

3.7 Joining Tables of Data

1. Top 10 countries for Rockbuster in terms of customer numbers.

```
SELECT
    D.country,
    COUNT(A.customer_id) AS customers
FROM customer A
LEFT JOIN address B ON A.address_id = B.address_id
LEFT JOIN city C ON B.city_id = C.city_id
LEFT JOIN country D ON C.country_id = D.country_id
GROUP BY country
ORDER BY customers DESC
LIMIT 10;
```

country	customers
India	60
China	53
United States	36
Japan	31
Mexico	30
Brazil	28
Russian Federation	28
Philippines	20
Turkey	15
Indonesia	14

First, I focused on the JOINS by simply writing one JOIN (customer and address table) to test it. Then I added the other joins and after that I displayed only the data I was interested in, using COUNT of the customers. Finally I needed to sort the count of the customers and limit the output to get the top 10 countries with the most customers.

2. Top 10 cities within the top 10 countries.

```
SELECT
    C.city,
    COUNT(A.customer_id) AS customers
FROM customer A
LEFT JOIN address B ON A.address_id = B.address_id
LEFT JOIN city C ON B.city_id = C.city_id
LEFT JOIN country D ON C.country_id = D.country_id
WHERE country IN ('India', 'China', 'United States', 'Japan', 'Mexico',
                  'Brazil', 'Russian Federation', 'Philippines', 'Turkey', 'Indonesia')
GROUP BY city
ORDER BY customers DESC
LIMIT 10;
```

city	customers
Aurora	2
Tokat	1
Tarsus	1
Atlixco	1
Emeishan	1
Pontianak	1
Shimoga	1
Aparecida de Goinia	1
Zalantun	1
Taguig	1

I first tried to SORT and ORDER BY city as well but that didn't work so used a WHERE statement to only get the cities from the countries I wanted, which I manually wrote.

3. Top 5 customers in the top 10 cities who have paid the highest total amounts to Rockbuster.

```
SELECT
    A.customer_id,
    A.first_name,
    A.last_name,
    D.country,
    C.city,
    SUM(F.amount) AS total_amount
FROM payment F
INNER JOIN customer A ON F.customer_id = A.customer_id
LEFT JOIN address B ON A.address_id = B.address_id
LEFT JOIN city C ON B.city_id = C.city_id
LEFT JOIN country D ON C.country_id = D.country_id
WHERE city IN ('Aurora', 'Tokat', 'Tarsus', 'Atlixco', 'Emeishan',
               'Pontianak', 'Shimoga', 'Aparecida de Goinia', 'Zalantun', 'Taguig')
GROUP BY A.customer_id, D.country, C.city
ORDER BY total_amount DESC
LIMIT 5;
```

customer_id	first_name	last_name	Country	City	total_amount
566	Casey	Mena	Turkey	Tokat	130.68
84	Sara	Perry	Mexico	Atlixco	128.70
506	Leslie	Seward	Indonesia	Pontianak	123.72
389	Alan	Kahn	China	Emeishan	119.75
537	Clinton	Buford	United States	Aurora	98.76