**Practice 4**

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 section.

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:

* + 1. Modify the PL/SQL block you created in exercise 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:





3. In exercise 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 bind variable 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 (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.

* + - 1. Execute and save your script as lab\_04\_03\_soln.sql. Sample output is as follows:

anonymous block completed

1. DEPARTMENT\_ID DEPARTMENT\_NAME MANAGER\_ID LOCATION\_ID

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280 Education 3000

1 rows selected

1 rows deleted

ANSWERS

V\_EMP\_SAL NUMBER(10);

BEGIN

SELECT FIRST\_NAME,SALARY INTO V\_FNAME,V\_EMP\_SAL FROM EMPLOYEES WHERE EMPLOYEE\_ID=110;

:B\_PF\_PERCENT:=(V\_EMP\_SAL\*0.45)\*0.12;

DBMS\_OUTPUT.PUT\_LINE('SALARY:'||' '||V\_EMP\_SAL);

DBMS\_OUTPUT.PUT\_LINE('PF:'||' '||:B\_PF\_PERCENT);

DBMS\_OUTPUT.PUT\_LINE('HELLO' || V\_FNAME);

--DBMS\_OUTPUT.PUT\_LINE(V\_TODAY);

V\_TOMORROW:=V\_TODAY+1;

--DBMS\_OUTPUT.PUT\_LINE(V\_TOMORROW);

/\*:B\_BASIC\_PERCENT:=45;

:B\_PF\_PERCENT:=12;\*/

END;

ANSWERS

1) SET SERVEROUTPUT ON

DECLARE

V\_MAX\_DEPTNO NUMBER;

BEGIN

SELECT MAX(DEPARTMENT\_ID) INTO V\_MAX\_DEPTNO FROM DEPARTMENTS;

DBMS\_OUTPUT.PUT\_LINE(V\_MAX\_DEPTNO);

END;

2) SET SERVEROUTPUT ON

DECLARE

V\_MAX\_DEPTNO NUMBER;

V\_DEPT\_NAME DEPARTMENTS.DEPARTMENT\_NAME%TYPE:='EDUCATION';

V\_DEPT\_ID NUMBER;

BEGIN

SELECT MAX(DEPARTMENT\_ID) INTO V\_MAX\_DEPTNO FROM DEPARTMENTS;

DBMS\_OUTPUT.PUT\_LINE(V\_MAX\_DEPTNO);

V\_DEPT\_ID:=V\_MAX\_DEPTNO+10;

INSERT INTO DEPARTMENTS(DEPARTMENT\_ID,DEPARTMENT\_NAME,LOCATION\_ID) VALUES(V\_DEPT\_ID,V\_DEPT\_NAME,NULL);

DBMS\_OUTPUT.PUT\_LINE('ROWS AFFECTED:'SQL%ROWCOUNT);

END;

3) SET SERVEROUTPUT ON

DECLARE

V\_MAX\_DEPTNO NUMBER;

BEGIN

SELECT MAX(DEPARTMENT\_ID) INTO V\_MAX\_DEPTNO FROM DEPARTMENTS;

UPDATE DEPARTMENTS SET LOCATION\_ID=3000 WHERE DEPARTMENT\_ID=V\_MAX\_DEPTNO;

END;

/

SELECT \* FROM DEPARTMENTS;

DELETE FROM DEPARTMENTS WHERE DEPARTMENT\_NAME='EDUCATION';