3.7 Joining tables

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

Table

Description automatically generated

/\* A. customer   
B. address  
C. city   
D. country  
\*/

SELECT D.country,  
COUNT(A.customer\_id) AS Number\_of\_customers  
FROM customer A  
INNER JOIN address B ON B.address\_id = A.address\_id  
INNER JOIN city C ON C.city\_id = B.city\_id  
INNER JOIN country D ON D.country\_id = C.country\_id  
GROUP BY D.country  
ORDER BY Number\_of\_customers desc  
LIMIT 10;

|  |  |
| --- | --- |
| country | number\_of\_customers |
| India | 60 |
| China | 53 |
| United States | 36 |
| Japan | 31 |
| Mexico | 30 |
| Brazil | 28 |
| Russian Federation | 28 |
| Philippines | 20 |
| Turkey | 15 |
| Indonesia | 14 |

1. 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.

* Understand the information of each table to get the result I was expecting.

The first step was to understand what I needed in this case group number of customers by country. Based on this the first table I used was the customer table and based on this one see how to get the country names to group the number of customers by country.

* Understand which were the variables will let me to connect to the tables and I needed to get to the result.

I analyzed and understood how the tables were connected and started to structure how I had to build the query in order to connect the tables and get the result.

* Once I analyzed the tables, understood how they were connected between them I started writing the query. Since the information I needed was based on the registers of number of clients I started writing the query with an INNER JOIN.   
  And I started connecting the rest of tables based on the key variable in common.
* Once I finished connecting the table I group the information as needed (based on the country name), I ordered the information from the country with the highest number of customers and finally I limited the records to just 10 as requested.

1. **Write a query to find the top 10 cities within the top 10 countries identified in step 1.**
   1. Copy-paste your query and its output into your answers document.

/\* A. customer   
 B. address  
 C. city   
 D. country

\*/

SELECT C.city, D.country,  
COUNT(A.customer\_id) AS Number\_of\_customers  
FROM customer A  
INNER JOIN address B ON B.address\_id = A.address\_id  
INNER JOIN city C ON C.city\_id = B.city\_id  
INNER JOIN country D ON D.country\_id = C.country\_id  
WHERE D.country IN ('India', 'China', 'United States', 'Japan', 'Mexico', 'Brazil', 'Russian Federation', 'Philippines', 'Turkey', 'Indonesia')  
GROUP BY D.country, C.city  
ORDER BY Number\_of\_customers desc  
LIMIT 10;

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

1. As in the previous exercise the first step was to understand each of the tables and the relationship between each of them. Since it was pretty similar, the logic was the same, but this time the variable city from the table city was included.
2. Since we wanted to limit the information to the 10 top countries with the highest number of customers after the joins where created the function WHERE IN was included to delimit the result to those countries.
3. The information obtained was limited to 10 top cities and organized in descending order.

|  |  |  |
| --- | --- | --- |
| city | country | number\_of\_customers |
| Aurora | United States | 2 |
| Acua | Mexico | 1 |
| Citrus Heights | United States | 1 |
| Iwaki | Japan | 1 |
| Ambattur | India | 1 |
| Shanwei | China | 1 |
| So Leopoldo | Brazil | 1 |
| Teboksary | Russian Federation | 1 |
| Tianjin | China | 1 |
| Cianjur | Indonesia | 1 |

1. **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!**
   1. 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.
   2. Copy-paste your query and its output into your answers document.

/\* A. customer   
B. address  
C. city   
D. country  
E. payment

\*/

SELECT A.customer\_id, A.first\_name, A.last\_name, C.city, D.country,  
SUM (E.amount) AS Total\_amount  
FROM customer A  
INNER JOIN address B ON B.address\_id = A.address\_id  
INNER JOIN city C ON C.city\_id = B.city\_id  
INNER JOIN country D ON D.country\_id = C.country\_id  
INNER JOIN payment E ON E.customer\_id = A.customer\_id  
WHERE C.city IN ('Aurora', 'Acua', 'Citrus Heights', 'Iwaki', 'Ambattur', 'Shanwei', 'So Leopoldo', 'Teboksary', 'Tianjin', 'Cianjur')  
GROUP BY A.customer\_id, C.city, D.country  
ORDER BY Total\_amount desc  
LIMIT 5;

RESULT

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| customer\_id | first\_name | last\_name | city | country | total\_amount |
| 225 | Arlene | Harvey | Ambattur | India | 111.76 |
| 424 | Kyle | Spurlock | Shanwei | China | 109.71 |
| 240 | Marlene | Welch | Iwaki | Japan | 106.77 |
| 486 | Glen | Talbert | Acua | Mexico | 100.77 |
| 537 | Clinton | Buford | Aurora | United States | 98.76 |