

Retrieving Data in PL/SQL

Terminology

No new vocabulary for this lesson

Try It/Solve It

1. State whether each of the following SQL statements can be included directly in a PL/SQL block.

Statement	Valid in PL/SQL	Not Valid in PL/SQL
ALTER USER SET password='oracle';		
CREATE TABLE test (a NUMBER);		
DROP TABLE test;		
SELECT emp_id INTO v_id FROM employees;		
GRANT SELECT ON employees TO PUBLIC;		
INSERT INTO grocery_items (product_id, brand, description) VALUES (199,'Coke','Soda');		
REVOKE UPDATE ON employees FROM PUBLIC;		
ALTER TABLE employees RENAME COLUMN employee_id TO emp_id;		
DELETE FROM grocery_items WHERE description='Soap';		

2. 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 the same datatype as the department_id column.
 - B. Start the executable section with the keyword BEGIN and include a SELECT statement to retrieve the highest department_id from the departments table.
 - C. Display the variable v_max_deptno and end the executable block.
 - D. Execute your block.

3. The following code is supposed to display the lowest and highest elevations for a country name entered by the user. However, the code does not work. Fix the code by following the guidelines for retrieving data that you learned in this lesson.

```
DECLARE
  v_country_name    wf_countries.country_name%TYPE
                  := 'United States of America';
  v_lowest_elevation wf_countries.lowest_elevation%TYPE;
  v_highest_elevation wf_countries.highest_elevation%TYPE;
BEGIN
  SELECT lowest_elevation, highest_elevation
    FROM wf_countries;
  DBMS_OUTPUT.PUT_LINE('The lowest elevation in
    ||v_country_name|| is '||v_lowest_elevation
    ||' and the highest elevation is '||
    v_highest_elevation||'.');
END;
```

4. Enter and run the following anonymous block, observing that it executes successfully.

```
DECLARE
  v_emp_lname  employees.last_name%TYPE;
  v_emp_salary employees.salary%TYPE;
BEGIN
  SELECT last_name, salary INTO v_emp_lname, v_emp_salary
    FROM employees
    WHERE job_id = 'AD_PRES';
  DBMS_OUTPUT.PUT_LINE(v_emp_lname||' '||v_emp_salary);
END;
```

- A. Now modify the block to use 'IT_PROG' instead of 'AD_PRES' and re-run it. Why does it fail this time?
- B. Now modify the block to use 'IT_PRAG' instead of 'IT_PROG' and re-run it. Why does it still fail?

5. Use the following code to answer this question:

```
DECLARE
  last_name VARCHAR2(25) := 'Fay';
BEGIN
  UPDATE emp_dup SET first_name = 'Jennifer'
  WHERE last_name = last_name;
END;
```

What do you think would happen if you ran the above code? Write your answer here and then follow the steps below to test your theory.

- A. Create a table called emp_dup that is a duplicate of employees.
- B. Select the first_name and last_name values for all rows in emp_dup.
- C. Run the above anonymous PLSQL block.
- D. Select the first_name and last_name columns from emp_dup again to confirm your theory.
- E. Now we are going to correct the code so that it changes only the first name for the employee whose last name is “Chen”. Drop emp_dup and re-create it.
- F. Modify the code so that for the employee whose last_name=’Fay’, the first_name is updated to Jennifer. Run your modified block.
- G. Confirm that your update statement worked correctly.

Extension Activity

- 1. Is it possible to name a column in a table the same name as the table? Create a table to test this question. Don't forget to populate the table with data.
- 2. Is it possible to have a column, table, and variable, all with the same name? Using the table you created in the question above, write a PL/SQL block to test your theory.