Chris Arnold Answers to 3.7

1) Write a query to find the top 10 countries for Rockbuster in terms of customer numbers. (Tip: you'll have to use GROUP BY and ORDER BY, both of which follow the join.)

Query Editor   Query History

```
1   SELECT D.country, COUNT(A.customer_id)
2   AS number_of_customers FROM customer A
3   INNER JOIN address B ON A.address_id = B.address_id
4   INNER JOIN city C ON B.city_id = C.city_id
5   INNER JOIN country D on C.country_id = D.country_id
6   GROUP BY country
7   ORDER BY COUNT(A.customer_id) DESC LIMIT 10
```

Data Output   Explain   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

As with any of these queries, a quick reference to the ERD created earlier is a great way to find interconnectedness and start the plan. The goal here was to find out the number of customers in each country, thus we needed to count the number of customer ids and select the country names that go with them. The tables that were needed were joined (customer and country). The countries were grouped, and then ordered by the number of customers in each country. Finally, we limited this list to 10 since that is all we were looking for here.

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

Query Editor   Query History

```
1    SELECT C.city, D.country, COUNT(A.customer_id)
2    AS number_of_customers FROM customer A
3    INNER JOIN address B ON A.address_id = B.address_id
4    INNER JOIN city C ON B.city_id = C.city_id
5    INNER JOIN country D ON C.country_id = D.country_id
6    WHERE D.country IN ('India','China','United States',
7                        'Japan','Mexico','Brazil',
8                        'Russian Federation','Philippines',
9                        'Turkey','Indonesia')
10   GROUP BY C.city, D.country
11   ORDER BY COUNT(A.customer_id) DESC
12   LIMIT 10
```

Data Output   Explain   Messages   Notifications

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

The second query does very close to the same thing as the first one. The main difference is the addition of the WHERE and IN aspects. This was done in order to only show cities that are in the countries that were queried for the first answer. Also, this answer was grouped by city and country. With the nature of the answer, and the outputs I feel it appropriate to note that rows 2-10 are interchangeable and could come out in any order to be correct.

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 Editor   Query History

```
1   SELECT A.customer_id, A.first_name, A.last_name, D.city, E.country,
2   SUM(B.amount) AS total_amount_paid FROM customer A
3   INNER JOIN payment B ON A.customer_id = B.customer_id
4   INNER JOIN address C ON A.address_id = C.address_id
5   INNER JOIN city D ON C.city_id = D.city_id
6   INNER JOIN country E ON D.country_id = E.country_id
7   WHERE city IN ('Aurora','Atlixco','Xintai','Adoni','Dule%'
8                  ,'Kurashiki','Pinxiang','Sivas','Celaya','So Leopoldo')
9   GROUP BY A.customer_id, A.first_name, A.last_name, D.city, E.country
10  ORDER BY total_amount_paid DESC
11  LIMIT 5
```

Data Output   Explain   Messages   Notifications

	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

Again, this query has many similarities to the first two made. The difference lies in the WHERE IN statements contained the city names versus the country names in the prior answer. The payment table was also included in the JOIN so that this could be ordered from biggest to smallest value.