

Database Programming with PL/SQL

4-2: Conditional Control: Case Statements

Practice Activities

Vocabulary

Identify the vocabulary word for each definition below:

CASE expression	An expression that selects a result and returns it into a variable.
CASE statement	Shows the results of all possible combinations of two conditions.
Logic tables	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 := 'Republic of Bolivia';

v_airports countries.airports%TYPE;

BEGIN

SELECT airports INTO v_airports

FROM wf_countries

WHERE country_name = v_country_name;

CASE

WHEN v_airports between 0 and 100 THEN

dbms_output.put_line(' There are 100 or fewer airports. ');

WHEN v_airports between 101 and 1000 THEN

dbms_output.put_line('There are between 101 and 1,000 airports.');

WHEN v_airports between 1001 and 10000 THEN

dbms_output.put_line('There are between 1,001 and 10,000 airports.');

WHEN v_airports > 10000 THEN

dbms_output.put_line('There are more than 10,000 airports.');

ELSE

dbms_output.put_line('The number of airports is not available for this country.');

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 := 'Ukraine';
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
    when v_coastline = 0 then 'no coastline'
    when v_coastline < 1000 then 'a small coastline'
    when v_coastline < 10000 then 'a mid-range coastline'
    else      'a large coastline'
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:

	Fewer than 10 countries	Between 10 and 20 countries	More than 20 countries
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;
```

Saldra null porque la variable y aun no tiene un valor definido.

- 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 ;
```

Null, porque aun no se tienen los valores y el resultado sera Black

- 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;
```

El resultado será TRUE e imprimirá White

- D. Experiment with changing the OR condition to AND.

Seguira imprimiendo White