

University Institute of Engineering

Department of Computer Science & Engineering

Experiment: 4

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Semester: 4th

Date of Performance:30/01/26

Subject Name: DBMS

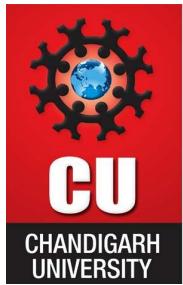
1. Aim of the practical: To understand the basic structure of a PL/SQL program by creating and executing a simple PL/SQL block that includes declaration and execution sections, and to display output using built-in procedures.

2. Tool Used:

- **Database Management System:**
 - **Oracle Database**

3. Objective:

Implement control structures in PL/SQL (IF-ELSE, ELSE-IF , ELSE-IF LADDER, CASE STATEMENTS in PL-SQL BLOCK)



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4. Practical / Experimental Steps

Step 1: Open SQL*Plus or Oracle SQL Developer and connect to the database.

Step 2: Enable output using SET SERVEROUTPUT ON;

Step 3: Write and execute a PL/SQL program using IF–ELSE to check positive or non-positive number.

Step 4: Write and run a PL/SQL program using IF–ELSIF–ELSE to display student grade based on marks.

Step 5: Write and execute a PL/SQL program using an ELSIF ladder to determine performance status.

Step 6: Write and run a PL/SQL program using CASE statement to display day name from day number.

Step 7: Modify input values and re-execute programs to test different conditions.

Step 8: Observe and record the outputs for each conditional control statement program.

5. I / O Analysis

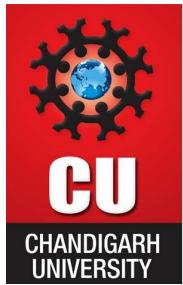
A) IF-Else Statement

```
DECLARE
    num NUMBER := -5;
BEGIN
    IF num > 0 THEN
        DBMS_OUTPUT.PUT_LINE('The number is Positive');
    ELSE
        DBMS_OUTPUT.PUT_LINE('The number is Non-Positive');
    END IF;
END;
/
```

Output:

The number is Non-Positive

107 ms



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B) IF-ElseIf-ELSE Statement

```
DECLARE
    marks NUMBER := 85;
BEGIN
    IF marks >= 90 THEN
        DBMS_OUTPUT.PUT_LINE('Grade: A+');
    ELSIF marks >= 80 THEN
        DBMS_OUTPUT.PUT_LINE('Grade: A');
    ELSIF marks >= 70 THEN
        DBMS_OUTPUT.PUT_LINE('Grade: B');
    ELSIF marks >= 60 THEN
        DBMS_OUTPUT.PUT_LINE('Grade: C');
    ELSE
        DBMS_OUTPUT.PUT_LINE('Grade: Fail');
    END IF;
END;
/
```

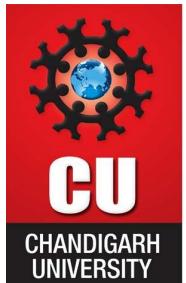
Output:

125 ms

Grade: A

C) ELSIF Ladder

```
DECLARE
    marks NUMBER := 72;
BEGIN
    IF marks >= 90 THEN
        DBMS_OUTPUT.PUT_LINE('Performance: Excellent');
    ELSIF marks >= 75 THEN
        DBMS_OUTPUT.PUT_LINE('Performance: Very Good');
    ELSIF marks >= 60 THEN
        DBMS_OUTPUT.PUT_LINE('Performance: Good');
    ELSIF marks >= 40 THEN
        DBMS_OUTPUT.PUT_LINE('Performance: Average');
    ELSE
        DBMS_OUTPUT.PUT_LINE('Performance: Poor');
```



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```
END;
```

```
/
```

```
Output:
```

111 ms

```
Performance: Good
```

D) CASE Statement

```
DECLARE
```

```
    day_num NUMBER := 4;  
    day_name VARCHAR2(20);
```

```
BEGIN
```

```
    CASE day_num
```

```
        WHEN 1 THEN day_name := 'Sunday';  
        WHEN 2 THEN day_name := 'Monday';  
        WHEN 3 THEN day_name := 'Tuesday';  
        WHEN 4 THEN day_name := 'Wednesday';  
        WHEN 5 THEN day_name := 'Thursday';  
        WHEN 6 THEN day_name := 'Friday';  
        WHEN 7 THEN day_name := 'Saturday';  
        ELSE day_name := 'Invalid Day Number';
```

```
    END CASE;
```

```
    DBMS_OUTPUT.PUT_LINE('Day: ' || day_name);
```

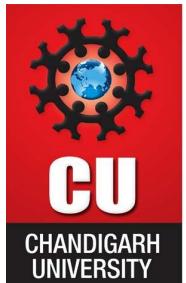
```
END;
```

```
/
```

```
Output:
```

116 ms

```
Day: Wednesday
```



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6. Learning outcomes (What I have learnt):

- Understood the basic structure of a PL/SQL block, including the **DECLARE** and **BEGIN...END** sections.
- Learned how to declare and initialize variables for storing data values.
- Gained knowledge of using `DBMS_OUTPUT.PUT_LINE` to display results during program execution.
- Practiced performing mathematical operations on variables within PL/SQL programs.
- Developed understanding of decision-making using **IF–ELSIF–ELSE** conditional statements.
- Acquired practical insight into how PL/SQL can be used for simple database-related computations and logic implementation.