JOINING TABLES, SUBQUERIES AND CTE IN SQL

JOINS

Query Query History

```sql
1  -- Joining tables to find top 5 customers within top 10 cities
2
3  SELECT A.customer_id, A.first_name, A.last_name, C.city, D.country,
4  SUM(E.amount) AS "Total Amount Paid"
5  FROM customer A
6  INNER JOIN address B ON A.address_id = B.address_id
7  INNER JOIN city C ON B.city_id = C.city_id
8  INNER JOIN country D ON C.country_id = D.country_id
9  INNER JOIN payment E ON A.customer_id = E.customer_id
10 WHERE city IN ('Aurora','Atlixco','Xintai','Dhule (Dhulia)','Kurashiki','Pingxiang','Sivas','Celaya','So Leopoldo')
11 GROUP BY A.customer_id, first_name, last_name, city, country
12 ORDER BY "Total Amount Paid" DESC
13 LIMIT 5;
```

Data Output   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	443	Francisco	Skidmore	So Leopoldo	Brazil	93.79

SUBQUERY

Query Query History

```sql
1  -- Finding countries that have top 5 customers from top 10 cities
2
3  SELECT D.country, COUNT(A.customer_id) AS all_customer_count,
4  COUNT (top_5_customers) AS top_customer_count
5  FROM customer A
6      INNER JOIN address B ON A.address_id = B.address_id
7      INNER JOIN city C on B.city_id = C.city_id
8      INNER JOIN country D ON C.country_id = D.country_id
9  LEFT JOIN (SELECT A.customer_id, A.first_name, A.last_name, C.city, D.country,
10 SUM(E.amount) AS total_amount_paid
11 FROM customer A
12     INNER JOIN address B ON A.address_id = B.address_id
13     INNER JOIN city C ON B.city_id = C.city_id
14     INNER JOIN country D ON C.country_id = D.country_id
15     INNER JOIN payment E ON A.customer_id = E.customer_id
16 WHERE city IN ('Aurora','Atlixco','Xintai','Adoni','Dhule (Dhulia)','Kurashiki','Pingxiang','Sivas','Celaya','So Leopoldo')
17 GROUP BY A.customer_id, first_name, last_name, city, country
18 ORDER BY total_amount_paid DESC
19 LIMIT 5) AS top_5_customers ON A.customer_id = top_5_customers.customer_id
20 GROUP BY D.country
21 HAVING COUNT (top_5_customers) > 0
22 ORDER BY (all_customer_count) DESC;
```

Data Output   Messages   Notifications

	country character varying (50)	all_customer_count bigint	top_customer_count bigint
1	India	60	1
2	United States	36	1
3	Mexico	30	2
4	Turkey	15	1

JOINING TABLES, SUBQUERIES AND CTE IN SQL

CTE

Query

Edit

```sql
1  -- Finding countries that have top 5 customers from top 10 cities using CTE
2
3  WITH top_customers (customer_id, first_name, last_name, city, country) AS
4  (SELECT A.customer_id, A.first_name, A.last_name, C.city, D.country,
5  SUM(E.amount) AS total_amount_paid
6  FROM customer A
7      INNER JOIN address B ON A.address_id = B.address_id
8      INNER JOIN city C ON B.city_id = C.city_id
9      INNER JOIN country D ON C.country_id = D.country_id
10     INNER JOIN payment E ON A.customer_id = E.customer_id
11 WHERE city IN ('Aurora','Atlixco','Xintai','Adoni','Dhule (Dhulia)','Kurashiki','Pingxiang','Sivas','Celaya','So Leopoldo')
12 GROUP BY A.customer_id, first_name, last_name, city, country
13 ORDER BY total_amount_paid DESC
14 LIMIT 5)
15 SELECT D.country,
16 COUNT(A.customer_id) AS all_customer_count, COUNT(top_customers) AS top_customer_count
17 FROM customer A
18     INNER JOIN address B ON A.address_id = B.address_id
19     INNER JOIN city C ON B.city_id = C.city_id
20     INNER JOIN country D ON C.country_id = D.country_id
21     LEFT JOIN top_customers ON A.customer_id = top_customers.customer_id
22 GROUP BY D.country
23 HAVING COUNT (top_customers) > 0
24 ORDER BY COUNT (top_customers) DESC;
```