SQL Concepts and Queries

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SQL Tables Creation

- Create table dept (
-   dept_id int,
-   dept_name varchar(20),
-   primary key (dept_id)
-);

- Create table employee (
-   emp_id int,
-   first_name varchar(20),
-   last_name varchar(20),
-   dept_id int,
-   primary key(emp_id),
-   foreign key(dept_id) references dept(dept_id)
-);

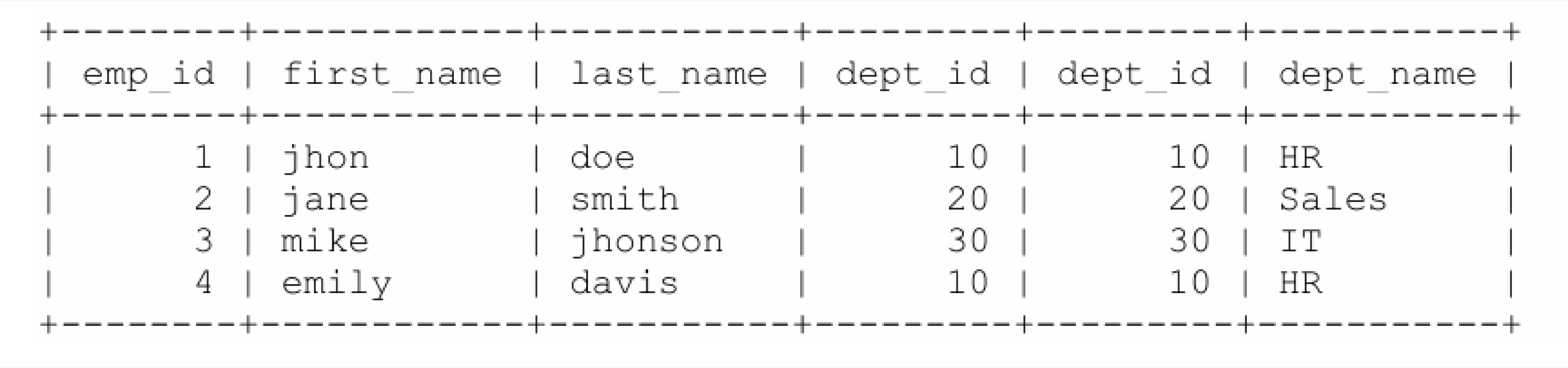
SQL Data Insertion

- INSERT INTO dept VALUES
- (10,'HR'),
- (20,'Sales'),
- (30,'IT'),
- (40,'Marketing');

- INSERT INTO employee VALUES
- (1,'jhon','doe',10),
- (2,'jane','smith',20),
- (3,'mike','jhonson',30),
- (4,'emily','davis',10);

SQL INNER JOIN Example

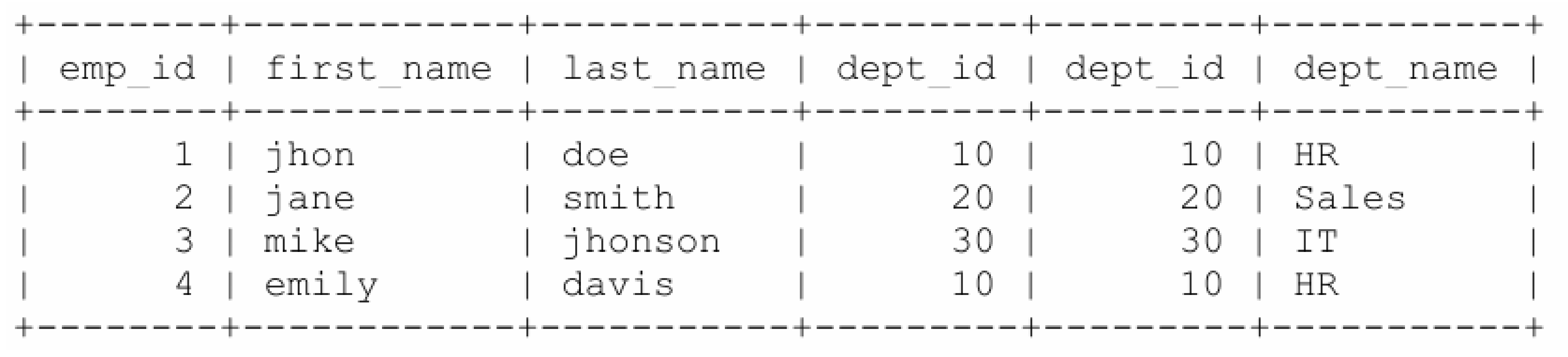
- SELECT * FROM employee
- INNER JOIN dept ON employee.dept_id = dept.dept_id;



```
+--------+------------+-----------+---------+---------+-----------+
| emp_id | first_name | last_name | dept_id | dept_id | dept_name |
+--------+------------+-----------+---------+---------+-----------+
|      1 | jhon       | doe       |      10 |      10 | HR        |
|      2 | jane       | smith     |      20 |      20 | Sales     |
|      3 | mike       | jhonson   |      30 |      30 | IT        |
|      4 | emily      | davis     |      10 |      10 | HR        |
+--------+------------+-----------+---------+---------+-----------+
```

SQL LEFT OUTER JOIN Example

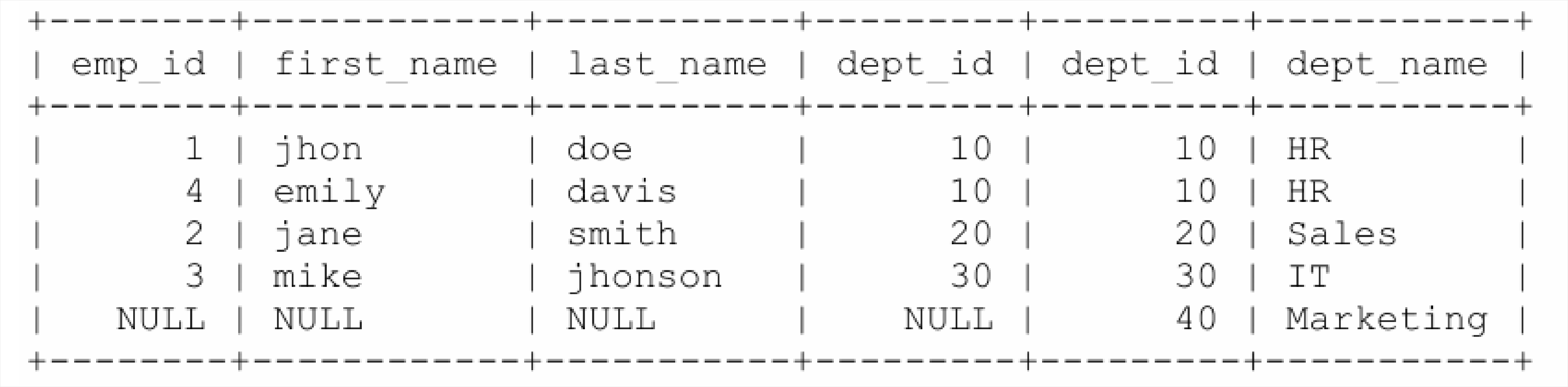
- SELECT * FROM employee
- LEFT OUTER JOIN dept ON employee.dept_id = dept.dept_id;



```
+--------+------------+-----------+---------+---------+-----------+
| emp_id | first_name | last_name | dept_id | dept_id | dept_name |
+--------+------------+-----------+---------+---------+-----------+
|      1 | jhon       | doe       |      10 |      10 | HR        |
|      2 | jane       | smith     |      20 |      20 | Sales     |
|      3 | mike       | jhonson   |      30 |      30 | IT        |
|      4 | emily      | davis     |      10 |      10 | HR        |
+--------+------------+-----------+---------+---------+-----------+
```

SQL RIGHT OUTER JOIN Example

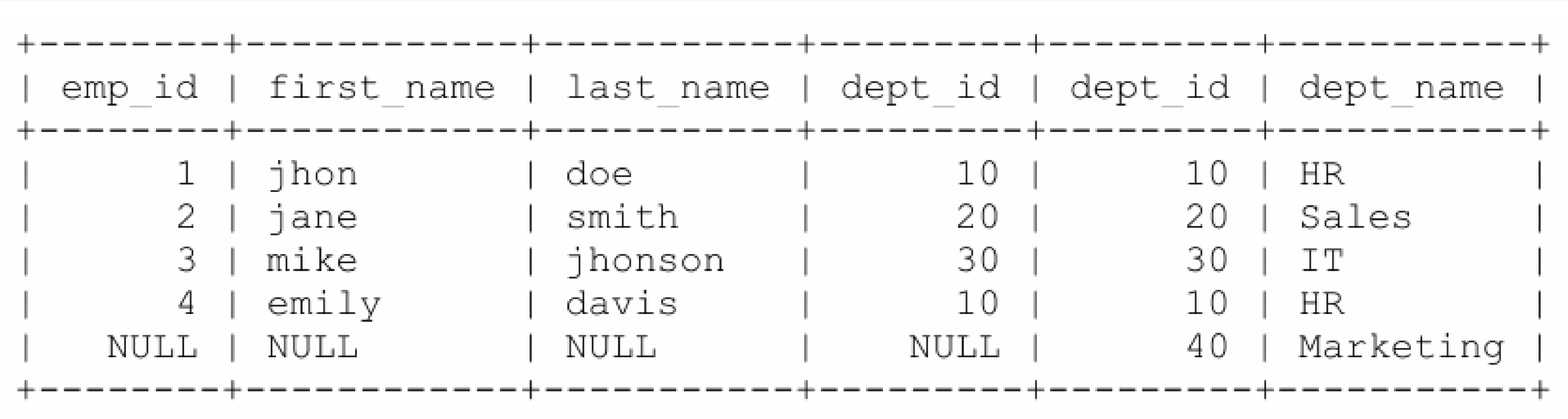
- SELECT * FROM employee
- RIGHT OUTER JOIN dept ON employee.dept_id = dept.dept_id;



```
+--------+------------+------------+---------+---------+-----------+
| emp_id | first_name | last_name  | dept_id | dept_id | dept_name |
+--------+------------+------------+---------+---------+-----------+
|      1 | jhon       | doe        |      10 |      10 | HR        |
|      4 | emily      | davis      |      10 |      10 | HR        |
|      2 | jane       | smith      |      20 |      20 | Sales     |
|      3 | mike       | jhonson    |      30 |      30 | IT        |
|   NULL | NULL       | NULL       |    NULL |      40 | Marketing |
+--------+------------+------------+---------+---------+-----------+
```

SQL FULL OUTER JOIN Example

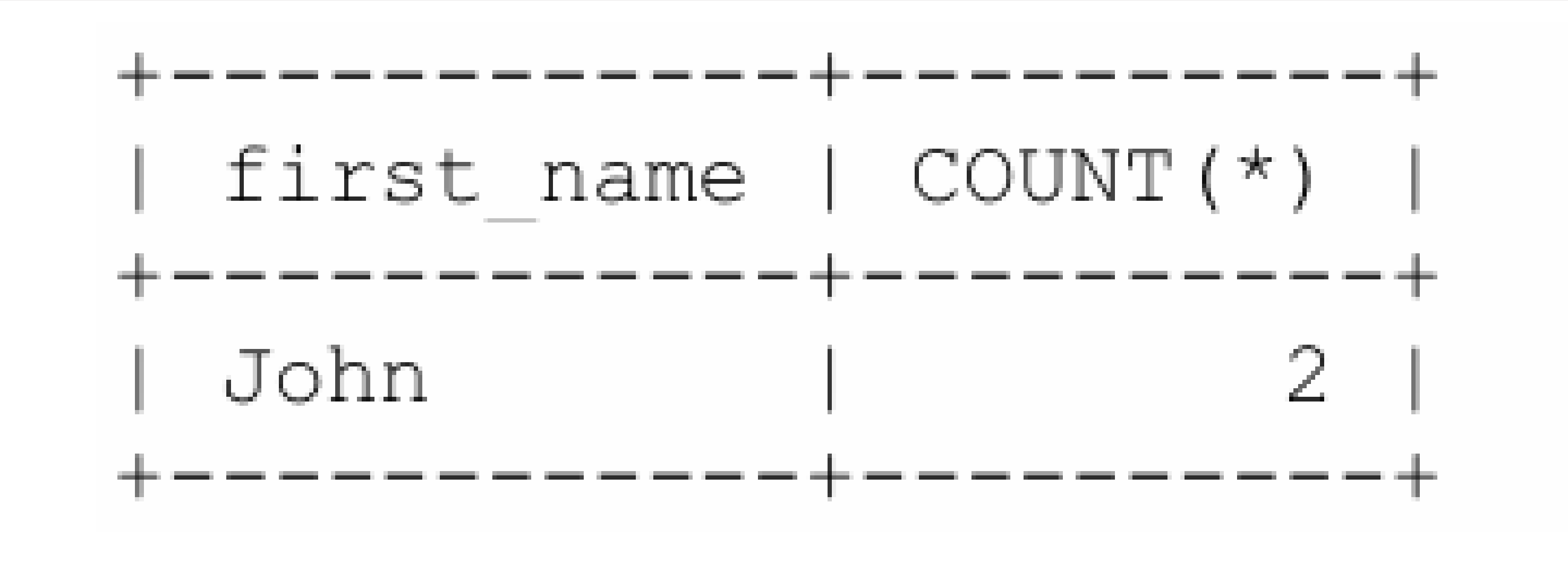
- SELECT * FROM employee
- FULL OUTER JOIN dept ON employee.dept_id = dept.dept_id;



```
+--------+------------+-----------+---------+---------+-----------+
| emp_id | first_name | last_name | dept_id | dept_id | dept_name |
+--------+------------+-----------+---------+---------+-----------+
|      1 | jhon       | doe       |      10 |      10 | HR        |
|      2 | jane       | smith     |      20 |      20 | Sales     |
|      3 | mike       | jhonson   |      30 |      30 | IT        |
|      4 | emily      | davis     |      10 |      10 | HR        |
|   NULL | NULL       | NULL      |    NULL |      40 | Marketing |
+--------+------------+-----------+---------+---------+-----------+
```

Find Duplicate records Based on firstName

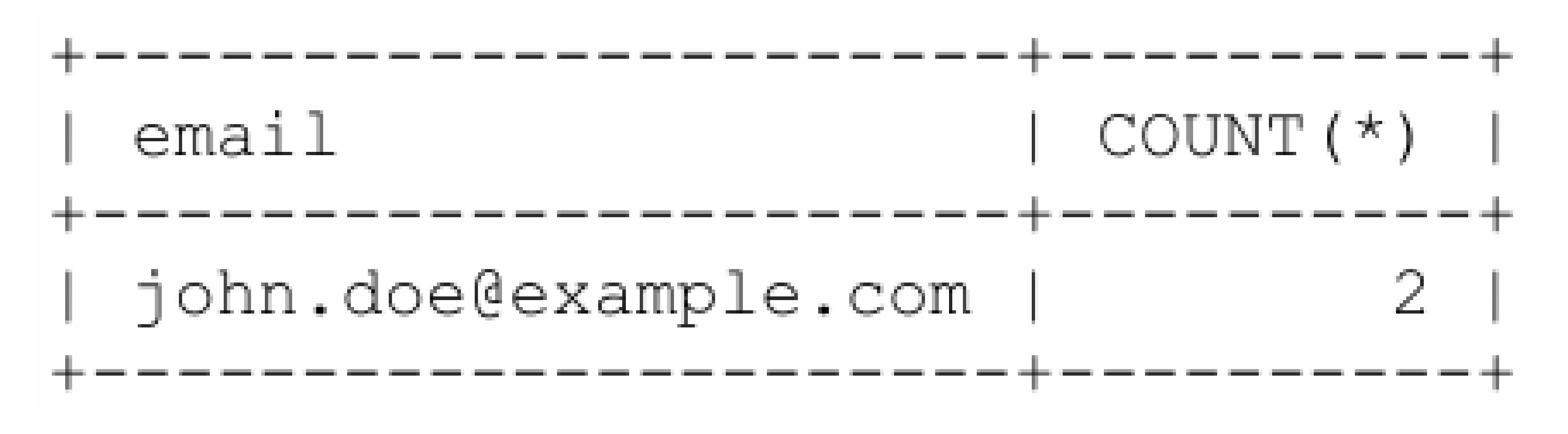
- SELECT first_name, COUNT(*) FROM Employee GROUP BY first_name HAVING COUNT(*) > 1;



```
+------------+----------+
| first_name | COUNT(*) |
+------------+----------+
| John       |        2 |
+------------+----------+
```

Find Duplicate records based on email

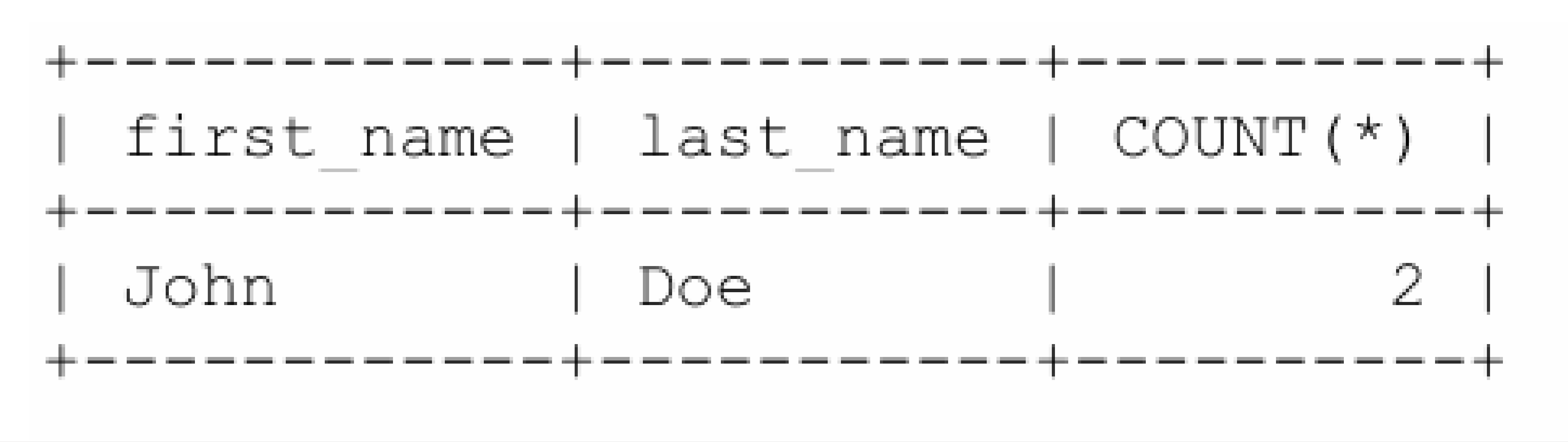
- SELECT email, COUNT(*) FROM Employee GROUP BY email HAVING COUNT(*) > 1;



```
+----------------------+----------+
| email                | COUNT(*) |
+----------------------+----------+
| john.doe@example.com |        2 |
+----------------------+----------+
```

Find Duplicate records Based on firstname and Last Name

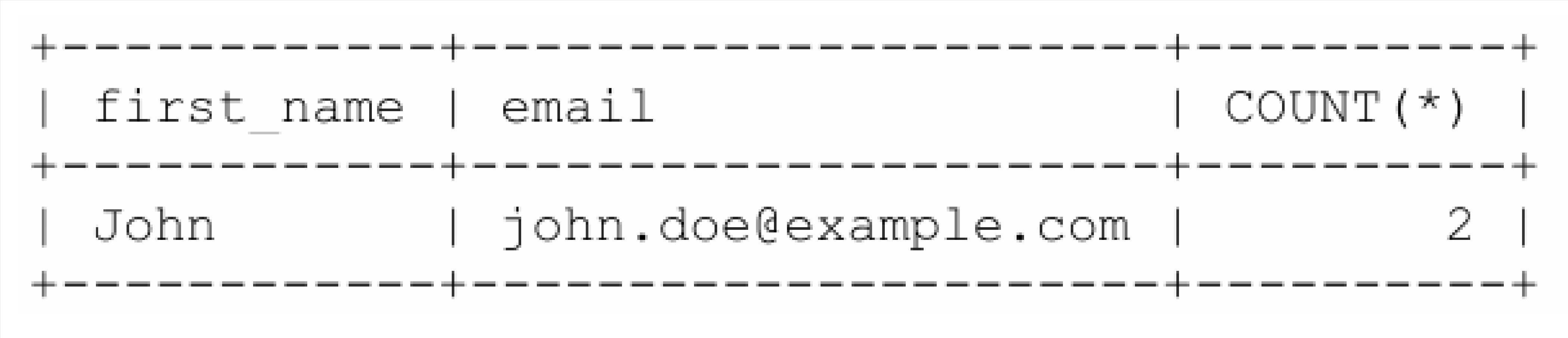
- SELECT first_name, last_name, COUNT(*) FROM Employee GROUP BY first_name, last_name HAVING COUNT(*) > 1;



```
+------------+-----------+----------+
| first_name | last_name | COUNT(*) |
+------------+-----------+----------+
| John       | Doe       |        2 |
+------------+-----------+----------+
```

Find Duplicate records Based on firstname and email

- SELECT first_name, email, COUNT(*) FROM Employee GROUP BY first_name, email HAVING COUNT(*) > 1;



```
+------------+----------------------+----------+
| first_name | email                | COUNT(*) |
+------------+----------------------+----------+
| John       | john.doe@example.com |        2 |
+------------+----------------------+----------+
```