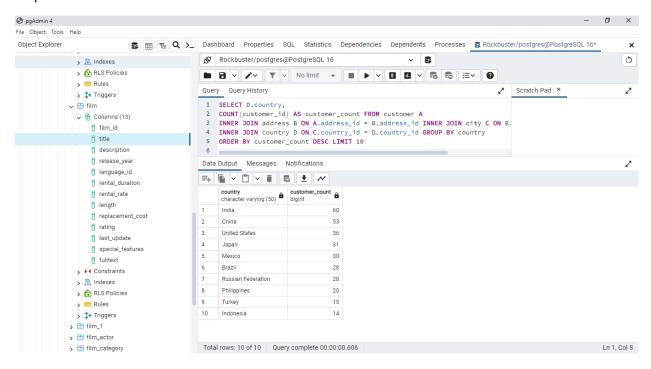# 3.7: Joining Tables of Data

Step1:

Explanation:
For this query, I would need country and count of customers. Also I need the count by country which means i need to use GROUP BY. Then, I need to only the top 10cso ,I have to use ORDER BY and LIMIT 10. Then I decided which JOIN to use.

Step2:

```
SELECT D.country,

        C.city,

        COUNT(customer_id) AS customer_count
FROM customer A

        INNER JOIN address B ON A.address_id = B.address_idINNER
        JOIN city C ON B.city_id = C.city_id

        INNER JOIN country D ON C.country_id = D.country_id
WHERE country IN

(

SELECT D.country
FROM customer A

        INNER JOIN address B ON A.address_id = B.address_idINNER
        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) DESCLIMIT
10

)

GROUP BY country, city

ORDER BY customer_count DESCLIMIT
10
```

Data Output

	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

Explations:

We need to aim to limit the results to the top 10 countries previously identified without hardcoding them. By utilizing the query from the initial question and extracting the country column, you plan to create a list for a more dynamic WHERE clause using "WHERE country IN" instead of hardcoding specific countries. This approach allows for adaptability across different scenarios rather than relying on fixed country names in the query.

Step3:

SELECT cstmr3.customer_id,

cstmr3.first_name, cstmr3.last_name, ctry3.country, cty3.city,

SUM(pymnt.amount) AS total_amount_paid FROM payment AS pymnt

INNER JOIN customer AS cstmr3 ON pymnt.customer_id = cstmr3.customer_id INNER JOIN address AS addr3 ON cstmr3.address_id = addr3.address_id

INNER JOIN city AS cty3 ON addr3.city_id = cty3.city_id

INNER JOIN country AS ctry3 ON cty3.country_id = ctry3.country_id WHERE city IN

(SELECT cty2.city

FROM customer AS cstmr2

INNER JOIN address AS addr2 ON cstmr2.address_id = addr2.address_id INNER JOIN city AS cty2 ON addr2.city_id = cty2.city_id

INNER JOIN country AS ctry2 ON cty2.country_id = ctry2.country_id WHERE country IN

(SELECT ctry.country FROM customer AS cstmr

INNER JOIN address AS addr ON cstmr.address_id = addr.address_id

INNER JOIN city AS cty ON addr.city_id = cty.city_id

INNER JOIN country AS ctry ON cty.country_id = ctry.country_id GROUP BY country

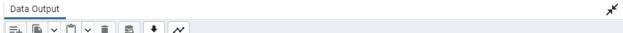ORDER BY count(customer_id) DESC LIMIT 10)

GROUP BY country, city

ORDER BY COUNT(customer_id) DESC LIMIT 10)

GROUP BY cstmr3.customer_id,

cstmr3.first_name, cstmr3.last_name, ctry3.country, cty3.city

ORDER BY total_amount_paid DESC LIMIT 5

Data Output

	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