SQL JOINS

Tables & Insert Statements

1. departments Table

```
CREATE TABLE departments (
  dept_id INT PRIMARY KEY,
  dept_name VARCHAR(100)
);
```

```
INSERT INTO departments VALUES
(1, 'Human Resources'),
(2, 'Engineering'),
(3, 'Marketing');
```

2. employees Table

```
CREATE TABLE employees (
  emp_id INT PRIMARY KEY,
  emp_name VARCHAR(100),
  dept_id INT,
  salary INT
);
```

```
INSERT INTO employees VALUES
(101, 'Amit Sharma', 1, 30000),
(102, 'Neha Reddy', 2, 45000),
(103, 'Faizan Ali', 2, 48000),
(104, 'Divya Mehta', 3, 35000),
(105, 'Ravi Verma', NULL, 28000);
```

JOIN-Based Questions

1. Show all employees with their department names.
2. List employees who **do not belong** to any department.
3. Display the total number of employees in each department.
4. Show departments with **no employees**.
5. List employee names and department names for those who earn more than 40,000.

JOIN BASED QUESTIONS:

1.Show all employees with their department names:

SELECT e.emp_name,d.dept_name

FROM employees

LEFT JOIN departments d ON e.dept_id=d.dept_id;

2. List employees who do not belong to any department:

SELECT emp_name

FROM employees

WHERE dept_id IS NULL;

3. Display total number of employees in each department:

```
SELECT d.dept_name,COUNT(e.emp_id) AS total_employees
FROM departments d
LEFT JOIN employees e on d.dept_id=e.dept_id
GROUP BY d.dept_name;
```

4. Show departments with no employees:

```
SELECT d.dept_name
FROM departments d
LEFT JOIN employees e on d.dept_id=e.dept_id
WHERE e.emp_id IS NULL;
```

5. List employee names and department names for those who earn more than 40,000:

```
SELECT e.emp_name,d.dept_name
FROM employees e
LEFT JOIN departments d on e.emp_id=d.dept_id
WHERE e.salary > 40,000;
```