Database Programming with SQL
6-2: Join Clauses
Practice Solutions
Vocabulary

Directions: Identify the vocabulary word for each definition below.

ON clause	Allows a natural join based on an arbitrary condition or two columns with different names.
USING clause	Performs an equijoin based on one specified column name

Try It / Solve It

Use the Oracle database for problems 1-6.

1. Join the Oracle database locations and departments table using the location_id column. Limit the results to location 1400 only.

   Solution:
   ```
   SELECT l.city, d.department_name
   FROM locations l JOIN departments d USING (location_id)
   WHERE location_id = 1400;
   ```

2. Join DJs on Demand d_play_list_items, d_track_listings, and d_cds tables with the JOIN USING syntax. Include the song ID, CD number, title, and comments in the output.

   Solution:
   ```
   SELECT song_id, cd_number, title, comments
   FROM d_play_list_items JOIN d_track_listings  USING (song_id )JOIN d_cds USING
   (cd_number);
   ```

3. Display the city, department name, location ID, and department ID for departments 10, 20, and 30 for the city of Seattle.

   Solution:
   ```
   SELECT l.city, d.department_name, location_id, d.department_id
   FROM locations l JOIN departments d USING (location_id)
   WHERE city = 'Seattle'
   AND department_id IN (10, 20, 30);
   ```

4. Display country name, region ID, and region name for Americas.

   Solution:
   SELECT country_name, region_id, region_name
   FROM regions JOIN countries USING (region_id)
   WHERE region_id = 2;

5. Write a statement joining the employees and jobs tables. Display the first and last names, hire date, job id, job title, and maximum salary. Limit the query to those employees who are in jobs that can earn more than $12,000.

   Solution:
   SELECT e.first_name, e.last_name, e.hire_date, job_id, j.job_title, j.max_salary
   FROM employees e JOIN jobs j USING (job_id)
   WHERE max_salary > 12000;

6. Display job title, employee first name, last name, and email for all employees who are stock clerks.

   Solution:
   SELECT job_title, first_name, last_name, email
   FROM employees e JOIN jobs j USING (job_id)
   WHERE job_id = 'ST_CLERK';

The following questions use the JOIN…ON syntax:

7. Write a statement that displays the employee ID, first name, last name, manager ID, manager first name, and manager last name for every employee in the employees table. Hint: this is a self-join.

   Solution:
   SELECT e.employee_id, e.first_name, e.last_name, w.manager_id, w.first_name, w.last_name
   FROM employees e JOIN employees w
   ON (e.employee_id = w.manager_id);

8. Use JOIN ON syntax to query and display the location ID, city, and department name for all Canadian locations.

   Solution:
   SELECT l.location_id, l.city,d.department_name
   FROM departments d JOIN locations l
   ON (d.location_id = l.location_id)
   WHERE l.country_id= 'CA';

9. Query and display manager ID, department ID, department name, first name, and last name for all employees in departments 80, 90, 110, and 190.

Solution:

```
SELECT e.manager_id,d.department_id, d.department_name, e.first_name, e.last_name
FROM employees e JOIN departments d
ON (e.department_id =d.department_id)
WHERE d.department_id IN (80, 90, 110, 190);
```

10. Display employee ID, last name, department ID, department name, and hire date for those employees whose hire date was June 7, 1994.

Solution:

```
SELECT e.employee_id, e.last_name, d.department_id, d.department_name, e.hire_date
FROM employees e JOIN departments d
ON (e.department_id = d.department_id)
WHERE hire_date = '07-Jun-1994';
```