

Task 3.7: Joining Tables of Data

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

Query:	Explanation:
<pre> SELECT D.country, COUNT(A.customer_id) AS total_number_of_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 GROUP BY D.country ORDER BY count(A.customer_id) DESC limit 10; </pre>	<p>I looked at the ERD that I created from the data dictionary. Since the task was to find the top 10 countries for Rockbuster in terms of customer numbers, I looked at the country and customer table. First, I chose SELECT country and COUNT customer id as total number of custers FROM customer table. Then, I used INNER JOIN to city and address to link the customer and country table. INNER JOIN was my choice for the JOIN since I only needed limited information from the two tables. Lastly, I applied GROUP BY, ORDER BY count, and LIMIT.</p>

The screenshot shows a PostgreSQL query editor interface. The query is as follows:

```

1 SELECT 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

```

The results are displayed in a table with the following columns: country (character varying (50)) and total_number_of_customers (bigint). The top 10 results are:

	country	total_number_of_customers
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

Total rows: 10 of 10 Query complete 00:00:00.317 Ln 2, Col 50

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

Query:	Explanation:
<pre> SELECT C.city, D.country, COUNT(A.customer_id) AS total_number_of_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 count(A.customer_id) DESC limit 10; </pre>	<p>In addition to the query written in #1, I chose SELECT city, added the WHERE clause for country and the IN operator to add the top ten countries, and GROUP BY city and country.</p>

The screenshot shows a PostgreSQL query editor with the following query:

```

1 SELECT C.city,
2 D.country,
3 COUNT(A.customer_id) AS total_number_of_customers
4 FROM customer A
5 INNER JOIN address B on A.address_id = B.address_id

```

The results are displayed in a table with the following columns: city, country, and total_number_of_customers. The results are sorted by total_number_of_customers in descending order, limited to 10 rows.

	city	country	total_number_of_customers
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

Total rows: 10 of 10 Query complete 00:01:50.102 Ln 9, Col 59

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:	Output:																																										
<pre>SELECT A.customer_id, A.first_name, A.last_name, D.city, E.country, SUM(B.amount) AS total_amount_paid FROM customer A INNER JOIN payment B on A.customer_id = B.customer_id INNER JOIN address C on A.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 A.customer_id, A.first_name, A.last_name, D.city, E.country ORDER BY total_amount_paid DESC limit 5;</pre>	<div><div>Dashboard Properties SQL Statistics Dependencies Dependents Rockbuster/postgres@PostgreSQL 14*</div><div>Rockbuster/postgres@PostgreSQL 14</div><div>Query Query History Scratch Pad</div><div><pre>1 SELECT A.customer_id, 2 A.first_name, 3 A.last_name, 4 D.city, 5 E.country, 6 SUM(B.amount) AS total_amount_paid 7 FROM customer A 8 INNER JOIN payment B on A.customer_id = B.customer_id 9 INNER JOIN address C on A.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</pre></div><div><div>Data output Messages Notifications</div><table><thead><tr><th></th><th>customer_id integer</th><th>first_name character varying (45)</th><th>last_name character varying (45)</th><th>city character varying (50)</th><th>country character varying (50)</th><th>total_amount_paid numeric</th></tr></thead><tbody><tr><td>1</td><td>84</td><td>Sara</td><td>Perry</td><td>Atlixco</td><td>Mexico</td><td>128.70</td></tr><tr><td>2</td><td>518</td><td>Gabriel</td><td>Harder</td><td>Sivas</td><td>Turkey</td><td>108.75</td></tr><tr><td>3</td><td>587</td><td>Sergio</td><td>Stanfield</td><td>Celaya</td><td>Mexico</td><td>102.76</td></tr><tr><td>4</td><td>537</td><td>Clinton</td><td>Buford</td><td>Aurora</td><td>United States</td><td>98.76</td></tr><tr><td>5</td><td>367</td><td>Adam</td><td>Gooch</td><td>Adoni</td><td>India</td><td>97.80</td></tr></tbody></table><div>Total rows: 5 of 5 Query complete 00:00:00.099 Ln 5, Col 12</div></div></div>		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	1	84	Sara	Perry	Atlixco	Mexico	128.70	2	518	Gabriel	Harder	Sivas	Turkey	108.75	3	587	Sergio	Stanfield	Celaya	Mexico	102.76	4	537	Clinton	Buford	Aurora	United States	98.76	5	367	Adam	Gooch	Adoni	India	97.80
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