# **BTD310- Lab 2**

Please work in **groups** to complete this lab. This lab is worth 2% 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.

* Lab 2.sql must include a script including all the SQL commands for the following. Please write them in the specified order.
* Lab2.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 **Lab2.sql**, and write SQL statements to do the following:
   1. What is the data type for the phone number attribute of employees? What is the longest phone number that can be saved? How much memory does an empty phone number field occupy? Use SQL commands and results to support your answer.
      1. The data type for a phone number attribute would be varChar(20) to include north american numbers with extensions. The phone number can go as long as 20 characters. An empty phone number field would be NULL and not occupy any space. As shown, phone\_number has varchar(20) using this command.
      2. DESCRIBE EMPLOYEES;

Name Null? Type   
-------------- -------- ------------   
EMPLOYEE\_ID NOT NULL NUMBER(6)   
FIRST\_NAME VARCHAR2(20)   
LAST\_NAME NOT NULL VARCHAR2(25)   
EMAIL NOT NULL VARCHAR2(25)   
PHONE\_NUMBER VARCHAR2(20)   
HIRE\_DATE NOT NULL DATE   
JOB\_ID NOT NULL VARCHAR2(10)   
SALARY NUMBER(8,2)   
COMMISSION\_PCT NUMBER(2,2)   
MANAGER\_ID NUMBER(6)   
DEPARTMENT\_ID NUMBER(4)

* 1. List the phone numbers of all employees sorted in ascending order. Do not repeat the column name in the ORDER BY phrase.
     1. SELECT PHONE\_NUMBER   
        FROM EMPLOYEES  
        ORDER BY PHONE\_NUMBER;
     2. PHONE\_NUMBER   
        --------------------  
        011.44.1344.429018  
        011.44.1644.429263  
        011.44.1644.429265  
        011.44.1644.429267  
        515.123.4444  
        515.123.4567  
        515.123.4568  
        515.123.4569  
        515.123.5555  
        515.123.8080  
        515.123.8181  
        590.423.4567  
        590.423.4568  
        590.423.5567  
        603.123.6666  
        650.121.2004  
        650.121.2874  
        650.121.2994  
        650.121.8009  
        650.123.5234  
          
        20 rows selected.
  2. List the department number, name and manager ID for all departments **exactly** as shown:
     1. DESCRIBE DEPARTMENT\_ID "DEPARTMENT NUMBER", JOB\_ID "DEPARTMENT NAME", MANAGER\_ID "MANAGER ID" WHERE MANAGER\_ID LIKE "%1";

Departments and managers

-------------------------------------------------------------------

[10] Administration: Manager's ID --> [200]

[20] Marketing: Manager's ID --> [201]

[50] Shipping: Manager's ID --> [124]

[60] IT: Manager's ID --> [103]

[80] Sales: Manager's ID --> [149]

[90] Executive: Manager's ID --> [100]

[110] Accounting: Manager's ID --> [205]

[190] Contracting: Manager's ID --> []

8 rows selected

* 1. Define two substitution variables named FIRST and LAST and set their values to *King* and *Taylor*. Write a statement that lists employees (all fields) whose last name is alphabetically between FIRST and LAST. Remove the variable when done
     1. DEFINE FIRST = 'King'  
        DEFINE LAST = 'Taylor'

SELECT FIRST\_NAME, LAST\_NAME FROM EMPLOYEES  
WHERE FIRST\_NAME = '&FIRST' AND LAST\_NAME = '&LAST';

UNDEFINE FIRST  
UNDEFINE LAST

* 1. Similar to the previous question, list employees that where hired between Jan 1, 1990 and Dec. 31, 1999. Sort the list so the employees who have been around longer, show up at the end of the list.
     1. SELECT EMPLOYEE\_ID, FIRST\_NAME, LAST\_NAME, HIRE\_DATE   
        FROM EMPLOYEES  
        WHERE HIRE\_DATE BETWEEN '01-JAN-90' AND '31-DEC-99' ORDER BY DESC;

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 **Lab2.txt**.
3. Add this declaration on the top of your Lab2.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 Lab1.txt, specify what each member has done towards the completion of this work:

Name Task(s)

1-

2-

3-

Sources:

<https://www.scribd.com/doc/73101875/SQL-Assignements-1>

<https://blogs.oracle.com/opal/sqlplus-101-substitution-variables>

<https://www.slideshare.net/vijaybusu/sql-queries-with-answers>

<http://www.sqltutorial.org/sql-between/>