

## Answers 3.7: Joining Tables of Data

### Questions

#### Step 1

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

```
1 SELECT D.country,  
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 GROUP BY D. country  
8 ORDER BY COUNT(A.customer_id) DESC  
9 LIMIT 10;
```

1.

country character varying (50)	customer_count bigint
India	60
China	53
United States	36
Japan	31
Mexico	30
Brazil	28
Russian Federation	28
Philippines	20
Turkey	15
Indonesia	14

Write a few sentences on how you approached this query and why.

- Country and customers are the two tables the query needs. I gave the COUNT (A.customer\_id) the alias customer\_count. INNER JOIN command brings the two tables needed together. GROUP BY command aggregates the output by descending order. I ordered the results from most to least as well as use the LIMIT command to show only the countries with the most customers were shown.

## Step 2

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

```

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

```

1.

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

Write a short explanation of how you approached this query and why.

3. The query is looking to find the top ten cities in the top ten countries identified in step 1. The query needs to look at the city, county and customer\_count columns to find the relevant information. I only need the COUNT command so to make things easier, I gave customer column an alias in customer\_count. I used INNER JOIN to join the tables together. I used the WHERE command to ensure that I had only the cities from the top ten countries. I grouped by city and country to make sure only the top ten cities from the top ten countries were shown. I ordered the results from most to least as well as use the LIMIT command to show only the cities with the most customers were shown.

## 4. Step 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!

```

1  SELECT B.customer_id,
2     B.first_name,
3     B.last_name,
4     E.country,
5     D.city,
6     SUM(A.amount) AS total_amount_paid
7  FROM payment A
8  INNER JOIN customer B ON A.customer_id = B.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 (E.country, D.city) IN(
13 SELECT D.country, C.city
14 FROM customer A
15 INNER JOIN address B ON A.address_id = B.address_id
16 INNER JOIN city C ON B.city_id = C.city_id
17 INNER JOIN country D ON C.country_id = D.country_id
18 WHERE D.country IN(
19 SELECT D.country
20 FROM customer A
21 JOIN address B ON A.address_id = B.address_id
22 JOIN city C ON B.city_id = C.city_id
23 JOIN country D ON C.country_id = D.country_id
24 GROUP BY D.country
25 ORDER BY COUNT(A.customer_id) DESC
26 LIMIT 10
27 )
1. 27 )
28 GROUP BY D.country, C.city
29 ORDER BY COUNT(A.customer_id) DESC
30 LIMIT 10
31 )
32 GROUP BY B.customer_id, B.first_name, B.last_name, D.city, E.country
33 ORDER BY total_amount_paid DESC
34 LIMIT 5;

```

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	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