

Task 3.7 Jada Myrie

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.
 - 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.

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

	country character varying (50) 🔒	number_of_customers 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

I approached this query by first identifying the primary key and foreign keys in each table. Then I decided which order was best to join the tables and assigned A to table country, B to table city, C to table address and D to table customer. I then decided which join was best to use and INNER was chosen. I then decided which columns were the most important to produce the results necessary to answer the question. Country as well as number of customers were the focus of the results. I then determined which column needed to be counted to produce the results. I did a COUNT statement for customer id and I then renamed it number of customers to make the results reflect the question, making it cohesive and clear. From here I began to formulate my query by adding in a JOIN statement and I ran a test on each statement to ensure that they were error free. I then did a GROUP BY which selected the column previously mentioned to display (country). I also created an ORDER BY statement to make sure that the list displayed would start with the countries who had the most reoccurring customer ids. I then placed a LIMIT to ensure that only 10 results were displayed. From here I ran my final query and produced the results.

From here I created my final query and produced the results.

Being able to express how you arrived at your results is very important as it shows not only that you have not regurgitated work done previously, but that you understand what you are doing and are confident producing efficient results.

2. Write a query to find the top 10 cities within the top 10 countries identified in step 1.

- Copy-paste your query and its output into your answers document.
- Write a short explanation of how you approached this query and why.

Query	Query History
1	
2	SELECT A.country, city,
3	COUNT (D.customer_id) AS number_of_customers
4	FROM country A
5	INNER JOIN city B ON A.country_id = B.country_id
6	INNER JOIN address C ON B.city_id = C.city_id
7	INNER JOIN customer D ON C.address_id = D.address_id
8	WHERE country IN ('India','China','United States','Japan','Mexico','Brazil'
9	, 'Russian Federation','Philippines','Turkey','Indonesia')
10	GROUP BY country, city
11	ORDER BY number_of_customers DESC
12	LIMIT 10

	country character varying (50)	city character varying (50)	number_of_customers 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 approached this query by first identifying the primary key and foreign keys in each table. Then I decided which order was best to join the tables and assigned A to table country, B to table city, C to table address and D to table customer. I then decided which join was best to use and INNER was chosen. I then decided which columns were the most important to produce the results necessary to answer the question. Country, city as well as number of customers were the focus of the results. I then determined which column needed to be counted to produce the results. I did a COUNT statement for customer id and I then renamed it number of customers to make the results reflect the question, making it cohesive and clear. From here I began to formulate my query by adding in a JOIN statement and I ran a test on each statement to ensure that they were error free. I followed the JOIN statement with a WHERE as well as an IN statement to make sure only the cities for the countries produced previously would be selected. I then did a GROUP BY which selected the columns previously mentioned to display (city, country). I also created an ORDER BY statement to make sure that the list displayed would start with the countries and cities who had the most reoccurring customer ids. I then placed a LIMIT to ensure that only 10 results were displayed. From here I ran my final query and produced the results.

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!

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

```

SELECT A.customer_id, E.country, D.city, B.first_name, B.last_name,
SUM (A.amount)AS total_amount_paid
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 city IN ('Aurora','Acua','Citrus Heights','Iwaki','Ambattur','Shanwei'
               , 'So Leopoldo','Teboksary','Tianjin','Cianjur')
GROUP BY E.country, D.city, B.first_name, B.last_name, A.customer_id
ORDER BY total_amount_paid DESC
LIMIT 5

```

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