# 3.7: JOINING TABLES OF DATA

## STEP 1

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

- We were looking for specific data from both tables (customer, country), therefore it was appropriate to use INNER JOIN.

  From looking at ERD we knew that access to 4 tables was needed (customer, address, city, country). The tables were connected by common keys that can be seen in the query.

  The results were grouped by *country* column and ordered in descending order.
  A LIMIT 10 returns only top 10 countries.

```
158 SELECT D.country,
159        COUNT(A.customer_id) AS number_of_customers
160 FROM customer A
161 INNER JOIN address B ON A.address_id = B.address_id
162 INNER JOIN city C ON B.city_id = C.city_id
163 INNER JOIN country D ON C.country_id = D.country_id
164 GROUP BY country
165 ORDER BY number_of_customers DESC
166 LIMIT 10
167
```

Data Output | Messages | Notifications

| | country character varying (50) | 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 |

Total rows: 10 of 10 | Query complete 00:00:00.109

## STEP 2

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

- I used the query from step 1 and added city as a column I am interested in SELECT.
- To specify which citiesin which country I am looking for I added WHERE country IN.

Query | Query History

```
158 SELECT C.city,
159        D.country,
160        COUNT(A.customer_id) AS number_of_customers
161 FROM customer A
162 INNER JOIN address B ON A.address_id = B.address_id
163 INNER JOIN city C ON B.city_id = C.city_id
164 INNER JOIN country D ON C.country_id = D.country_id
165 WHERE country IN ('India','China','United States','Japan','Mexico','Brazil','Russian Federat
166 GROUP BY country,
167          city
168 ORDER BY number_of_customers DESC
169 LIMIT 10
```

Data Output | Messages | Notifications

| | city character varying (50) | country character varying (50) | number_of_customers 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 |

Total rows: 10 of 10 | Query complete 00:00:02.896

## STEP 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!*

- Because we are also looking for Total Amount paid by customers, a payment table needed to be added as well. The lettering of the tables has been shifted:
  *A payment*
  *B customer*
  *C address*
  *D city*
  *E country*
- After JOIN we added WHERE city IN to specify which cities, we want to pull the customer data from.
- This time we are only searching for TOP 5 customers, therefore LIMIT 5.

Query | Query History | Scratch Pad

```
SELECT SUM(A.amount) AS total_amount_paid,
       B.customer_id,
       B.first_name,
       B.last_name,
       D.city,
       E.country
FROM payment A
INNER JOIN customer B ON A.customer_id = B.customer_id
INNER JOIN address C ON B.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 city IN ('Aurora','Acua','Citrus Heights','Iwaki','Ambattur','Shanwei',
               'So Leopoldo','Teboksary','Tianjin','Cianjur')
GROUP BY B.customer_id,
         first_name,
         last_name,
         city,
         country
ORDER BY total_amount_paid DESC
LIMIT 5
```

Data Output | Messages | Notifications

| | total_amount_paid numeric | customer_id integer | first_name character varying (45) | last_name character varying (45) | city character varying (50) | country character varying (50) |
|---|---|---|---|---|---|---|
| 1 | 111.76 | 225 | Arlene | Harvey | Ambattur | India |
| 2 | 109.71 | 424 | Kyle | Spurlock | Shanwei | China |