

Database Programming with PL/SQL

2-5: Writing PL/SQL Executable Statements

Practice Activities

Vocabulary

Identify the vocabulary word for each definition below:

Explicit conversion	Converts values from one data type to another by using built-in functions.
Implicit conversion	Converts data types dynamically if they are mixed in a statement.

Try It / Solve It

- Examine the following code and then answer the questions.

```
DECLARE
  x VARCHAR2(20);
BEGIN
  x := '123' + '456';
  DBMS_OUTPUT.PUT_LINE(x);
END;
```

- What do you think the output will be when you run the above code? 579
 - Now, run the code. What is the output? 579
 - In your own words, describe what happened when you ran the code. Did any implicit conversions take place? Implicit conversion from VARCHAR to INTEGER
- Write an anonymous PL/SQL block that assigns the program then displays the number of characters in the name.


```
1 DECLARE
2   full_name VARCHAR2(13) := 'Johan Liebert';
3 BEGIN
4   DBMS_OUTPUT.PUT_LINE( LENGTH(full_name) );
5 END;
```
 - Write an anonymous PL/SQL block that uses the date and calculate it in the format of 'Month, dd, yyyy'. Store the date in a DATE variable called my_date and calculate the last day of the month type called v_last_day. Assign the last day of the month to v_last_day.


```
1 DECLARE
2   my_date DATE := SYSDATE;
3   v_last_day DATE := LAST_DAY(my_date);
4 BEGIN
5   dbms_output.put_line(TO_CHAR(my_date, 'Month,dd,yyyy'));
6   dbms_output.put_line(TO_CHAR(v_last_day, 'Month,dd,yyyy'));
7 END;
```
 - Modify the program created in question 3 to add 45 days to today's date and then calculate and display the number of months between the two dates.


```
1 DECLARE
2   my_date DATE := SYSDATE;
3   some_date DATE := my_date + 45;
4 BEGIN
5   dbms_output.put_line(MONTHS_BETWEEN(some_date, SYSDATE));
6 END;
```

5. Examine the following code and then answer the questions.

```
DECLARE
  x NUMBER(6);
BEGIN
  x := 5 + 3 * 2 ;
  DBMS_OUTPUT.PUT_LINE(x);
END;
```

A. What do you think the output will be when you run the above code? 11

B. Now run the code. What is the output? 11

C. In your own words, explain the results. one multiplication and one addition?

6. Examine the following code and then answer the question.

```
DECLARE
  v_number NUMBER;
  v_boolean BOOLEAN;
BEGIN
  v_number := 25;
  v_boolean := NOT(v_number > 30);
END;
```

What value is assigned to v_boolean? TRUE

7. List two drawbacks to relying on implicit data type conversions.

Code that uses implicit conversion is harder to read and understand.
Implicit conversions can be slower.