



Apex Institute of Technology

Department of Computer Science & Engineering

Student Name: Aditya Manhas

UID:24BAI70883

Branch: Computer Science & Engineering (AIML)

Section/Group:24AIT-KRG1/G2

Semester:4th

Subject Name: DBMS

1. 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.

2. Objective of the Session

- To understand the basic structure of an Oracle PL/SQL block
- To learn variable declaration and initialization in PL/SQL
- To implement procedural logic using the BEGIN-END execution block
- To display output using built-in procedures such as DBMS_OUTPUT.PUT_LINE
- To strengthen foundational PL/SQL skills required for database programming, backend development, and technical interviews

3. Theory

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

Declaration Section (DECLARE)



Apex Institute of Technology

Department of Computer Science & Engineering

- Variables, constants, cursors are declared here.

Execution Section (BEGIN ... END)

- Contains executable statements.

Exception Section (EXCEPTION) (*optional*)

Think of it like a human:

- **DECLARE** → Memory
- **BEGIN** → Action
- **END** → Closure

4. Problem Statement

Design and implement a simple PL/SQL program that demonstrates the **basic structure of a PL/SQL block**.

The program should:

1. Declare variables for employee details
2. Assign values to those variables
3. Display the values using output statements

5. Procedure of the Practical

1. Open **pgAdmin / SQL environment** (conceptual PL/SQL execution).
2. Enable server output:
3. **SET SERVER OUTPUT ON;**
4. Write a PL/SQL block with:
 - Employee ID
 - Employee Name
 - Employee Salary
5. Assign values inside the execution section.
6. Display output using **DBMS_OUTPUT.PUT_LINE**.
7. Execute the block and observe the output.



Apex Institute of Technology

Department of Computer Science & Engineering

5. I/O Analysis (Input / Output Analysis)

Input:

Variable	Value
Emp_id	101
Emp_name	Aditya
Emp_salary	45000

Output:

Employee ID : 101

Employee Name : Aditya Manhas

Employee Salary : 45000

SQL Implementation (PgAdmin / PostgreSQL)

DECLARE

```
emp_id    NUMBER := 101;
emp_name   VARCHAR2(50) := 'Aditya ';
emp_salary NUMBER := 45000;
```

BEGIN

```
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);
```



Apex Institute of Technology

Department of Computer Science & Engineering

```
DBMS_OUTPUT.PUT_LINE('Employee Salary: ' || emp_salary);  
END;
```

7. Learning Outcomes

- Understand the **basic structure of a PL/SQL block**
- Declare and initialize variables in PL/SQL
- Use the **BEGIN–END** execution block
- Display output using DBMS_OUTPUT.PUT_LINE
- Develop confidence in writing simple procedural database programs

7. Screenshots

The screenshot shows a PL/SQL script in the 'Script output' tab of Oracle SQL Developer. The script declares variables for employee ID, name, and salary, and then uses DBMS_OUTPUT.PUT_LINE to print these details. The output window shows the printed results and a success message.

```
6  
7  DECLARE  
8      emp_id      NUMBER := 101;  
9      emp_name    VARCHAR2(50) := Aditya;  
10     emp_salary   NUMBER := 400000;  
11  BEGIN  
12      DBMS_OUTPUT.PUT_LINE('Employee Details');  
13      DBMS_OUTPUT.PUT_LINE('-----');  
14      DBMS_OUTPUT.PUT_LINE('Employee ID : ' || emp_id);  
15      DBMS_OUTPUT.PUT_LINE('Employee Name : ' || emp_name);  
16      DBMS_OUTPUT.PUT_LINE('Employee Salary: ' || emp_salary);  
17  END;
```

Query result	Script output	DBMS output	Explain Plan	SQL history
<pre>Employee Details ----- Employee ID : 101 Employee Name : Aditya Employee Salary: 400000 PL/SQL procedure successfully completed. Elapsed: 00:00:00.007</pre>				