5-6: Using Multiple Cursors

Try It/Solve It

1.

DECLARE

 CURSOR c_dept IS SELECT department_id, department_name FROM departments

GROUP BY DEPARTMENT_ID,DEPARTMENT_NAME ORDER BY DEPARTMENT_ID;

 CURSOR c_emp (p_dept_id NUMBER) IS SELECT first_name, last_name, salary FROM employees WHERE department_id = p_dept_id;

v_dept_rec c_dept%ROWTYPE;

v_emp_rec c_emp%ROWTYPE;

BEGIN

 OPEN c_dept;

 LOOP

 FETCH c_dept INTO v_dept_rec;

 EXIT WHEN c_dept%NOTFOUND;

 DBMS_OUTPUT.PUT_LINE(v_dept_rec.department_id || ' ' || v_dept_rec.department_name);

DBMS_OUTPUT.PUT_LINE('--------');

 OPEN c_emp (v_dept_rec.department_id);

 LOOP

FETCH c_emp INTO v_emp_rec;

 EXIT WHEN c_emp%NOTFOUND;

 DBMS_OUTPUT.PUT_LINE(v_emp_rec.first_name||' ' ||v_emp_rec.last_name || ' ' || v_emp_rec.salary);

 END LOOP;

 CLOSE c_emp;

DBMS_OUTPUT.PUT_LINE('');

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  END LOOP;

CLOSE c_dept;

END;


2.

DECLARE

 CURSOR c_reg IS SELECT * FROM wf_world_regions WHERE region_name LIKE
'%America%' ORDER BY region_name;

 CURSOR c_country (p_region_id NUMBER) IS SELECT country_name,area,population FROM
wf_countries WHERE region_id=p_region_id ORDER BY country_name;

v_region_rec c_reg%ROWTYPE;

v_country_rec c_country%ROWTYPE;

BEGIN

 OPEN c_reg;

 LOOP

 FETCH c_reg INTO v_region_rec;

 EXIT WHEN c_reg%NOTFOUND;

  DBMS_OUTPUT.PUT_LINE(v_region_rec.region_id || ' ' ||v_region_rec.region_name);

DBMS_OUTPUT.PUT_LINE('--------');

 OPEN c_country (v_region_rec.region_id);

 LOOP

FETCH c_country INTO v_country_rec;

  EXIT WHEN c_country%NOTFOUND;

 DBMS_OUTPUT.PUT_LINE(v_country_rec.country_name||' ' ||v_country_rec.area || ' ' ||
v_country_rec.population);

 END LOOP;

  CLOSE c_country;

 DBMS_OUTPUT.PUT_LINE('');

 END LOOP;
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CLOSE c_reg;

END;



3.

DECLARE

 CURSOR c_reg IS SELECT * FROM wf_world_regions WHERE region_name LIKE
'%America%' ORDER BY region_name;

 CURSOR c_country (p_region_id NUMBER) IS SELECT
country_id,country_name,area,population FROM wf_countries WHERE region_id=p_region_id
ORDER BY country_name;

 CURSOR c_lang (p_country_id number) IS SELECT l.language_name FROM
wf_spoken_languages sl, wf_languages l WHERE sl.language_id=l.language_id AND
p_country_id=sl.country_id ORDER BY language_name;

 v_lang_rec c_lang%ROWTYPE;

 v_region_rec c_reg%ROWTYPE;

v_country_rec c_country%ROWTYPE;

BEGIN

 OPEN c_reg;

 LOOP

 FETCH c_reg INTO v_region_rec;

 EXIT WHEN c_reg%NOTFOUND;

  DBMS_OUTPUT.PUT_LINE(v_region_rec.region_id || ' ' ||v_region_rec.region_name);

DBMS_OUTPUT.PUT_LINE('--------');

 OPEN c_country(v_region_rec.region_id);

 LOOP

FETCH c_country INTO v_country_rec;

  EXIT WHEN c_country%NOTFOUND;

 DBMS_OUTPUT.PUT_LINE(v_country_rec.country_name||' ' ||v_country_rec.area || ' ' ||
v_country_rec.population);

open c_lang(v_country_rec.country_id);

            loop
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                    fetch c_lang into v_lang_rec;

                    exit when c_lang%notfound;

                    dbms_output.put_line(v_lang_rec.language_name);

             end loop;

             close c_lang;

 END LOOP;

  CLOSE c_country;

 DBMS_OUTPUT.PUT_LINE('');

 END LOOP;

CLOSE c_reg;

END;
```