/\* **This SQL query retrieves and ranks the top 10 cities with the highest total payment amounts by country. It joins multiple tables including customer, address, city, country, and payment. The query first identifies the top 10 countries with the most customers using a subquery, then calculates the total payment amount for each city in those countries. The results are grouped by 'customer\_id,' 'first\_name,' 'last\_name,' 'country,' and 'city,' and sorted in descending order by 'total\_amount\_paid.'**

**\*/**

SELECT co.country, ci.city, SUM(p.amount) AS total\_amount\_paid

FROM customer c

INNER JOIN address a ON c.address\_id = a.address\_id

INNER JOIN city ci ON a.city\_id = ci.city\_id

INNER JOIN country co ON ci.country\_id = co.country\_id

INNER JOIN payment p ON c.customer\_id = p.customer\_id

WHERE co.country\_id IN (

-- Subquery for top countries

SELECT co.country\_id

FROM customer c

INNER JOIN address a ON c.address\_id = a.address\_id

INNER JOIN city ci ON a.city\_id = ci.city\_id

INNER JOIN country co ON ci.country\_id = co.country\_id

GROUP BY co.country\_id, co.country

ORDER BY COUNT(c.customer\_id) DESC

LIMIT 10

)

GROUP BY c.customer\_id, c.first\_name, c.last\_name, co.country, ci.city

ORDER BY total\_amount\_paid DESC

LIMIT 10;

/\*

**This complex SQL query provides insights into customer statistics, focusing on the comparison between the top 10 countries with the most customers and all customers in those countries. It combines multiple subqueries and joins across customer, address, city, country, and payment tables to collect data. The query calculates the total amount paid by the top 5 customers in the top 10 countries and compares the total customer count and top customer count for each country. The results are grouped by 'country' and provide counts for all customers and top customers.**

\*/

SELECT

tc.country,

COUNT(DISTINCT all\_customers.customer\_id) AS all\_customer\_count,

COUNT(DISTINCT tc.customer\_id) AS top\_customer\_count

FROM

(

-- Subquery for top 10 countries with customer statistics

SELECT

c.customer\_id, c.first\_name, co.country, ci.city,

SUM(p.amount) AS total\_amount\_paid

FROM customer c

INNER JOIN address a ON c.address\_id = a.address\_id

INNER JOIN city ci ON a.city\_id = ci.city\_id

INNER JOIN country co ON ci.county\_id = co.country\_id

INNER JOIN payment p ON c.customer\_id = p.customer\_id

WHERE co.country\_id IN (

-- Subquery for top 10 countries

SELECT co.country\_id

FROM customer c

INNER JOIN address a ON c.address\_id = a.address\_id

INNER JOIN city ci ON a.city\_id = ci.city\_id

INNER JOIN country co ON ci.country\_id = co.country\_id

GROUP BY co.country\_id, co.country

ORDER BY COUNT(c.customer\_id) DESC

LIMIT 10

)

GROUP BY c.customer\_id, c.first\_name, c.last\_name, co.country, ci.city

ORDER BY total\_amount\_paid DESC

LIMIT 5

) AS tc

LEFT JOIN (

-- Subquery for all customers in the top countries

SELECT c.customer\_id, ci.country\_id

FROM customer c

INNER JOIN address a ON c.address\_id = a.address\_id

INNER JOIN city ci ON a.city\_id = ci.city\_id

) AS all\_customers ON tc.customer\_id = all\_customers.customer\_id

GROUP BY tc.country;