🔬 Experiment 3 – Basic Structure of PL/SQL

🔨 Aim

To understand the basic structure of a PL/SQL program by creating and executing a simple PL/SQL block that includes declaration and execution sections, and to display output using built-in procedures.

🎯 Objectives

- Understand PL/SQL block structure
- Use the DECLARE section
- Use the BEGIN … END execution block
- Print output using DBMS_OUTPUT.PUT_LINE

⚙️ Software Requirements

- Oracle XE / PostgreSQL
- SQL Developer / pgAdmin / SQL*Plus

▶ Steps to Perform

1. Open SQL environment (pgAdmin / SQL Developer)
2. Enable server output
3. Write PL/SQL block
4. Declare variables
5. Assign values
6. Print using DBMS_OUTPUT
7. Execute the block

Enable output:
SET SERVER OUTPUT ON;

🧠 PL/SQL Block Structure

DECLARE   → Variable declarations
BEGIN   → Executable statements
EXCEPTION → Error handling (optional)

END   → Block termination

💻 Program Code

SET SERVER OUTPUT ON;

```
DECLARE
  emp_id NUMBER := 101;
  emp_name VARCHAR2(50) := 'DR DOOM';
  emp_salary NUMBER := 45000;

BEGIN
  DBMS_OUTPUT.PUT_LINE('Employee ID : ' || emp_id);
  DBMS_OUTPUT.PUT_LINE('Employee Name : ' || emp_name);
  DBMS_OUTPUT.PUT_LINE('Employee Salary : ' || emp_salary);
END;
/
```

🔢 Input

Variable	Value
emp_id	101
emp_name	DR DOOM
emp_salary	45000

📤 Output

Output:

```
Employee Details
----------------
Employee ID    : 101
Employee Name  : DR DOOM
Employee Salary: 45000
MOHD KAIF 24BAI70907
```

📖 Theory

A PL/SQL block consists of three main parts:
1. DECLARE

Used to define variables, constants, and cursors.
2. BEGIN – END

Contains executable statements that perform actions.
3. EXCEPTION (Optional)

Handles runtime errors.

🎓 Learning Outcomes

After completing this experiment, you will be able to:
- Declare variables in PL/SQL
- Write and execute PL/SQL blocks
- Use BEGIN–END structure
- Display output using DBMS_OUTPUT
- Develop simple procedural database programs

☑ Conclusion

This experiment demonstrates the fundamental structure of a PL/SQL block and helps build the foundation for writing procedural programs inside the database.