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## **Answers 3.7**

### 1. TOP 10 counties by number of customers.

In this query, we need only the number of the customers and the country. So, I used the INNER JOIN function for multiple tables. The primary tables for aggregation are customer and country. However, to link them with a combined key, it's necessary to include all relevant tables in the query. Additionally, we need to group the customers by country and arrange them in descending order. Since we don't require all the records, we limit the output to the top 10. For me, this query was not hard to write and in a very short time, we had only the records and columns we needed for analyses.

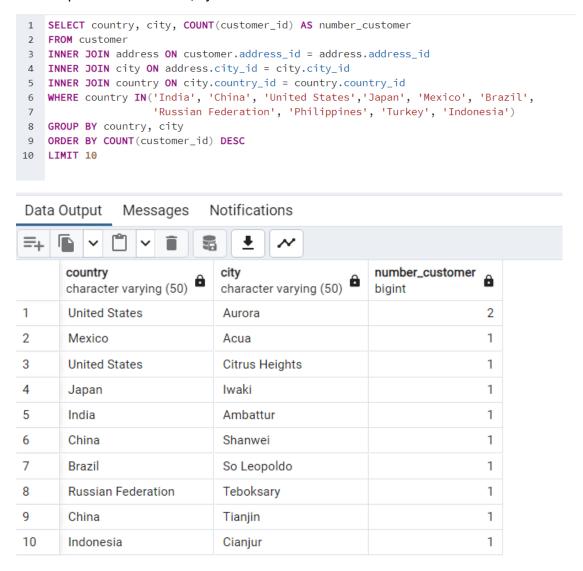
```
SELECT country, COUNT(customer_id) AS number_customer
FROM customer
INNER JOIN address ON customer.address_id = address.address_id
INNER JOIN city ON address.city_id = city.city_id
INNER JOIN country ON city.country_id = country.country_id
GROUP BY country
ORDER BY COUNT(customer_id) DESC
LIMIT 10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

# Data Output Messages Notifications

	country character varying (50)	number_customer bigint
1	India	60
2	China	53
3	United States	36
4	Japan	31
5	Mexico	30
6	Brazil	28
7	Russian Federation	28
8	Philippines	20
9	Turkey	15
10	Indonesia	14

#### 2. TOP 10 cities by customers.

This query took a little more time than the previous one. Here we needed to leave the same JOIN command and add cities to the query. To show them in the table I added them to the SELECT line and the GROUP BY function. At this point, our table would show all the cities with the biggest number of customers, so to limit it only to our top 10 countries I used WHERE with the IN operator. In this line, I just listed all 10 countries.



## 3. TOP 5 customers from TOP 10 cities that paid the biggest amount.

The last query and of course the most challenging one gives us the output of the top 5 customers that paid the biggest amount to the company. So here we need to use one more table - payment. At first, I wrote what we needed to show on the final table. Customer\_id is present in more than one table, so I clarified it with the name of the table and connected it with a comma. Also, I added an alias for the total\_amount column and to show the complete amount I used the SUM function. I connected the payment table with the customer\_id key and to show the customers only from the top 10 cities I added them in the WHERE line. After that, we needed to make the customer\_id column grouped and order the table by the amount. Then the company needed only 5 customers, so I limited the records to 5.

