Task_7: Joining Tables of Data

Step_1:

```
Rockbuster/postgres@PostgreSQL 13 ∨

Query Editor    Query History

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

Data Output   Explain   Messages   Notifications

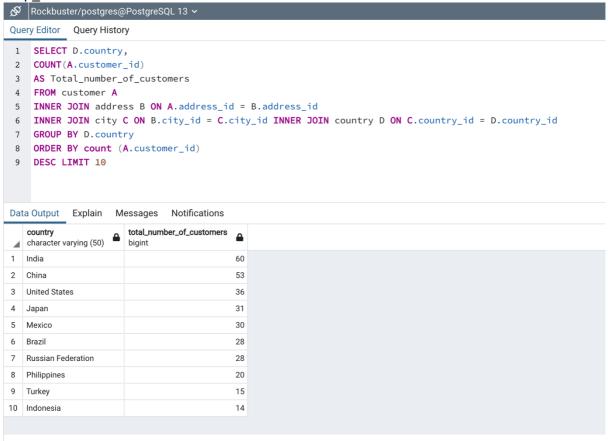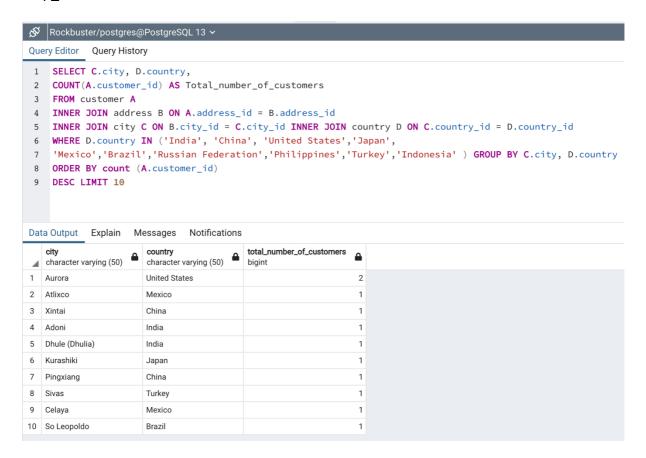|	country character varying (50) 🔒	total_number_of_customers 🔒 bigint
1	India	60
2	China	53
3	United States	36
4	Japan	31
5	Mexico	30
6	Brazil	28
7	Russian Federation	28
8	Philippines	20
9	Turkey	15
10	Indonesia	14

Summary:

I started to be reviewing the ERD, that we created in an earlier Task to identify the tables. For this task, we needed the Customer and Country tables. However, to get this step we needed some other tables that they have some common keys that connect those tables. I decided to use INNER JOIN because we needed only limited information from two tables. I used the following tables to write the query for getting information.
A: customer, B: address, C: city, D: country

Step_2:

```
 1  SELECT C.city, D.country,
 2  COUNT(A.customer_id) AS Total_number_of_customers
 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 INNER JOIN country D ON C.country_id = D.country_id
 6  WHERE D.country IN ('India', 'China', 'United States','Japan',
 7  'Mexico','Brazil','Russian Federation','Philippines','Turkey','Indonesia' ) GROUP BY C.city, D.country
 8  ORDER BY count (A.customer_id)
 9  DESC LIMIT 10
```

Data Output | Explain | Messages | Notifications

	city character varying (50)	country character varying (50)	total_number_of_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

Summary:

In addition to the step_1, I added the city table to the SELECT query part to get the information from 10 cities from 10 top countries. I had to use WHERE clause in the query, and IN operator, writing 10 top countries from Step_1.

Step_3:


```sql
1   SELECT B.customer_id,
2   B.first_name,
3   B.last_name,
4   D.city,
5   E.country,
6   SUM(A.amount) AS Total_Amount_Paid
7   FROM customer B
8   INNER JOIN payment A ON B.customer_id = A.customer_id
9   INNER JOIN address C ON B.address_id = C.address_id
10  INNER JOIN city D ON C.city_id = D.city_id
11  INNER JOIN country E ON D.country_id = E.country_id
12  WHERE D.city IN ('Aurora', 'Atlixco', 'Xintai', 'Adoni', 'Dhule (Dhulia)', 'Kurashiki', 'Pingxiang', 'Sivas', 'Celaya', 'So Leopoldo')
13  GROUP BY B.customer_id, B.first_name, B.last_name, D.city, E.country
14  ORDER BY Total_Amount_Paid DESC
15  LIMIT 5
```

Data Output   Explain   Messages   Notifications

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