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Vocabulary

Identify the vocabulary word for each definition below:

WHILE Loops	Repeats a sequence of statements until the controlling condition is no longer TRUE.
FOR Loops	Repeats a sequence of statements until a set number of iterations have been completed.

Try It / Solve It

1. Write a PL/SQL block to display the country_id and country_name values from the COUNTRIES table for country_id whose values range from 51 through 55. Use a WHILE loop. Increment a variable from 51 through 55. Test your variable to see when it reaches 55. EXIT the loop after you have displayed the 5 countries.
   Answer :

```
declare
  v_name       wf_countries.country_name%type;
  v_country_id  wf_countries.country_id%type := 51;
begin
  select country_name, country_id into v_name, v_country_id
  from wf_countries
  where country_id = v_country_id;
  while v_country_id <= 55 loop
    dbms_output.put_line( 'country name : ' || v_name ||' , country id : ' || v_country_id);
    v_country_id := v_country_id + 1;
  end loop;
end;
```

2. Write a PL/SQL block to display the country_id and country_name values from the COUNTRIES table for country_id whose values range from 51 through 55 *in the reverse order*. Use a FOR loop.
   Answer :

```
declare
  v_name       wf_countries.country_name%type;
  v_country_id  wf_countries.country_id%type := 51;
begin
  for i in reverse v_country_id..55 loop
    select country_name, country_id into v_name, v_country_id
    from wf_countries
    where country_id = i;
    dbms_output.put_line('country name : ' || v_name ||' , country id : ' || v_country_id);
  end loop;
end;
```

3. Execute the following statements to build a new_emps table.
   DROP TABLE new_emps;
   CREATE TABLE new_emps AS SELECT * FROM employees;
   ALTER TABLE new_emps ADD stars VARCHAR2(50);
   a. Create a PL/SQL block that inserts an asterisk in the stars column for every whole $1,000 of an employee's salary. For example, if an employee has salary of $7,800, the string "*******" would be inserted, and, if an employee has salary of $3,100, the string "***" would be inserted. Use the following code as a starting point.

```
DECLARE
        v_empno                 new_emps.employee_id%TYPE := <employee_id>;
        v_asterisk              new_emps.stars%TYPE := NULL;
        v_sal_in_thousands      new_emps.salary%TYPE;
BEGIN
        SELECT NVL(TRUNC(salary/1000), 0) INTO v_sal_in_thousands
        FROM new_emps
        WHERE employee_id = v_empno;
        FOR …
        …
        UPDATE new_emps
        SET stars = v_asterisk
        WHERE employee_id = v_empno;
END;
```

   Answer :

```
declare
  v_empno               new_emps.employee_id%type :=&id;
  v_asterisk            new_emps.stars%type := null;
  v_sal_in_thousands    new_emps.salary%type;
begin
  select NVL(TRUNC(salary/1000), 0) into v_sal_in_thousands
  from new_emps
  where employee_id = v_empno;
  dbms_output.put('salary id ' || v_empno || ' : ');
  for i in 1..v_sal_in_thousands loop
    dbms_output.put('*');
  end loop;
  dbms_output.new_line;
  update new_emps
  set stars = v_asterisk
  where employee_id = v_empno;
end;
```

   b. Test your code using employee_ids 124 and 142, then confirm the results.
   Answer :