University Institute of Engineering

Department of Computer Science & Engineering

EXPERIMENT: 5

NAME : Johnson Kumar **UID** : 23BCS12654

SECTION : KRG_2A **SEMESTER**: 5TH

SUBJECT CODE: 23CSP-339 **SUBJECT** : ADBMS

Problem Statement:

TechSphere Solutions, a growing IT services company with offices across India, wants to track and monitor gender diversity within its workforce. The HR department frequently needs to know the total number of employees by gender (Male or Female).

To solve this problem, the company needs an automated database-driven solution that can instantly return the count of employees by gender through a stored procedure that:

- Create a PostgreSQL stored procedure that:
- Takes a gender (e.g., 'Male' or 'Female') as input.
- Calculates the total count of employees for that gender.
- Returns the result as an output parameter.
- Displays the result clearly for HR reporting purposes.

Solution:

```
------------------------MEDIUM LEVEL-----------------------------
--INPUT TABLES:
CREATE TABLE employee_info (
   id SERIAL PRIMARY KEY,
   name VARCHAR(50) NOT NULL,
   gender VARCHAR(10) NOT NULL,
   salary NUMERIC(10,2) NOT NULL,
   city VARCHAR(50) NOT NULL
);
INSERT INTO employee_info (name, gender, salary, city)
VALUES
('Alok', 'Male', 50000.00, 'Delhi'),
('Priya', 'Male', 60000.00, 'Mumbai'),
```

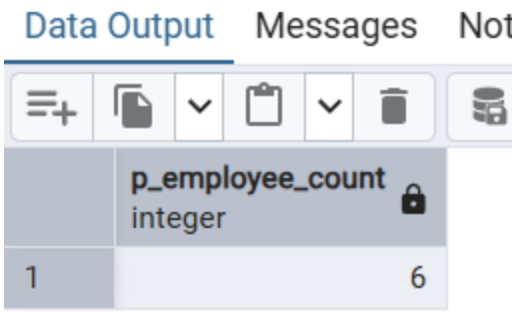
```
('Rajesh', 'Female', 45000.00, 'Bangalore'),
('Sneha', 'Male', 55000.00, 'Chennai'),
('Anil', 'Male', 52000.00, 'Hyderabad'),
('Sunita', 'Female', 48000.00, 'Kolkata'),
('Vijay', 'Male', 47000.00, 'Pune'),
('Ritu', 'Male', 62000.00, 'Ahmedabad'),
('Amit', 'Female', 51000.00, 'Jaipur');

CREATE OR REPLACE PROCEDURE sp_get_employees_by_gender(
   IN p_gender VARCHAR(50),
   OUT p_employee_count INT
)
LANGUAGE plpgsql
AS $$
BEGIN
   SELECT COUNT(id)
   INTO p_employee_count
   FROM employee_info
   WHERE gender = p_gender;

   RAISE NOTICE 'Total employees with gender %: %', p_gender, p_employee_count;
END;
$$;

CALL sp_get_employees_by_gender('Male', NULL);
```

Output:



University Institute of Engineering

Department of Computer Science & Engineering

Learning outcomes:

- ✓ I learned how to define and execute a PostgreSQL stored procedure using CREATE OR REPLACE PROCEDURE, including handling both input (IN) and output (OUT) parameters.
- ✓ I implemented conditional aggregation using COUNT() with a WHERE clause to filter employee records by gender, enabling real-time analytics.
- ✓ I created a normalized employee_info table with relevant fields like id, name, gender, salary, and city, ensuring clarity and scalability for future queries.
- ✓ I used RAISE NOTICE to display the result in a readable format, making the procedure suitable for HR reporting without requiring SQL expertise.
- ✓ I translated a real-world HR requirement—tracking gender diversity—into a reusable, automated database solution that supports decision-making and transparency.
- ✓ I successfully executed the procedure using CALL, verified the output, and confirmed that the logic works for both 'Male' and 'Female' inputs.