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Task 3.7
10.31.2024

3.7: Joining Tables of Data

1. **Write a query to find the top 10 countries for Rockbuster in terms of customer numbers.**

```
SELECT D.country,
        COUNT(customer_id)
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 BYcountry
ORDER BY COUNT(customer_id) desc
Limit 10;
```

Query | Query History

```
SELECT D.country,
       COUNT(customer_id)
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 COUNT(customer_id) desc
Limit 10
```

Data Output | Messages | Notifications

	country character varying (50)	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

We needed to connect the customer table to the country table and the flow to do this is customer>address>city>country.Here i grouped by country and then ordered by customer count,and limiting to the first 10 data points in descending order.

2. Next, write a query to identify the top 10 cities that fall within the top 10 countries you identified in step 1.

```
SELECT D.country, C.city,
COUNT(A.customer_id) AS customer_count
FROMcustomer 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 (
SELECT D.country
FROM  customer A
JOIN address   B ON A.address_id = B.address_id
JOIN city C ON B.city_id = C.city_id
JOIN country D ON C.country_id = D.country_id
GROUP BY D.country
ORDER BY COUNT(A.customer_id) DESC
LIMIT 10 )
GROUP BY country, C.city
ORDER BY customer_count DESC
LIMIT 10;
```

Query | Query History

```
1  SELECT D.country, C.city,
2  COUNT(A.customer_id) AS customer_count
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  WHERE D.country IN (
8  SELECT D.country
9  FROM  customer A
10 JOIN address   B ON A.address_id = B.address_id
11 JOIN city C ON B.city_id = C.city_id
12 JOIN country D ON C.country_id = D.country_id
13 GROUP BY D.country
14 ORDER BY COUNT(A.customer_id) DESC
15 LIMIT 10 )
16 GROUP BY country, C.city
17 ORDER BY customer_count DESC
18 LIMIT 10;
19
```

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

Here we included the first query with the WHERE clause. I did the first query with the city and county of the customer only but then added in the country as well as it's clear what country each city is in. I also grouped the country and city then customer count in descending order.

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!

```
  SELECT B.customer_id,
                    B.first_name,
                    B.last_name,
                    E.country,
                    D.city,
                    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(E.country, D.city) IN (
                    SELECT D.country, C.city
                    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 (
                              SELECT D.country
                              FROM customer A
                             JOIN address B ON A.address_id = B.address_id
                             JOIN city C ON B.city_id = C.city_id
                            JOIN country D ON C.country_id = D.country_id
                            GROUP BY D.country
                            ORDER BY COUNT(A.customer_id) DESC
                            LIMIT 10
                              )
                     GROUP BY.country, Ccity
                     ORDER BY COUNT(A.customer_id) DESC
                     LIMIT 10
                      )
  GROUP BY B.customer_id, B.first_name, B.last_name, E.country, D.city
  ORDER BY total_amount_paid DESC
 LIMIT  5;
```

Query | Query History | Scratch P

```
SELECT B.customer_id,
                            B.first_name,
                            B.last_name,
                            E.country,
                            D.city,
                            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(E.country, D.city) IN (
                           SELECT D.country, C.city
                            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 (
                                               SELECT D.country
```

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_paid 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