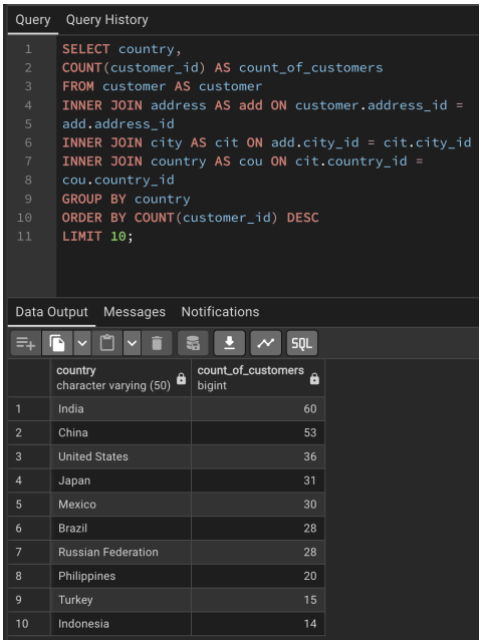
3.7: Joining Tables of Data by Leo Garces

Answers 3.7:

Directions

In this task, you'll practice everything you learned in the Exercise. You'll write queries with joins between the address, country, city, customer, and payment tables using their common keys. Create a new text document and call it "Answers 3.7." As you've done in previous tasks, you'll save your queries, outputs, and written answers in this document.

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.

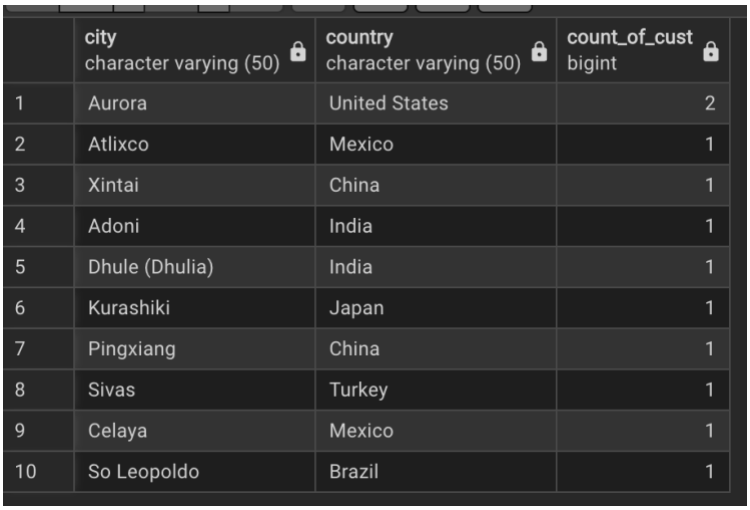



```
SELECT country,
COUNT(customer_id) AS count_of_customers
FROM customer AS customer
INNER JOIN address AS add ON
customer.address_id =
add.address_id
INNER JOIN city AS cit ON add.city_id = cit.city_id
INNER JOIN country AS cou ON cit.country_id =
cou.country_id
GROUP BY country
ORDER BY COUNT(customer_id) DESC
LIMIT 10;
```

    - Write a few sentences on how you approached this query and why. You must be able to explain your thought process when writing queries, especially for future interviews.

I started out by reverse engineering what my end goal was. Which was finding top 10 countries in terms of customer numbers. I mapped out the steps necessary and what table I would need to join to get the information. Customer (address_id) > address(city_id)>city(country_id)>country. I used INNER join functions to bring this data together. Because we are calculating the top 10 countries I used 'SELECT country,COUNT(customer_id)' to count the values. In order to display these values by country I used the group by function 'GROUP BY country
ORDER BY COUNT(customer_id) DESC LIMIT 10;' I used order by DESC to have largest to smallest and limited rows to 10. Together this gave me the TOP 10 countries.

2. Next, write a query to identify the top 10 cities that fall within the top 10 countries you identified in step 1. (Hint: the top 10 cities can be in any of the countries identified—you don't need to create a separate list for each country.)
    - Copy-paste your query and its output into your answers document.



	city character varying (50)	country character varying (50)	count_of_cust bigint
1	Aurora	United States	2
2	Atlixco	Mexico	1
3	Xintai	China	1
4	Adoni	India	1
5	Dhule (Dhulia)	India	1
6	Kurashiki	Japan	1
7	Pingxiang	China	1
8	Sivas	Turkey	1
9	Celaya	Mexico	1
10	So Leopoldo	Brazil	1

```
SELECT city, country,
COUNT(cust.customer_id) AS count_of_cust
FROM customer AS cust
INNER JOIN address AS add ON cust.address_id =
add.address_id
INNER JOIN city AS cit ON add.city_id = cit.city_id
INNER JOIN country AS cou ON cit.country_id =
cou.country_id
WHERE country IN('India', 'China', 'United
States','Japan',
'Mexico', 'Brazil', 'Russian Federation',
'Philippines',
'Turkey', 'Indonesia')
GROUP BY city, country
ORDER BY COUNT(customer_id) DESC
LIMIT 10;
```

    - Write a short explanation of how you approached this query and why.

Since I had already identified the target countries, I used a WHERE clause with an IN filter to restrict the dataset to those locations. I then reapplied the necessary JOIN operations to reconnect the relevant tables. Finally, I grouped the results by both city and country to ensure accurate aggregation at the city level.

3. Now write a query to find the top 5 customers from the top 10 cities who've 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: Customer ID, Customer First Name and Last Name, Country, City, and Total

	customer_id integer	first_name character varying (45)	last_name character varying (45)	country character varying (50)	city character varying (50)	total_payment numeric
1	84	Sara	Perry	Mexico	Atlixco	128.70
2	518	Gabriel	Harder	Turkey	Sivas	108.75
3	587	Sergio	Stanfield	Mexico	Celaya	102.76
4	537	Clinton	Buford	United States	Aurora	98.76
5	367	Adam	Gooch	India	Adoni	97.80

```
SELECT cust.customer_id, cust.first_name,
cust.last_name, cou.country, cit.city,
SUM(pay.amount) AS total_payment
FROM customer AS cust
INNER JOIN payment AS pay ON cust.customer_id = pay.customer_id
INNER JOIN address AS add ON cust.address_id = add.address_id
INNER JOIN city AS cit ON add.city_id = cit.city_id
INNER JOIN country AS cou ON cit.country_id = cou.country_id
WHERE cit.city IN ('Aurora', 'Atlixco', 'Xintai', 'Adoni',
'Dhule (Dhulia)', 'Kurashiki', 'Pingxiang', 'Sivas',
'Celaya', 'So Leopoldo')
AND cou.country IN ('India', 'China', 'United States',
'Japan', 'Mexico', 'Brazil', 'Russian Federation',
'Philippines', 'Turkey', 'Indonesia')
GROUP BY cust.customer_id, cust.first_name, cust.last_name, cou.country, cit.city
ORDER BY total_payment DESC
LIMIT 5;
```

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