Lab 6 – Week 8

(Stored Procedures/Iterative Statements)

Submission

Your submission will be a single text-based SQL file with appropriate header and commenting. Please ensure your file runs when the entire file is executed in SQL Developer.

Create a new Worksheet in SQL Developer. Save the file as L06_ID#_LASTNAME.sql

Your submission needs to be commented and include the question, the solutions.
In this Lab, you create PL/SQL stored procedures to perform the following tasks. As you know, a stored procedure does not return any value. To send values back to the caller, you can use OUT parameters.

A parameter can be

- IN parameter
- OUT parameter
- IN OUT parameter

See the following template:

```
CREATE OR REPLACE procedure_name(arg1 IN/OUT/IN OUT data_type, ...)
AS

BEGIN

  ....
EXCEPTION

WHEN OTHERS

  THEN

      DBMS_OUTPUT.PUT_LINE (Error!');

END procedure_name;
```

For all the stored procedures make sure you handle all exceptions such as

- TOO_MANY_ROWS
- NO_DATA_FOUND
- OTHERS
- . . .

Besides checking all required exceptions, have the OTHER exception checked just in case any error occurs that has not been anticipated at the time you write the code.

Tasks

1. Write a store procedure that gets an integer number *n* and calculates and displays its factorial.

   Example:

   0! = 1
   2! = fact(2) = 2 * 1 = 1
   3! = fact(3) = 3 * 2 * 1 = 6
   . . .
   n! = fact(n) = n * (n-1) * (n-2) * . . . * 1

2. The company wants to calculate the employees' annual salary:
   The first year of employment, the amount of salary is the base salary which is $10,000.
   Every year after that, the salary increases by 5%.
   Write a stored procedure named *calculate_salary* which gets an employee ID and for that employee calculates the salary based on the number of years the employee has been working in the company. (Use a loop construct to calculate the salary).
   The procedure calculates and prints the salary.
   Sample output:
   First Name: first_name
   Last Name: last_name
   Salary: $9999,99
   If the employee does not exists, the procedure displays a proper message.

3. Write a stored procedure named warehouses_report to print the warehouse ID, warehouse name, and the city where the warehouse is located in the following format for all warehouses:

   Warehouse ID:
   Warehouse name:
   City:
   State:

   If the value of state does not exist (null), display "no state".
   The value of warehouse ID ranges from 1 to 9.
   You can use a loop to find and display the information of each warehouse inside the loop.
   (Use a loop construct to answer this question. Do not use cursors.)

Example Submission

```
-- ************************
-- Name: Your Name
-- ID: #########
-- Date: The current date
-- Purpose: Lab 6 DBS311
-- ************************

-- Question 1 – write a brief note about what the
question is asking
-- Q1 SOLUTION –

    CREATE OR REPLACE procedure_name(arg1 data_type, ...) AS

    BEGIN

      ....

    EXCEPTION

    WHEN OTHERS

      THEN

          DBMS_OUTPUT.PUT_LINE (Error!');

    END procedure_name;

    -- Question 2 –

-- Q2 Solution –
```