

Database Programming with PL/SQL

2-6: Nested Blocks and Variable Scope

Practice Activities

Vocabulary

Identify the vocabulary word for each definition below.

| | |
|----------------------------|---|
| Block Label | A name given to a block of code which allows access to the variables that have scope, but are not visible. |
| Variable Scope | Consists of all the blocks in which the variable is either local (the declaring block) or global (nested blocks within the declaring block) . |
| Variable Visibility | The portion of the program where the variable can be accessed without using a qualifier. |

Try It / Solve It

1. Evaluate the PL/SQL block below and determine the value of each of the following variables according to the rules of scoping.

```
DECLARE
  weight  NUMBER(3) := 600;
  message VARCHAR2(255) := 'Product 10012';
BEGIN
```

```
  DECLARE  weight  NUMBER(3) := 1;
  message  VARCHAR2(255) := 'Product 11001';
  new_locn VARCHAR2(50) := 'Europe';
  BEGIN
    weight := weight + 1;  new_locn
    := 'Western ' || new_locn;
    -- Position 1 --
```

END;

```
weight := weight + 1; message :=
message || ' is in stock'; -- Position
2 --
END;
```

A. The value of weight at position 1 is:

2

B. The value of new_locn at position 1 is:

Western Europe

C. The value of weight at position 2 is:

601

D. The value of message at position 2 is:

Product 10012 is in stock

E. The value of new_locn at position 2 is:

Esa variable no está declarada de manera global.

2. Enter and run the following PL/SQL block, which contains a nested block. Look at the output and answer the questions.

```
DECLARE
  v_employee_id      employees.employee_id%TYPE;
  v_job              employees.job_id%TYPE;
BEGIN
  SELECT employee_id, job_id INTO v_employee_id, v_job
    FROM employees
   WHERE employee_id = 100;

  DECLARE
    v_employee_id      employees.employee_id%TYPE;
    v_job              employees.job_id%TYPE;
  BEGIN
    SELECT employee_id, job_id INTO v_employee_id, v_job
      FROM employees
     WHERE employee_id = 103;
    DBMS_OUTPUT.PUT_LINE(v_employee_id || ' is a(n) ' || v_job);
  END;
```

```
DBMS_OUTPUT.PUT_LINE(v_employee_id || ' is a(n) ' || v_job); END;
```

A. Why does the inner block display the job_id of employee 103, not employee 100?

Porque se tiene una condición en el bloque interno la cual se busca un empleado con id 103.

B. Why does the outer block display the job_id of employee 100, not employee 103?

Porque se tiene una condición en el bloque externo el cual busca un empleado con el id 103.

C. Modify the code to display the details of employee 100 in the inner block. Use block labels.

<<Bloque 1>>

DECLARE

v_employee_id employees.employee_id%TYPE;

v_job employees.job_id%TYPE;

BEGIN

SELECT employee_id, job_id INTO v_employee_id, v_job

FROM employees

WHERE employee_id = 100;

DECLARE

v_employee_id employees.employee_id%TYPE;

v_job employees.job_id%TYPE;

BEGIN

SELECT employee_id, job_id INTO v_employee_id, v_job FROM employees

WHERE employee_id = 103;

DBMS_OUTPUT.PUT_LINE(bloque1.v_employee_id || ' is a(n) ' || bloque1.v_job);

END;