Practices for Lesson 6: Writing Control Structures

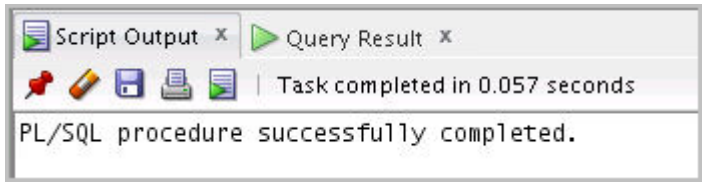
Chapter 6

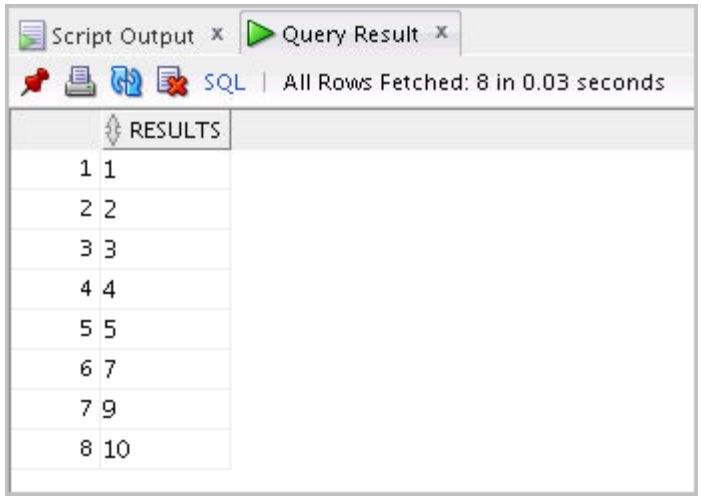
Practice 6: Writing Control Structures

In this practice, you create PL/SQL blocks that incorporate loops and conditional control structures. This practice tests your understanding of various `IF` statements and `LOOP` constructs.

1. Execute the command in the `lab_06_01.sql` file to create the `messages` table. Write a PL/SQL block to insert numbers into the `messages` table.
   a. Insert the numbers 1 through 10, excluding 6 and 8.
   b. Commit before the end of the block.
   c. Execute a `SELECT` statement to verify that your PL/SQL block worked.

Result: You should see the following output:





2. Execute the `lab_06_02.sql` script. This script creates an `emp` table that is a replica of the `employees` table. It alters the `emp` table to add a new column, `stars`, of `VARCHAR2` data type and size 50. Create a PL/SQL block that inserts an asterisk in the `stars` column for every `$1000` of an employee's salary. Save your script as `lab_06_02_soln.sql`.
   a. In the declarative section of the block, declare a variable `v_empno` of type `emp.employee_id` and initialize it to 176. Declare a variable `v_asterisk` of type `emp.stars` and initialize it to `NULL`. Create a variable `v_sal` of type `emp.salary`.
   b. In the executable section, write logic to append an asterisk (`*`) to the string for every $1,000 of the salary. For example, if the employee earns $8,000, the string of asterisks should contain eight asterisks. If the employee earns $12,500, the string of asterisks should contain 13 asterisks (rounded to the nearest whole number).
   c. Update the `stars` column for the employee with the string of asterisks. Commit before the end of the block.

d. Display the row from the `emp` table to verify whether your PL/SQL block has executed successfully.

e. Execute and save your script as `lab_06_02_soln.sql`. The output is as follows: