**1)**

SELECT AVG(total\_amount\_paid) AS average FROM

(SELECT

A.customer\_id,

A.first\_name,

A.last\_name,

D.country as country\_name,

C.city,

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 city IN ('Aurora', 'Tokat', 'Tarsus', 'Altixco', 'Emeishan', 'Pontainak', 'Shimoga', 'Aparaceida de Goiania', 'Zalantun', 'Taguig')

GROUP BY

A.customer\_id,

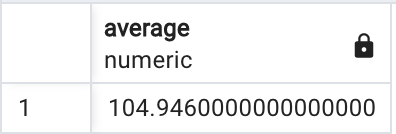
D.country,

C.city

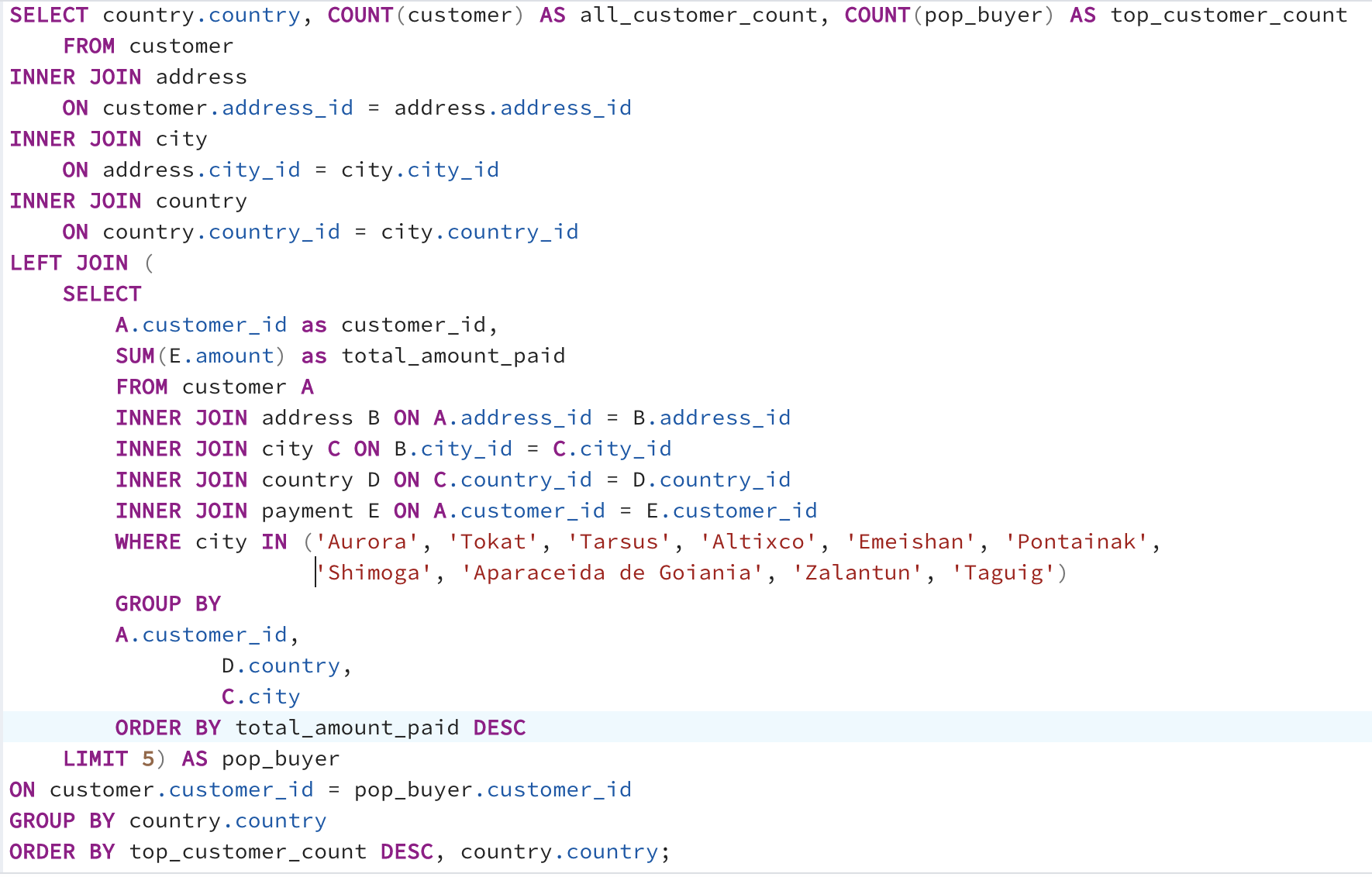
ORDER BY total\_amount\_paid DESC

LIMIT 5) AS all\_customer\_count

Output



**2)**



Query as text:

SELECT country.country, COUNT(customer) AS all\_customer\_count, COUNT(pop\_buyer) AS top\_customer\_count

FROM customer

INNER JOIN address

ON customer.address\_id = address.address\_id

INNER JOIN city

ON address.city\_id = city.city\_id

INNER JOIN country

ON country.country\_id = city.country\_id

LEFT JOIN (

SELECT

A.customer\_id as customer\_id,

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 city IN ('Aurora', 'Tokat', 'Tarsus', 'Altixco', 'Emeishan', 'Pontainak', 'Shimoga', 'Aparaceida de Goiania', 'Zalantun', 'Taguig')

GROUP BY

A.customer\_id,

D.country,

C.city

ORDER BY total\_amount\_paid DESC

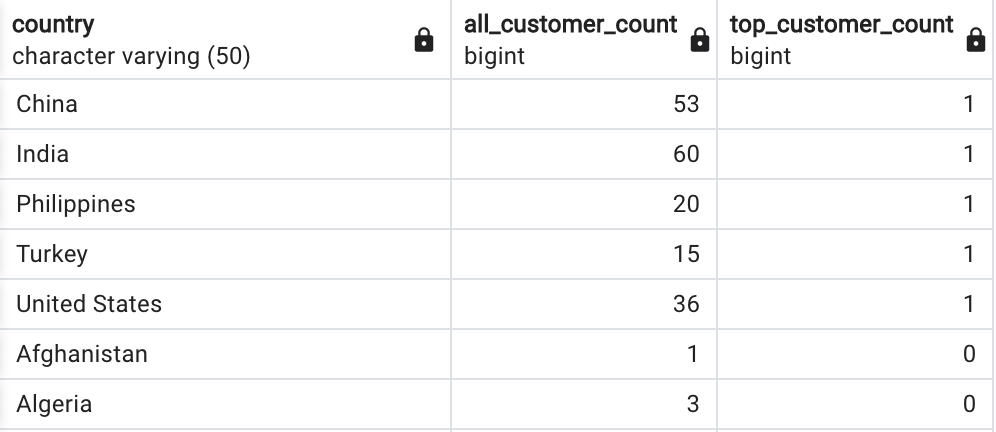
LIMIT 5) AS pop\_buyer

ON customer.customer\_id = pop\_buyer.customer\_id

GROUP BY country.country

ORDER BY top\_customer\_count DESC, country.country;

Output:



……. every single country

**3)**

I believe it could have been done, but the performance would have suffered. One would have needed to conduct numerous queries, determine which country one of the top five citizens resides in, etc. In conclusion, it wouldn't make much sense to accomplish this without subqueries.

They are helpful if you want to extract various information from the same data or data that has a connection point, which typically requires combining multiple searches manually.

EXPLAIN SELECT country.country, COUNT(customer) AS all\_customer\_count,COUNT(pop\_buyer) AS top\_customer\_count FROM customer INNER JOIN address ON customer.address\_id = address.address\_id INNER JOIN city ON address.city\_id = city.city\_id INNER JOIN country ON country.country\_id = city.country\_id LEFT JOIN (SELECT A.customer\_id as customer\_id,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 city IN ('Aurora', 'Tokat', 'Tarsus', 'Altixco', 'Emeishan', 'Pontainak', 'Shimoga','Aparaceida de Goiania', 'Zalantun', 'Taguig') GROUP BY A.customer\_id,D.country, C.city ORDER BY total\_amount\_paid DESC LIMIT 5) AS pop\_buyer ON customer.customer\_id = pop\_buyer.customer\_id GROUP BY country.country ORDER BY top\_customer\_count DESC, country.country;