# 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

1. 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.

1. 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 5 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 –