Database Programming with PL/SQL

2-1: Using Variables in PL/SQL

Practice Activities

Vocabulary
Identify the vocabulary word for each definition below:

Variables	Used for storage of data and manipulation of stored values.
Parametros	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 _____**PL/SQL SUBPROGRAM**_____.

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

   C. Variables can be passed as _____**Parametros**_____ to subprograms.

2. Identify valid and invalid variable declaration and initialization:

   number_of_copies PLS_INTEGER;

   printer_name CONSTANT VARCHAR2(10); **No se asigna valor a la constante**

   deliver_to VARCHAR2(10) := Johnson;

   by_when DATE := SYSDATE+1; **No se puede sumar +1 a una fecha**

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;
```

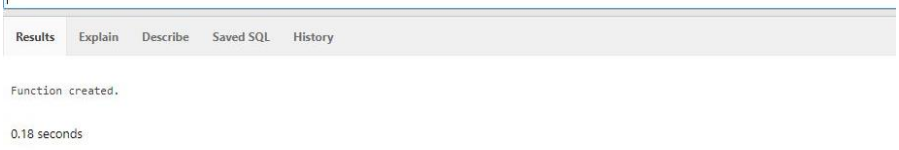
A. **The block will execute successfully and print ‘ fernandez’.**
B. The block will give an error because the fname variable is used without initializing.
C. The block will execute successfully and print ‘null fernandez’.
D. The block will give an error because you cannot use the DEFAULT keyword to 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;
```

```
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;
```




```
Function created.

0.18 seconds
```

select num_characters (Jorge meza) from dual;

B. Create and execute the following anonymous block:

```
DECLARE
  v_length_of_string INTEGER;
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.

```
DECLARE
v_pais VARCHAR2(25) := 'United States of America';
BEGIN
  DBMS_OUTPUT.PUT_LINE(v_pais);
  DBMS_OUTPUT.PUT_LINE('LOWEST_ELEVATION -86');
  DBMS_OUTPUT.PUT_LINE('HIGHEST_ELEVATION 6194');
END;

DECLARE
v_pais VARCHAR2(25) := 'French Republic';
BEGIN
  DBMS_OUTPUT.PUT_LINE(v_pais);
  DBMS_OUTPUT.PUT_LINE('LOWEST_ELEVATION -2');
  DBMS_OUTPUT.PUT_LINE('HIGHEST_ELEVATION 4807');
END;
```

```
DECLARE
v_pais VARCHAR2(25) := 'Japan';
BEGIN
  DBMS_OUTPUT.PUT_LINE(v_pais);
  DBMS_OUTPUT.PUT_LINE('LOWEST_ELEVATION -4');
  DBMS_OUTPUT.PUT_LINE('HIGHEST_ELEVATION 3776');
END;
```