Apex Institute of Technology

Computer Science & Engineering

Experiment 4

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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:

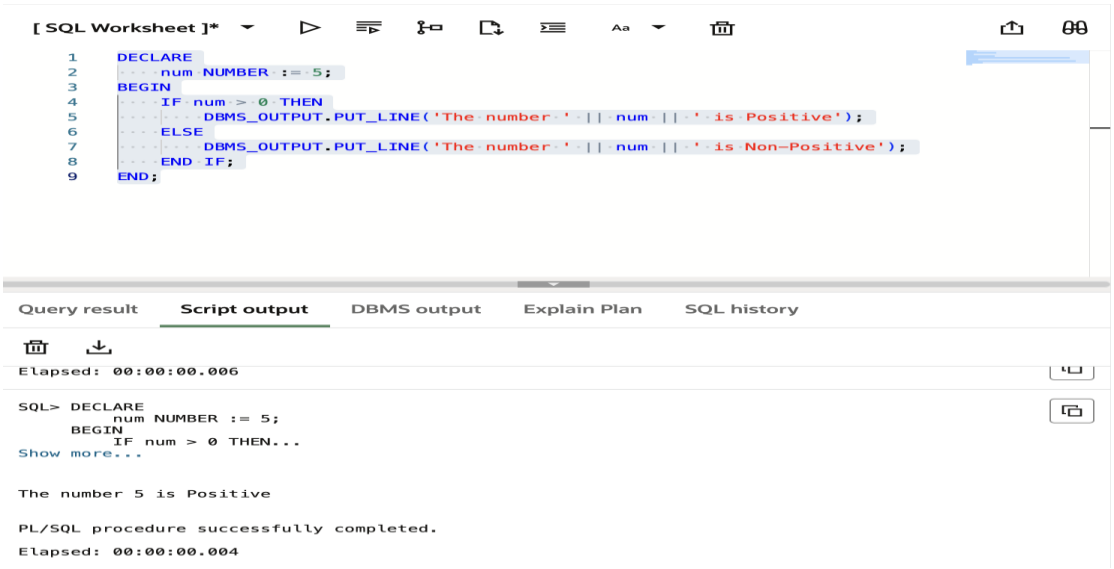
1. Start the system and log in.
2. Open Oracle Free SQL / Oracle Live SQL.
3. Enable output using SET SERVEROUTPUT ON.
4. Write the PL/SQL program in the worksheet.
5. Execute the program.

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

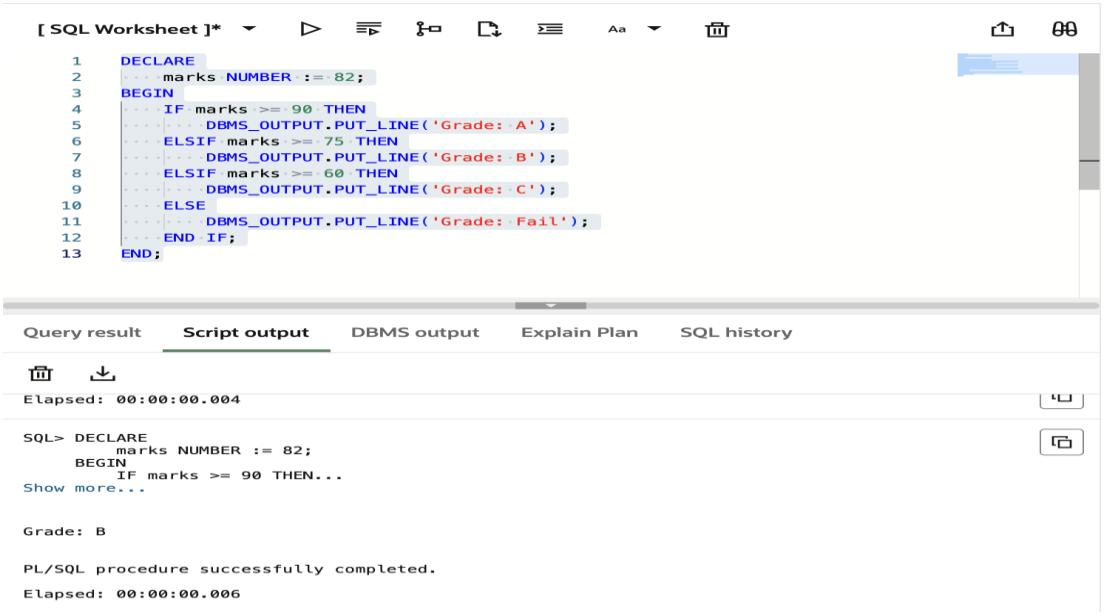
```
DECLARE
   num NUMBER := 5;
BEGIN
   IF num > 0 THEN
      DBMS_OUTPUT.PUT_LINE('The number ' || num || ' is Positive');
   ELSE
      DBMS_OUTPUT.PUT_LINE('The number ' || num || ' is Non-Positive');
   END IF;
END;
```



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
```

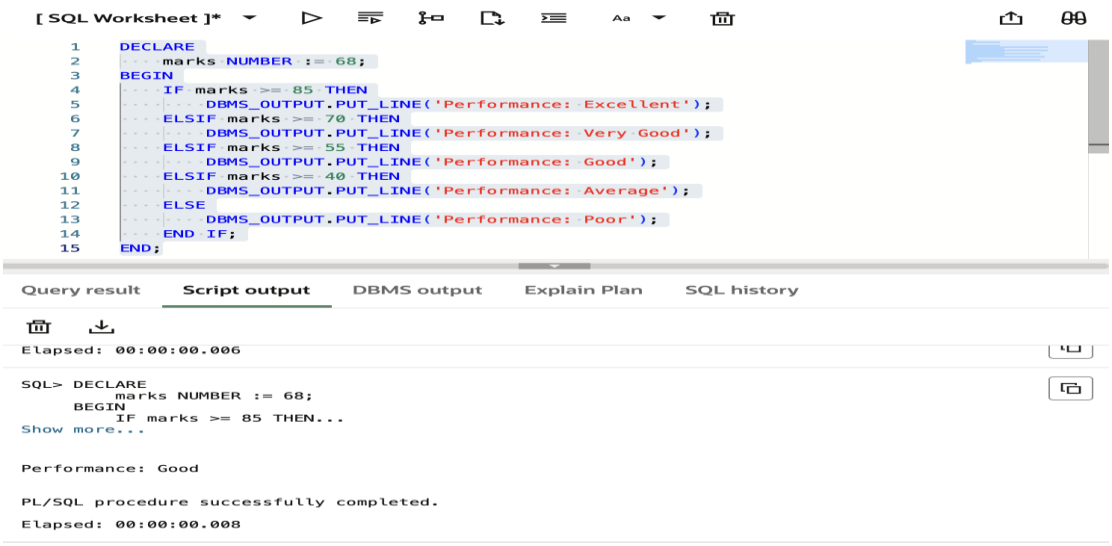
```
    DBMS_OUTPUT.PUT_LINE('Grade: Fail');
  END IF;
END;
```



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');
```

```
    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;
```



5. Program 4: CASE Statement

```
DECLARE
    day_no NUMBER := 3;
    day_name VARCHAR2(20);
```

```
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;
```

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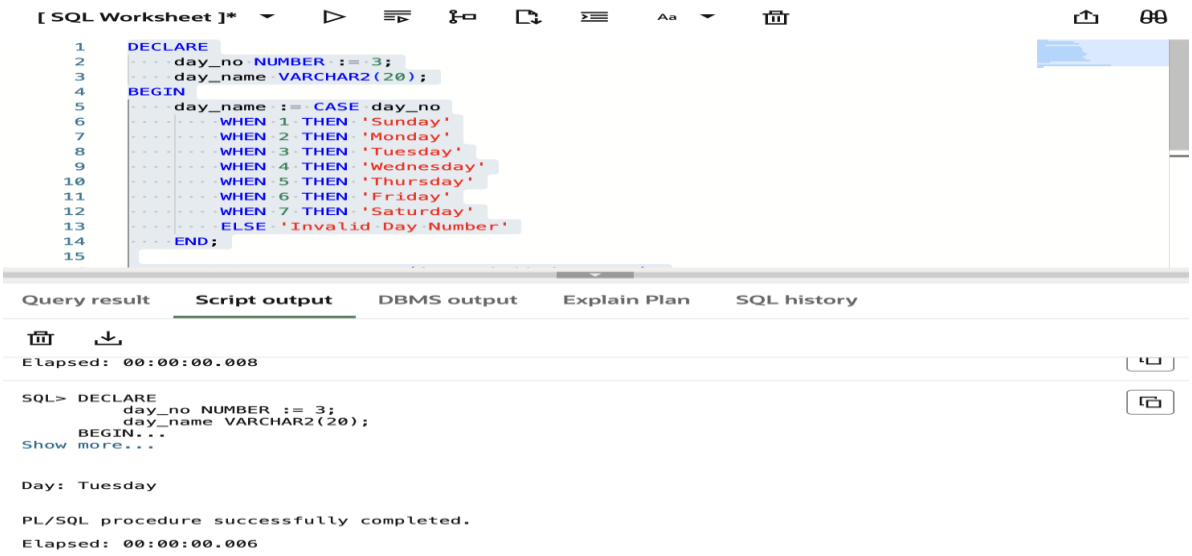

I/O ANALYSIS:

Input:

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

Output:

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

LEARNING OUTCOMES:

- 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.

- Developed logical decision-making skills using conditions.
- Learned to display output using DBMS_OUTPUT.PUT_LINE.