

Alexander Coley

11-24-23

Exercise 3.8

Question 1:

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

Query	Query History		Data Output	Messages	N
<pre> 1  SELECT AVG(total_amount_paid) 2  FROM 3  (SELECT A.customer_id, 4  A.first_name, 5  A.last_name, 6  C.city, 7  D.country, 8  Sum(E.amount) AS total_amount_paid 9  From customer A 10 INNER JOIN address B ON A.address_id = B.address_id 11 INNER JOIN city C ON B.city_id = C.city_id 12 INNER JOIN country D ON C.country_id = D.country_id 13 INNER JOIN payment E ON A.customer_id = E.customer_id 14 WHERE C.city IN ('Aurora', 'So Leopoldo', 'Tianjin', 'Shanwei', 'Citrus 15 'Teboksary', 'Iwaki', 'Ambattur', 'Cianjur', 'Acua') 16 GROUP BY A.customer_id, 17 A.first_name, 18 A.last_name, 19 C.city, 20 D.country 21 ORDER BY total_amount_paid DESC 22 LIMIT 5) AS average </pre>					
			avg numeric		
			1	105.5540000000000000	

Question 2:

```

SELECT
D.country,
COUNT(DISTINCT A.customer_id) AS all_customer_count,
COUNT('top_5_customers') AS top_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
LEFT JOIN
(SELECT A.customer_id,
A.first_name,
A.last_name,
C.city,
D.country,
Sum(E.amount) AS total_amount_paid
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
INNER JOIN payment E ON A.customer_id = E.customer_id
WHERE C.city IN ('Aurora', 'So Leopoldo', 'Tianjin', 'Shanwei', 'Citrus Heights',
'Teboksary', 'Iwaki', 'Ambattur', 'Cianjur', 'Acua')
GROUP BY A.customer_id,
A.first_name,

```

```

A.last_name,
C.city,
D.country
ORDER BY total_amount_paid DESC
LIMIT 5) top_5_customers ON A.customer_id = top_5_customers.customer_id
GROUP BY D.country
ORDER BY all_customer_count DESC
LIMIT 5;

```

Query

Query History

1SELECT  
2D.country,  
3COUNT(DISTINCT A.customer\_id) AS all\_customer\_count,  
4COUNT('top\_5\_customers') AS top\_customer\_count  
5From customer A  
6INNER JOIN address B ON A.address\_id = B.address\_id  
7INNER JOIN city C ON B.city\_id = C.city\_id  
8INNER JOIN country D ON C.country\_id = D.country\_id  
9LEFT JOIN  
10(SELECT A.customer\_id,  
11A.first\_name,  
12A.last\_name,  
13C.city,  
14D.country,  
15Sum(E.amount) AS total\_amount\_paid  
16From customer A  
17INNER JOIN address B ON A.address\_id = B.address\_id  
18INNER JOIN city C ON B.city\_id = C.city\_id  
19INNER JOIN country D ON C.country\_id = D.country\_id  
20INNER JOIN payment E ON A.customer\_id = E.customer\_id  
21WHERE C.city IN ('Aurora', 'So Leopoldo', 'Tianjin', 'Shanwei', 'Citrus  
22'Teboksary', 'Iwaki', 'Ambattur', 'Cianjur', 'Acua')  
23GROUP BY A.customer\_id,  
24A.first\_name,  
25A.last\_name,  
26C.city,  
27D.country  
28ORDER BY total\_amount\_paid DESC  
29LIMIT 5) top\_5\_customers ON A.customer\_id = top\_5\_customers.customer\_id  
30GROUP BY D.country  
31ORDER BY all\_customer\_count DESC  
32LIMIT 5;

Data Output

Messages

Notifications

	country character varying (50)	all_customer_count bigint	top_customer_count bigint
1	India	60	60
2	China	53	53
3	United States	36	36
4	Japan	31	31
5	Mexico	30	30

### Question 3:

We could've gotten the same results without using subqueries. Although we would've already had to have known which cities are the top five in order to do so. Without this information though we would definitely need to use the subqueries to get our results.