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Task 3.7 – Joining Tables of Data

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

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

Data Output | Messages | Notifications

	country character varying (50)	total_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 began by first breaking down the question and looking at the ERD I had created in Task 3.2. The question asked for the top 10 countries in terms of customer numbers, so I knew I had to look for a table that had a list of countries as well as a table that would have a record of customers. In this case, the country table had data on the names of countries, and the customer table would have the record of customers I needed. I chose to use INNER JOINs because I knew I had to target specifically the customers that had a country filled in.

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

Query Query History

```
SELECT C.city, D.country, COUNT(A.customer_id) AS total_customers
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', 'Russian Federation', 'Philippines', 'Turkey', 'Indonesia')
GROUP BY c.city, D.country
ORDER BY total_customers DESC
LIMIT 10
```

Data Output Messages Notifications

	city character varying (50)	country character varying (50)	total_customers bigint
1	Aurora	United States	2
2	Atlixco	Mexico	1
3	Xintai	China	1
4	Adoni	India	1
5	Dhule (Dhulia)	India	1
6	Kurashiki	Japan	1
7	Pingxiang	China	1
8	Sivas	Turkey	1
9	Celaya	Mexico	1
10	So Leopoldo	Brazil	1

To solve this question, I used the same steps as the previous query, but with the addition of cities from the city table and the inclusion of WHERE to limit the number of countries to the top 10 countries from the previous query.

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!

Query Query History

```
SELECT B.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', 'Atlixco', 'Xintai', 'Adoni', 'Dhule (Dhulia)', 'Kurashiki', 'Pingxiang', 'Sivas', 'Celaya', 'So Leopoldo')
GROUP BY B.customer_id, D.city, E.country
ORDER BY total_amount DESC
LIMIT 5
```

Data Output Messages Notifications

	customer_id integer	first_name character varying (45)	last_name character varying (45)	country character varying (50)	city character varying (50)	total_amount numeric
1	84	Sara	Perry	Mexico	Atlixco	128.70
2	518	Gabriel	Harder	Turkey	Sivas	108.75
3	587	Sergio	Stanfield	Mexico	Celaya	102.76
4	537	Clinton	Buford	United States	Aurora	98.76
5	367	Adam	Gooch	India	Adoni	97.80