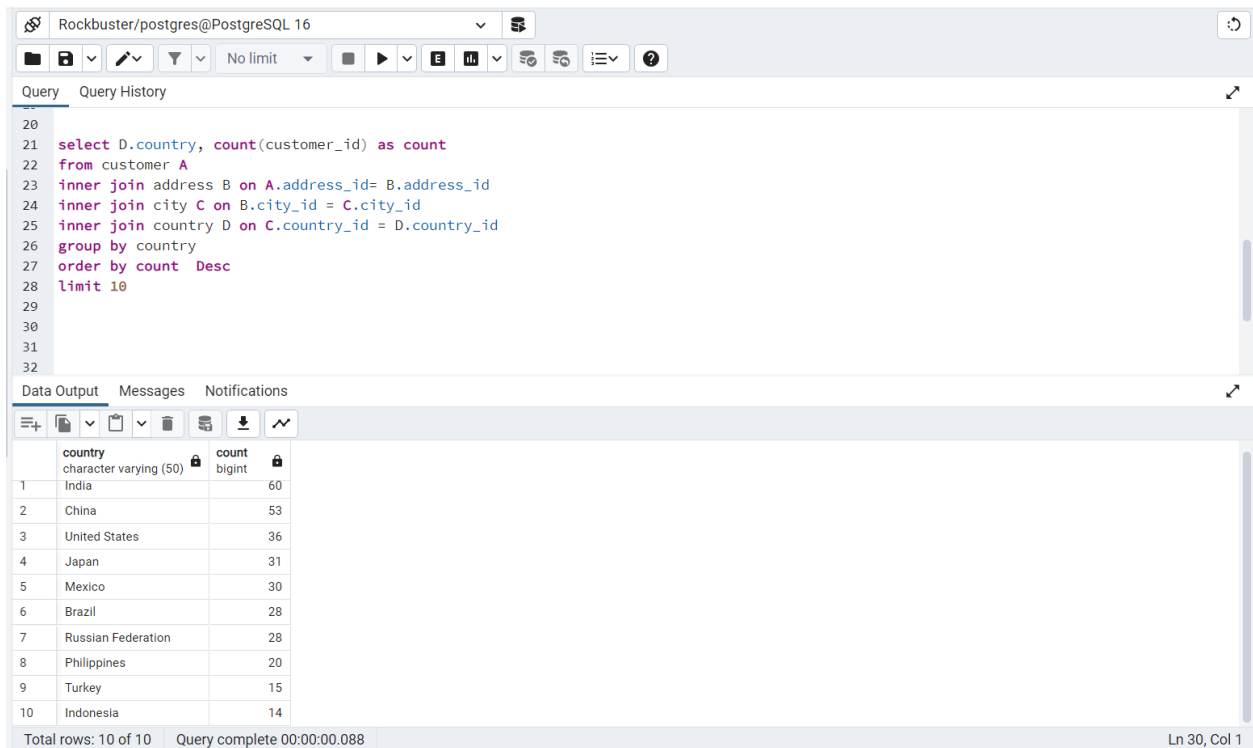


3.7: Joining Tables of Data



The screenshot shows a PostgreSQL query editor interface. The top bar indicates the connection is 'Rockbuster/postgres@PostgreSQL 16'. Below the toolbar, the 'Query' tab is active, displaying a SQL query. The query is as follows:

```
20
21 select D.country, count(customer_id) as count
22 from customer A
23 inner join address B on A.address_id = B.address_id
24 inner join city C on B.city_id = C.city_id
25 inner join country D on C.country_id = D.country_id
26 group by country
27 order by count Desc
28 limit 10
29
30
31
32
```

Below the query editor, the 'Data Output' tab is active, showing the results of the query in a table format. The table has two columns: 'country' (character varying (50)) and 'count' (bigint). The results are as follows:

	country	count
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

The bottom status bar shows 'Total rows: 10 of 10', 'Query complete 00:00:00.088', and 'Ln 30, Col 1'.

The data that we want is stored in the customer and country tables. However, these tables aren't directly connected, so we'll need to join the customer table with the address table, the address table with the city table, and finally the city table with the country table to get the relevant information. In the query I have selected country and count of customer_id and joined **customer**→**address**→**city**→**country** tables using inner join. I used the 'group by' clause to group the count(customer_id) country wise. I utilized the 'orderby' clauses to display the highest number of customer countries in descending order. Used **limit 10** keywords to display top 10 countries.

Dashboard Properties SQL Statistics Dependencies Dependents Processes Rockbuster/postgres@PostgreSQL 16*

Rockbuster/postgres@PostgreSQL 16

Query Query History

```

31 SELECT D.country , C.city
32 FROM customer A
33 INNER JOIN address B ON A.address_id = B.address_id
34 INNER JOIN city C ON B.city_id = C.city_id
35 INNER JOIN country D ON C.country_id = D.country_id
36 WHERE D.country IN ('India','China', 'United States', 'Japan' ,
37                    'Mexico' , 'Brazil' , 'Russian Federation' , 'Philippines' , 'Turkey' , 'Indonesia')
38 GROUP BY D.country , C.city
39 ORDER BY COUNT(A.customer_id) DESC
40 LIMIT 10;
41

```

Data Output Messages Notifications

	country character varying (50)	city character varying (50)
1	United States	Aurora
2	Mexico	Acua
3	United States	Citrus Heights
4	Japan	Iwaki
5	India	Ambattur
6	China	Shanwei
7	Brazil	So Leopoldo
8	Russian Federation	Teboksary
9	China	Tianjin
10	Indonesia	Cianjur

Total rows: 10 of 10 Query complete 00:00:00.066 Ln 42, Col 1

We need the top 10 cities in top 10 countries that have the highest number of customers for Rockbuster. Here we need data from customer , city and country tables. There is no direct connection between these tables. We need to join these tables. In this query I have selected the country and city column and joined **customer** → **address** → **city** → **country** tables using **inner join**. Then by using **where** clause and **IN** operator i have written the top 10 countries(i got from query 1). Used **group by** clause to group data country and city wise then used **order by** clause to order the count(customer_id) in descending order. Then used a **limit 10** key word to display top 10 records.

Dashboard Properties SQL Statistics Dependencies Dependents Processes Rockbuster/postgres@PostgreSQL 16*

Rockbuster/postgres@PostgreSQL 16

Query Query History

```

77 SELECT
78     B.customer_id,
79     B.first_name,
80     B.last_name,
81     E.country,
82     D.city,
83     sum(A.amount) as total_amount_paid
84 FROM payment A
85 INNER JOIN customer B ON A.customer_id = B.customer_id
86 INNER JOIN address C ON B.address_id = C.address_id
87 INNER JOIN city D ON C.city_id = D.city_id
88 INNER JOIN country E ON D.country_id = E.country_id
89 Where D.city IN('Aurora','Acua','Citrus Heights','Iwaki','Ambattur','Shanwei','So Leopoldo','Teboksary','Tianjin','Cianjur')
90 GROUP BY B.customer_id, B.first_name, B.last_name, E.country, D.city
91 ORDER BY total_amount_paid DESC
92 LIMIT 5;
93

```

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

Total rows: 5 of 5 Query complete 00:00:00.080 Ln 76, Col 1

In this query we need specific columns. That's why I have used **inner join** to join the tables **payment** → **customer** → **address** → **city** → **country**. Used **where** clause and **IN** operators to write the top 10 cities (got from query 2). Grouped **customer_id**, **first_name**, **last_name**, **country**, **city** data using '**group by**' clause. Used '**order by**' clause to order the amount in descending order. **Limit** keyword used to display top 5 records.