**DBMS Practical No: 5**

**# Write a Named PL/SQL Block for given requirements**

**using PL/SQL Stored Procedure and Stored Function.**

**Step 1: Connect to Oracle Database**

Make sure you have Oracle Database installed and that you can connect to it using a tool like SQL\*Plus.

**Step 2: Create a PL/SQL Stored Procedure**

A PL/SQL stored procedure is a subprogram that performs a specific task. It can have input and output parameters. Let's create a stored procedure that calculates the factorial of a number and prints the result:

**sql**

**-- Create a PL/SQL stored procedure**

**CREATE OR REPLACE PROCEDURE CalculateFactorial(**

**p\_num IN NUMBER,**

**p\_result OUT NUMBER**

**) AS**

**BEGIN**

**-- Check if the number is negative**

**IF p\_num < 0 THEN**

**DBMS\_OUTPUT.PUT\_LINE('Number cannot be negative');**

**ELSE**

**p\_result := 1;**

**-- Calculate the factorial**

**FOR i IN 1..p\_num LOOP**

**p\_result := p\_result \* i;**

**END LOOP;**

**END IF;**

**END CalculateFactorial;**

**/**

**In this code:**

We create a stored procedure named CalculateFactorial with two parameters: p\_num for the input number and p\_result for the output result.

We check if the input number is negative and handle that case.

If the input is valid, we calculate the factorial and store the result in the p\_result output parameter.

**Step 3: Create a PL/SQL Stored Function**

A PL/SQL stored function is a subprogram that returns a single value. Let's create a stored function that calculates the square of a number:

**sql**

**-- Create a PL/SQL stored function**

**CREATE OR REPLACE FUNCTION CalculateSquare(**

**p\_num IN NUMBER**

**) RETURN NUMBER IS**

**v\_result NUMBER;**

**BEGIN**

**v\_result := p\_num \* p\_num;**

**RETURN v\_result;**

**END CalculateSquare;**

**/**

**In this code:**

We create a stored function named CalculateSquare that takes an input parameter p\_num.

The function calculates the square of the input number and returns the result.

**Step 4: Execute the Named PL/SQL Block**

If you're not seeing any output, it's possible that the output is not enabled in your SQL\*Plus environment. To display output from your PL/SQL block, you need to set the server output option to ON. Here's how you can enable server output:

In your SQL\*Plus session, execute the following command to enable server output:

**sql**

**SET SERVEROUTPUT ON;**

This command tells SQL\*Plus to display DBMS\_OUTPUT messages.

After enabling server output, you can re-run your named PL/SQL block:

**sql**

**-- Named PL/SQL block**

**DECLARE**

**input\_num NUMBER := 5; -- Input number for factorial and square calculation**

**factorial\_result NUMBER;**

**square\_result NUMBER;**

**BEGIN**

**-- Call the stored procedure to calculate factorial**

**CalculateFactorial(input\_num, factorial\_result);**

**DBMS\_OUTPUT.PUT\_LINE('Factorial of ' || input\_num || ' is ' || factorial\_result);**

**-- Call the stored function to calculate square**

**square\_result := CalculateSquare(input\_num);**

**DBMS\_OUTPUT.PUT\_LINE('Square of ' || input\_num || ' is ' || square\_result);**

**EXCEPTION**

**WHEN OTHERS THEN**

**DBMS\_OUTPUT.PUT\_LINE('An error occurred: ' || SQLERRM);**

**END;**

**/**

After setting SERVEROUTPUT to ON, you should be able to see the output messages in your SQL\*Plus session.