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EXERCISE 3.7 JOINING TABLES OF DATA

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Step 1- Find the Top 10 Countries

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

```
1 SELECT country,  
2 COUNT(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 country  
8 ORDER BY customer_count DESC  
9 LIMIT 10
```

Data Output Messages Notifications

	country character varying (50)	customer_count 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

```
SELECT country,  
COUNT(customer_id) AS customer_count  
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 country  
ORDER BY customer_count DESC  
LIMIT 10
```

- We are being asked to find the top 10 countries in term of customers. I selected an inner join since there was a connection via a key. I selected the COUNT aggregation to get the number o customers, I GROUP BY the country and ORDER BY descending order. Lastly by adding the LIMIT clause I was able to see the top 10

Step 2- Find the Top 10 Cities

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

```
11 SELECT country,city,  
12 COUNT(customer_id) AS customer_count  
13 FROM customer A  
14 INNER JOIN address B ON A.address_id=B.address_id  
15 INNER JOIN city C ON B.city_id=C.city_id  
16 INNER JOIN country D ON C.country_id=D.country_id  
17 WHERE country IN ('Japan')  
18 GROUP BY city,country  
19 ORDER BY customer_count DESC  
20 LIMIT 10;  
21
```

	country character varying (50)	city character varying (50)	customer_count bigint
1	Japan	Fukuyama	1
2	Japan	Higashiosaka	1
3	Japan	Hino	1
4	Japan	Hiroshima	1
5	Japan	Isesaki	1
6	Japan	Iwaki	1
7	Japan	Iwakuni	1
8	Japan	Iwatsuki	1
9	Japan	Izumisano	1
10	Japan	Akishima	1

```
SELECT country, city  
COUNT(customer_id) AS customer_count  
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 country IN ('Japan')  
GROUP BY city, country  
ORDER BY customer_count DESC  
LIMIT 10;
```

- I kept the command similar but had to add WHERE to identify the country I was interested in (JAPAN). The WHERE clause is key in this for the information to be pulled specifically from Japan I then added city to my SELECT, GROUP BY. This will show me the top 10 cities in Japan.

Step 3- Find the Top 5 Customers

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!

```
22 SELECT A.customer_id, A.first_name, A.last_name, D.country, C.city,
23 SUM(E.amount) AS total_payment
24 FROM customer A
25 INNER JOIN payment E ON A.customer_id=E.customer_id
26 INNER JOIN address B ON A.address_id=B.address_id
27 INNER JOIN city C ON B.city_id=C.city_id
28 INNER JOIN country D ON C.country_id=D.country_id
29 WHERE C.city IN ('Fukuyama','Higashiosaka','Hino','Hiroshima','Isesaki','Iwaki','Iwakuni','Iwatsuki','Izumisano','Akishima')
30 AND D.country IN ('Japan')
31 GROUP BY A.customer_id, A.first_name, A.last_name, D.country, C.city
32 ORDER BY total_payment DESC
```

Data Output Messages Notifications

Showing rows: 1 to 5 Page No: 1

	customer_id integer	first_name character varying (45)	last_name character varying (45)	country character varying (50)	city character varying (50)	total_payment numeric
1	141	Debbie	Reyes	Japan	Fukuyama	127.69
2	54	Teresa	Rogers	Japan	Iwakuni	114.74
3	574	Julian	Vest	Japan	Akishima	108.73
4	240	Marlene	Welch	Japan	Iwaki	106.77
5	396	Earl	Shanks	Japan	Iwatsuki	105.74

- For this exercise we had to integrate a new table into the SQL. Our aggregation had to change, were now using SUM to get the total payments from customers. I then added an additional connection to link the payment table to the syntax. By using the WHERE clause I was able to identify the top 10 cities from Japan. Lastly limiting my finings to 5 will show me the top 5 customers in those cities.