

## Database Programming with PL/SQL

### 4-2: Conditional Control: Case Statements

### Practice Activities

#### Vocabulary

Identify the vocabulary word for each definition below:

	An expression that selects a result and returns it into a variable.
	Shows the results of all possible combinations of two conditions.
	A block of code that performs actions based on conditional tests.

#### Try It / Solve It

1. Write a PL/SQL block:

- A. To find the number of airports from the countries table for a supplied country\_name. Based on this number, display a customized message as follows:

# Airports	Message
0–100	There are 100 or fewer airports.
101–1,000	There are between 101 and 1,000 airports.
1001–1,0000	There are between 1,001 and 10,000 airports.
> 10,000	There are more than 10,000 airports.
No value in database	The number of airports is not available for this country.

Use a CASE statement to process your comparisons.

You can use the following code to get started:

```
DECLARE
  v_country_name countries.country_name%TYPE := '<country_name>';
  v_airports      countries.airports%TYPE;
BEGIN
  SELECT airports INTO v_airports
    FROM countries
   WHERE country_name = v_country_name;
  CASE
    WHEN ...
    ...
  END CASE;
END;
```

B. Test your code for the following countries and confirm the results.

	No value	< 101	101-1,000	1,001-10,000	> 10,000
Canada				X	
Japan			X		
Malaysia			X		
Mongolia		X			
Navassa Island	X				
Romania		X			
United States of America					X

2. Write a PL/SQL block:

- A. To find the amount of coastline for a supplied country name. Use the countries table. Based on the amount of coastline for the country, display a customized message as follows:

Length of Coastline	Message
0	no coastline
< 1,000	a small coastline
< 10,000	a mid-range coastline
All other values	a large coastline

Use a CASE expression.

Use the following code to get started:

```
DECLARE
  v_country_name      countries.country_name%TYPE := '<country name>';
  v_coastline          countries.coastline %TYPE;
  v_coastline_description VARCHAR2(50);
BEGIN
  SELECT coastline INTO v_coastline
    FROM countries
   WHERE country_name = v_country_name;
  v_coastline_description :=
    CASE
      ...
    END;
  DBMS_OUTPUT.PUT_LINE('Country ' || v_country_name || ' has '
    || v_coastline_description);
END;
```

- B. Test your code for the following countries and confirm the results.

	No coastline	Small coastline	Mid-range coastline	Large coastline
Canada				X
Grenada		X		
Jamaica			X	
Japan				X
Mongolia	X			
Ukraine			X	

3. Use a CASE statement:

A. Write a PL/SQL block to select the number of countries using a supplied currency name. If the number of countries is greater than 20, display “More than 20 countries”. If the number of countries is between 10 and 20, display “Between 10 and 20 countries”. If the number of countries is less than 10, display “Fewer than 10 countries”. Use a CASE statement.

B. Test your code using the following data:

	<b>Fewer than 10 countries</b>	<b>Between 10 and 20 countries</b>	<b>More than 20 countries</b>
US Dollar		X	
Swiss franc	X		
Euro			X

4. Examine the following code.

A. What do you think the output will be? Test your prediction by running the code.

```
DECLARE
  x BOOLEAN := FALSE;
  y BOOLEAN;
  v_color VARCHAR(20) := 'Red';
BEGIN
  IF (x OR y)
    THEN v_color := 'White';
  ELSE
    v_color := 'Black';
  END IF;
  DBMS_OUTPUT.PUT_LINE(v_color);
END;
```

B. Change the declarations to x and y as follows. What do you think the output will be? Test your prediction by running the code again.

```
x BOOLEAN ;
y BOOLEAN ;
```

C. Change the declarations to x and y as follows. What do you think the output will be? Test your prediction by running the code again.

```
x BOOLEAN := TRUE;
y BOOLEAN := TRUE;
```

D. Experiment with changing the OR condition to AND.