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.)

Query Query History

```
SELECT D.country,
COUNT (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
GROUP BY country
ORDER BY customer_count DESC
LIMIT 10
```

Data Output Messages Notifications

| | country character varying (50) | customer_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 |

The INNER JOIN is typically used when only limited information is needed, In this case, we were asked to find the top 10 countries with most customers, this normally can be found in the tables that are going to be joined (country and customers) but these tables do not have a direct link with one another. After selecting the country table we needed a COUNT of the customer_id column (from the customer table), then the customer table had a link to the address table, the address table had a link to the city table, and the city table had a link to the country table.

In this instance all we wanted was the names of the top 10 countries with more customers, so after grouping that by country, it had to be ordered by customer count (in descending order) and finally putting a limit to 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.)

Query Query History

```
SELECT D.country, C. city,
COUNT (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',
GROUP BY D.country, C. city
ORDER BY customer_count DESC
LIMIT 10
```

Data Output Messages Notifications

| | country character varying (50) | city character varying (50) | customer_count bigint |
|---|---|---|---|
| 1 | United States | Aurora | 2 |
| 2 | Mexico | Acua | 1 |
| 3 | United States | Citrus Heights | 1 |
| 4 | Japan | Iwaki | 1 |
| 5 | India | Ambattur | 1 |
| 6 | China | Shanwei | 1 |
| 7 | Brazil | So Leopoldo | 1 |
| 8 | Russian Federation | Teboksary | 1 |
| 9 | China | Tianjin | 1 |
| 10 | Indonesia | Cianjur | 1 |

I kept the same query, just added the city column to the SELECT command; everything stays the same just before the GROUP BY command using the WHERE clause, the top 10 countries from the previous query need to be specified, then add city to the GROUP BY command in order to get the the top 10 cities that fall within the top 10 countries that were identified in Step 1.

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.

Query Query History

```
SELECT
      A.customer_id,
      A.first_name,
      A.last_name,
      C.city,
      D.country,
SUM (E.amount) AS total_amount_paid
FROM customer A
INNER JOIN payment E on A.customer_id = E.customer_id
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 C. city IN ('Aurora', 'Acua', 'Citrus Heights', 'Iwa
GROUP BY A. customer_id,
         A. first_name,
         A. last_name,
         C. city,
         D. country
ORDER BY total_amount_paid DESC
LIMIT 5
```

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) |
|---|---|---|---|---|---|
| 1 | 225 | Arlene | Harvey | Ambattur | India |
| 2 | 424 | Kyle | Spurlock | Shanwei | China |
| 3 | 240 | Marlene | Welch | Iwaki | Japan |
| 4 | 486 | Glen | Talbert | Acua | Mexico |
| 5 | 537 | Clinton | Buford | Aurora | United States |

Using the previous query as base:

SELECT the requested columns: Customer ID, Customer First Name and Last Name, Country, City, so they appear on the data output. To get the total amount paid, all the amounts must be added up for each customer so the SUM command was used .
A line to the join syntax was added to get the payment data from customers which is linked to the customer_id.
In the WHERE clause put the top 10 cities obtained in the previous query, next, used the GROUP BY clause with the requested columns and ORDER it BY the total amount paid in DESC order with a LIMIT to 5 to get the top 5 customers who have paid the highest total amounts.