Database Programming with SQL
7-1: Oracle Equijoin and Cartesian Product
Practice Activities

Objectives

- Name the Oracle proprietary joins and their ANSI/ISO SQL: 1999 counterparts
- 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

Vocabulary

Identify the vocabulary word for each definition below.

Cartesian Product	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
alias	Gives a table another name to simplify queries and improve performance
join conditions	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.

```
SELECT d_play_list_items.event_id, d_play_list_items.song_id , d_play_list_items.comments , d_track_listings.song_id , d_track_listings.cd_number ,  d_track_listings.track
FROM  d_play_list_items, d_track_listings;
```

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

```
SELECT d_play_list_items.event_id , d_play_list_items.song_id , d_play_list_items.comments ,
d_track_listings.song_id , d_track_listings.cd_number ,  d_track_listings.track
WHERE d_play_list_items.song_id = d_track_listings.song_id;
```

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.
   F a. A join is a type of query that gets data from more than one table based on columns with the same name. <-description of natural join
   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.
   T 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.

Study material says: Equijoin- Sometimes called a "simple" or "inner" join; an equijoin is a table join that combines rows that have the same values for specifies columns

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

3.
```
SELECT  d_songs.title,  d_songs.type_code type, d_types.description
FROM d_songs, d_types
WHERE d_songs.type_code = d_types.code;
```

4.
```
SELECT  d_songs.title,  d_songs.type_code type, d_types.description
FROM d_songs, d_types
WHERE d_songs.type_code = d_types.code AND d_songs.id in (47, 48);
```

5.
```
SELECT *
FROM d_clients, d_events, d_job_assignments
WHERE d_clients.client_number = d_events.client_number AND d_events.id =  d_job_assignments.event_id;
```

6.
```
SELECT d_track_listings.song_id "song id in tracklist", d_cds.title "title in cds"
FROM d_track_listings, d_cds
WHERE d_track_listings.cd_number = d_cds.cd_number;
```

8.relational,situational and partial combination of data from multiple tables helps in solving specific problems or in organizing the data into specific groups