



# Apex Institute of Technology

## Computer Science & Engineering

### Experiment 4

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**Semester:** 4

**Date of Performance:** 04.02.2026

**Subject Name:** Database  
Management System

**Subject Code:** 24CSH-298

**AIM:** This experiment focuses on the implementation of conditional control statements in PL/SQL (PL/pgSQL) such as IF-ELSE, IF-ELSIF-ELSE, ELSIF Ladder, and CASE statements. These constructs are used to control the flow of execution based on logical conditions and demonstrate decision-making capabilities in PL/SQL.

#### OBJECTIVES:

- To understand conditional control statements in PL/SQL.
- To implement IF-ELSE, IF-ELSIF-ELSE, ELSIF ladder, and CASE statements.
- To analyze decision-making logic in PL/SQL programs.
- To gain hands-on experience using Oracle Free SQL.

#### SOFTWARE REQUIREMENTS:

- Oracle FreeSQL
- PL/SQL

#### PROCEDURE/STEPS:

1. Start the system and log in.
2. Open Oracle Free SQL / Oracle Live SQL.
3. Enable output using SET SERVEROUTPUT ON.
4. Write the PL/SQL program in the worksheet.
5. Execute the program.



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6. Observe the output.
7. Save the work and take screenshots.

### **PRACTICAL/EXPERIMENTAL STEPS:**

1. Start the Oracle FreeSQL environment.
2. Program 1: IF–ELSE Statement

DECLARE

    num NUMBER := 5;

BEGIN

    IF num > 0 THEN

        DBMS\_OUTPUT.PUT\_LINE('The number ' || num || ' is Positive');

    ELSE

        DBMS\_OUTPUT.PUT\_LINE('The number ' || num || ' is Non-Positive');

    END IF;

END;



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The screenshot shows an SQL Worksheet with a PL/SQL program and its execution results. The program declares a variable 'num' and checks if it is greater than 0. The output shows that the number 5 is positive.

```
1 DECLARE
2   num NUMBER := 5;
3 BEGIN
4   IF num > 0 THEN
5     DBMS_OUTPUT.PUT_LINE('The number-' || num || ' is Positive');
6   ELSE
7     DBMS_OUTPUT.PUT_LINE('The number-' || num || ' is Non-Positive');
8   END IF;
9 END;
```

Query result   **Script output**   DBMS output   Explain Plan   SQL history

Elapsed: 00:00:00.006

SQL> DECLARE  
num NUMBER := 5;  
BEGIN  
IF num > 0 THEN...  
Show more...

The number 5 is Positive

PL/SQL procedure successfully completed.

Elapsed: 00:00:00.004

### 3. Program 2: IF-ELSIF-ELSE Statement

DECLARE

marks NUMBER := 82;

BEGIN

IF marks >= 90 THEN

DBMS\_OUTPUT.PUT\_LINE('Grade: A');

ELSIF marks >= 75 THEN

DBMS\_OUTPUT.PUT\_LINE('Grade: B');

ELSIF marks >= 60 THEN

DBMS\_OUTPUT.PUT\_LINE('Grade: C');

ELSE



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```
DBMS_OUTPUT.PUT_LINE('Grade: Fail');

END IF;

END;
```

The screenshot shows an SQL Worksheet with a PL/SQL script and its execution results. The script is as follows:

```
1 DECLARE
2   marks NUMBER := 82;
3 BEGIN
4   IF marks >= 90 THEN
5     DBMS_OUTPUT.PUT_LINE('Grade: A');
6   ELSIF marks >= 75 THEN
7     DBMS_OUTPUT.PUT_LINE('Grade: B');
8   ELSIF marks >= 60 THEN
9     DBMS_OUTPUT.PUT_LINE('Grade: C');
10  ELSE
11    DBMS_OUTPUT.PUT_LINE('Grade: Fail');
12  END IF;
13 END;
```

The execution results show the following output:

```
SQL> DECLARE
      marks NUMBER := 82;
      BEGIN
      IF marks >= 90 THEN...
      Show more...

      Grade: B

      PL/SQL procedure successfully completed.
      Elapsed: 00:00:00.006
```

#### 4. Program 3: ELSIF Ladder

```
DECLARE

    marks NUMBER := 68;

BEGIN

    IF marks >= 85 THEN

        DBMS_OUTPUT.PUT_LINE('Performance: Excellent');

    ELSIF marks >= 70 THEN

        DBMS_OUTPUT.PUT_LINE('Performance: Very Good');
```



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ELSIF marks >= 55 THEN

DBMS\_OUTPUT.PUT\_LINE('Performance: Good');

ELSIF marks >= 40 THEN

DBMS\_OUTPUT.PUT\_LINE('Performance: Average');

ELSE

DBMS\_OUTPUT.PUT\_LINE('Performance: Poor');

END IF;

END;

The screenshot shows an SQL Worksheet with a PL/SQL program and its execution results. The program is as follows:

```
1 DECLARE
2   marks NUMBER := 68;
3 BEGIN
4   IF marks >= 85 THEN
5     DBMS_OUTPUT.PUT_LINE('Performance: Excellent');
6   ELSIF marks >= 70 THEN
7     DBMS_OUTPUT.PUT_LINE('Performance: Very Good');
8   ELSIF marks >= 55 THEN
9     DBMS_OUTPUT.PUT_LINE('Performance: Good');
10  ELSIF marks >= 40 THEN
11    DBMS_OUTPUT.PUT_LINE('Performance: Average');
12  ELSE
13    DBMS_OUTPUT.PUT_LINE('Performance: Poor');
14  END IF;
15 END;
```

The execution output shows the following results:

```
Elapsed: 00:00:00.006

SQL> DECLARE
      marks NUMBER := 68;
      BEGIN
      IF marks >= 85 THEN...
Show more...

Performance: Good

PL/SQL procedure successfully completed.
Elapsed: 00:00:00.008
```

### 5. Program 4: CASE Statement

DECLARE

day\_no NUMBER := 3;

day\_name VARCHAR2(20);



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BEGIN

day\_name := CASE day\_no

WHEN 1 THEN 'Sunday'

WHEN 2 THEN 'Monday'

WHEN 3 THEN 'Tuesday'

WHEN 4 THEN 'Wednesday'

WHEN 5 THEN 'Thursday'

WHEN 6 THEN 'Friday'

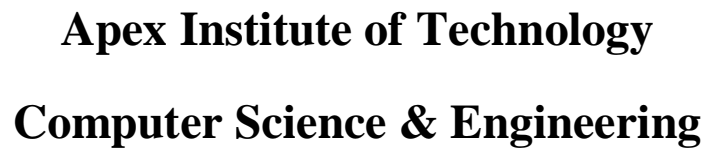
WHEN 7 THEN 'Saturday'

ELSE 'Invalid Day Number'

END;

DBMS\_OUTPUT.PUT\_LINE('Day: ' || day\_name);

END;



## I/O ANALYSIS:

- Integer number
- Student Marks
- Day number (1-7)

- Message indicating positive or non-positive number
- Student grade
- Performance status
- Day name

- Understood conditional control statements in PL/SQL.
- Learned to implement IF-ELSE, IF-ELSIF-ELSE, ELSIF ladder, and CASE statements.
- Gained practical experience executing PL/SQL programs in Oracle Free SQL.



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- Developed logical decision-making skills using conditions.
- Learned to display output using DBMS\_OUTPUT.PUT\_LINE.