1.) **<u>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.)</u>**

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

Query | Query History

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

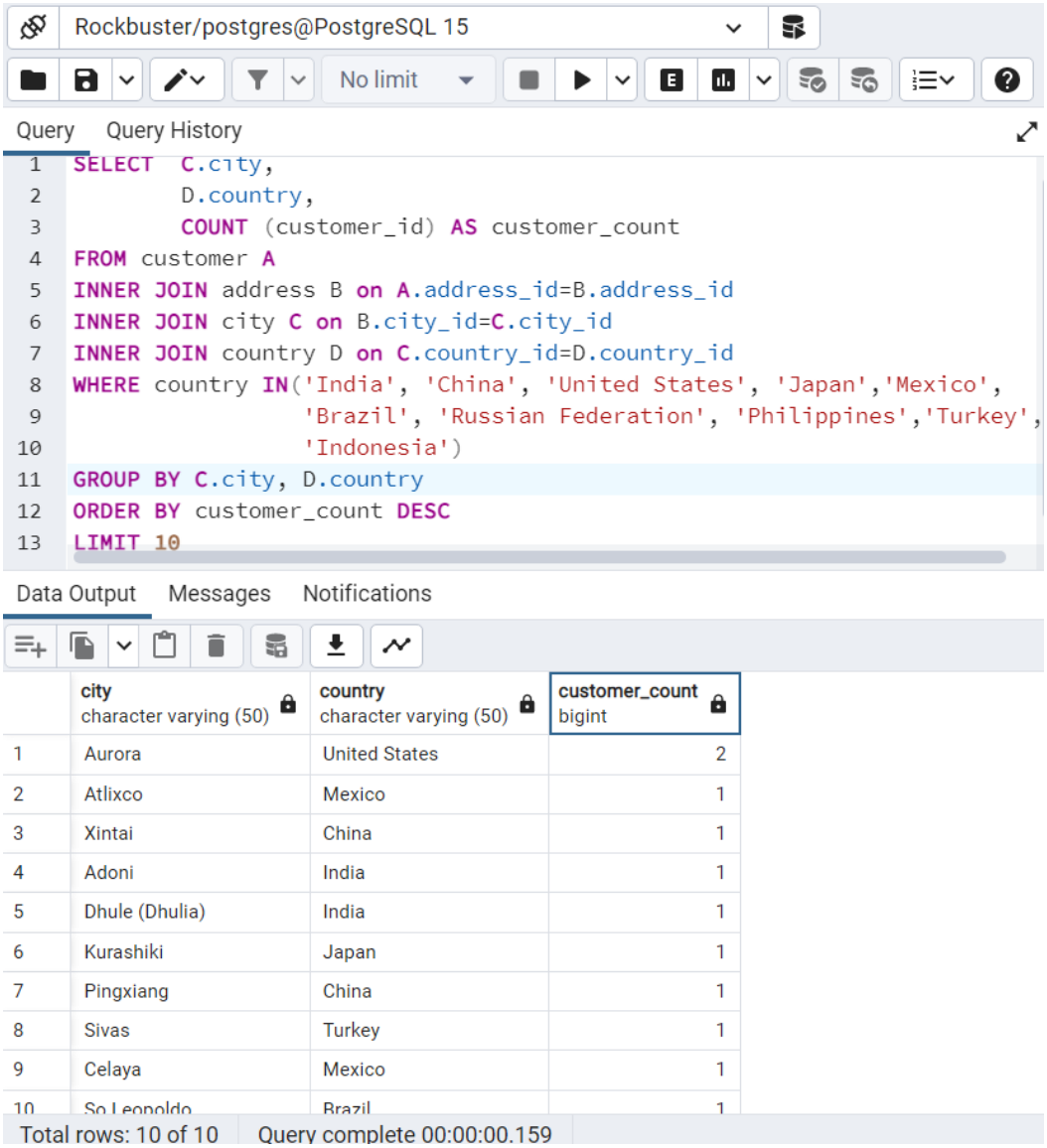
Data Output | Messages | Notifications

	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
7	Russian Federation	28
8	Philippines	20
9	Turkey	15
10	Indonesia	14

- **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.**
  I realized that the quickest way to get the numbers of customers was to COUNT the customer ids in the customer table. As far as the joins themselves, it was simply a matter of following the thread from table A (customer) to table D (country) which meant address_id > city_id > country_id was the path of joining. I knew that the GROUP BY and ORDER BY functions had to come after the joins and that in order to produce the desired table, I would need to group the customer counts by country and order those by customer count in descending order, so as to get the top largest quantities. I then put a LIMIT of 10 records afterwards, to ensure I was only retrieving the top 10 highest customer counts.

2.) <u>Write a query to find the top 10 cities within the top 10 countries identified in step 1.</u>

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



- **Write a short explanation of how you approached this query and why.**
  Most of this was already written in the previous step when I found the ten largest countries. The trick here was re-write the query to restrict the results to those top 10 countries which I now knew by name, hence, the WHERE clause in which I spelled out each one to limit the results to. Secondly, I had to return the results not simply for city nor by country alone but for both, hence the way I wrote my GROUP BY to include C.city and D.country. Lastly, I kept the limit to the top 10 as I wanted to see the top 10 cities amongst those 10 nations (initially, I was confused, thinking that I needed to find the top 10 cities in each *respective* country within the top 10 which would yield 100 cities in the final table.)

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!**

- **Copy-paste your query and its output into your answers document.**
  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, Total Amount Paid.

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No limit

Query | Query History

```
1  SELECT
2          B.customer_id AS Customer_ID,
3          B.first_name AS Customer_First_Name,
4          B.last_name AS Customer_Last_Name,
5          D.city AS City,
6          E.country AS Country,
7          SUM(A.amount) AS Total_Amount_Paid
8  FROM payment A
9  INNER JOIN customer B on A.customer_id=B.customer_id
10 INNER JOIN address C on B.address_id=C.address_id
11 INNER JOIN city D on C.city_id=D.city_id
12 INNER JOIN country E on D.country_id=E.country_id
13
14 WHERE city IN('Aurora', 'Atlixco','Xintai','Adoni','Dhule(Dhulia)','Kurashiki',
15               'Pingxiang', 'Sivas', 'Celaya','So Leopoldo')
16 GROUP BY B.customer_id, B.first_name, B.last_name, D.city,  E.country
17 ORDER BY Total_Amount_Paid DESC
18 LIMIT 5
```

Data Output | Messages | Notifications

	customer_id integer	customer_first_name character varying (45)	customer_last_name character varying (45)	city character varying (50)	country character varying (50)	total_amount_paid numeric
1	84	Sara	Perry	Atlixco	Mexico	128.7
2	518	Gabriel	Harder	Sivas	Turkey	108.75
3	587	Sergio	Stanfield	Celaya	Mexico	102.76
4	537	Clinton	Buford	Aurora	United States	98.76
5	367	Adam	Gooch	Adoni	India	97.8