Database Programming with PL/SQL
5-3: Cursor FOR Loops
Practice Activities
Vocabulary

Identify the vocabulary word for each definition below:

	Automates standard cursor-handling operations such as OPEN, FETCH, %NOTFOUND, and CLOSE so that they do not need to be coded explicitly

Try It / Solve It

1. Describe two benefits of using a cursor FOR loop.

2. Modify the following PL/SQL block so that it uses a cursor FOR loop. Keep the explicit cursor declaration in the DECLARE section. Test your changes.

```
DECLARE
    CURSOR countries_cur IS
      SELECT country_name, national_holiday_name, national_holiday_date
        FROM countries
        WHERE region_id = 5;
    countries_rec countries_cur%ROWTYPE;
  BEGIN
   OPEN countries_cur;
   LOOP
     FETCH countries_cur INTO countries_rec;
     EXIT WHEN countries_cur%NOTFOUND;
     DBMS_OUTPUT.PUT_LINE ('Country: ' || countries_rec.country_name
         || ' National holiday: '|| countries_rec.national_holiday_name
         || ', held on: '|| countries_rec.national_holiday_date);
   END LOOP;
   CLOSE countries_cur;
  END;
```

3. Modify your answer to question 2 to declare the cursor using a subquery in the FOR…LOOP statement, rather than in the declaration section. Test your changes again.

4. Using the COUNTRIES table, write a cursor that returns countries with a highest_elevation greater than 8,000 m. For each country, display the country_name, highest_elevation, and climate. Use a cursor FOR loop, declaring the cursor using a subquery in the FOR…LOOP statement.

5. This question uses a join of the SPOKEN_LANGUAGES and COUNTRIES tables with a GROUP BY and HAVING clause.

   Write a PL/SQL block to fetch and display all the countries that have more than six spoken languages. For each such country, display country_name and the number of spoken languages. Use a cursor FOR loop, but declare the cursor explicitly in the DECLARE section. After all the rows have been fetched and displayed, display an extra row showing the total number of countries having more than six languages. (Hint: Declare a variable to hold the value of %ROWCOUNT.)

6. Why did your block in question 4 need to declare the cursor explicitly, instead of declaring it as a subquery in the FOR…LOOP statement?