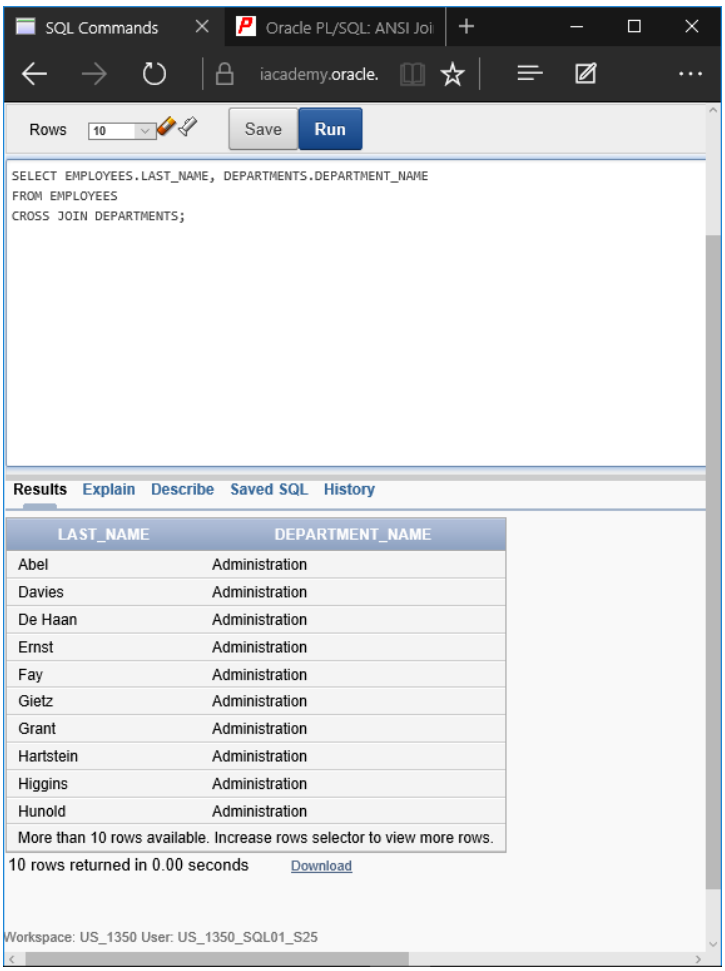
Section 3 Lesson 1: Cross Joins and Natural Joins

Try It / Solve It

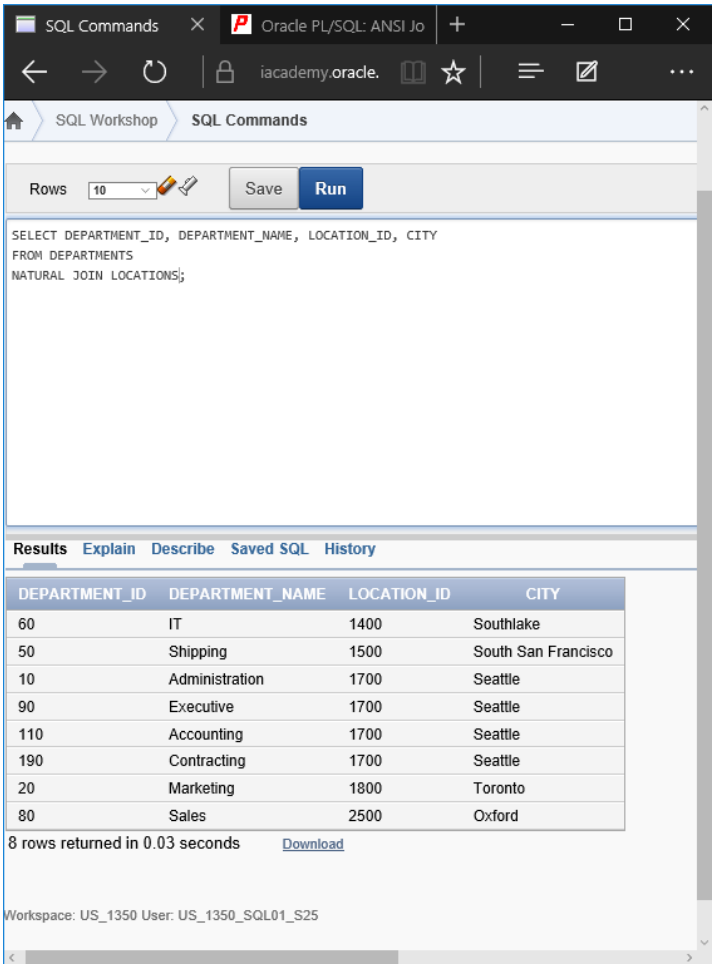
Use the Oracle database for problems 1-4.

1. Create a cross-join that displays the last name and department name from the employees and departments tables.

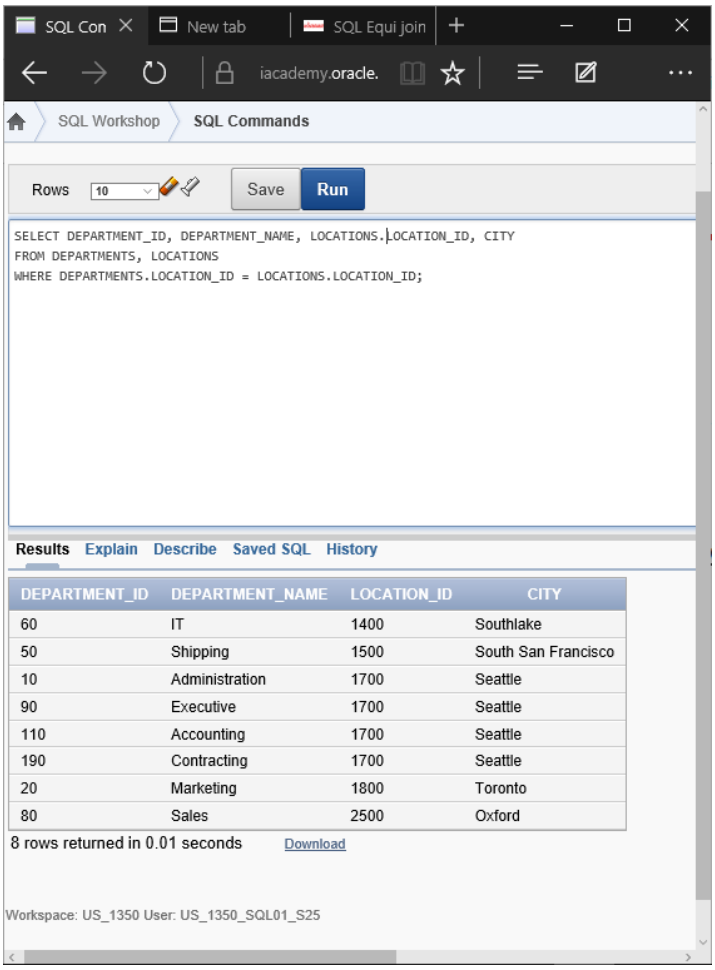


2. What is the result of the query that you have used for question 1? The query returned the Cartesian product of DEPARTMENT_NAME paired with each value of LAST_NAME in ascending order from DEPARTMENT_NAME and then by ascending order from LAST_NAME.

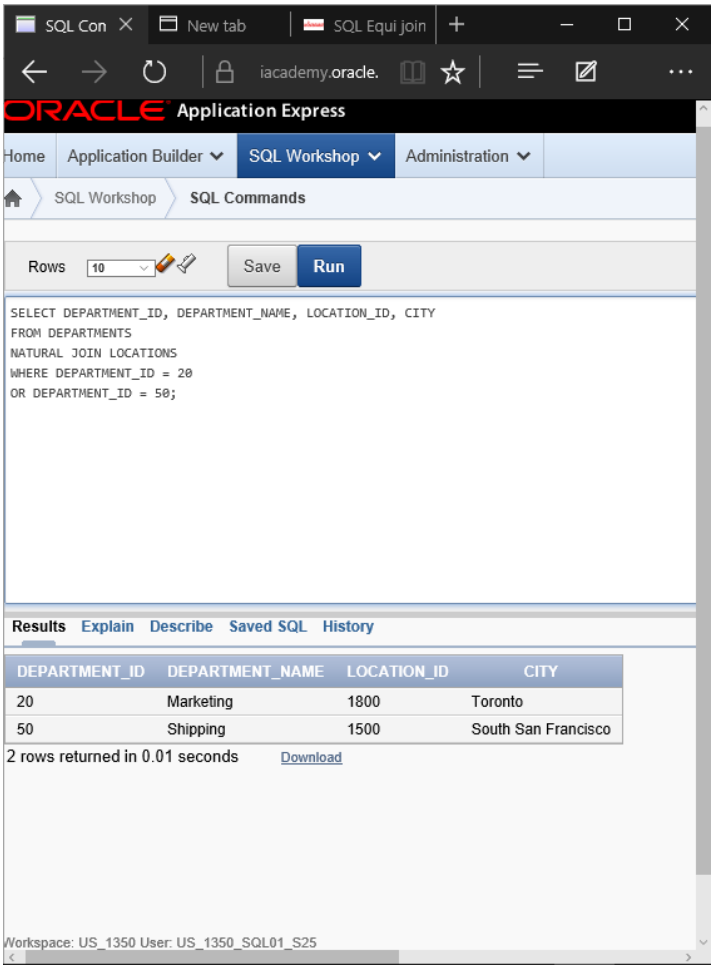
3. Create a query that uses a natural join to join the departments table and the locations table by the location_id column. Display the department id, department name, location id, and city.



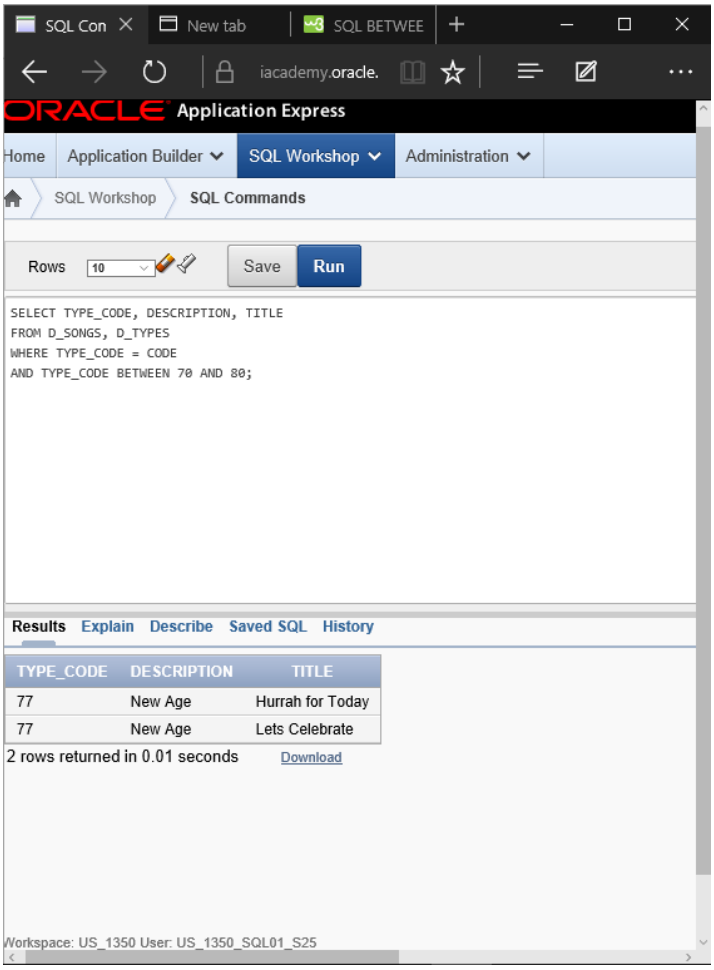
4. Rewrite problem 2 using equijoin syntax.



5. Create a query that uses a natural join to join the departments table by the location_id column. Restrict the output to only department IDs of 20 and 50. Display the department id, department name, location id, and city.



6. Use an equijoin between the two DJs on Demand database tables: d_songs and d_types. Display the type code, description, and title. Limit the rows returned to those type codes between 70 and 80.



7. When using Oracle proprietary syntax, the join condition is always placed in the **WHERE** clause of the SELECT statement.

8. When using ANSI/ISO SQL: 1999 syntax, the join condition is always placed in the **ON/USING** clause of the SELECT statement.

9. What is the advantage of learning ANSI/ISO SQL: 1999 syntax? ANSI syntax removes the need to add a WHERE clause for table joins which allows the WHERE clause to be only used to filter results. ANSI syntax also removes the need to explicitly state the table each column resides in when using the SELECT clause.

10. A/an **table** can be used to preface the column name in order to clarify which table and column are participating in the join.

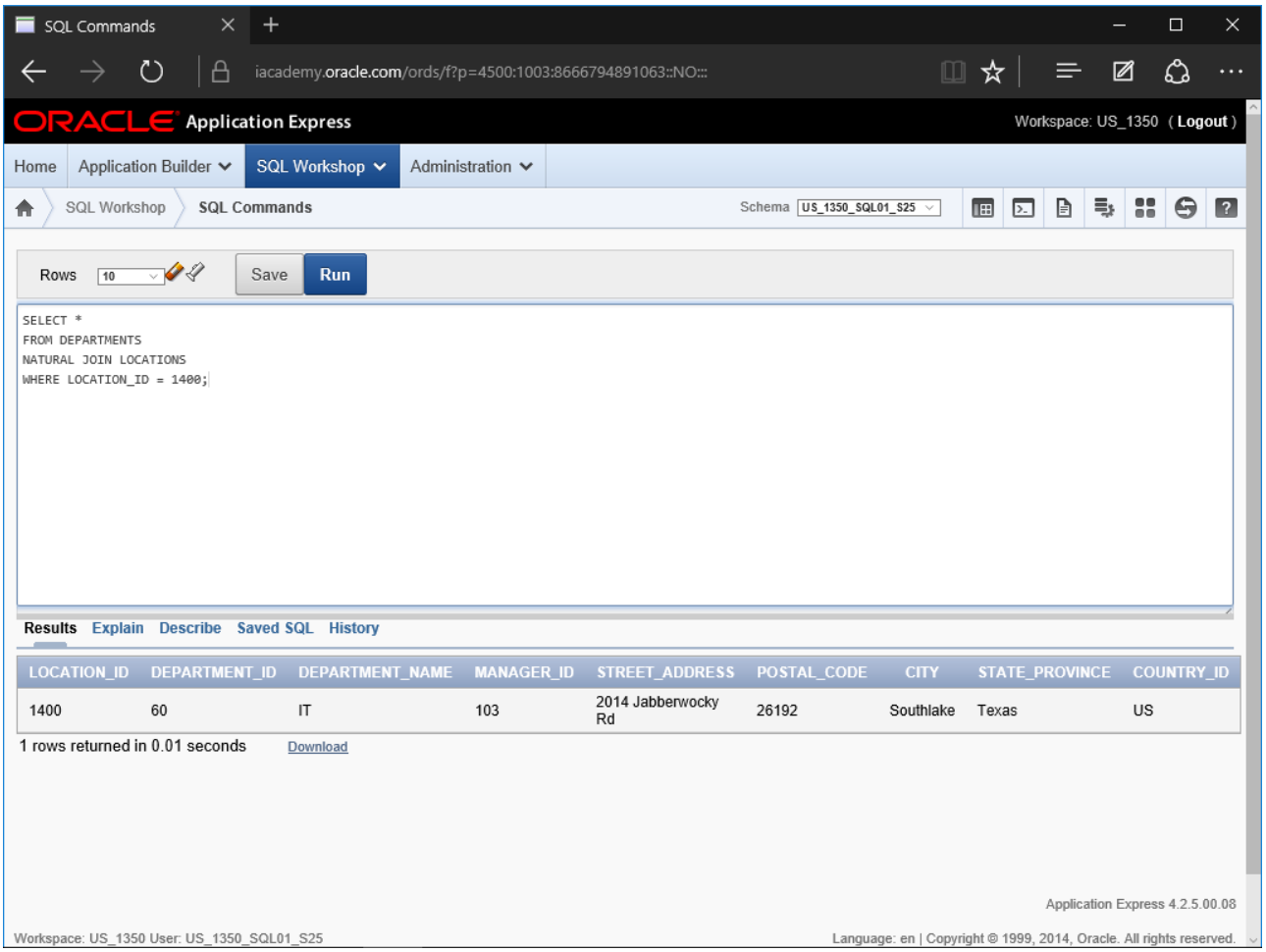
11. Table aliases are created in the **FROM** clause of the SELECT statement.

Section 3 Lesson 2: Join Clauses

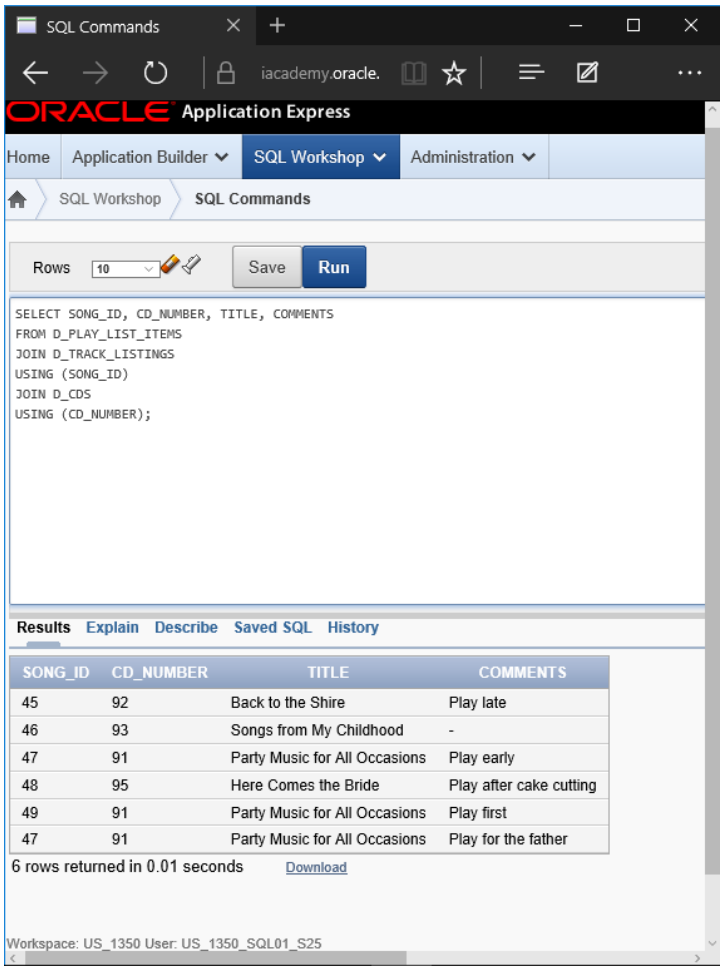
Try It / Solve It

Use the Oracle database for problems 1-6.

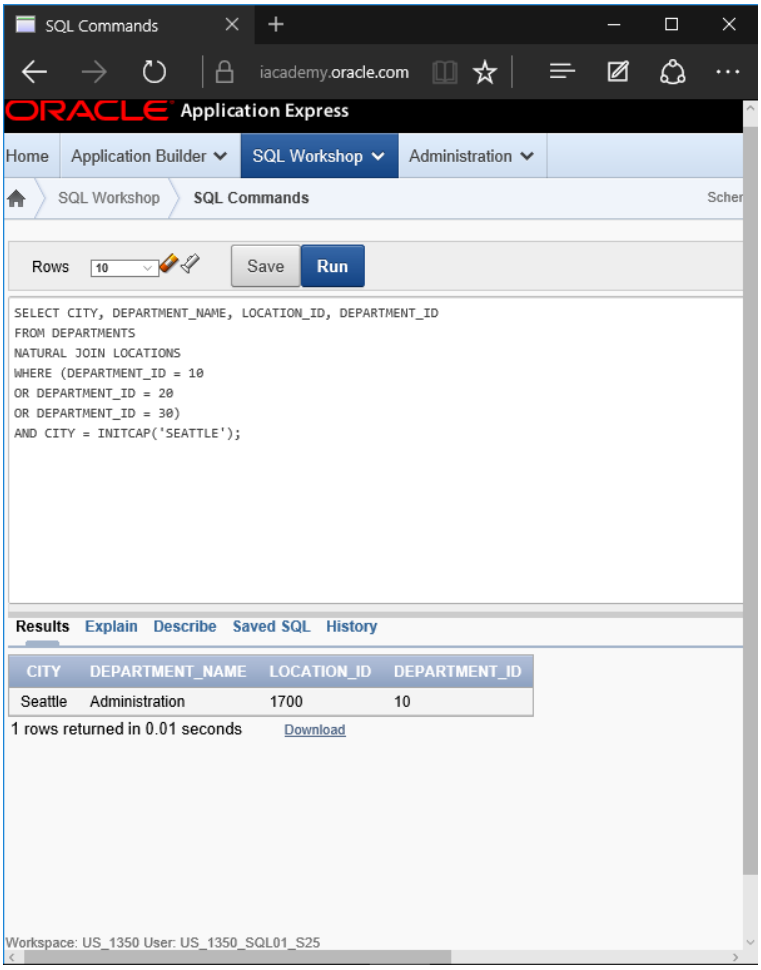
1. Join the Oracle database locations and departments table using the location_id column. Limit the results to location 1400 only.



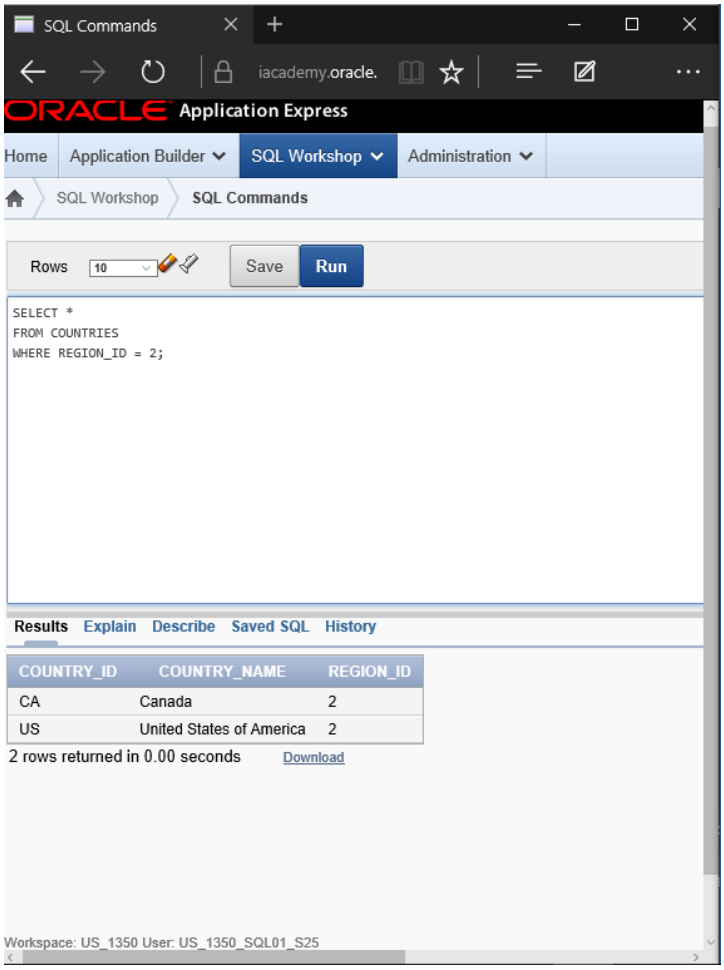
2. Join DJs on Demand d_play_list_items, d_track_listings, and d_cds tables with the JOIN USING syntax. Include the song ID, CD number, title, and comments in the output.



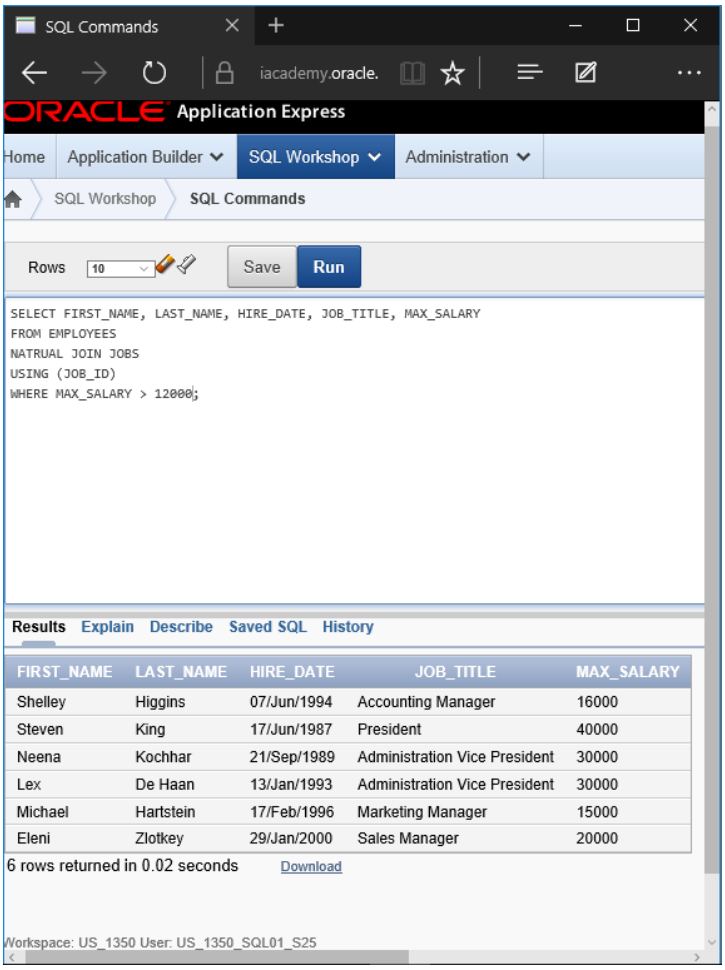
3. Display the city, department name, location ID, and department ID for departments 10, 20, and 30 for the city of Seattle.



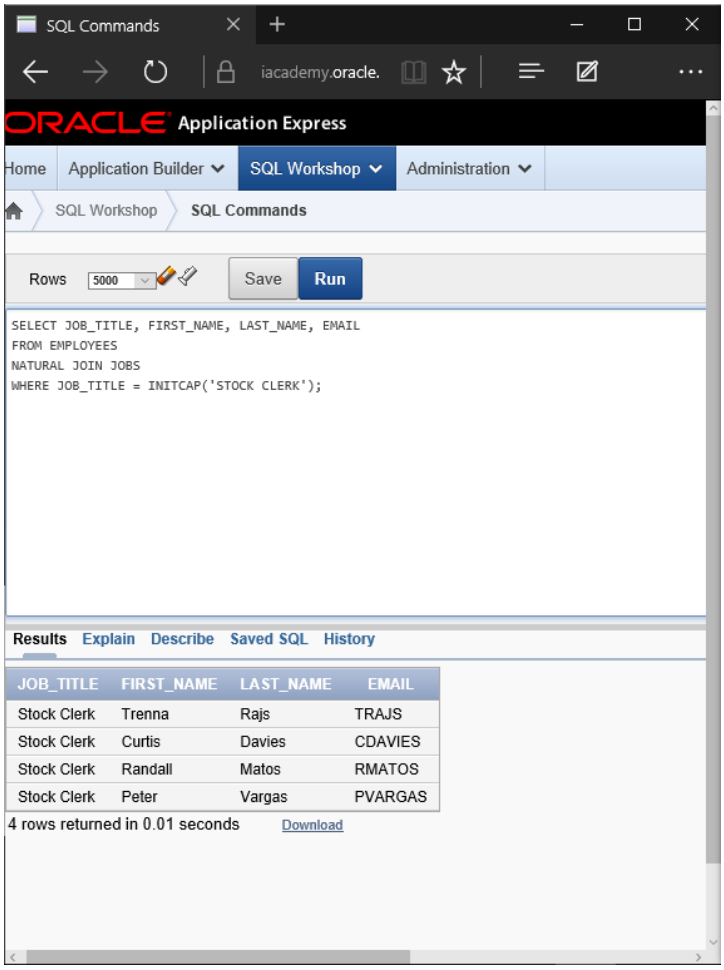
4. Display country name, region ID, and region name for Americas.



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.

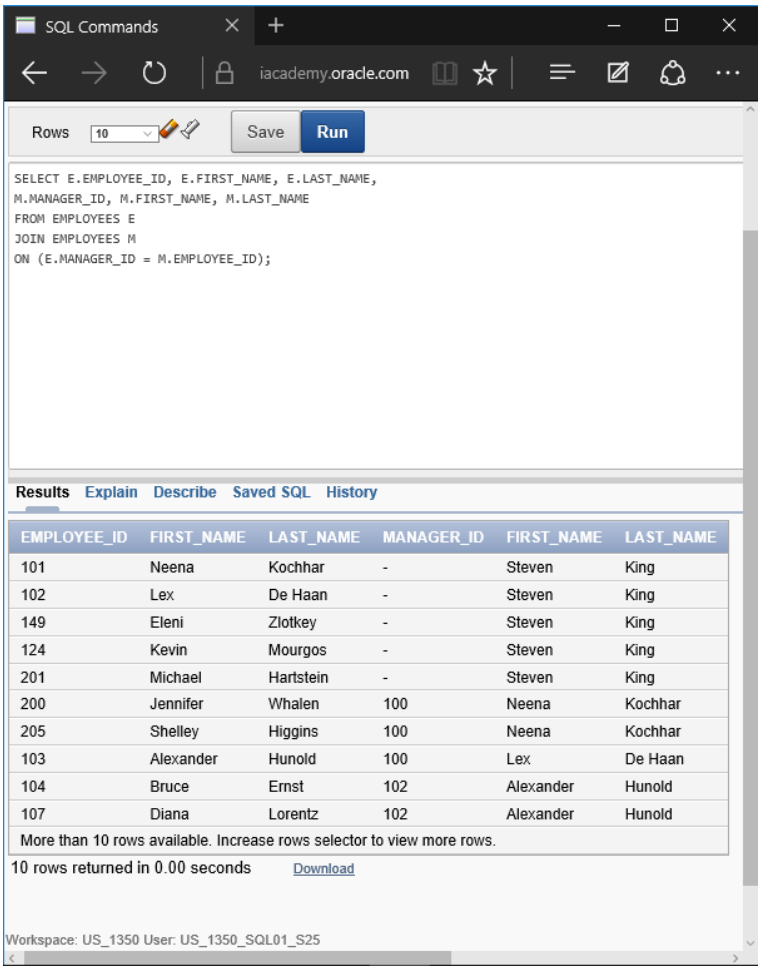


6. Display job title, employee first name, last name, and email for all employees who are stock clerks.

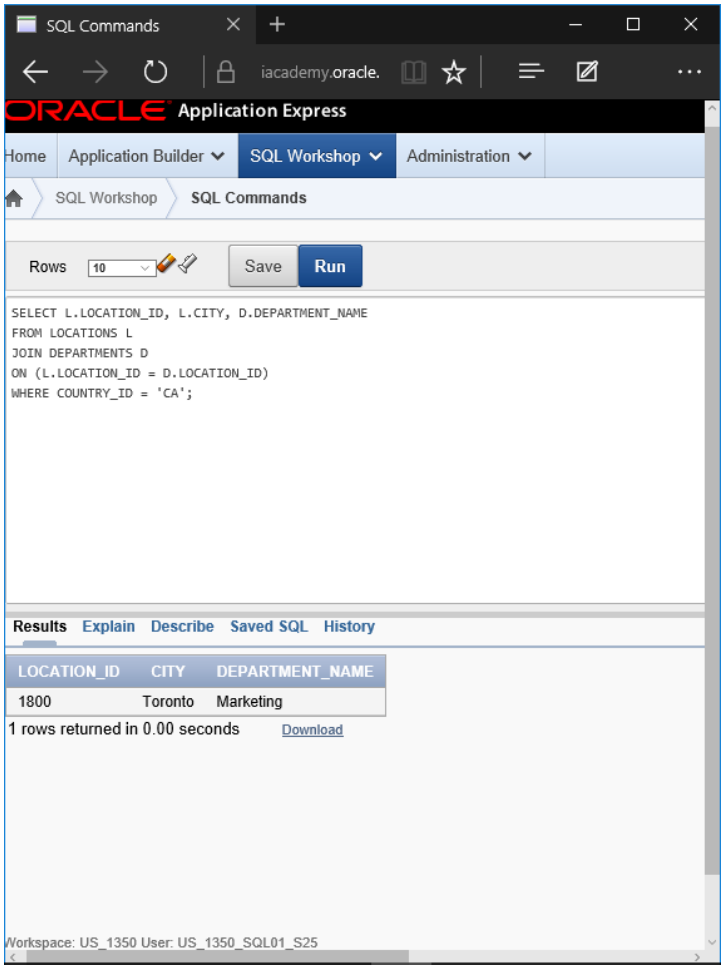


The following questions use the JOIN…ON syntax:

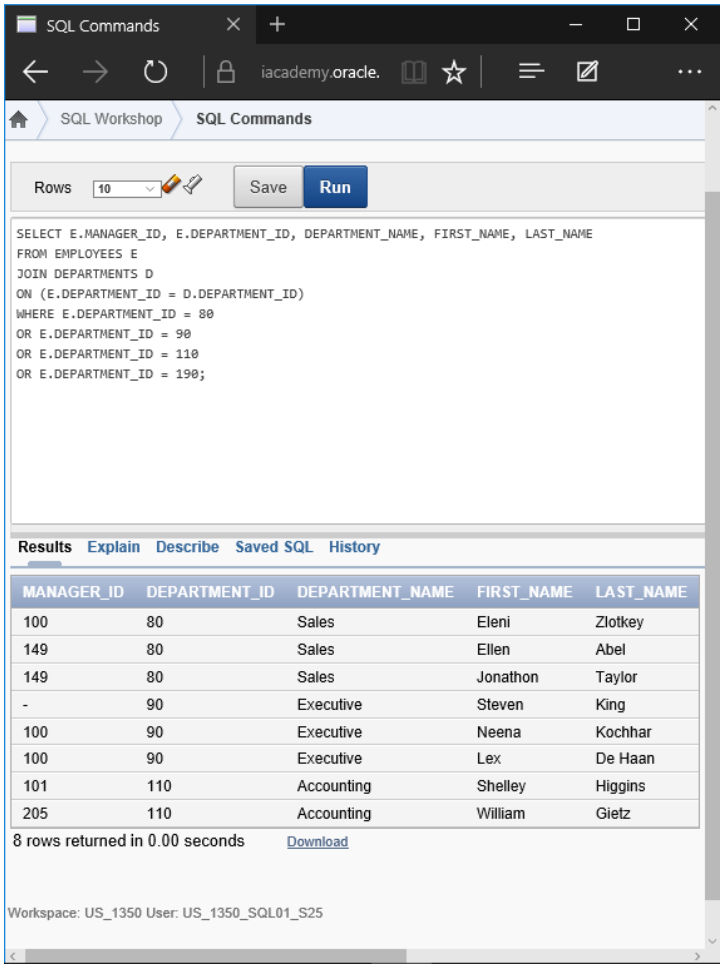
7. Write a statement that displays the employee ID, first name, last name, manager ID, manager first name, and manager last name for every employee in the employees table. Hint: this is a self-join.



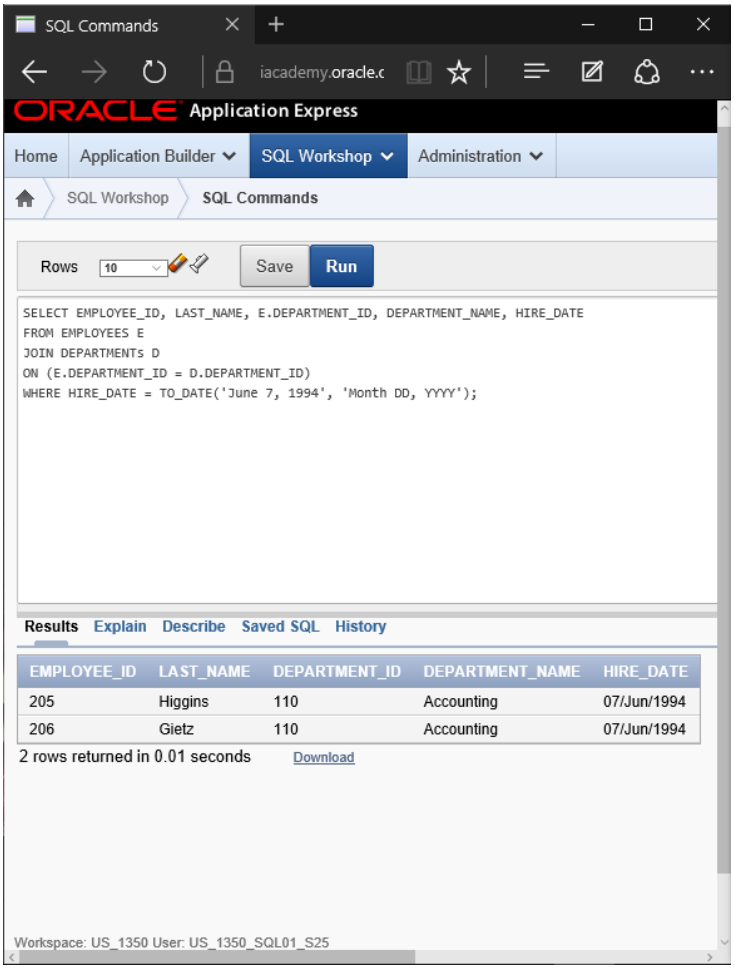
8. Use JOIN ON syntax to query and display the location ID, city, and department name for all Canadian locations.



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.



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



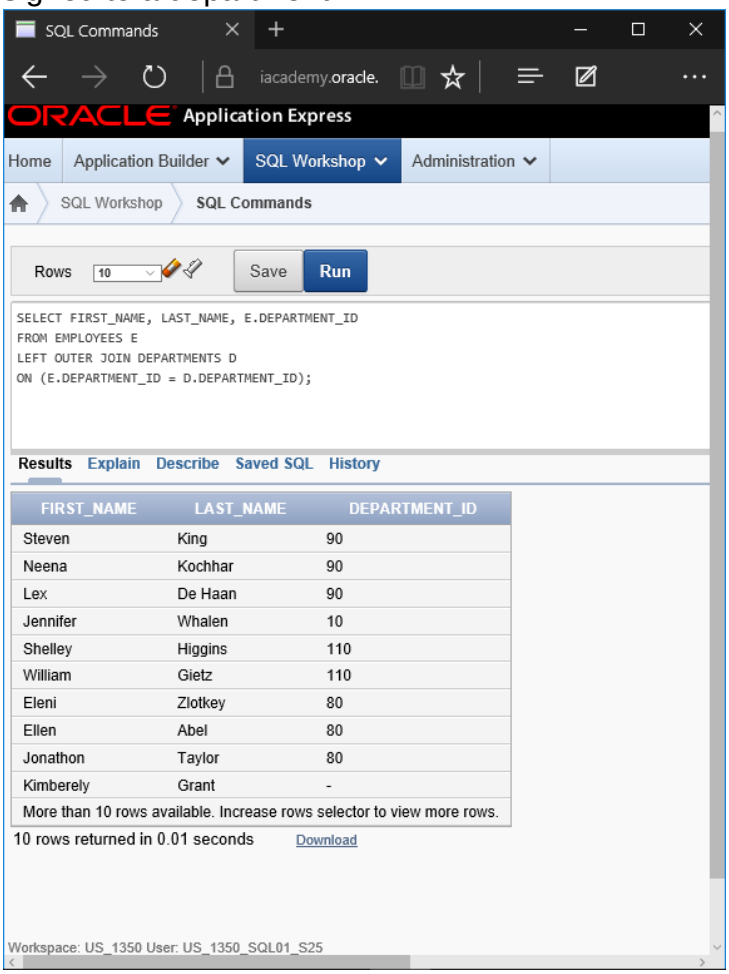
11. What are the ANSI standard JOINs that are equivalent to:
    a. A Cartesian product
    b. An equijoin
    c. **A non equijoin** ←

Section 3 Lesson 3: Inner versus Outer Joins

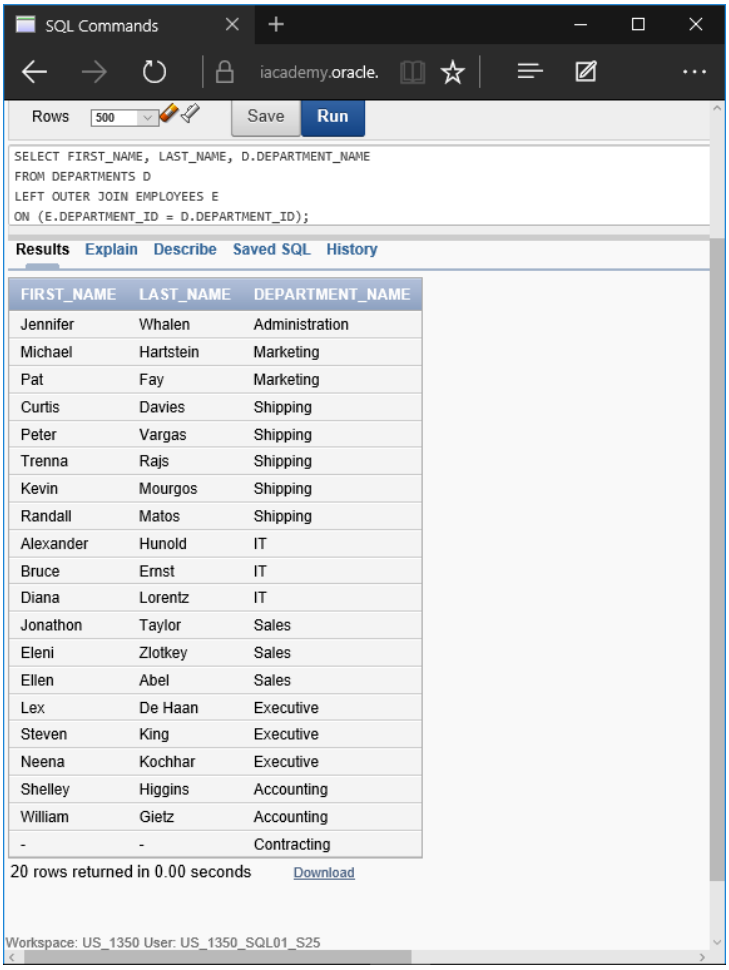
Try It / Solve It

Use the Oracle database for problems 1-7.

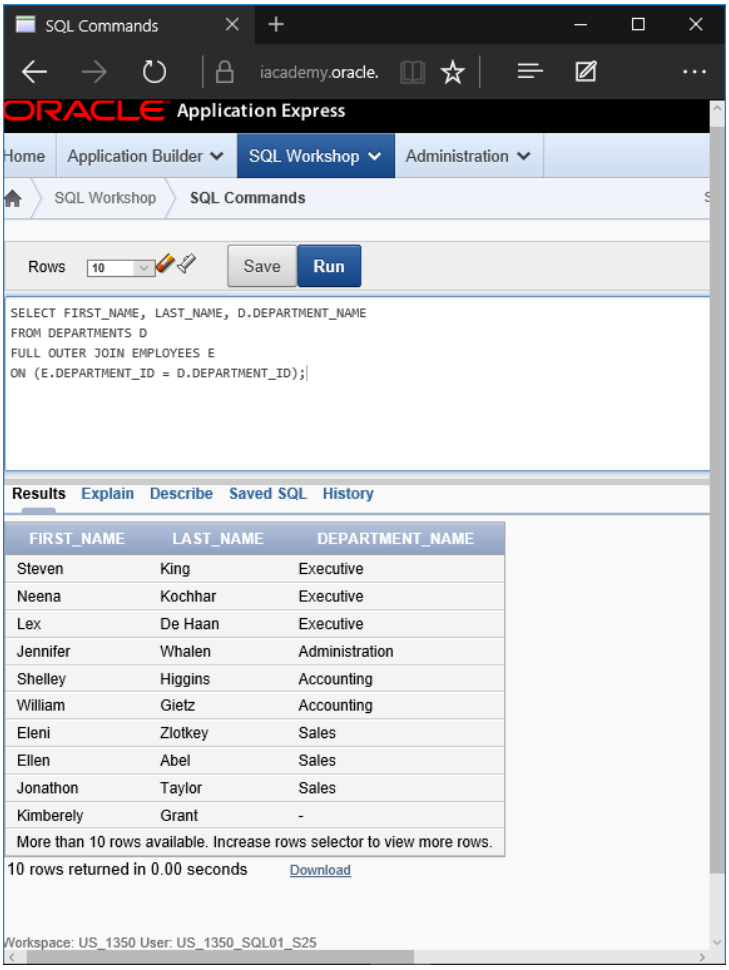
1. Return the first name, last name, and department name for all employees including those employees not assigned to a department.



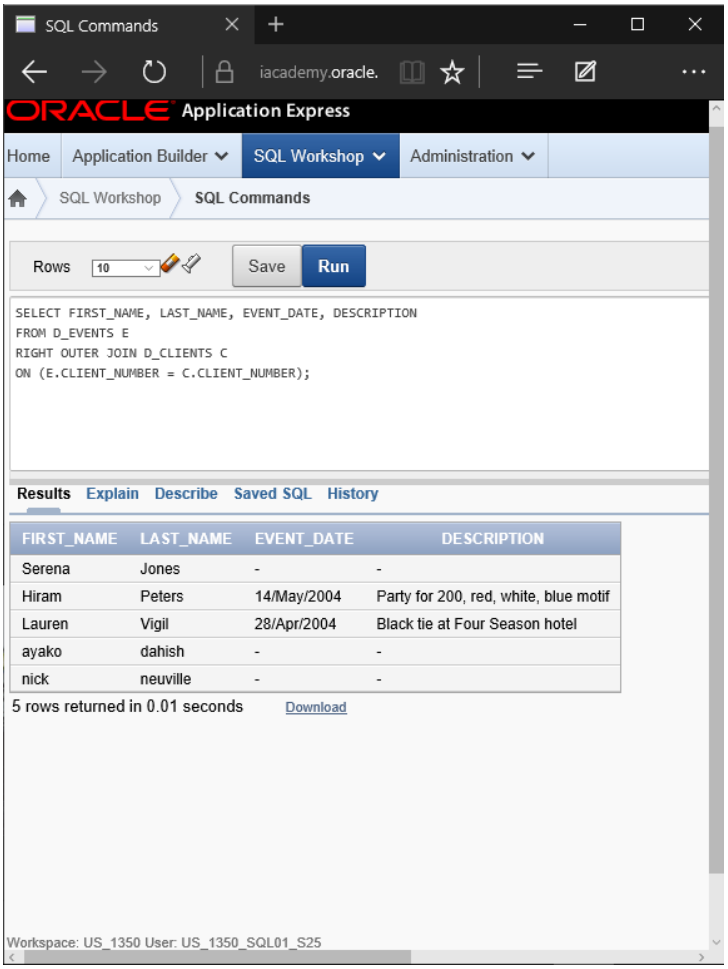
2. Return the first name, last name, and department name for all employees including those departments that do not have an employee assigned to them.



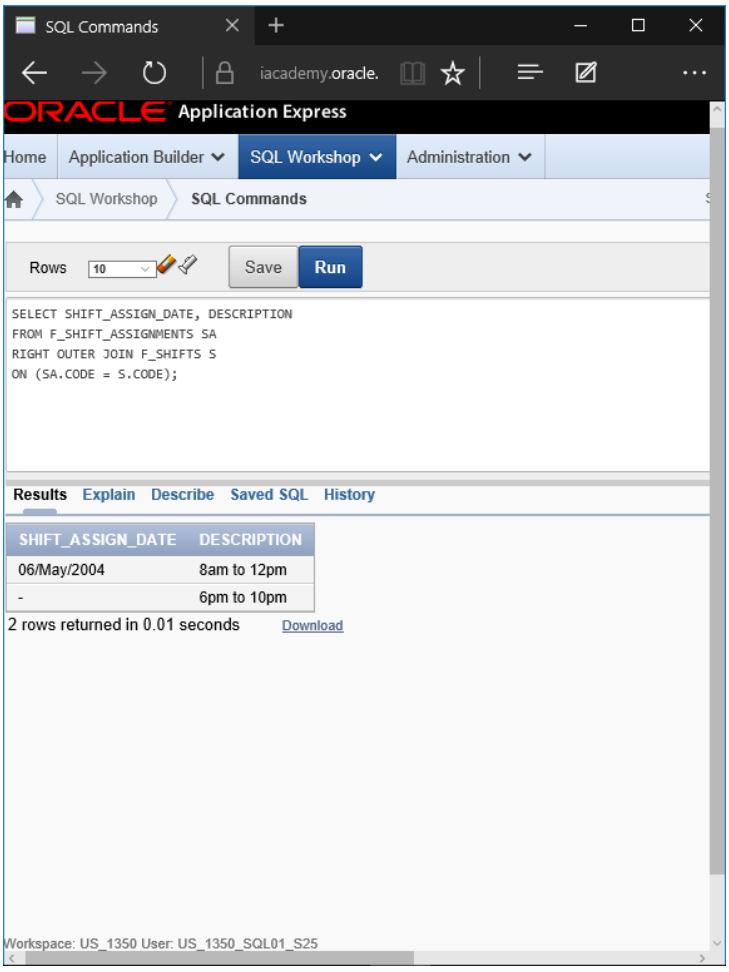
3. Return the first name, last name, and department name for all employees including those departments that do not have an employee assigned to them and those employees not assigned to a department.



4. Create a query of the DJs on Demand database to return the first name, last name, event date, and description of the event the client held. Include all the clients even if they have not had an event scheduled.



5. Using the Global Fast Foods database, show the shift description and shift assignment date even if there is no date assigned for each shift description.

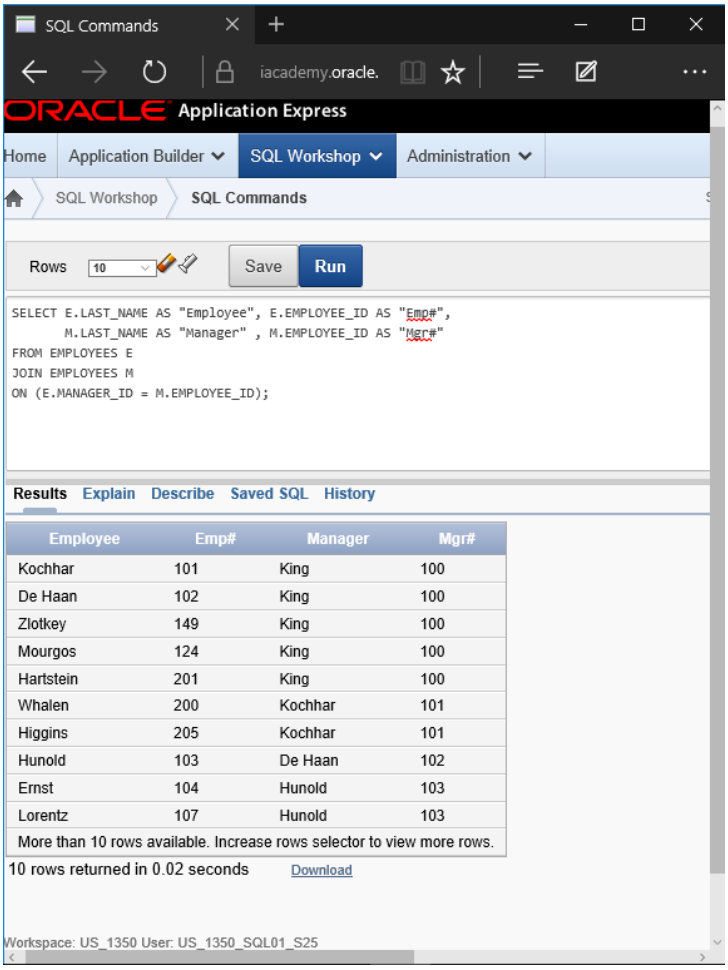


Section 3 Lesson 4: Self Joins and Hierarchical Queries

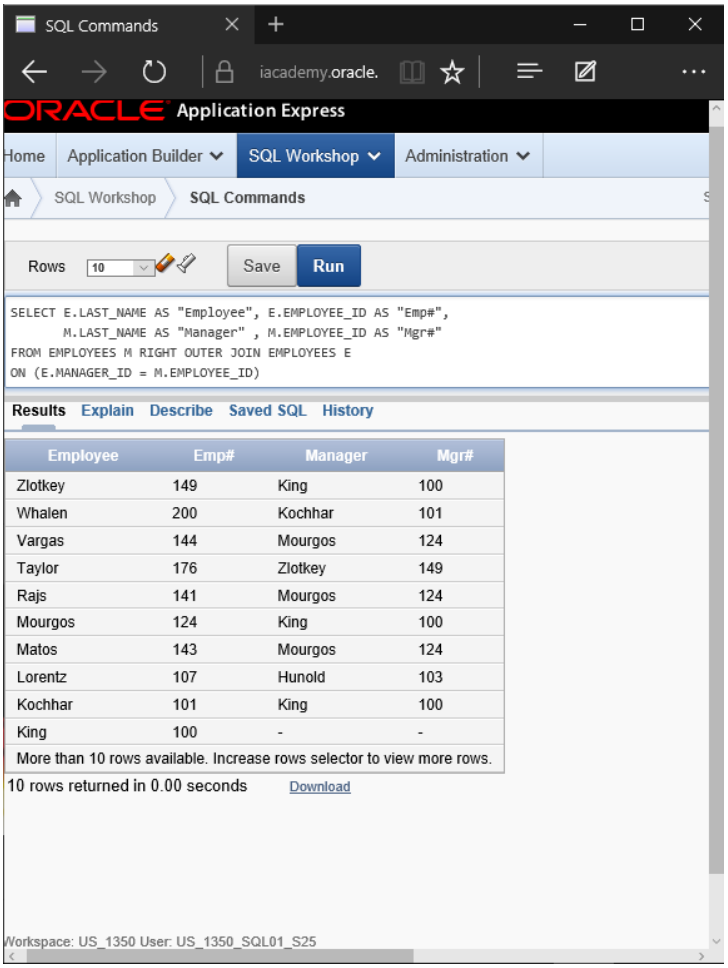
Try It / Solve It

For each problem, use the Oracle database.

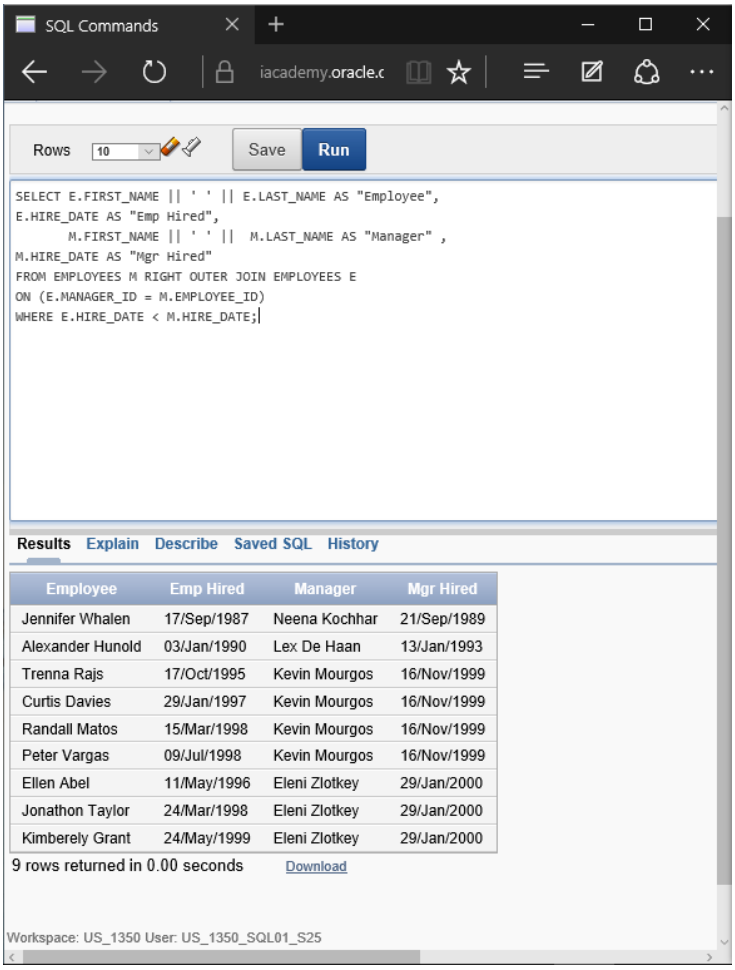
1. Display the employee's last name and employee number along with the manager's last name and manager number. Label the columns: Employee, Emp#, Manager, and Mgr#, respectively.



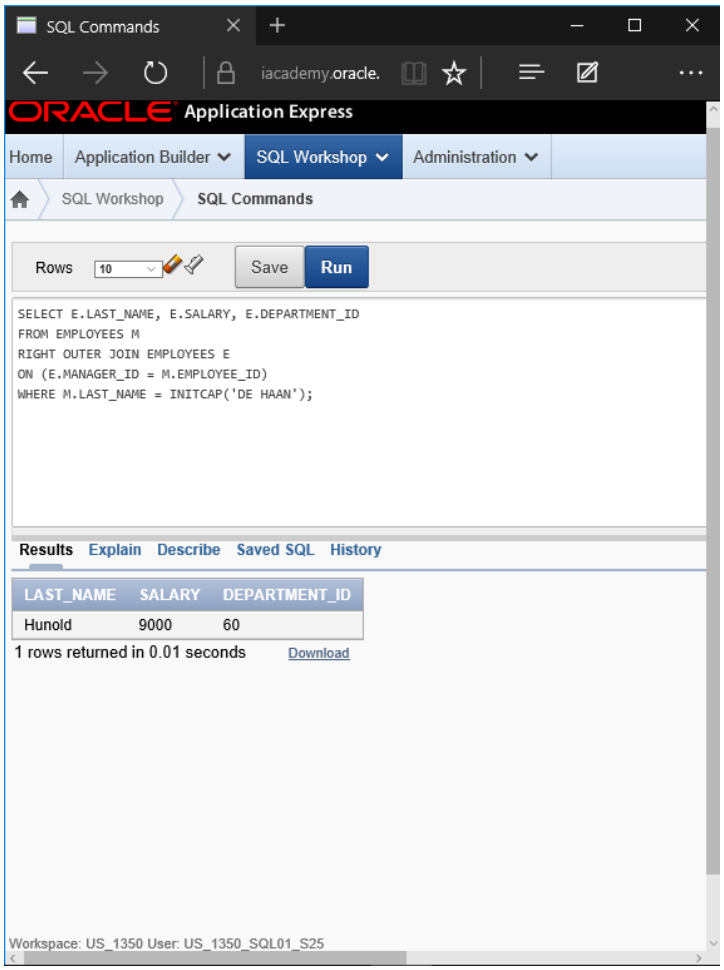
2. Modify question 1 to display all employees and their managers, even if the employee does not have a manager. Order the list alphabetically by the last name of the employee.



3. Display the names and hire dates for all employees who were hired before their managers, along with their managers' names and hire dates. Label the columns Employee, Emp Hired, Manager and Mgr Hired, respectively.



4. Write a report that shows the hierarchy for Lex De Haans department. Include last name, salary, and department id in the report.

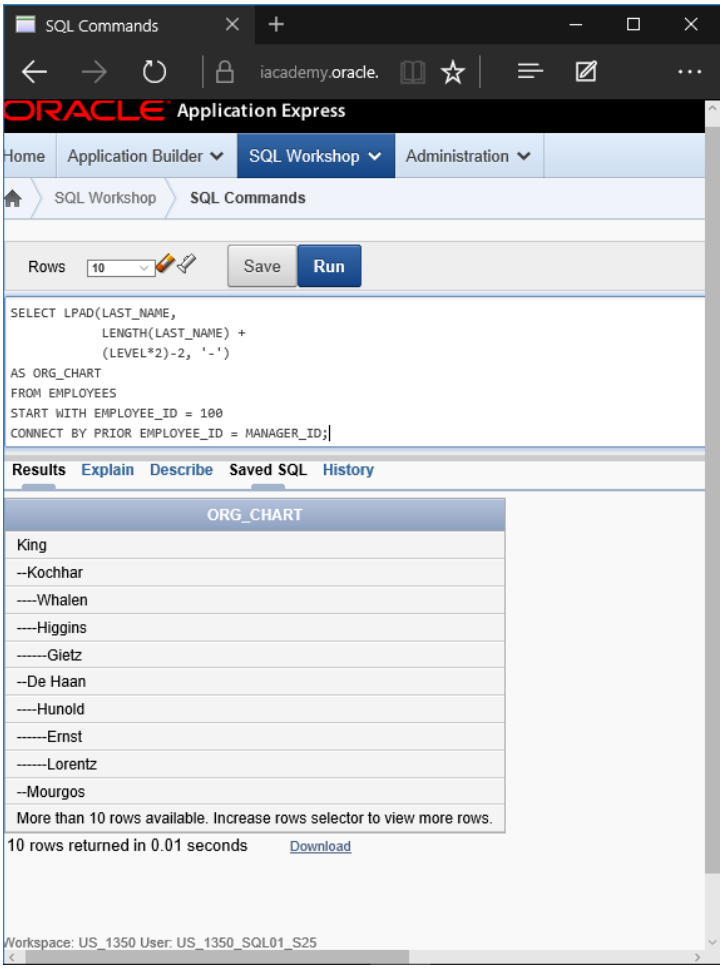


5. What is wrong in the following statement?

```
SELECT last_name, department_id, salary
FROM   employees
START WITH last_name = 'King'
CONNECT BY PRIOR manager_id = employee_id;
```

The CONNECT BY PRIOR clause should say ‘employee_id = manger_id’

6. Create a report that shows the organization chart for the entire employee table. Write the report so that each level will indent each employee 2 spaces. Since Oracle Application Express cannot display the spaces in front of the column, use - (minus) instead.



7. Re-write the report from 6 to exclude De Haan and all the people working for him.