PL/SQL_04

1. Create a PL/SQL block that selects the maximum department ID in the departments table and stores it in the v_max_deptno variable. Display the maximum department ID.

   a) Declare a variable**, v_max_deptno**, of type NUMBER in the declarative.

   b) Start the executable section with the BEGIN keyword and include a SELECT statement to retrieve the maximum **department_id** from the **departments** table.

   c) Display **v_max_deptno** and end the executable block.

   d) Execute and save your script as lab_04_01_soln.sql. Sample output is as follows:

```
270

PL/SQL procedure successfully completed.
```

2. Modify the PL/SQL block you created in step 1 to insert a new department in the departments table.

   a) Load the lab_04_01_soln.sql script. Declare two variables:
   v_dept_name of type departments.department_name.
   v_dept_id of type NUMBER.
   Assign "Education" to **v_dept_name** in the declarative section.

   b) You have already retrieved the current maximum department ID from the departments table. Add 10 to it and assign the result to **v_dept_id**.

   c) Include an INSERT statement to insert data into the department_name, department_id, and location_id columns of the departments table.
   Use values **in v_dept_name** and **v_dept_id** for department_name and department_id, respectively, and use NULL for location_id.

   d) Use the SQL attribute SQL%ROWCOUNT to display the number of rows that are affected.

   e) Execute a SELECT statement to check whether the new department is inserted. You can terminate the PL/SQL block with "/" and include the SELECT statement in your script.

   f) Execute and save your script as lab_04_02_soln.sql. Sample output is as follows:

```
The maximum department_id is: 270
sql%rowcount gives 1

PL/SQL procedure successfully completed.

DEPARTMENT_ID    DEPARTMENT_NAME     MANAGER_ID      LOCATION_ID
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              280    Education
```

3. In step 2, you set location_id to NULL. Create a PL/SQL block that updates the location_id to 3000 for the new department. Use the local variable v_dept_id to update the row.

   Note: Skip step (a) if you have not started a new session for this practice.

   a) If you have started a new session, delete the department that you have added to the departments table and execute the lab_04_02_soln.sql script.
   b) Start the executable block with the BEGIN keyword. Include the UPDATE statement to set the **location_id** to 3000 for the new department (v_dept_id = 280).
   c) End the executable block with the END keyword. Terminate the PL/SQL block with "/" and include a SELECT statement to display the department that you updated.
   d) Finally, include a DELETE statement to delete the department that you added.
   e) Execute and save your script as lab_04_03_soln.sql. Sample output is as follows:

```
PL/SQL procedure successfully completed.


DEPARTMENT_ID DEPARTMENT_NAME                    MANAGER_ID LOCATION_ID
------------- ------------------------------ ---------- -----------
          280 Education                                        3000


1 row deleted.
```