

3.7: Joining Tables of Data

1. Write a query to find the top 10 countries for Rockbuster in terms of customer numbers. (Tip: you'll have to use GROUP BY and ORDER BY, both of which follow the join.) Copy-paste your query and its output into your answers document. Write a few sentences on how you approached this query and why. It's important that you can explain your thought process when writing queries, especially for future interviews.

The screenshot shows a SQL query editor with a toolbar at the top. The query is as follows:

```
1 SELECT D. country,
2       COUNT (A.customer_id)
3
4 FROM customer A
5 INNER JOIN address B ON A. address_id = B. address_id
6 INNER JOIN city C ON B. city_id = C. city_id
7 INNER JOIN country D ON C. country_id = D. country_id
8
9 GROUP BY D.country
10 ORDER BY COUNT (A. customer_id) DESC LIMIT 10
```

Below the query editor, the 'Data output' tab is active, showing a table with the results of the query:

	country character varying (50)	count bigint
1	India	60
2	China	53
3	United States	36
4	Japan	31
5	Mexico	30
6	Brazil	28

At the bottom of the editor, it says 'Total rows: 10 of 10' and 'Query complete 00:00:00.064'. The cursor is at 'Ln 9, Col 19'.

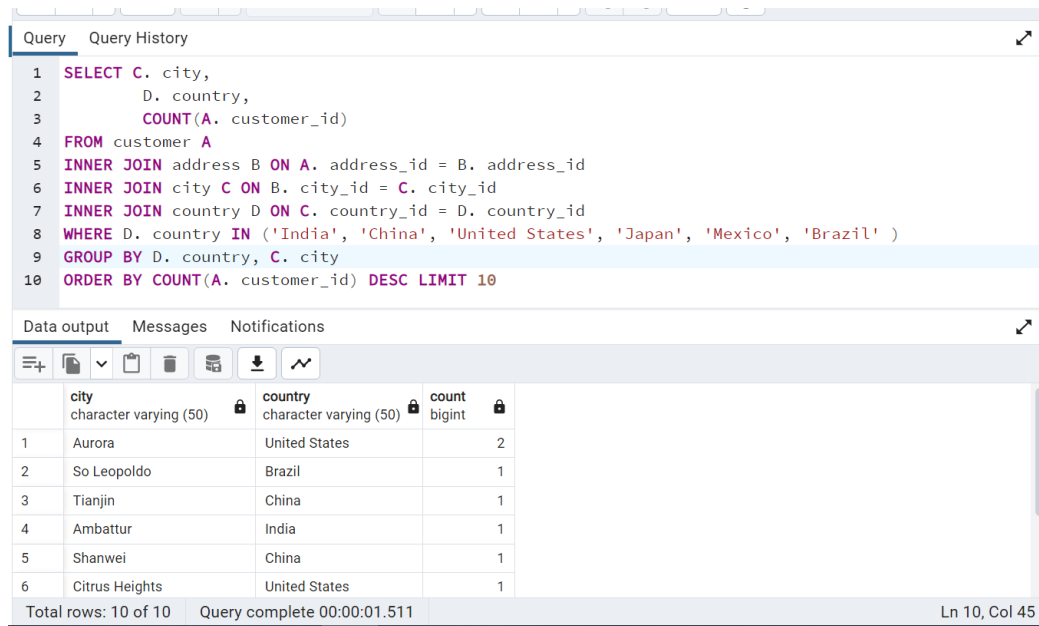
I found some difficulties to start doing this kind of joins from zero. I think I needed to read and see some more examples to get used to the structure and the links between different tables. Once I have understood the structure and the link, it's going to be easier for sure, but we need to practice and practice and practice as you say Dana, to get some skills and velocity

On this case, I've chosen customer as the main table, and I've joined it to country through two steps: address and city, so four tables have been used with their correspondent identification key

Customer → address → city → country

Then I have write to count the number of Ids as a way of identifying on which country we have more customers (just the count, it doesn't mean anything about the rentals)

2. Write a query to find the top 10 cities within the top 10 countries identified in step 1. Copy-paste your query and its output into your answers document. Write a short explanation of how you approached this query and why.



```
1 SELECT C. city,
2       D. country,
3       COUNT(A. customer_id)
4 FROM customer A
5 INNER JOIN address B ON A. address_id = B. address_id
6 INNER JOIN city C ON B. city_id = C. city_id
7 INNER JOIN country D ON C. country_id = D. country_id
8 WHERE D. country IN ('India', 'China', 'United States', 'Japan', 'Mexico', 'Brazil')
9 GROUP BY D. country, C. city
10 ORDER BY COUNT(A. customer_id) DESC LIMIT 10
```

	city character varying (50)	country character varying (50)	count bigint
1	Aurora	United States	2
2	So Leopoldo	Brazil	1
3	Tianjin	China	1
4	Ambattur	India	1
5	Shanwei	China	1
6	Citrus Heights	United States	1

Total rows: 10 of 10 Query complete 00:00:01.511 Ln 10, Col 45

Here I have done more or less the same exercise as on the first one, because the tables related has been the same

Customer → address → city → country

I just ask for another column (city), and introduce a filter to just make the consult with a limit number of countries, so the answer should be faster

3. Write a query to find the top 5 customers in the top 10 cities who have paid the highest total amounts to Rockbuster. The customer team would like to reward them for their loyalty!

Tip: After the join syntax, you'll need to use the WHERE clause with an operator, followed by GROUP BY and ORDER BY. Your output should include the following columns:

Total Amount Paid.

Customer ID,

Customer First Name and Last Name,

Country,

City,

Query Query History

```

1 SELECT
2   B. customer_id, first_name, last_name,
3   D. city,
4   E. count(*) Loading...
5   SUM(A. amount)
6
7 FROM payment A
8 INNER JOIN customer B ON A. customer_id = B. customer_id
9 INNER JOIN address C ON B. address_id = C. address_id
10 INNER JOIN city D ON C. city_id = D. city_id
11 INNER JOIN country E ON D. country_id = E. country_id

```

Data output Messages Notifications

	customer_id integer	first_name character varying (45)	last_name character varying (45)	city character varying (50)	country character varying (50)	sum numeric
1	225	Arlene	Harvey	Ambattur	India	111.76
2	424	Kyle	Spurlock	Shanwei	China	109.71
3	240	Marlene	Welch	Iwaki	Japan	106.77
4	486	Glen	Talbert	Acua	Mexico	100.77
5	537	Clinton	Buford	Aurora	United States	98.76

```

SELECT
B. customer_id, first_name, last_name,
D. city,
E. country,
SUM(A. amount)

FROM payment A
INNER JOIN customer B ON A. customer_id = B. customer_id
INNER JOIN address C ON B. address_id = C. address_id
INNER JOIN city D ON C. city_id = D. city_id
INNER JOIN country E ON D. country_id = E. country_id
WHERE D. city IN ('Aurora', 'So Leopoldo', 'Tianjin', 'Ambattur', 'Shanwei', 'Citrus Heights',
'Iwaki', 'Hami', 'Laredo', 'Acua' )

GROUP BY B. customer_id, first_name, last_name, D. city, E. country
ORDER BY SUM(A. amount) DESC LIMIT 5

```

Copy-paste your query and its output into your answers document.

4. Save your "Answers 3.7" document as a PDF and upload it here for your tutor to review.