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HHA 507

SQL Database Programming: Section 7-1: Oracle Equijoin and Cartesian Product

Vocabulary

CARTESIAN PRODUCT JOIN – Results from an invalid or omitted join condition; all combinations of rows are displayed

EQUIJOIN – Values in a column in one table are equal to a value in another table; also called an inner join or simple join

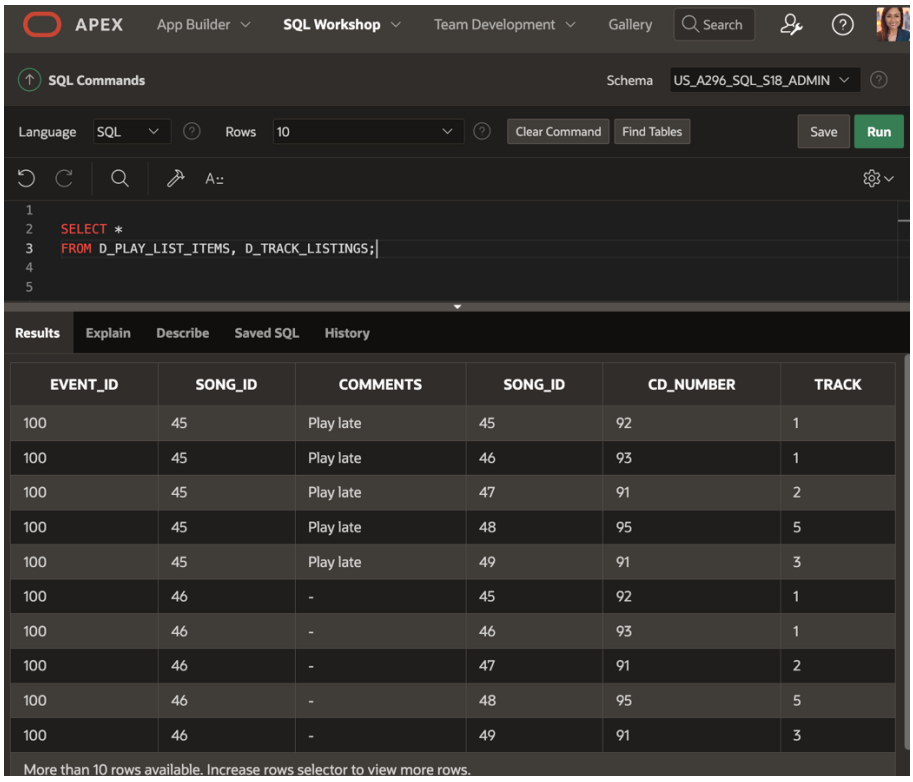
PROPRIETARY JOIN – Connection command exclusive to a specific company

TABLE ALIAS – Gives a table another name to simplify queries and improve performance

JOIN – Display data from two or more related tables

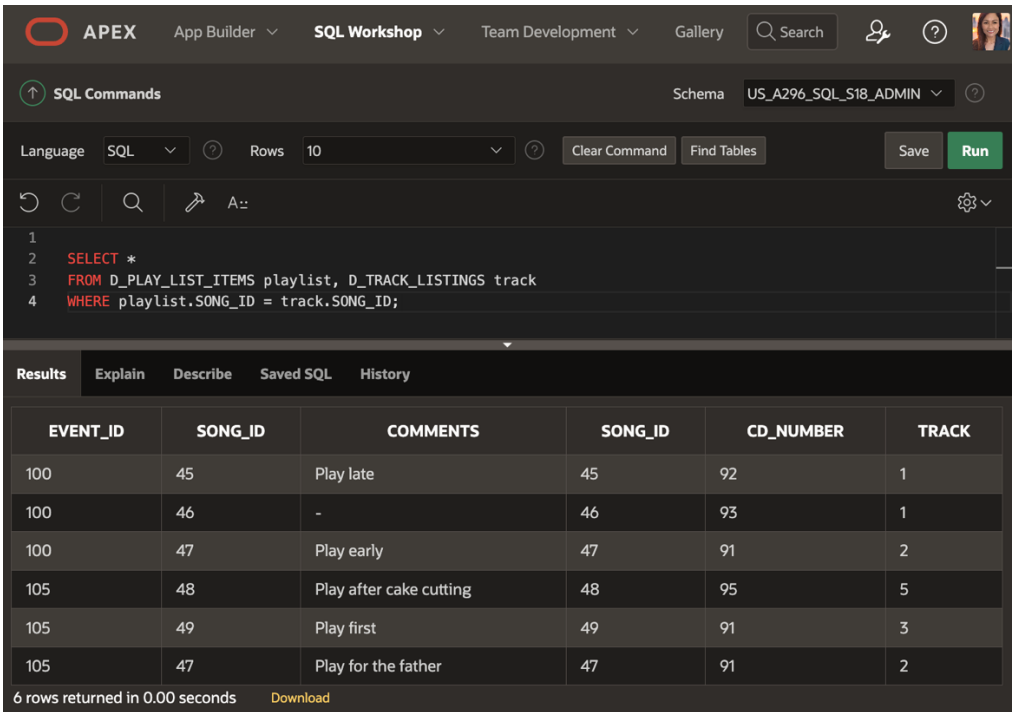
Try It / Solve It

1. Create a Cartesian product that displays the columns in the d_play_list_items and the d_track_listings in the DJs on Demand database.

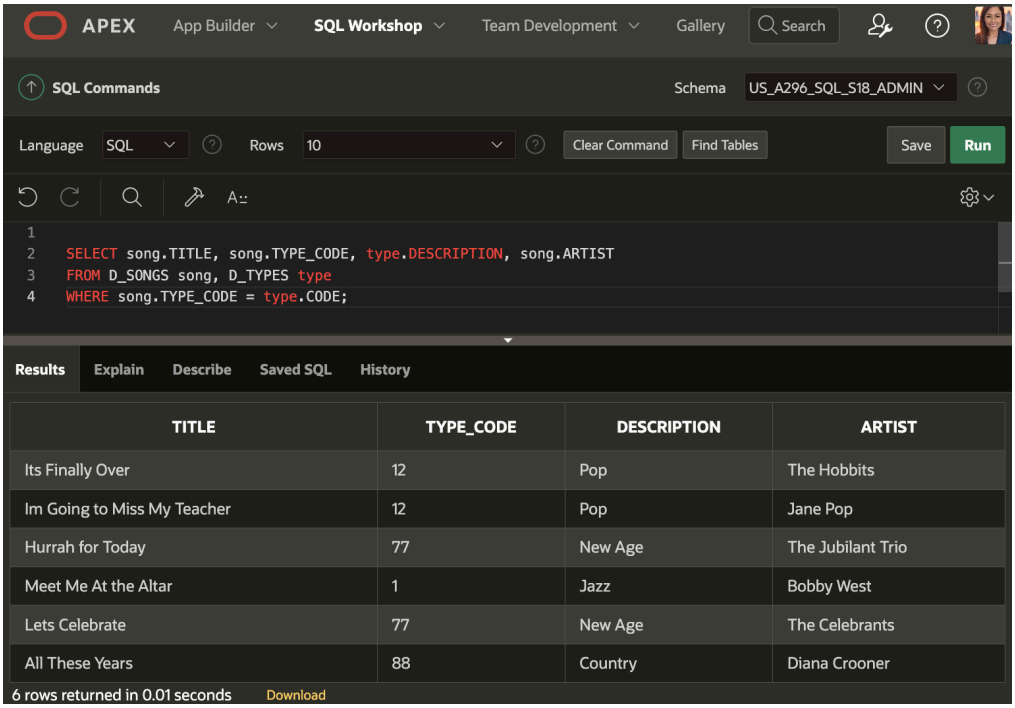


EVENT_ID	SONG_ID	COMMENTS	SONG_ID	CD_NUMBER	TRACK
100	45	Play late	45	92	1
100	45	Play late	46	93	1
100	45	Play late	47	91	2
100	45	Play late	48	95	5
100	45	Play late	49	91	3
100	46	-	45	92	1
100	46	-	46	93	1
100	46	-	47	91	2
100	46	-	48	95	5
100	46	-	49	91	3

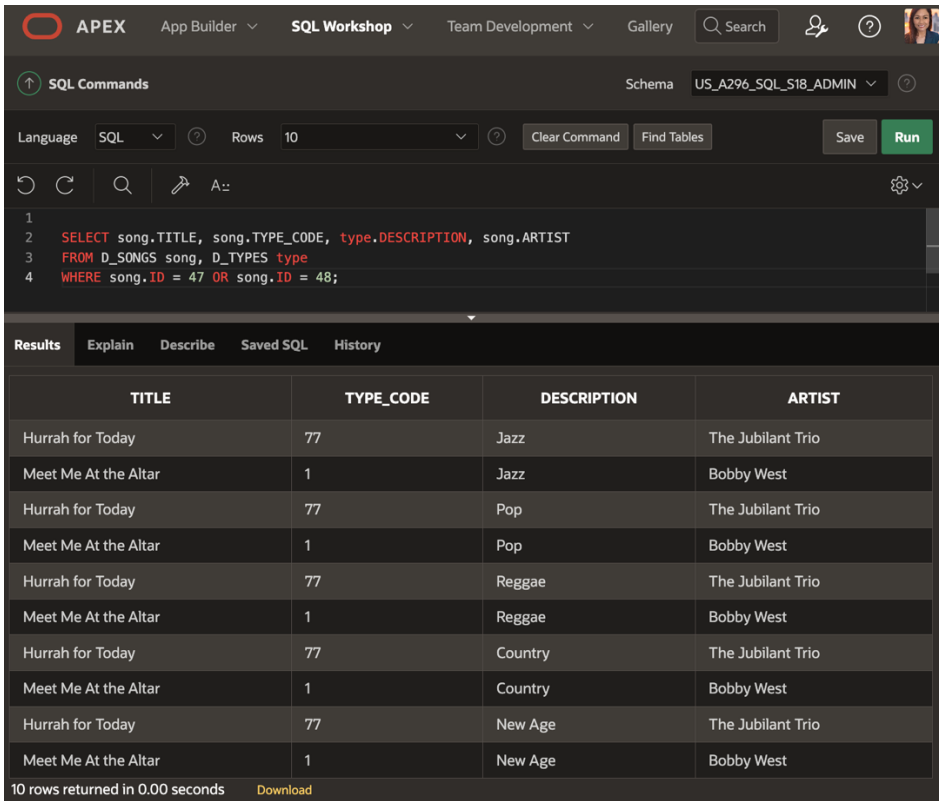
2. Correct the Cartesian product produced in question 1 by creating an equijoin using a common column.



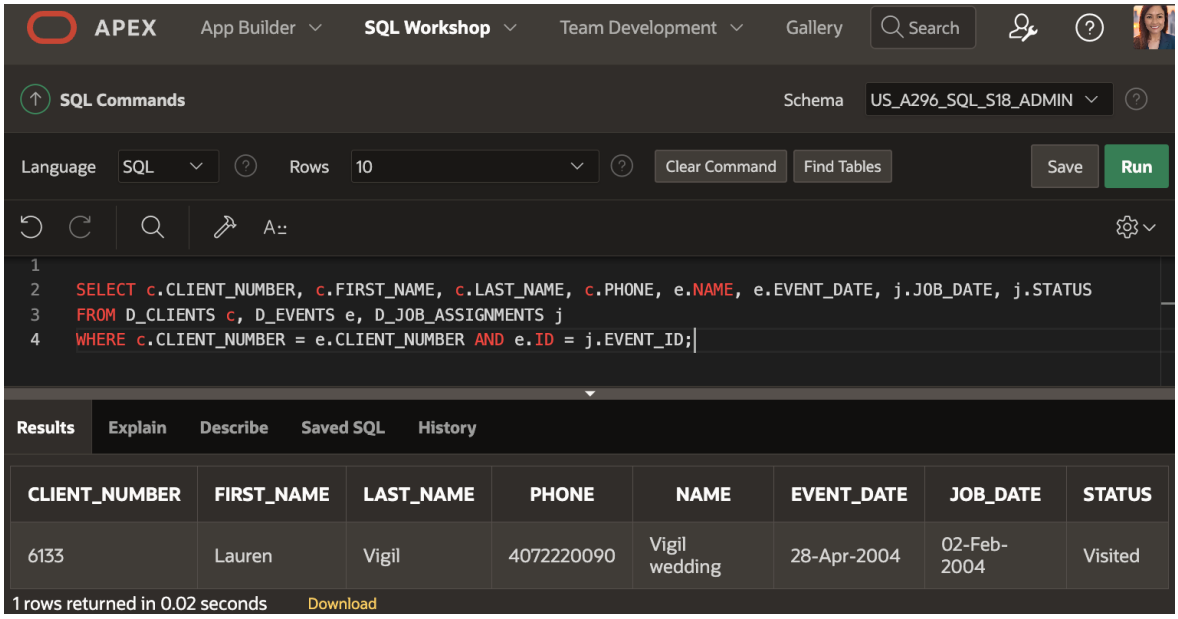
3. Write a query to display the title, type, description, and artist from the DJs on Demand database.



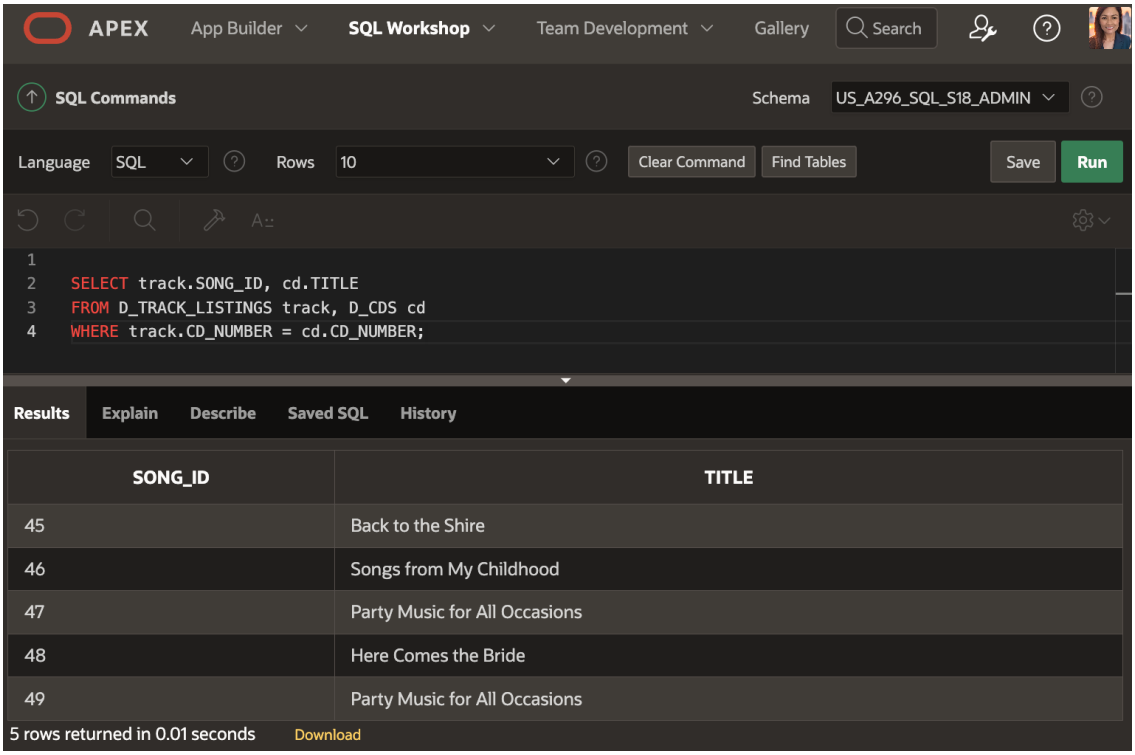
4. Rewrite the query in question 3 to select only those titles with an ID of 47 or 48.



5. Write a query that extracts information from three tables in the DJs on Demand database, the d_clients table, the d_events table, and the d_job_assignments table.



6. Create and execute an equijoin between DJs on Demand tables d_track_listings and d_cds. Return the song_id and the title only.



7. Mark T for the statements that are true and F for the statements that are false.

___T___a. A join is a type of query that gets data from more than one table based on columns with the same name.

___T___b. To join tables using an equijoin, there must be a common column in both tables and that column is usually a primary key in one of the tables.

___F___c. A Cartesian product occurs because the query does not specify a WHERE clause.

___F___d. Table aliases are required to create a join condition.

___T___e. If a table alias is used for a table name in the FROM clause, it must be substituted for the table name throughout the SELECT statement.

___F___f. Table alias must be only one character in length.

___T___g. A simple join or inner join is the same as an equijoin.

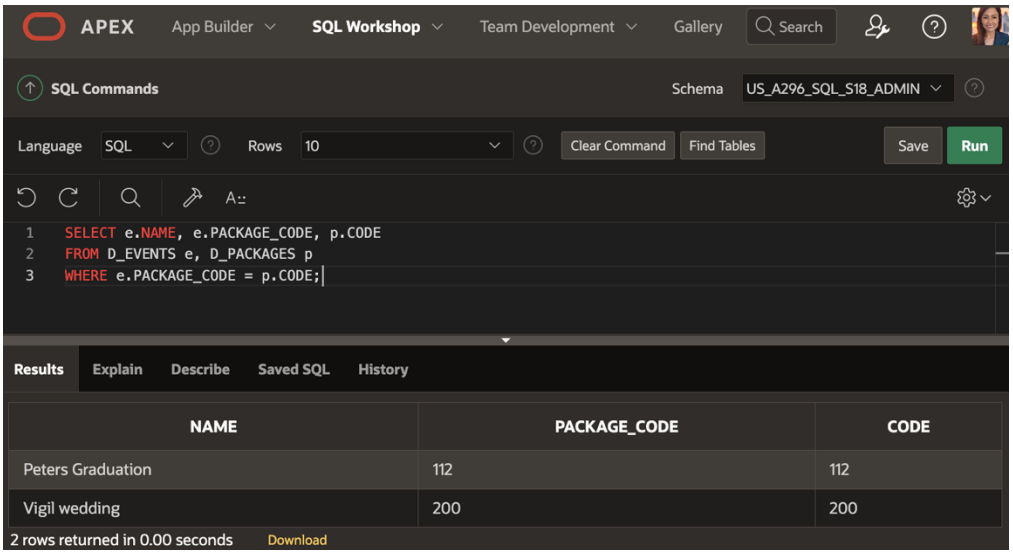
8. What advantage does being able to combine data from multiple tables have for a business?

Being able to combine data from multiple tables can improve business's efficiency in analyzing the trends and patterns, depending on the type of business. For instance, when it comes to shopping, it allows businesses to monitor and analyze their customers' purchasing history in a comprehensive way, helping them make informed decisions.

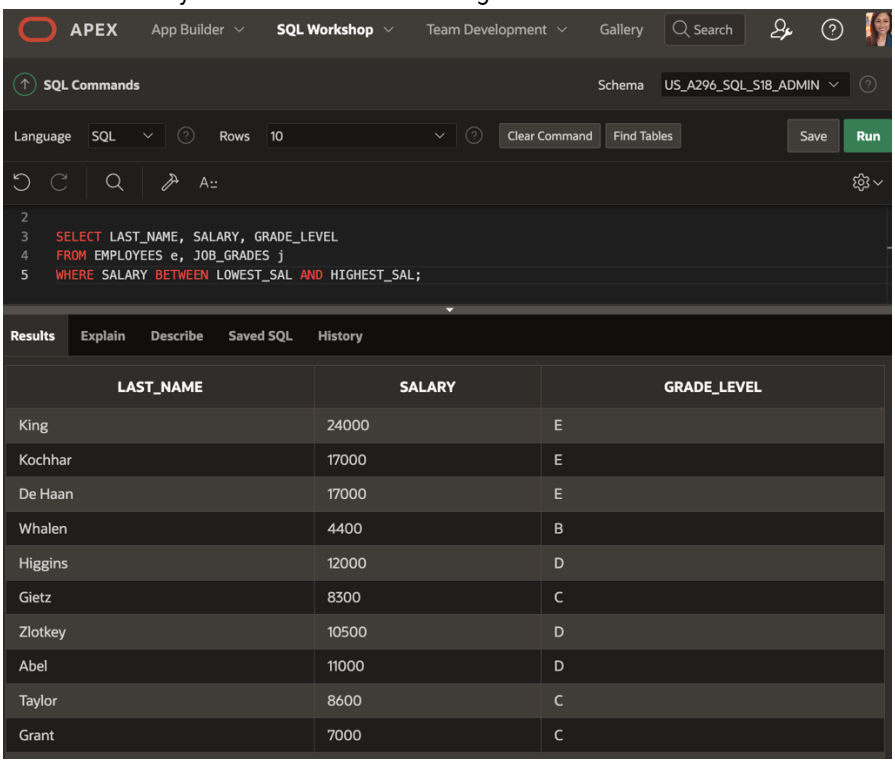
SQL Database Programming: Section 7-2: Oracle Nonequijoins and Outer Joins

Try It / Solve It

1. Create a join based on the cost of the event between the DJs on Demand tables D_EVENTS and D_PACKAGES. Show the name of the event and the code for each event.



2. Using the Oracle database, create a query that returns the employee last name, salary, and job-grade level based on the salary. Select the salary between the lowest and highest salaries.



3. What condition requires the creation of a nonequijoin?
A nonequijoin is equivalent to an ANSI JOIN ON (where the condition used is something other than equals)

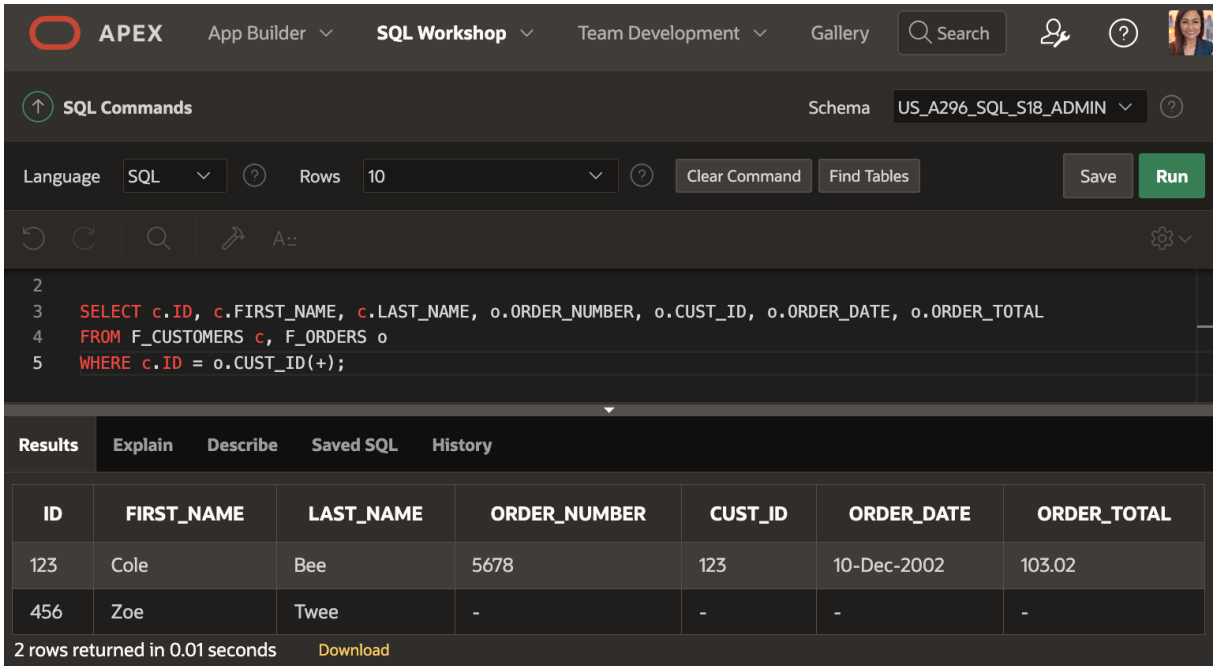
4. Rewrite the following nonequijoin statement using the logical condition operators (AND, OR, NOT):
WHERE a.ranking BETWEEN g.lowest_rank AND g.highest_rank

WHERE a.ranking >= g.lowest_rank AND a.ranking <= g,highest_rank

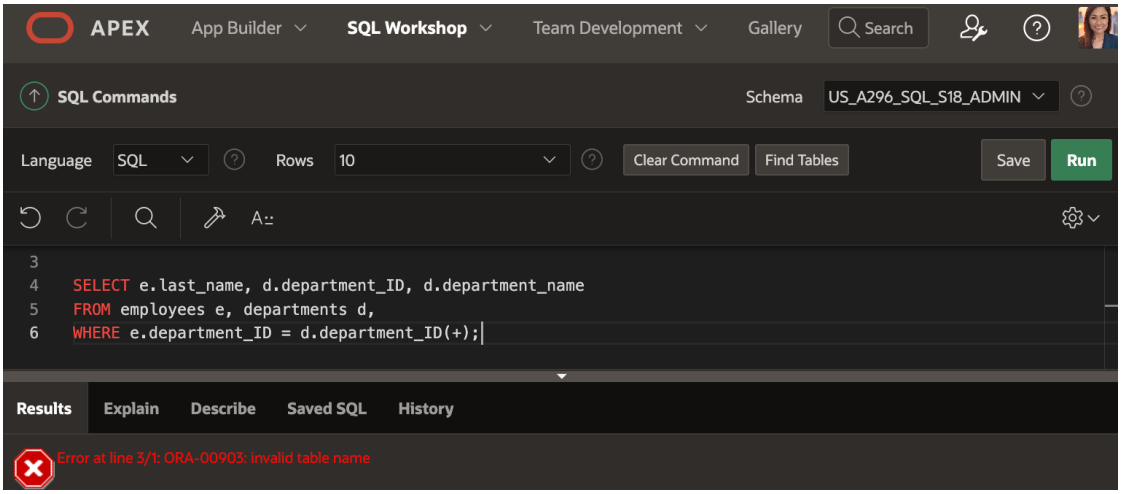
5. How do you know when to use a table alias and when not to use a table alias?
Use Table Alias – if table names have long names
Do not use Table Alias – if using simple queries that has only one table and few columns

6. What kind of join would you use if you wanted to find data between a range of numbers?
- Nonequijoin (using BETWEEN)

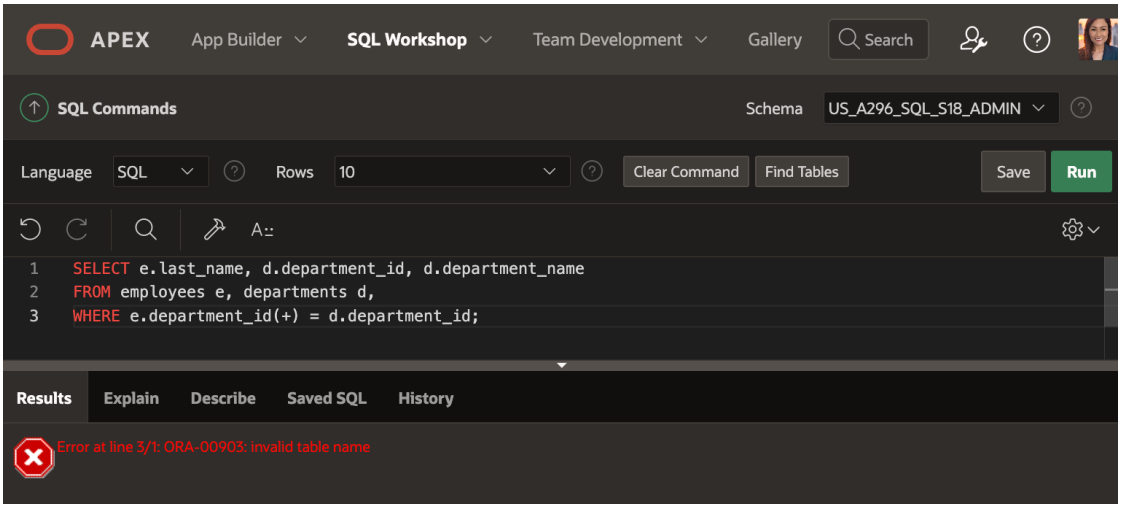
7. You need to produce a report for Global Fast Foods showing customers and orders. A customer must be included on the report even if the customer has had no orders.



8. Create a query of the Oracle database that shows employee last names, department IDs, and department names. Include all employees even if they are not assigned to a department.



9. Modify the query in problem 8 to return all the department IDs even if no employees are assigned to them.



10. There are one or more errors in each of the following statements. Describe the errors and correct them.
    a. WHERE e.department_id(+) = d.department_id (+);
        → (+) placed after the column name that I want all rows to be kept. For instance, in this case, keep the (+) after d.department_id
        → WHERE e.department_id = d.department_id (+);

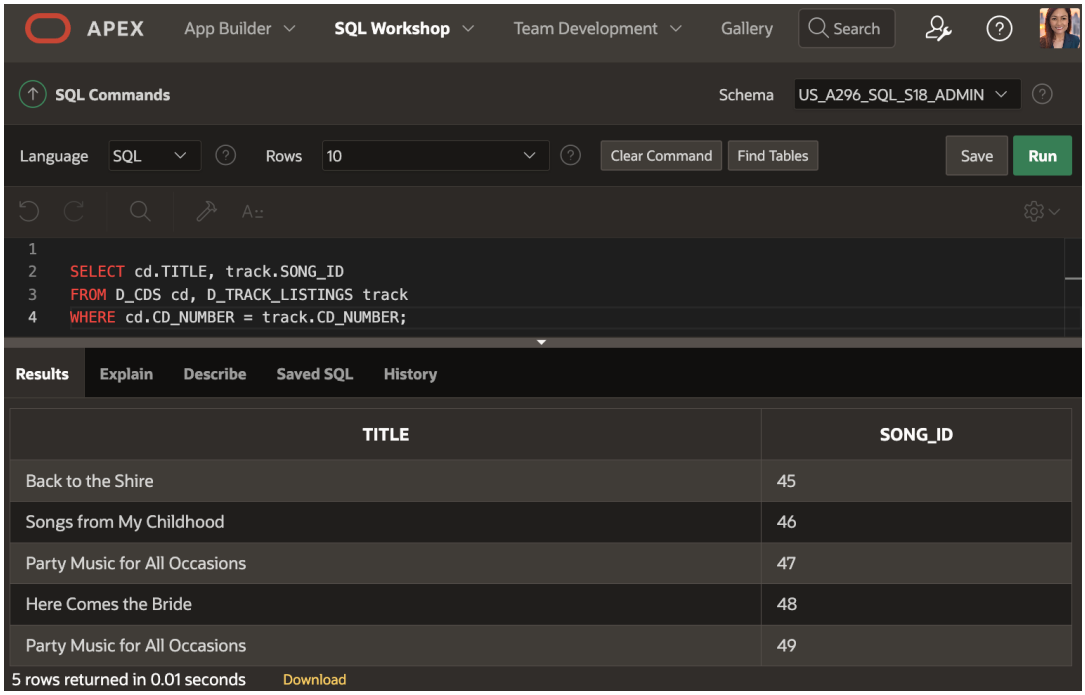
b. SELECT e.employee id, e. last name, d. location id
FROM employees, departments
WHERE e.department_id = d.department_id(+);

→ Missing underscores in the employee_id, last_name, location_id

→ Missing letters e and d after employees and departments. To avoid unintended results.

→ SELECT e.employee_id, e.last_name, d.location_id
FROM employees e, departments d
WHERE e.department_id = d.department_id(+)

11. Create a query that will show all CD titles and song IDs in the DJs on Demand database even if there is no CD number in the track-listings table.



12. How many times has someone asked you: “What do you want to be when you grow up?” For most of us, the first thing that comes to mind is something like business manager, engineer, teacher, game designer, doctor, scientist, computer programmer, or accountant -- all pretty much traditional career choices. Have you ever thought about working in an odd job or nontraditional career? There are people who are professional shoppers for busy executives, directors of zoos, recipe designers, insecticide chemists, golf-course designers, and turf managers. Picture yourself in a dream job or nontraditional career doing something that you think would be interesting, life fulfilling, and profitable. Use Internet resources to explore your idea. Write a brief description of the job to share with the class.

Prior to pursuing my passion in healthcare, I initially studied for a bachelor’s degree in communication arts. I have always been drawn to the dynamic and ever-evolving world of entertainment. The power of storytelling captivates me. As I grew older, I became fascinated by how animators blend artistry and technology, bringing characters to life and transporting audiences to magical worlds of fantasy. Although I don’t have a talent for drawing, I do have a passion for the arts, it fuels my desire to contribute to this magical art form. It would be fun to envision myself collaborating with talented individuals, pushing creative boundaries, and crafting stories that would leave a lasting impact on viewers all over the world.