# **BTD310- Lab 9**

Please work in **groups** to complete this lab. This lab is worth 2.5% of the total course grade and will be evaluated through your written submission, as well as the lab demo. During the lab demo, group members are randomly selected to present the answers to each of the lab questions. Group members not present during the lab demo will lose the demo mark.

Please submit the following files through Blackboard. Only one person must submit for the team.

* Lab9.sql must include a script including all the SQL commands for the following. Please write them in the specified order.
* Lab9.txt must be the output of the above script. Use the save button on top of the script results.

1. Create a new SQL worksheet in SQL Developer, save as **Lab9.sql**. Use these two lines at the beginning of your script:

SET SERVEROUTPUT ON

SET VERIFY OFF

1. Use %ROWTYPE to declare a record matching the columns of the *departments* table. In the executable block, read the data from the departments table into the above record, for a given department ID. Ask the user to enter a department ID.

Then display the information. For example, if department ID 10 is entered, the output will be:

PL/SQL procedure successfully completed.

10- Administration- location: 1700

1. Define a record, named *my\_record*, with 3 fields:

* A scalar, named *manager*- use %TYPE to set the same type as employee’s last name column
* A scalar, named *city*- use %TYPE to set the same type as location’s city column
* A record, named dep\_rec- use %ROWTYPE to match the columns of departments table

Declare a variable of my\_record type. Then change the code in question 1 to read into this variable, the manager’s last name, the city the department is in, the department’s ID and the department’s name. Hint: Use joins.

For example, if department ID 10 is entered, the output will be:

PL/SQL procedure successfully completed.

10- Administration- location: Seattle- managed by Whalen

1. Declare an INDEX BY table of type locations.city. Use a loop to read the cities of locations 2000 to 3000 into a variable of above INDEX BY table type. Use location ID values as keys (for example, Beijing will be saved at index 2000).

Use a second loop to display the values in the table. Use FIRST, LAST, and NEXT methods.

PL/SQL procedure successfully completed.

2000- Beijing

2100- Bombay

2200- Sydney

2300- Singapore

2400- London

2500- Oxford

2600- Stretford

2700- Munich

2800- Sao Paulo

2900- Geneva

3000- Bern

1. Modify the code in Question 3: Declare an INDEX BY table that can hold an entire row from the locations table. This time, use the first loop to read locations 2000 up to 3000 into consecutive indices of the table starting from index 0 (for example, the details of the Beijing location will be saved at index 0).

Then use a FOR loop and the COUNT method to produce the following output. Note there are no ‘comma’s if the state or province is null.

PL/SQL procedure successfully completed.

2000- Beijing

2100- Bombay, Maharashtra

2200- Sydney, New South Wales

2300- Singapore

2400- London

2500- Oxford, Oxford

2600- Stretford, Manchester

2700- Munich, Bavaria

2800- Sao Paulo, Sao Paulo

2900- Geneva, Geneve

3000- Bern, BE

1. Add a comment before each answer to specify the question number. For example,

-- Question 3

1. Use SQL Developer to format your script.
2. Clear the script output. Then run your script (F5). Save the output as **Lab8.txt**.
3. Add this declaration on the top of your Lab8.txt file.

We, ------------(mention your names), declare that the attached assignment is our own work in accordance with the Seneca Academic Policy. No part of this assignment has been copied manually or electronically from any other source (including web sites) **or distributed to other students.**

1. Also, on top of Lab8.txt, specify what each member has done towards the completion of this work:

Name Task(s)

1-

2-

3-