

Experiment 3 – PL/pgSQL Salary and Bonus Calculation

Experiment

Experiment 3: Calculating employee salary and applying a bonus using PL/pgSQL. This experiment demonstrates variable declaration, arithmetic operations, and displaying output using `RAISE NOTICE`.

Aim

To practice writing PL/pgSQL blocks that perform calculations on employee data, calculate bonuses, and display results.

Objective

- To declare variables in PL/pgSQL.
 - To perform arithmetic calculations on employee salary.
 - To calculate a bonus amount based on a percentage of salary.
 - To display employee details and salary information before and after applying the bonus.
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Software Requirements

- Database: PostgreSQL
 - Tool: pgAdmin or psql
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Practical / Experiment Steps

1. Declare variables for employee ID, name, and salary.
 2. Calculate a 10% bonus on the employee salary.
 3. Calculate the total salary after adding the bonus.
 4. Display employee details and salary information before and after bonus using **RAISE NOTICE**.
 5. Take screenshots of outputs for documentation.
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Input / Output Details

Input

- Employee details:
 - **emp_id** INT
 - **emp_name** VARCHAR(50)
 - **emp_salary** INT
- Bonus calculation: 10% of employee salary

Output

- Step 1: Display employee details and original salary.
 - Step 2: Display bonus amount and total salary after applying 10% bonus.
 - Screenshots of outputs (s1 and s2) are attached.
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SQL / PL/pgSQL Code

DO

\$\$

DECLARE

```
emp_id      INT := 101;

emp_name    VARCHAR(50) := 'Jay';

emp_salary  INT := 222222;

bonus_amount NUMERIC;

new_salary  NUMERIC;
```

BEGIN

```
-- Calculate 10% bonus

bonus_amount := emp_salary * 0.10;

new_salary := emp_salary + bonus_amount;


-- Display Employee Details

RAISE NOTICE 'Employee Details';

RAISE NOTICE '-----';

RAISE NOTICE 'Employee ID   : %', emp_id;

RAISE NOTICE 'Employee Name : %', emp_name;


-- Display Salary Details

RAISE NOTICE '';

RAISE NOTICE 'Salary Details';

RAISE NOTICE '-----';

RAISE NOTICE 'Salary Before Bonus : %', emp_salary;

RAISE NOTICE '10%% Bonus Amount   : %', bonus_amount;

RAISE NOTICE 'Salary After Bonus  : %', new_salary;
```

END

\$\$;

Screenshots

- **Screenshot 1:** DO block execution

```
$$;  
    new_salary    NUMERIC;  
class$# BEGIN  
class$#    -- Calculate 10% bonus  
class$#    bonus_amount := emp_salary * 0.10;  
class$#    new_salary := emp_salary + bonus_amount;  
class$#  
class$#    -- Display Employee Details  
class$#    RAISE NOTICE 'Employee Details';  
class$#    RAISE NOTICE '-----';  
class$#    RAISE NOTICE 'Employee ID   : %', emp_id;  
class$#    RAISE NOTICE 'Employee Name : %', emp_name;  
class$#  
class$#    -- Display Salary Details  
class$#    RAISE NOTICE '';  
class$#    RAISE NOTICE 'Salary Details';  
class$#    RAISE NOTICE '-----';  
class$#    RAISE NOTICE 'Salary Before Bonus : %', emp_salary;  
class$#    RAISE NOTICE '10%% Bonus Amount      : %', bonus_amount;  
class$#    RAISE NOTICE 'Salary After Bonus   : %', new_salary;  
class$# END  
class$# $$;
```

- **Screenshot 2:** Output showing Employee ID, Name, Salary, Bonus, and Total Salary

```
class$# $$;  
NOTICE: Employee Details  
NOTICE: -----  
NOTICE: Employee ID   : 101  
NOTICE: Employee Name : Sahil  
NOTICE:  
NOTICE: Salary Details  
NOTICE: -----  
NOTICE: Salary Before Bonus : 550005  
NOTICE: 10% Bonus Amount    : 55000.50  
NOTICE: Salary After Bonus   : 605005.50  
DO
```

Learning Outcome

- Learned to declare variables in PL/pgSQL.
- Learned to perform arithmetic calculations in PostgreSQL.
- Learned to display output using **RAISE NOTICE**.
- Learned to calculate a bonus and total salary dynamically.