# SQL Assignment: Employee Performance and Bonus Evaluation System

## Case Study Background

A company, TechNova Solutions, maintains an employee database to calculate employee bonuses based on their salary, performance score, and department. The HR department wants to analyze which employees are eligible for a performance bonus, salary comparisons between employees, and logical decisions based on performance and department criteria. Your task is to write SQL queries using arithmetic, comparison, and logical operators to support these requirements.

## Database Setup (PostgreSQL)

Step 1: Create Database

* CREATE DATABASE technova\_db;

Step 2: Create Table

CREATE TABLE employees (  
 emp\_id SERIAL PRIMARY KEY,  
 emp\_name VARCHAR(50),  
 department VARCHAR(50),  
 salary NUMERIC(10,2),  
 experience\_years INT,  
 performance\_score INT, -- Score out of 10  
 joining\_date DATE  
);

Step 3: Insert Sample Data

INSERT INTO employees (emp\_name, department, salary, experience\_years, performance\_score, joining\_date)  
VALUES  
('Ravi Sharma', 'IT', 55000, 5, 8, '2019-06-10'),  
('Pooja Mehta', 'Finance', 48000, 4, 7, '2020-01-15'),  
('Ankit Singh', 'HR', 40000, 3, 6, '2021-03-22'),  
('Neha Gupta', 'IT', 60000, 6, 9, '2018-09-01'),  
('Rohan Das', 'Marketing', 45000, 2, 5, '2022-04-20'),  
('Kavita Rao', 'Finance', 70000, 8, 9, '2016-07-13'),  
('Aditya Jain', 'HR', 38000, 2, 4, '2023-02-01');

## Assignment Questions

### Part A: Arithmetic Operators

1. Display each employee’s annual salary (use salary \* 12).
2. Show the bonus amount as 10% of salary for employees with performance score ≥ 8.
3. Increase salary by 5% for employees with experience greater than 5 years (use a calculated column).
4. Calculate the total income of each employee including salary and bonus (bonus = 10% of salary if performance ≥ 8 else 0).

### Part B: Comparison Operators

1. List employees whose salary is greater than 50,000.
2. Find employees who joined after 2020.
3. Retrieve details of employees whose performance score is between 6 and 9.
4. Show employees whose department is not 'HR'.
5. Identify the highest-paid employee.

### Part C: Logical Operators

1. 10. Display employees who are in the IT department AND have a performance score greater than 7.
2. 11. Find employees who are in Finance OR HR departments.
3. 12. List employees who have salary > 45,000 AND experience > 3 years AND performance > 7.
4. 13. Show employees who are NOT from Marketing department.
5. 14. Identify employees with performance < 5 OR salary < 40,000.