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Vocabulary

Identify the vocabulary word for each definition below:

CASE expressions	An expression that selects a result and returns it into a variable.
Logic Tables	Shows the results of all possible combinations of two conditions.
CASE statement	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 onthis 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:

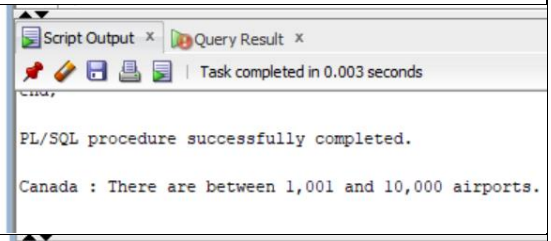
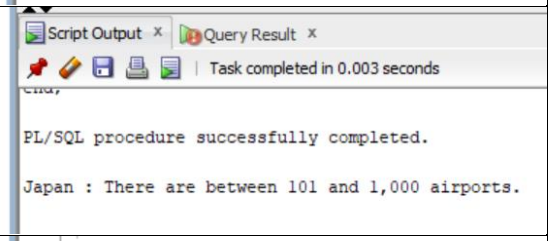
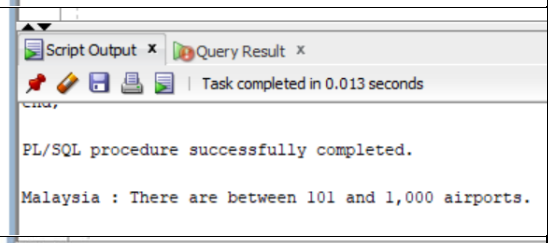
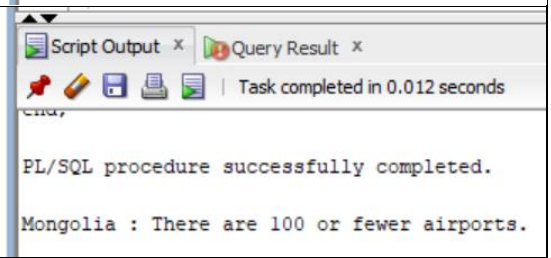
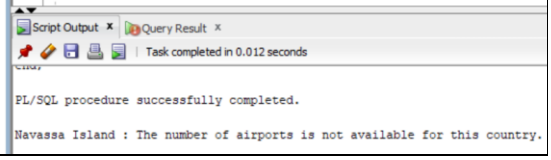
```
DECLARE
  v_country_name      countries.country_name%TYPE := '<country_name>';
  v_airports          countries.airports%TYPE;
BEGIN
  SELECT airports INTO v_airports FROM wf_countries
  WHERE country_name = v_country_name;
  CASE
    WHEN ...
    …
  END CASE;
END;
```

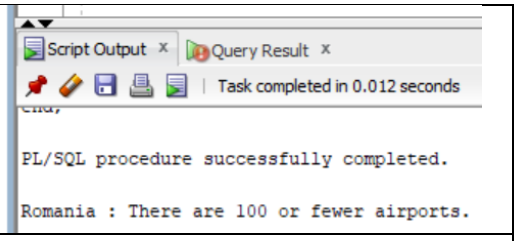
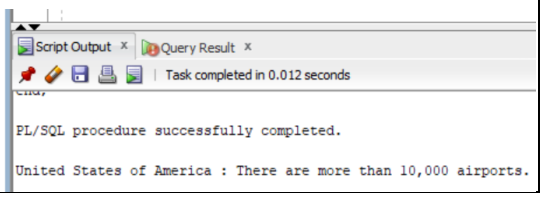
Answer :

```
declare
  v_country_name      wf_countries.country_name%type := '&x' ;
  v_airports           wf_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(v_country_name || ' : There are 100 or fewer airports.');
    when v_airports between 101 and 1000 then
    dbms_output.put_line(v_country_name || ' : There are between 101 and 1,000 airports.');
    when v_airports between 1001 and 10000 then
    dbms_output.put_line(v_country_name || ' : There are between 1,001 and 10,000 airports.');
    when v_airports > 10000 then
    dbms_output.put_line(v_country_name || ' : There are more than 10,000 airports.');
    else
    dbms_output.put_line(v_country_name || ' : 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.
Answer :

	No value	< 101	101-1,000	1,001-10,000	> 10,000	Confirm
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;
```

Answer :

```
declare
  v_country_name        wf_countries.country_name%type :='&x';
  v_coastline           wf_countries.coastline %type;
  v_coastline_description          varchar2(50);
begin
  select coastline into v_coastline from wf_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.

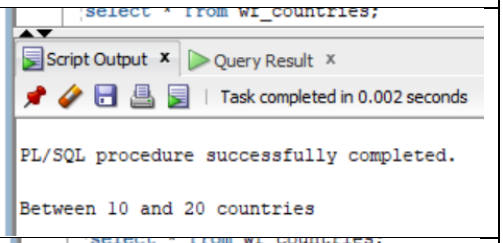
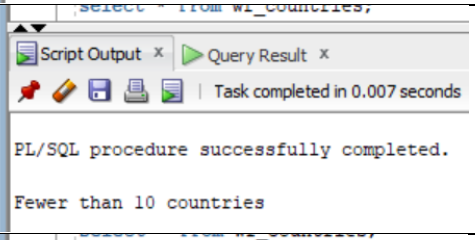
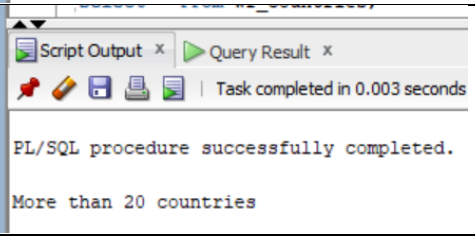
Answer :

	No coastline	Small coastline	Mid-range coastline	Large coastline	Confirm
Canada				X	Script Output | Query Result Task completed in 0.01 seconds PL/SQL procedure successfully completed. Country Canada has a large coastline
Grenada		X			Script Output | Query Result Task completed in 0.01 seconds PL/SQL procedure successfully completed. Country Grenada has a small coastline
Jamaica			X		Script Output | Query Result Task completed in 0.009 seconds PL/SQL procedure successfully completed. Country Jamaica has a mid-range coastline
Japan				X	Script Output | Query Result Task completed in 0.01 seconds PL/SQL procedure successfully completed. Country Japan has a large coastline
Mongolia	X				Script Output | Query Result Task completed in 0.007 seconds PL/SQL procedure successfully completed. Country Mongolia has no coastline
Ukraine			X		Script Output | Query Result Task completed in 0.01 seconds PL/SQL procedure successfully completed. Country Ukraine has a mid-range coastline

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.
   Answer :

```
declare
  v_currency_code       wf_countries.currency_code%type :='&x';
begin
  select count(currency_code) into v_currency_code from wf_countries
  where currency_code = v_currency_code;
   case
    when v_currency_code > 20 then
    dbms_output.put_line('More than 20 countries');
    when v_currency_code between 10 and 20 then
    dbms_output.put_line('Between 10 and 20 countries');
    when v_currency_code < 10 then
    dbms_output.put_line('Fewer than 10 countries');
   end case;
end;
```

   b. Test your code using the following data:
   Answer :

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

Answer : Black

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 ;
   Answer : 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;
   Answer : White

d. Experiment with changing the OR condition to AND.
   Answer : White

Final Code

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