MA RAQUEL SORIANO
HHA 507

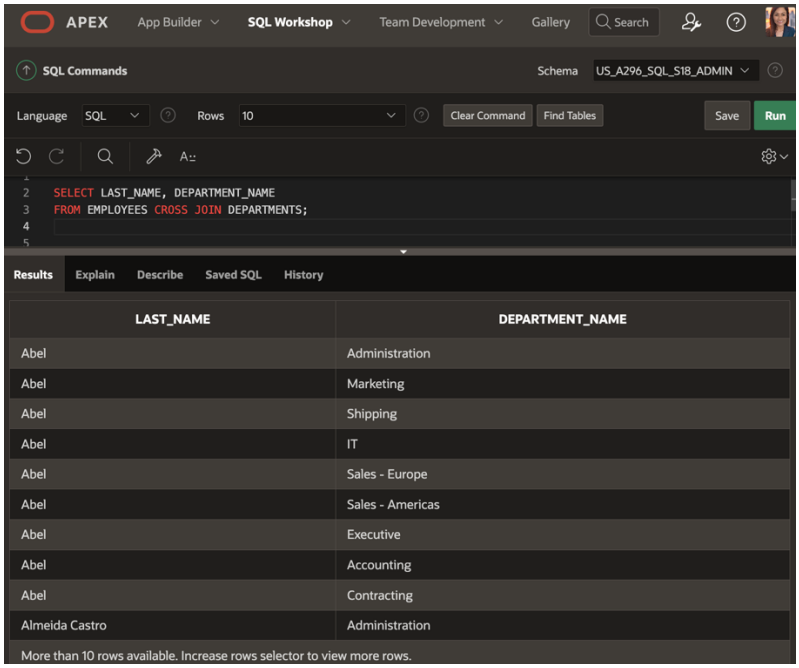
SQL Database Programming: Section 6-1: Cross Joins and Natural Joins

Vocabulary

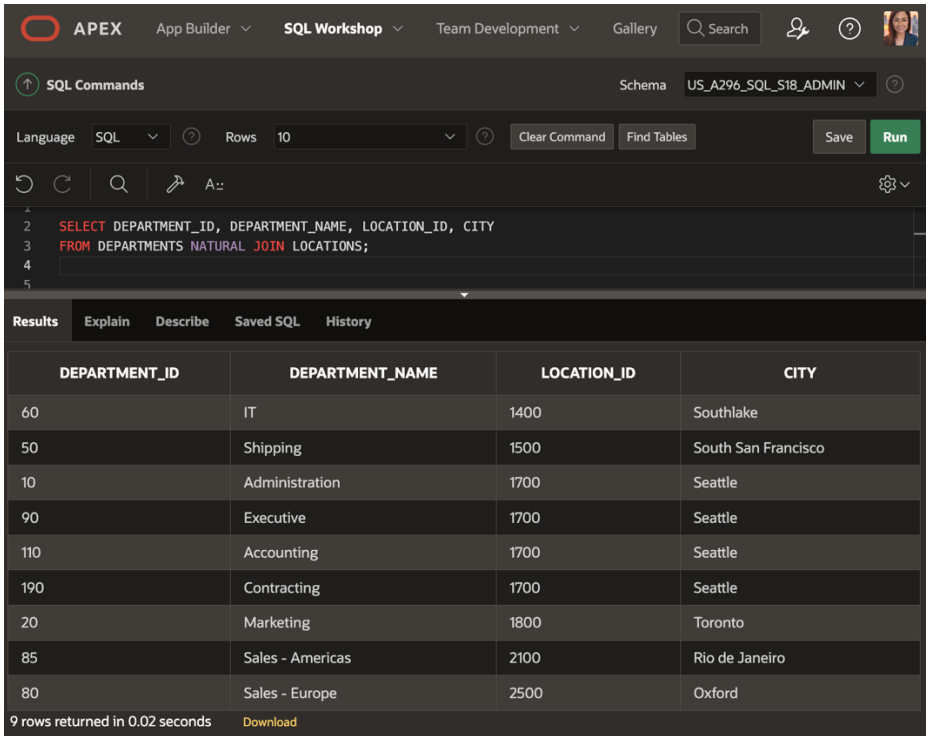
Cross Join – Returns the Cartesian product from two tables.
Natural Join – Joins two tables based on the same column name.

Try It/Solve It

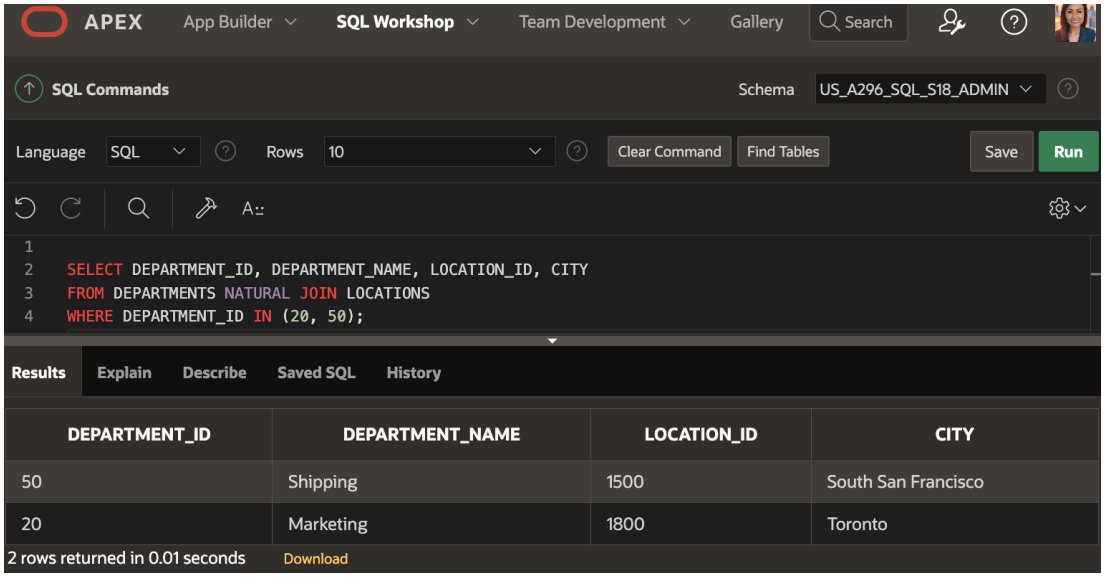
1. Create a cross-join that displays the last name and department name from the employees and departments tables.



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



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



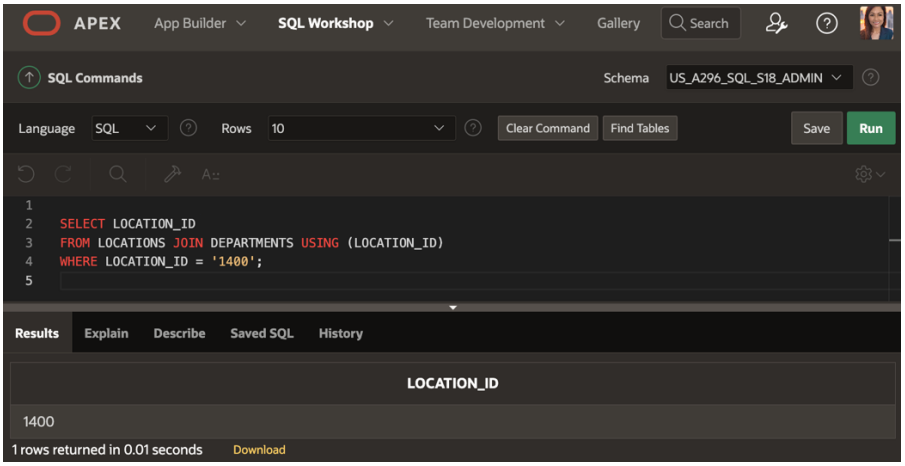
SQL Database Programming: Section 6-2: Join Clauses

Vocabulary

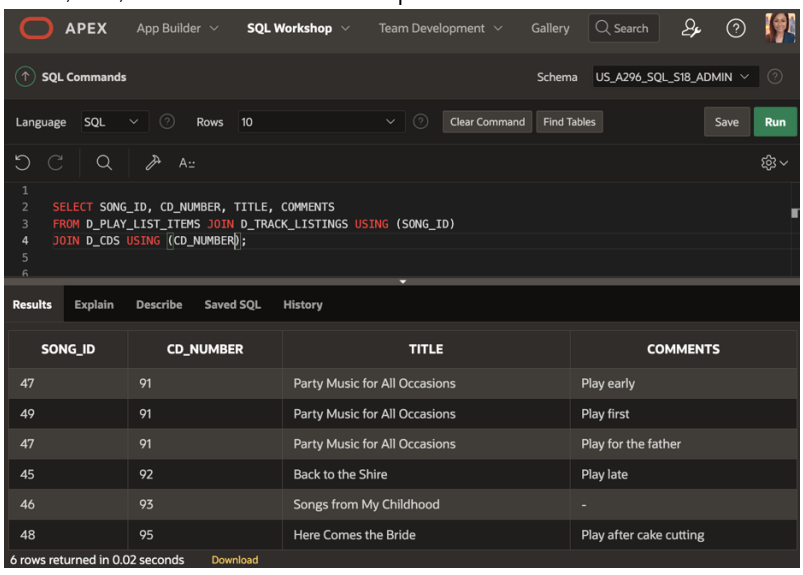
- **Join with the ANSI-99 ON Clause** – Allows a natural join based on an arbitrary condition or two columns with different names.
- **Join with the ANSI-99 USING Clause** – Performs an equijoin based on one specified column name

Try It/Solve It

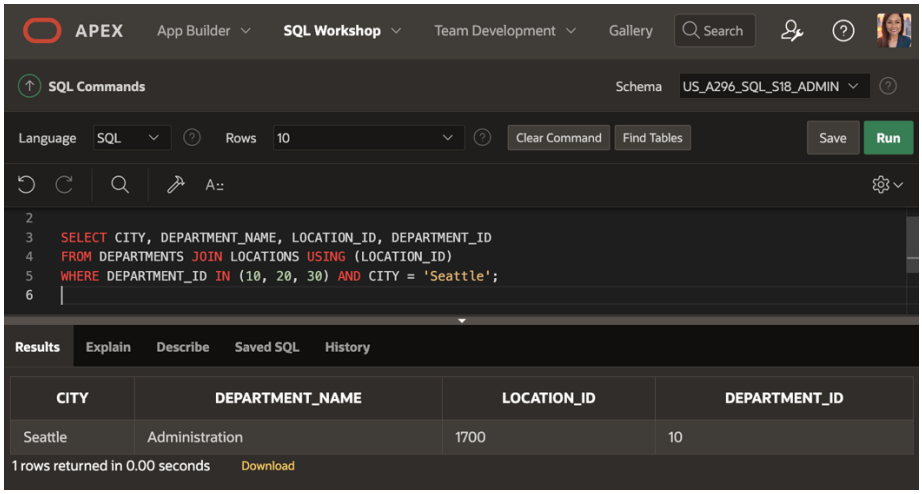
1. Join the Oracle database locations and departments table using the location_id column. Limit the results to location 1400 only.



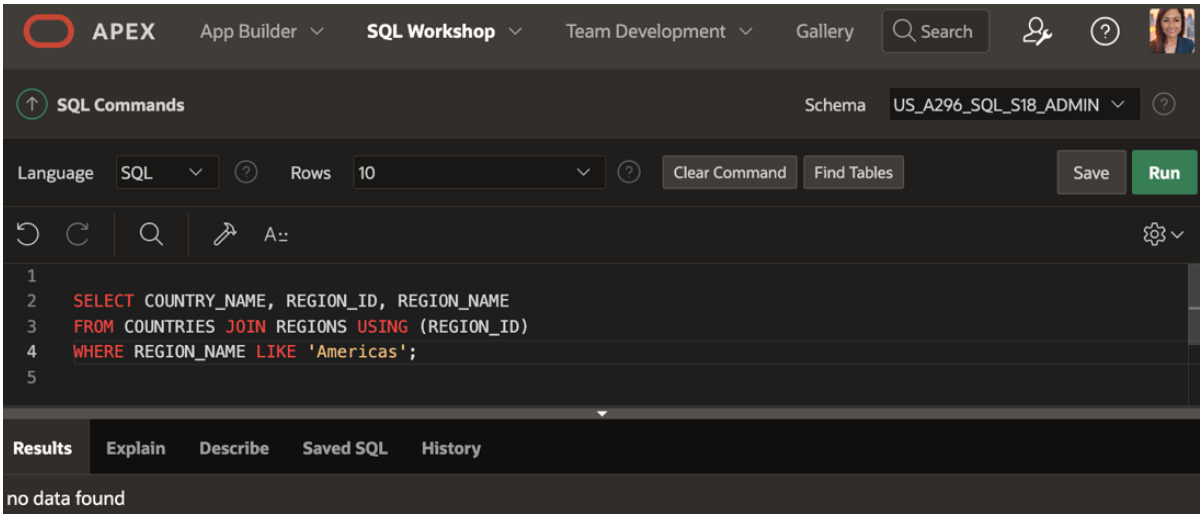
2. Join DJs on Demand d_play_list_items, d_track_listings, and d_cds tables with the JOIN USING syntax. Include the song ID, CD number, title, and comments in the output.



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



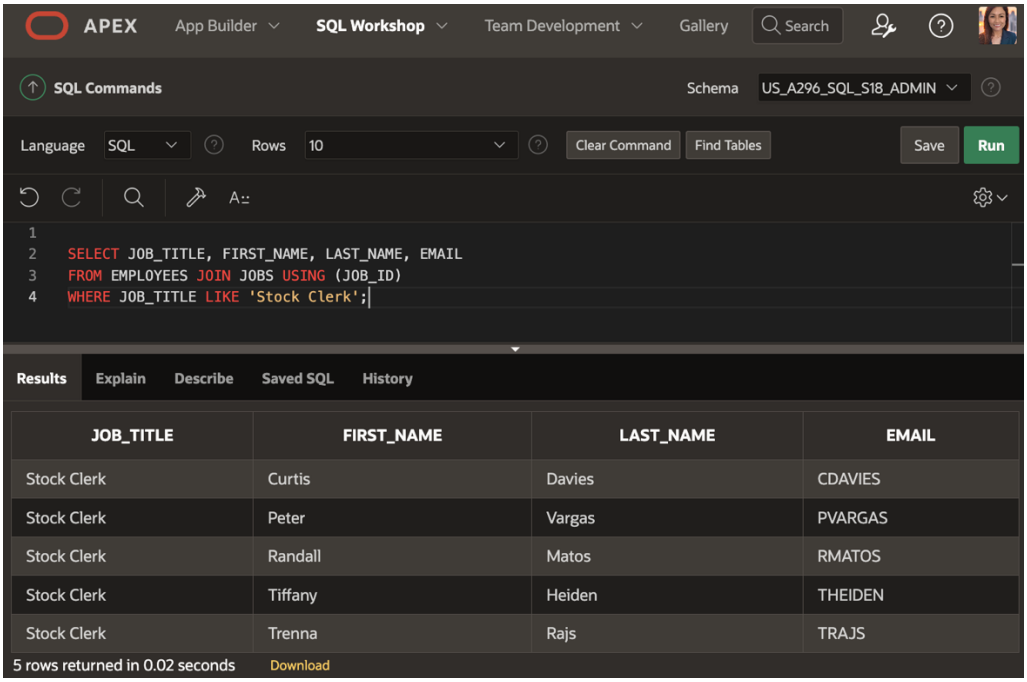
4. Display country name, region ID, and region name for Americas.



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.

- Failed to successfully run a query, I keep getting error messages.

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



SQL Database Programming: Section 6-3: Inner versus Outer Joins

Vocabulary

FULL OUTER Join – Performs a join on two tables, retrieves all the rows in the Left table, even if there is no match in the Right table. It also retrieves all the rows in the Right table, even if there is no match in the Left table.

OUTER Join – A join that returns the unmatched rows as well as matched rows

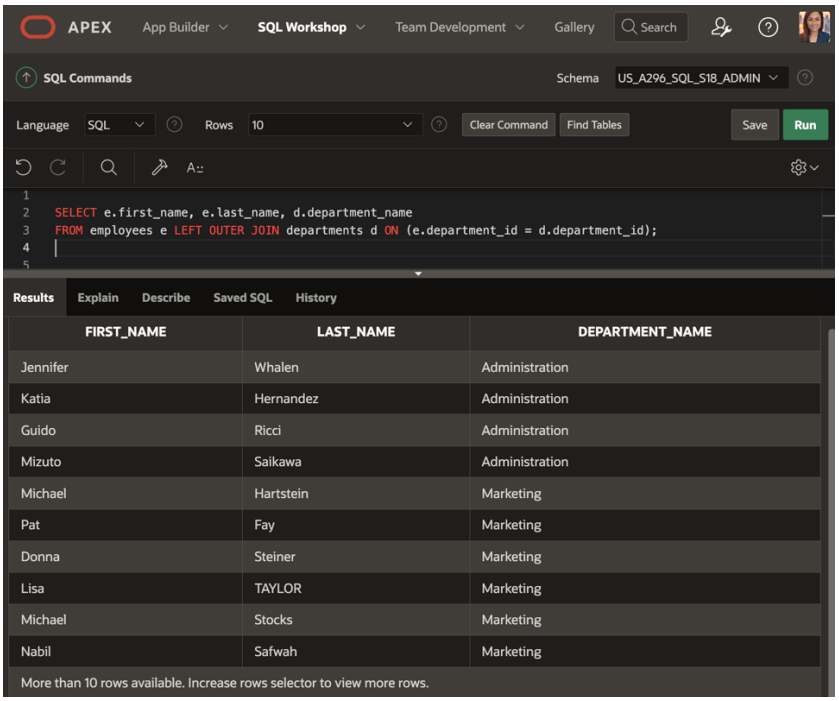
LEFT Outer Join – Performs a join on two tables, retrieves all the rows in the Left table even if there is no match in the Right table.

RIGHT Outer Join – Performs a join on two tables, retrieves all the rows in the Right table even if there is no match in the Left table.

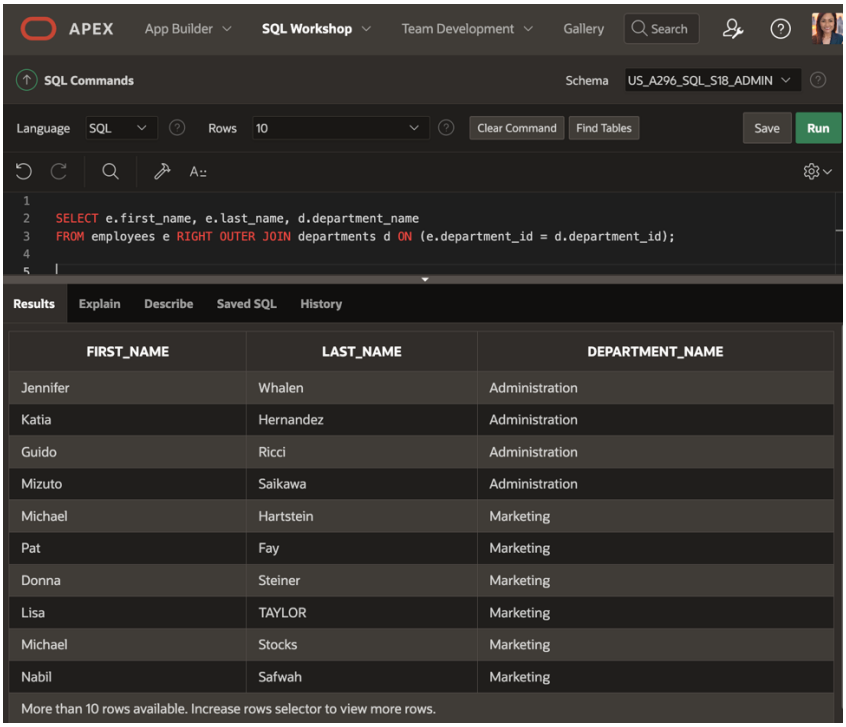
INNER Join – A join of two or more tables that returns only matched rows

Try It/Solve It

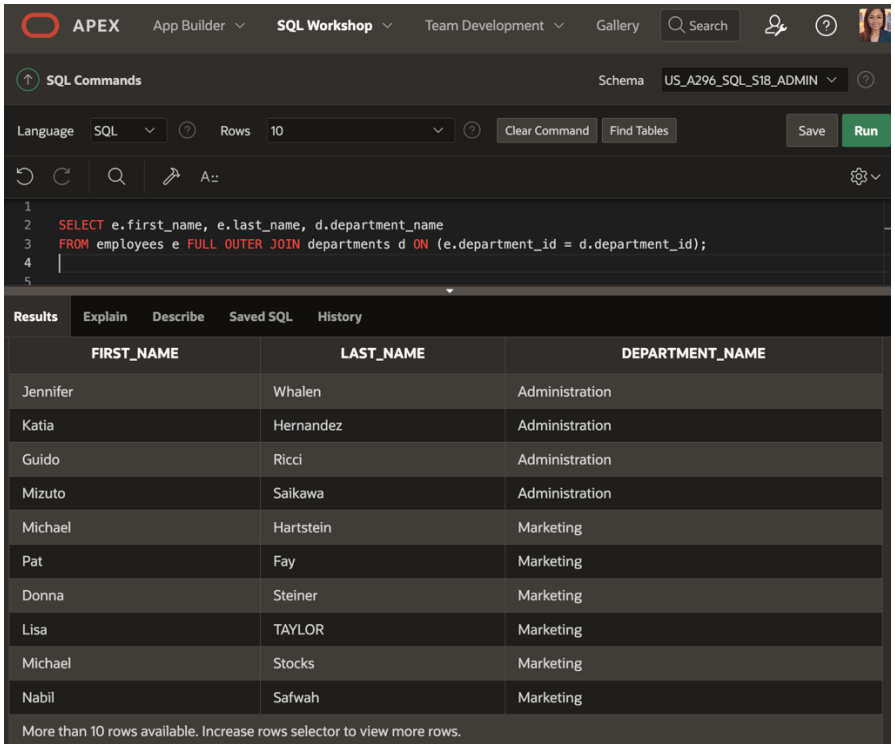
1. Return the first name, last name, and department name for all employees including those employees not assigned to a department.



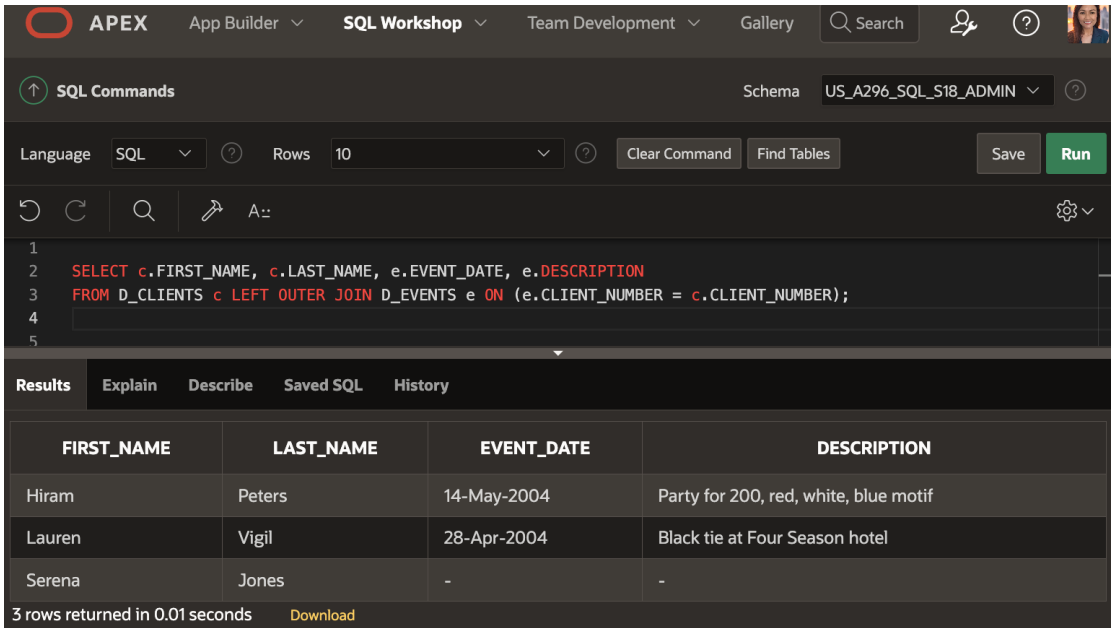
2. Return the first name, last name, and department name for all employees including those departments that do not have an employee assigned to them.



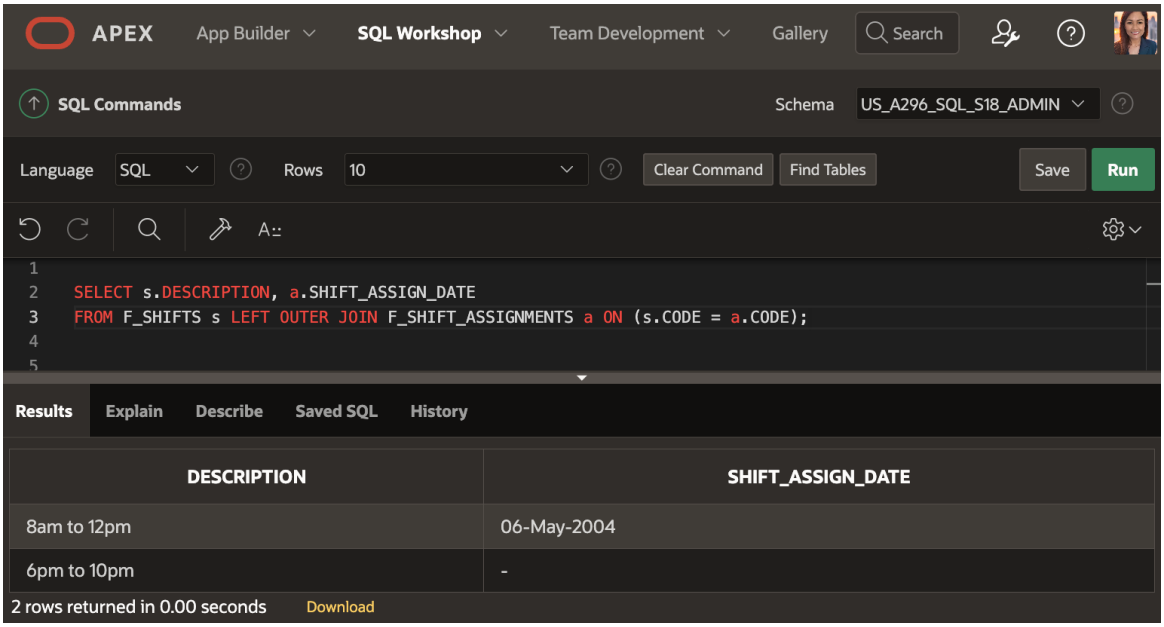
3. Return the first name, last name, and department name for all employees including those departments that do not have an employee assigned to them and those employees not assigned to a department.



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.



SQL Database Programming: Section 6-4: Self Joins and Hierarchical Queries

Vocabulary

SELF-JOIN – Joins a table to itself

HIERARCHICAL QUERY – Retrieves data based on a natural hierarchical relationship between rows in a table

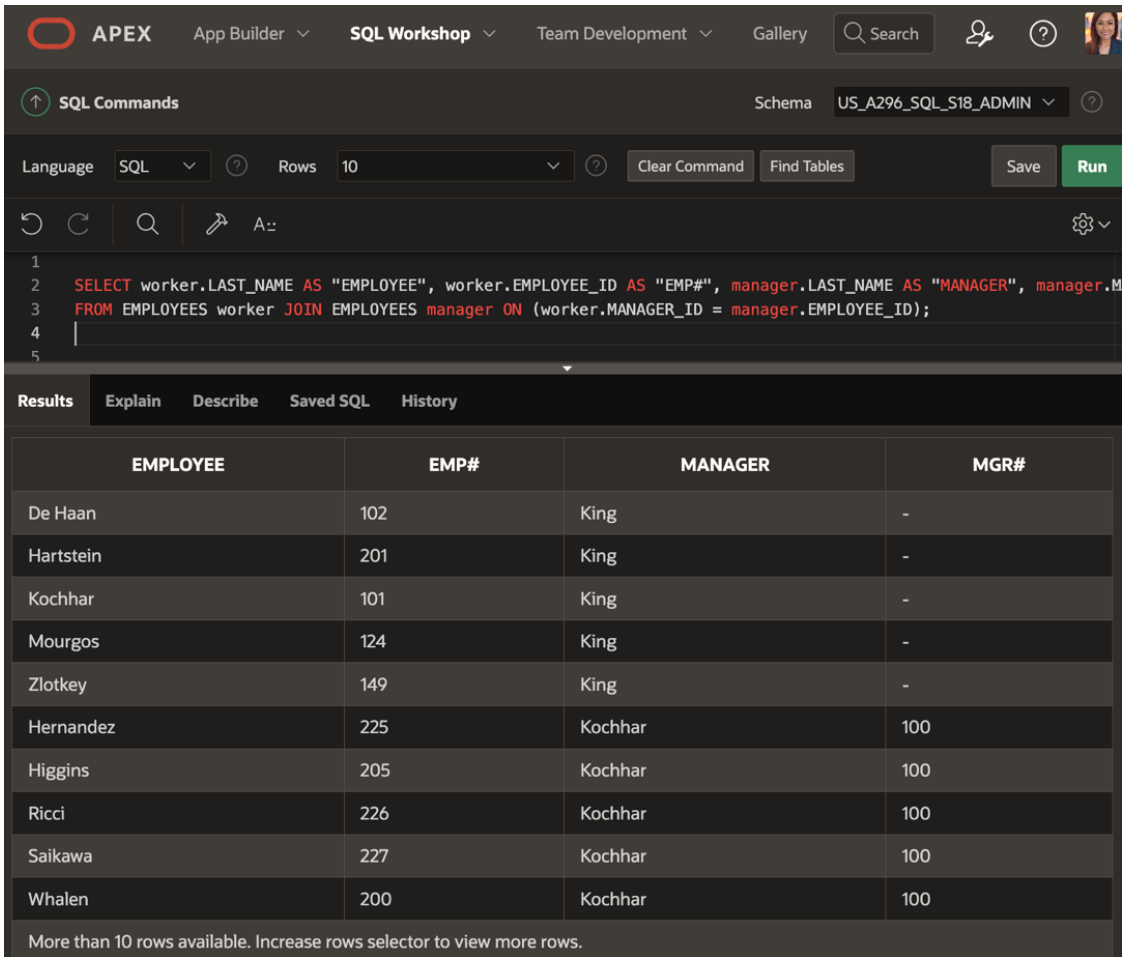
LEVEL – Determines the number of steps down from the beginning row that should be returned by a hierarchical query

START WITH – Identifies the beginning row for a hierarchical query

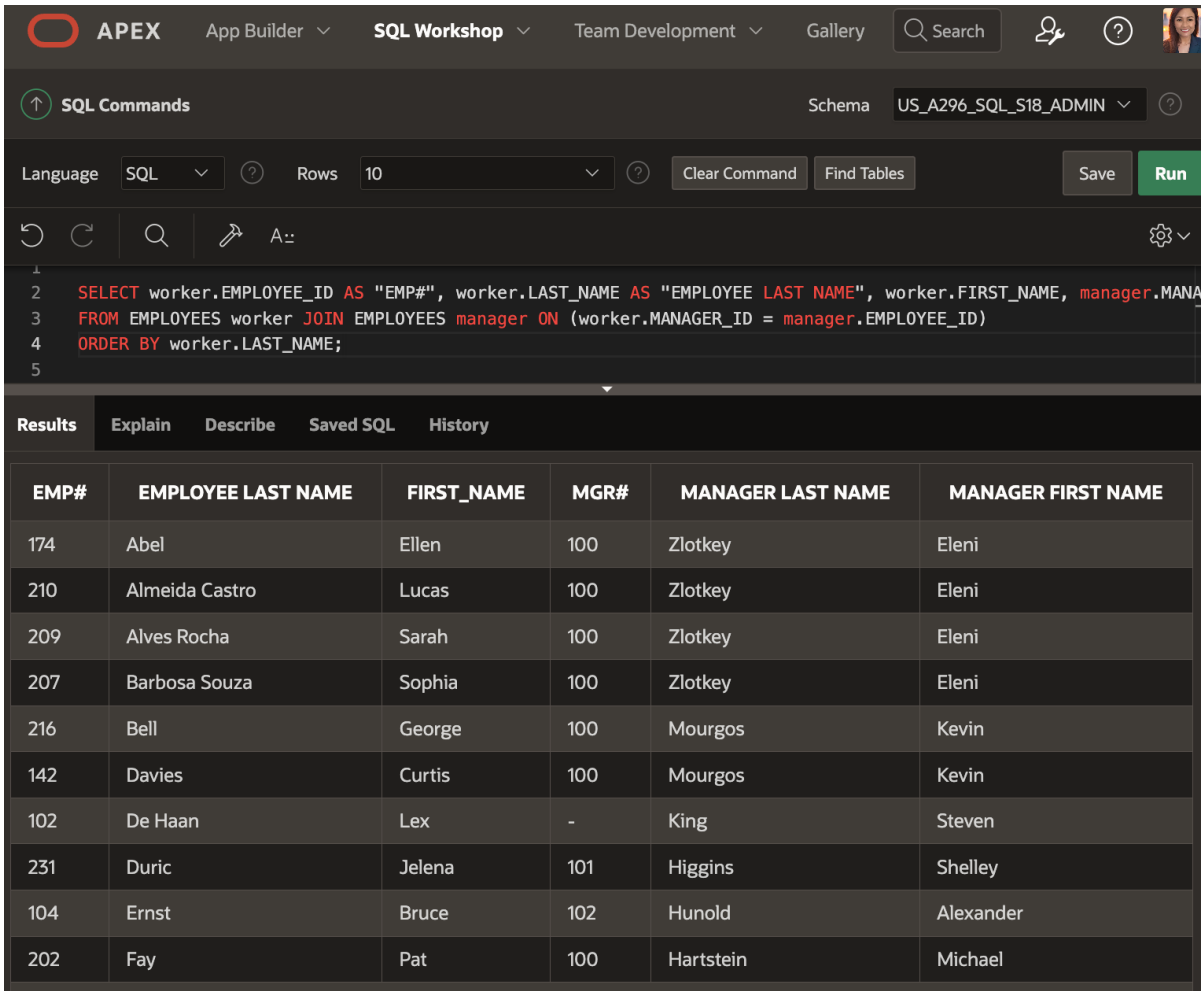
CONNECT BY PRIOR - Specifies the relationship between parent rows and child rows of a hierarchical query

Try It/Solve It

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.

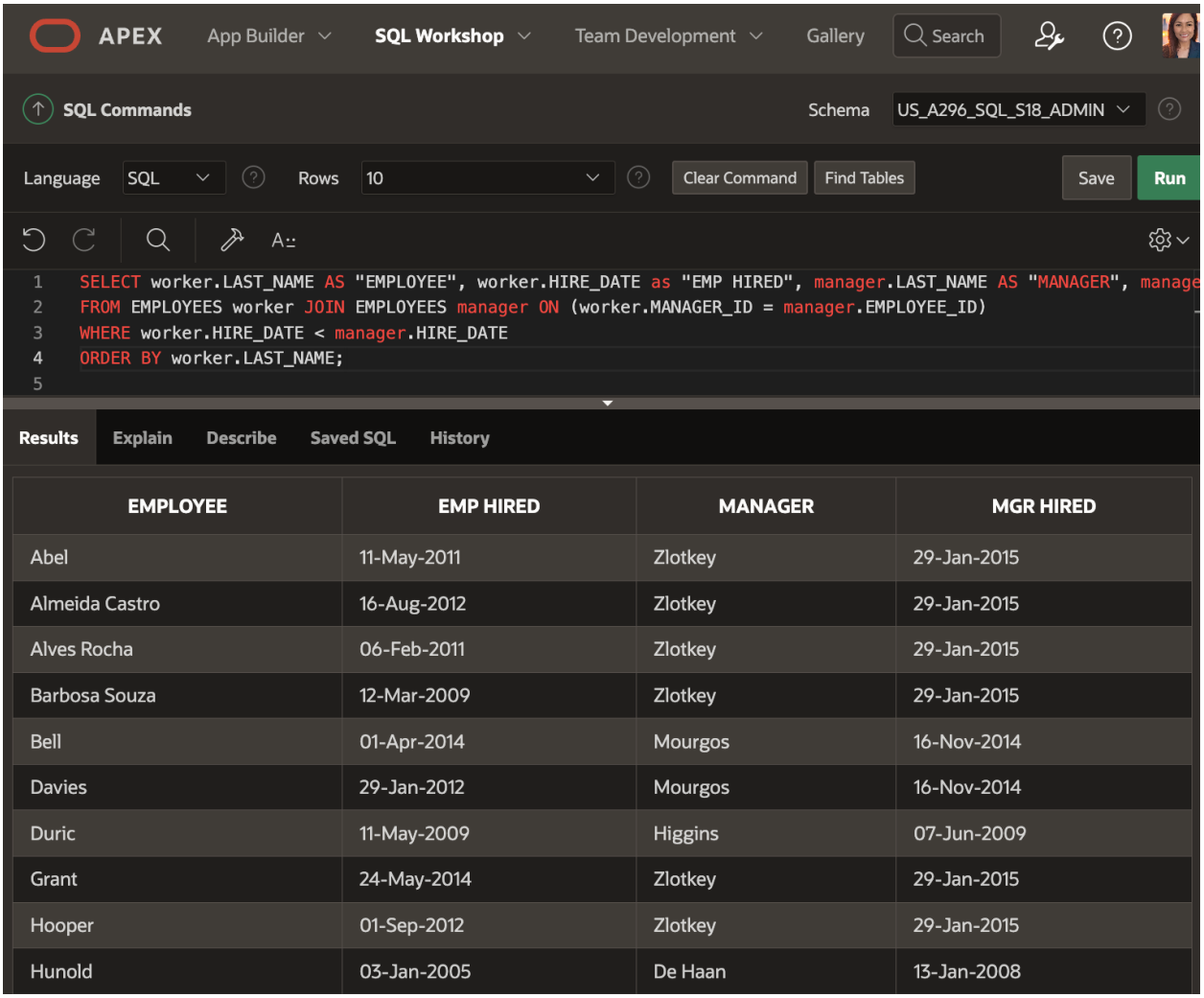


2. Modify question 1 to display all employees and their managers, even if the employee does not have a manager. Order the list alphabetically by the last name of the employee.



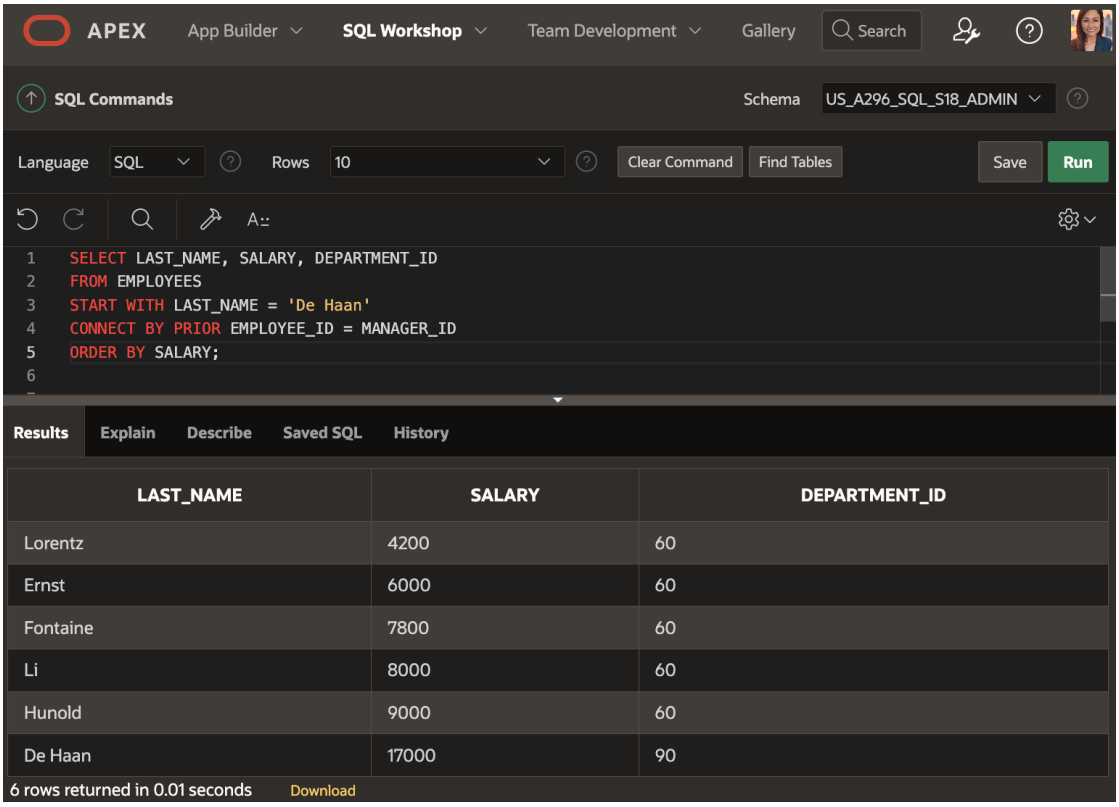
EMP#	EMPLOYEE LAST NAME	FIRST_NAME	MGR#	MANAGER LAST NAME	MANAGER FIRST NAME
174	Abel	Ellen	100	Zlotkey	Eleni
210	Almeida Castro	Lucas	100	Zlotkey	Eleni
209	Alves Rocha	Sarah	100	Zlotkey	Eleni
207	Barbosa Souza	Sophia	100	Zlotkey	Eleni
216	Bell	George	100	Mourgos	Kevin
142	Davies	Curtis	100	Mourgos	Kevin
102	De Haan	Lex	-	King	Steven
231	Duric	Jelena	101	Higgins	Shelley
104	Ernst	Bruce	102	Hunold	Alexander
202	Fay	Pat	100	Hartstein	Michael

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.



EMPLOYEE	EMP HIRED	MANAGER	MGR HIRED
Abel	11-May-2011	Zlotkey	29-Jan-2015
Almeida Castro	16-Aug-2012	Zlotkey	29-Jan-2015
Alves Rocha	06-Feb-2011	Zlotkey	29-Jan-2015
Barbosa Souza	12-Mar-2009	Zlotkey	29-Jan-2015
Bell	01-Apr-2014	Mourgos	16-Nov-2014
Davies	29-Jan-2012	Mourgos	16-Nov-2014
Duric	11-May-2009	Higgins	07-Jun-2009
Grant	24-May-2014	Zlotkey	29-Jan-2015
Hooper	01-Sep-2012	Zlotkey	29-Jan-2015
Hunold	03-Jan-2005	De Haan	13-Jan-2008

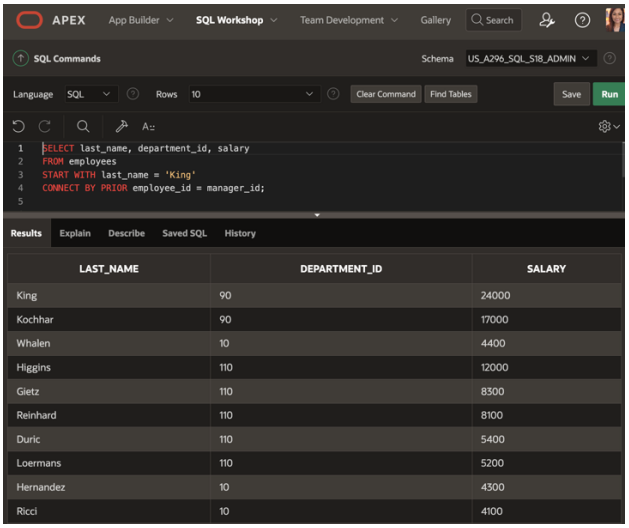
4. Write a report that shows the hierarchy for Lex De Haans department. Include last name, salary, and department id in the report.



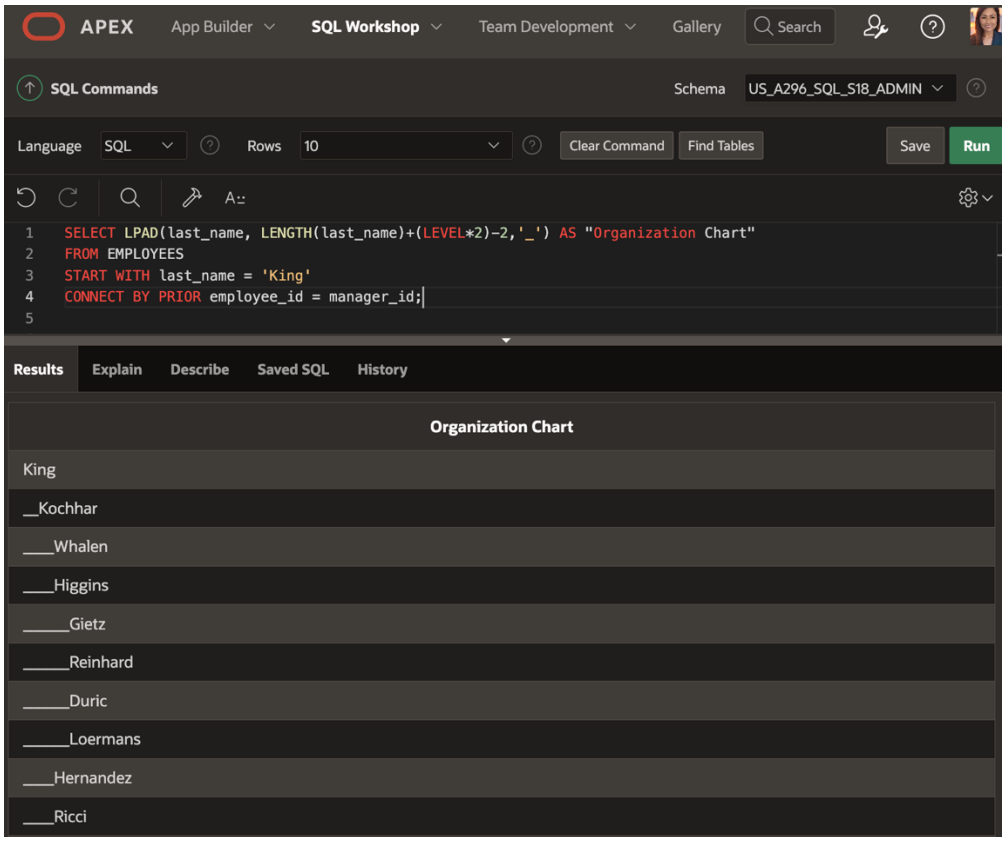
5. What is wrong in the following statement?

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

- It should be "employee_id = manager_id": to build the hierarchy correctly



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.