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Subject Name: Database Management System   Subject Code: 24CSH-298

Experiment 3 – PL/SQL Salary and Bonus Calculation

Experiment

Experiment 3: Calculating employee salary and applying a bonus using PL/SQL. This experiment demonstrates variable declaration, arithmetic operations, and displaying output using DBMS_OUTPUT.PUT_LINE.

Aim

The aim of this experiment is to practice writing PL/SQL blocks that perform calculations on employee data, calculate bonuses, and display results in a structured format.

Objective

- To declare variables in PL/SQL.

- 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.

Software Requirements

- Database: Oracle XE or Oracle Live SQL

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.

5. Take screenshots of outputs for documentation.

EXPERIMENT 3

Procedure of the Experiment

1. Start the system and log in.

2. Open Oracle XE or Live SQL.

3. Connect to the database.

4. Declare variables for employee details and bonus calculation.

5. Write the PL/SQL block to calculate bonus and total salary.

6. Execute the PL/SQL block and verify outputs in the console.

7. Take screenshots of the outputs (s1 and s2).

Input / Output Details

Input

- Employee details:
    - emp_id NUMBER
    - emp_name VARCHAR2(50)
    - emp_salary NUMBER
- 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.

Step 1 Output

```
DECLARE
    emp_id          NUMBER := 101;
    emp_name        VARCHAR2(50) := 'Jay';
    emp_salary      NUMBER := 222222;
    bonus_amount    NUMBER;
    new_salary      NUMBER;
BEGIN
    -- Calculate 10% bonus on employee salary
    bonus_amount := emp_salary * 0.10;

    -- Calculate new salary after adding bonus
    new_salary := emp_salary + bonus_amount;

    DBMS_OUTPUT.PUT_LINE('Employee Details');
    DBMS_OUTPUT.PUT_LINE('----------------');
    DBMS_OUTPUT.PUT_LINE('Employee ID   : ' || emp_id);
    DBMS_OUTPUT.PUT_LINE('Employee Name : ' || emp_name);

    DBMS_OUTPUT.PUT_LINE(CHR(10) || 'Salary Details');
    DBMS_OUTPUT.PUT_LINE('----------------');
    DBMS_OUTPUT.PUT_LINE('Salary Before Bonus : ' || emp_salary);
    DBMS_OUTPUT.PUT_LINE('10% Bonus Amount    : ' || bonus_amount);
    DBMS_OUTPUT.PUT_LINE('Salary After Bonus  : ' || new_salary);
END;
```

EXPERIMENT 3

Result

```
Employee Details
----------------
Employee ID   : 101
Employee Name : Jay

Salary Details
----------------
Salary Before Bonus : 222222
10% Bonus Amount    : 22222.2
Salary After Bonus  : 244444.2


PL/SQL procedure successfully completed.

Elapsed: 00:00:00.003
```

Employee Details

Employee ID : 101
Employee Name : Jay
Salary Before Bonus : 222222

Step 2 Output
Screenshot: Step 2 – Salary After Bonus

Salary Details

Salary Before Bonus : 222222
10% Bonus Amount : 22222.2
Salary After Bonus : 244444.2

Learning Outcome
After completing this experiment, the student will be able to:

- Declare and use variables in PL/SQL.

- Perform arithmetic operations for salary calculations.

- Calculate bonuses based on a percentage of salary.

EXPERIMENT 3

- Display structured outputs using DBMS_OUTPUT.PUT_LINE.

- Understand the workflow of PL/SQL blocks for practical data operations.