Nama   : Afina Putri Dayanti
NIM   : 825200049
Jurusan   : Sistem Informasi
Mata Kuliah   : Database Design and Management (Praktikum)

Vocabulary

Identify the vocabulary word for each definition below:

Qualifying an Identifier	A name given to a block of code which allows access to the variables that have scope, but are not visible.
Variables 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 followingvariables 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:
   Answer : 2

B. The value of new_locn at position 1 is:
   Answer : Western Europe

C. The value of weight at position 2 is:
   Answer : 601

D. The value of message at position 2 is:
   Answer : Product 10012 is in stock

E. The value of new_locn at position 2 is:
   Answer : Error, because new_locn is local variable

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?
   Answer : Because of the inner block has more hierarchy than the outer block

B. Why does the outer block display the job_id of employee 100, not employee 103?
   Answer : Because of the inner block cannot be taken by the outer block

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

```
<<outer_block>>
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;
 <<inner_block>>
 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(outer_block.v_employee_id || ' is a(n) ' || outer_block.v_job);
 END;
 DBMS_OUTPUT.PUT_LINE(v_employee_id || ' is a(n) ' || v_job);
END;
```