16-04-2020 Computer science 2nd year

Subject = 'DBMS'

Variable declaration in PL/SQL

PL/SQL variable must be declared in declaration section or in a package as global variable. When you declare a Var PL/SQL allocates memory for the Variab Value and the storage location is Identif by the variable name.

Syntax for declaration of variable:

```
Variable-name datatype [NOT NULL := Value ]
```

Where, Variable-name is a valid Identifier PL/SQL, datatype must be a valid PL/S data types or any user defined data type

```
Sales number (10, 2);
Pi CONSTANT double Precision := 3.14 is;
name Varchar 2(25)
address Varchar 2(100)
```

Constants and Literals in PL/SQL

A constant hold a value that once declared, does not change in the in the program. A constant declaration specifies its name, data type, and value and allocates storage for it. The declaration can also Impose the NOT NULL constraints.

Declaring a constant

A constant is declared using the CONSTANT keyword. It requires an Initial Value and does not allow that Value to be changed. for example.

```
PI CONSTANT NUMBER := 3.14159265 4 ;
DECLARE
    -- constant declarations.
    Pi constant number := 3.14159265 4 ;
    -- other declarations.
    radius number (5, 2);
    dia number (5, 2);
    Circumference number (7, 2);
    area number (10, 2);
BEGIN
    -- Processing.
    radius := 9.5;
    dia := radia * 2;
    Circumference := 2.0 * Pi * radius
```

```
area := pi * radius * radius;
-- output
dbms_output.put_line('Radius : ' || radius);
dbms_output.put_line('Diameter : ' || dia);
dbms_output.put_line('Circumference : ' || Circumference);
dbms_output.put_line('Area : ' || area);
END;
/
```

When the above code is executed at the SQL Prompt, it produces the following result

```
radius : 9.5
Diameter : 19
Circumference : 59.69
Area : 283.53
PL/SQL Procedure Successfully completed.
```

The PL/SQL Literals

A literal is an explicit ~~number~~ numeric, character, string, or Boolean value not-represented by an Identifier. for example 786, NULL are all literals of Boolean, number or string. PL/SQL literals are case sensitive. PL/SQL supports the following kind of literals.

⇒ Numeric literals
⇒ character literals
⇒ String literals
⇒ BOOLEAN literals
⇒ Date and time literals.

S.No	literal type & Example
1	**Numeric literals** 050 78-140 + 32767 6.6667 0.0 -12.0 3.14159 +7800.00
2	**Character literals** 'A' '%' '9' 'z' '('
3	**String literals** 'Hello, world!' '19-NOV-12'

4 | **Boolean Literals**

TRUE, FALSE and NULL

5 | **Date and Time literals**

DATE '1978-12-25';

TIMESTAMP '12:01:01';

To embed single quotes within a string literal, place two single quotes next to each other as shown in the following program

```
DECLARE
    message varchar2(30) := 'Hello' world!';
BEGIN
    dbms_output.put_line(message);
END;
/
```

When the above code is executed at the SQL prompt, it produces the following result

'Helloworld!'

PL/SQL procedure successfully completed.

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