**DBMS Practical No: 4**

**# Write a Unnamed PL/SQL code block for given**

**requirements (use of Control structure and Exception**

**handling is mandatory)**

**Step 1: Install Oracle Database (if not already installed)**

You need to have Oracle Database installed on your system. You can download it from the official Oracle website: https://www.oracle.com/database/technologies/

Follow the installation instructions for your specific platform.

**Step 2: Connect to Oracle Database**

You can use SQL\*Plus, a command-line tool that comes with Oracle Database, to connect to the database. Open a terminal and run the following command to connect as a user (replace username and password with your actual Oracle Database credentials):

**bash**

**sqlplus username/password@localhost:1521/XE**

**Step 3: Write PL/SQL Code**

Now, you can write an anonymous PL/SQL code block. Let's create a simple example that calculates the factorial of a number and handles exceptions:

**sql**

**-- Anonymous PL/SQL code block**

**DECLARE**

**num NUMBER := 5; -- Replace with the number for which you want to calculate the factorial**

**result NUMBER := 1;**

**BEGIN**

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

**IF num < 0 THEN**

**RAISE\_APPLICATION\_ERROR(-20001, 'Number cannot be negative');**

**END IF;**

**-- Calculate the factorial**

**FOR i IN 1..num LOOP**

**result := result \* i;**

**END LOOP;**

**-- Print the result**

**DBMS\_OUTPUT.PUT\_LINE('Factorial of ' || num || ' is ' || result);**

**EXCEPTION**

**WHEN OTHERS THEN**

**-- Handle exceptions**

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

**END;**

**/**

**In this code block:**

We declare a variable num with the number for which we want to calculate the factorial.

We use an IF statement to check if the number is negative and raise a custom exception if it is.

We calculate the factorial using a FOR loop.

We use DBMS\_OUTPUT.PUT\_LINE to print the result.

We include exception handling to catch any errors and display the error message.

**Step 4: Run the PL/SQL Code**

In the SQL\*Plus environment, paste the code into the terminal and press Enter. It will execute the PL/SQL code block and display the result.