

# Cartesian Product and the Join Operations

## Objectives

- Describe the purpose of join conditions
- Construct and execute a SELECT statement that results in a Cartesian product
- Construct and execute SELECT statements to access data from more than one table using an equijoin
- Construct and execute SELECT statements that add search conditions using the AND operator
- Apply the rule for using column aliases in a join statement
- Provide evidence to answer the question “Why is it important, from a business perspective, for a language to be able to combine information from multiple data sources?”

## Vocabulary

**Directions: Identify the vocabulary word for each definition below.**

- |    |       |   |
|----|-------|---|
| 1. | _____ | Results from an invalid or omitted join condition; all combinations of rows are displayed                           |
| 2. | _____ | Values in a column in one table must be equal to a value in another table; also called an inner join or simple join |
| 3. | _____ | Connection command exclusive to a specific company  |
| 4. | _____ | Gives a table another name to simplify queries and improve performance  |
| 5. | _____ | 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.
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.

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

\_\_\_\_ **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.

\_\_\_\_ **c.** A Cartesian product occurs because the query does not specify a WHERE clause.

\_\_\_\_ **d.** Table aliases are required to create a join condition.

\_\_\_\_ **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.** Table alias must be only one character in length.

\_\_\_\_ **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?