

# Using Multiple Cursors

## Terminology

No new vocabulary for this lesson

## Try It/Solve It

1. Write and run a PL/SQL block which produces a listing of departments and their employees. Use the departments and employees tables. In a cursor FOR loop, retrieve and display the department\_id and department\_name for each department, and display a second line containing '-----' as a separator. In a nested cursor FOR loop, retrieve and display the first\_name, last\_name and salary of each employee in that department., followed by a blank line at the end of each department. Order the departments by department\_id, and the employees in each department by last\_name.

You will need to declare two cursors, one to fetch and display the departments, the second to fetch and display the employees in that department, passing the department\_id as a parameter.

Your output should look something like this (only the first few departments are shown):

```
10 Administration
-----
Jennifer Whalen 4400

20 Marketing
-----
Pat Fay 6000
Michael Hartstein 13000

50 Shipping
-----
Curtis Davies 3400
Randall Matos 2600
Kevin Mourgous 5800
Trenna Rajs 3500
Peter Vargas 2500
```

2. Write and run a PL/SQL block which produces a report listing world regions and countries in those regions. You will need two cursors: an outer loop cursor which fetches and displays rows from wf\_world\_regions, and an inner loop cursor which fetches and displays rows from wf\_countries for countries in that region, passing the region\_id as a parameter. Restrict your regions to those in America (region\_name like '%America%'). Order your output by region\_name, and by country\_name within each region.

Your output should look something like this (only the first two regions are shown):

#### 13 Central America

```
-----  
Belize 22966 287730  
Republic of Costa Rica 51100 4075261  
Republic of El Salvador 21040 6822378  
Republic of Guatemala 108890 12293545  
Republic of Honduras 112090 7326496  
Republic of Nicaragua 129494 5570129  
Republic of Panama 78200 3191319  
United Mexican States 1972550 107449525
```

#### 21 Northern America

```
-----  
Bermuda 53 65773  
Canada 9984670 33098932  
Greenland 2166086 56361  
Territorial Collectivity of Saint Pierre and Miquelon 242 7026  
United States of America 9631420 298444215
```

## Extension Exercise

1. Modify your block from question 2 to display the names of official spoken languages in each country. You will need three cursors and three loops. The first two cursors should fetch and display regions and countries, as in question 2. The innermost loop should accept a `country_id` as a parameter, and fetch and display the name of each official language, using a join of `wf_spoken_languages` and `wf_languages`. Within each country, the languages should be ordered by `language_name`. Test your block, restricting regions to those in America.

Your output should look something like this (only the first two regions are shown):

13 Central America

-----

Belize 22966 287730

--- English

Republic of Costa Rica 51100 4075261

--- Spanish

Republic of El Salvador 21040 6822378

Republic of Guatemala 108890 12293545

Republic of Honduras 112090 7326496

Republic of Nicaragua 129494 5570129

--- Spanish

Republic of Panama 78200 3191319

--- Spanish

United Mexican States 1972550 107449525

21 Northern America

-----

Bermuda 53 65773

--- English

Canada 9984670 33098932

--- English

--- French

Greenland 2166086 56361

Territorial Collectivity of Saint Pierre and Miquelon 242 7026

--- French

United States of America 9631420 298444215

--- English