOT NULL,
    -> salary DECIMAL(10,2) CHECK (salary > 0),
    -> dept_id INT,
    -> joining_date DATE,
    -> FOREIGN KEY (dept_id) REFERENCES departments(dept_id)
    -> );
Query OK, 0 rows affected (0.24 sec)
mysql> INSERT INTO departments VALUES
    -> (101,'HR'),
    -> (102,'IT'),
    -> (103,'Finance'),
    -> (104,'Marketing');
Query OK, 4 rows affected (0.02 sec)
Records: 4  Duplicates: 0  Warnings: 0

mysql> INSERT INTO employees VALUES
    -> (1,'AMIT',50000,102,'2024-01-10'),
    -> (2,'RIYA',45000,101,'2024-02-15'),
    -> (3,'KARAN',60000,102,'2023-12-01'),
    -> (4,'NEHA',55000,103,'2024-03-20'),
    -> (5,'ARJUN',40000,NULL,'2024-04-05');
Query OK, 5 rows affected (0.02 sec)
Records: 5  Duplicates: 0  Warnings: 0
```

```
mysql> SELECT*FROM departments;
+-----+-----+
| dept_id | dept_name |
+-----+-----+
|    103 | Finance   |
|    101 | HR         |
|    102 | IT         |
|    104 | Marketing  |
+-----+-----+
4 rows in set (0.00 sec)
```

```
mysql> SELECT*FROM employees;
+-----+-----+-----+-----+-----+
| emp_id | emp_name | salary | dept_id | joining_date |
+-----+-----+-----+-----+-----+
|      1 | AMIT     | 50000.00 |    102 | 2024-01-10 |
|      2 | RIYA     | 45000.00 |    101 | 2024-02-15 |
|      3 | KARAN    | 60000.00 |    102 | 2023-12-01 |
|      4 | NEHA     | 55000.00 |    103 | 2024-03-20 |
|      5 | ARJUN    | 40000.00 |    NULL | 2024-04-05 |
+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)
```

```
mysql> SELECT emp_name,salary
    -> FROM employees
    -> ORDER BY salary DESC;
+-----+-----+
| emp_name | salary |
+-----+-----+
| KARAN   | 60000.00 |
| NEHA    | 55000.00 |
| AMIT    | 50000.00 |
| RIYA    | 45000.00 |
| ARJUN   | 40000.00 |
+-----+-----+
5 rows in set (0.00 sec)

mysql> SELECT dept_id,COUNT(emp_id) AS total_employees
    -> FROM employees
    -> GROUP BY dept_id;
+-----+-----+
| dept_id | total_employees |
+-----+-----+
| NULL    |          1 |
| 101     |          1 |
| 102     |          2 |
| 103     |          1 |
+-----+-----+
4 rows in set (0.01 sec)
```

```
mysql> SELECT dept_id, AVG(salary) AS avg_salary
-> FROM employees
-> GROUP BY dept_id
-> HAVING AVG(salary)>50000;
```

dept_id	avg_salary
102	55000.000000
103	55000.000000

2 rows in set (0.01 sec)

```
mysql> SELECT*FROM employees
-> LIMIT 3;
```

emp_id	emp_name	salary	dept_id	joining_date
1	AMIT	50000.00	102	2024-01-10
2	RIYA	45000.00	101	2024-02-15
3	KARAN	60000.00	102	2023-12-01

3 rows in set (0.00 sec)

```
mysql> SELECT e.emp_name,d.dept_name
-> FROM employees e
-> INNER JOIN departments d
-> ON e.dept_id=d.dept_id;
+-----+-----+
| emp_name | dept_name |
+-----+-----+
| NEHA     | Finance   |
| RIYA     | HR         |
| AMIT     | IT         |
| KARAN    | IT         |
+-----+-----+
4 rows in set (0.00 sec)

mysql> SELECT e.emp_name,d.dept_name
-> FROM employees e
-> LEFT JOIN departments d
-> ON e.dept_id=d.dept_id;
+-----+-----+
| emp_name | dept_name |
+-----+-----+
| AMIT     | IT         |
| RIYA     | HR         |
| KARAN    | IT         |
| NEHA     | Finance   |
| ARJUN    | NULL       |
+-----+-----+
5 rows in set (0.01 sec)
```

```
mysql> SELECT e.emp_name,d.dept_name
-> FROM employees e
-> RIGHT JOIN departments d
-> ON e.dept_id=d.dept_id;
+-----+-----+
| emp_name | dept_name |
+-----+-----+
| NEHA     | Finance   |
| RIYA     | HR         |
| AMIT     | IT         |
| KARAN    | IT         |
| NULL     | Marketing |
+-----+-----+
5 rows in set (0.00 sec)
```

```
mysql> SELECT e.emp_name,d.dept_name
-> FROM employees e
-> LEFT JOIN departments d
-> ON e.dept_id=d.dept_id
-> UNION
-> SELECT e.emp_name,d.dept_name
-> FROM employees e
-> RIGHT JOIN departments d
-> ON e.dept_id=d.dept_id;
+-----+-----+
| emp_name | dept_name |
+-----+-----+
| AMIT     | IT      |
| RIYA     | HR      |
| KARAN    | IT      |
| NEHA     | Finance |
| ARJUN    | NULL    |
| NULL     | Marketing |
+-----+-----+
6 rows in set (0.01 sec)
```

```
mysql> SELECT
-> A.emp_name AS Employee_1,
-> B.emp_name AS Employee_2,
-> A.dept_id
-> FROM employees A
-> JOIN employees B
-> ON A.dept_id=B.dept_id
-> AND A.emp_id<>B.emp_id;
+-----+-----+-----+
| Employee_1 | Employee_2 | dept_id |
+-----+-----+-----+
| AMIT       | KARAN      | 102     |
| KARAN      | AMIT       | 102     |
+-----+-----+-----+
2 rows in set (0.00 sec)
```