Rockbuster's management team would like to know the top 10 countries where Rockbuster customers are based so they can focus on building a better brand image in those markets. Follow the instructions below to find out how you can help!

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.

```
Query  Query History
1  SELECT  COUNT(A.customer_id) AS customer_count,
2          D.country
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 D.country
8  ORDER BY customer_count DESC
9  LIMIT 10;
```

Data Output Messages Notifications

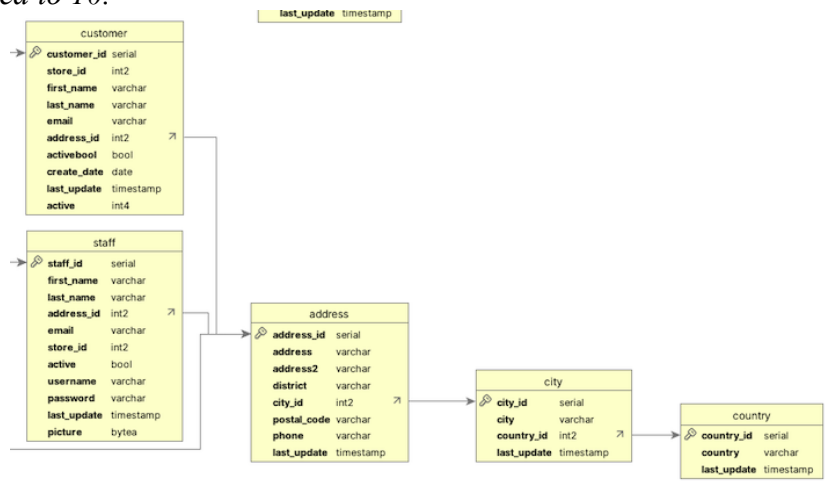
	customer_count bigint	country character varying (50)
1	60	India
2	53	China
3	36	United States
4	31	Japan
5	30	Mexico
6	28	Brazil
7	28	Russian Federation
8	20	Philippines
9	15	Turkey
10	14	Indonesia

   - 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.

     To be able to answer this we need to take a look into ERD to understand how the tables are connected to each other, i.e., to identify the key column in the table. As shown below in the picture tables 'customer', 'address', 'city', and 'country' are connected by address_id, city_id, and country_id to each other. These key variables help us to connect the query.

     Since we just need the numbers of customer and country, we are extracting just to columns 'customer_id' from 'customer' as COUNT and 'country' from 'country' and grouping by

country. To return the top 10 countries customer_id is ordered in descending order and limited to 10.



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.

Query | Query History

```
SELECT  C.city,
        COUNT(A.customer_id) AS customer_count
FROM customer A
INNER JOIN address B ON A.address_id = B.address_id
INNER JOIN city C ON B.city_id = C.city_id
INNER JOIN country D ON C.country_id = D.country_id
WHERE D.country IN ('India', 'China', 'United States', 'Japan', 'Mexico',
'Brazil', 'Russia Federation', 'Philippines', 'Turkey', 'Indonesia')
GROUP BY D.country, C.city
ORDER BY customer_count DESC
LIMIT 10;
```

Data Output | Messages | Notifications

Showing rows: 1 to 10

	city character varying (50)	customer_count bigint
1	Aurora	2
2	Acua	1
3	Citrus Heights	1
4	Iwaki	1
5	Ambattur	1
6	Shanwei	1
7	So Leopoldo	1
8	Tianjin	1
9	Hami	1
10	Cianjur	1

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

Since we already known are top 10 countries we can constraint the searching of top 10 cities within these 10 countries with WHERE command. As we are just looking for the city, country and count of customer we just select only these columns,

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 Amount Paid.

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

Query | Query History

```
SELECT  A.customer_id,
        B.first_name,
        B.last_name,
        E.country,
        D.city,
        SUM(A.amount) as total_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', 'Acua', 'Citrus Heights', 'Iwaki', 'Ambattur',
            'Shanwei', 'So Leopoldo', 'Tianjin', 'Hami', 'Cianjur')
AND E.country IN ('India', 'China', 'United States', 'Japan', 'Mexico', 'Brazil',
            'Russia Federation', 'Philippines', 'Turkey', 'Indonesia')
GROUP BY A.customer_id, B.first_name, B.last_name, E.country, D.city
ORDER BY total_amount DESC
LIMIT 5;
```

Data Output | Messages | Notifications

Showing rows: 1 to 5

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

In this case we have one more table connect, i.e., payment, which is connected by customer_id with the table 'customer'.

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