Common Table Expressions

**To find the average amount paid by the top 5 customers**

**QUERY :**

WITH top\_countries AS (

SELECT D.country

FROM customer A

JOIN address B ON A.address\_id = B.address\_id

JOIN city C ON B.city\_id = C.city\_id

JOIN country D ON C.country\_ID = D.country\_ID

GROUP BY D.country

ORDER BY COUNT(A.customer\_id) DESC

LIMIT 10

),

top\_locations AS (

SELECT D.country, C.city

FROM customer A

JOIN address B ON A.address\_id = B.address\_id

JOIN city C ON B.city\_id = C.city\_id

JOIN country D ON C.country\_ID = D.country\_ID

WHERE D.country IN (SELECT country FROM top\_countries)

GROUP BY D.country, C.city

ORDER BY COUNT(A.customer\_id) DESC

LIMIT 10

),

top\_customers AS (

SELECT B.customer\_id, SUM(A.amount) AS total\_amount\_paid

FROM payment A

JOIN customer B ON A.customer\_id = B.customer\_id

JOIN address C ON B.address\_id = C.address\_id

JOIN city D ON C.city\_id = D.city\_id

JOIN country E ON D.country\_id = E.country\_id

WHERE (E.country, D.city) IN (SELECT \* FROM top\_locations)

GROUP BY B.customer\_id

ORDER BY total\_amount\_paid DESC

LIMIT 5

)

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

FROM top\_customers;

**Explanation**

1. **First CTE (top\_countries)** : Selects the top 10 countries with the highest number of customers.
2. **Second CTE (top\_locations)** : Finds the top 10 cities from these countries that have the most customers.
3. **Third CTE (top\_customers)** : Identifies the top 5 customers (by total amount spent) from those top cities and countries.
4. **Final Query** : Calculates the average amount paid by these top 5 customers.