Database Programming with PL/SQL
2-1: Using Variables in PL/SQL
Practice Activities

Vocabulary

Identify the vocabulary word for each definition below:

Variable	Used for storage of data and manipulation of stored values.
Parameter	Values passed to a program by a user or by another program to customize the program.

Try It / Solve It

1. Fill in the blanks.

   A. Variables can be assigned to the output of a Function.

   B. Variables can be assigned values in the Declare section of a PL/SQL block.

   C. Variables can be passed as Parameters to subprograms.

2. Identify valid and invalid variable declaration and initialization:

```
number_of_copies    PLS_INTEGER;
printer_name        CONSTANT VARCHAR2(10);
deliver_to          VARCHAR2(10) := Johnson;
by_when             DATE := SYSDATE+1;
```

3. Examine the following anonymous block and choose the appropriate statement.

```
DECLARE
  fname VARCHAR2(25);
  lname VARCHAR2(25) DEFAULT 'fernandez';
BEGIN
  DBMS_OUTPUT.PUT_LINE(fname || ' ' || lname);
END;
```

A. The block will execute successfully and print ‘ fernandez’.

B. The block will give an error because the fname variable is used without initializing.

C. The block will execute successfully and print ‘null fernandez’.

D. The block will give an error because you cannot use the DEFAULT keyword to initialize a variable of the VARCHAR2 type.

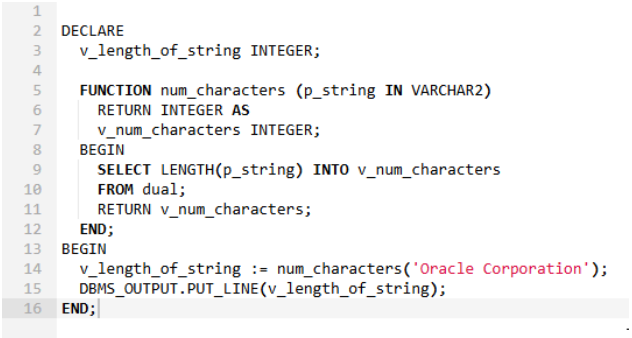
E. The block will give an error because the FNAME variable is not declared.

4. In Application Express:

A. Create the following function:

```
CREATE FUNCTION num_characters (p_string IN VARCHAR2)
RETURN INTEGER AS
  v_num_characters INTEGER;
BEGIN
  SELECT LENGTH(p_string) INTO v_num_characters
    FROM dual;
  RETURN v_num_characters;
END;
```

B. Create and execute the following anonymous block:



```
DECLARE
  v_length_of_string INTEGER;

  FUNCTION num_characters (p_string IN VARCHAR2)
    RETURN INTEGER AS
    v_num_characters INTEGER;
  BEGIN
    SELECT LENGTH(p_string) INTO v_num_characters
    FROM dual;
    RETURN v_num_characters;
  END;
BEGIN
  v_length_of_string := num_characters('Oracle Corporation');
  DBMS_OUTPUT.PUT_LINE(v_length_of_string);
END;
```

5. Write an anonymous block that uses a country name as input and prints the highest and lowest elevations for that country. Use the COUNTRIES table. Execute your block three times using United States of America, French Republic, and Japan.