

## Performing Subqueries

**Find the average amount paid by the top 5 customers.**

```
SELECT AVG (total_amount_paid) AS average_amount_paid
FROM
(SELECT customer.customer_id,
customer.first_name,
customer.last_name,
ctry.country,
cty.city,
SUM (pay.amount) AS total_amount_paid
FROM customer
INNER JOIN payment AS pay ON customer.customer_id= pay.customer_id
INNER JOIN address AS addr ON customer.address_id = addr.address_id
INNER JOIN city AS cty ON addr.city_id = cty.city_id
INNER JOIN country AS ctry ON cty.country_id = ctry.country_id
WHERE ctry.country IN (
SELECT ctry.country
FROM customer AS cus
INNER JOIN address AS addr ON cus.address_id = addr.address_id
INNER JOIN city AS cty ON addr.city_id = cty.city_id
INNER JOIN country AS ctry ON cty.country_id = ctry.country_id
GROUP BY ctry.country
ORDER BY COUNT (cus.customer_id) DESC
LIMIT 10)
AND cty.city IN (
SELECT cty.city
```

```
FROM customer AS cus
INNER JOIN address AS addr ON cus.address_id = addr.address_id
INNER JOIN city AS cty ON addr.city_id = cty.city_id
INNER JOIN country AS ctry ON cty.country_id = ctry.country_id
WHERE country IN ('India','China','United States','Japan', 'Mexico','Brazil',
'Russian Federation','Philippines','Turkey', 'Indonesia')
GROUP BY cty.city,
         ctry.country
ORDER BY COUNT (cus.customer_id) DESC
LIMIT 10)
GROUP BY customer.customer_id, customer.first_name,
customer.last_name, cty.city, ctry.country
ORDER BY total_amount_paid DESC
LIMIT 5) AS average;
```

Query Query History

```

1 SELECT AVG (total_amount_paid) AS average_amount_paid
2 FROM
3 (SELECT customer.customer_id,
4  customer.first_name,
5  customer.last_name,
6  ctry.country,
7  cty.city,
8  SUM (pay.amount) AS total_amount_paid
9  FROM customer
10 INNER JOIN payment AS pay ON customer.customer_id= pay.customer_id
11 INNER JOIN address AS addr ON customer.address_id = addr.address_id
12 INNER JOIN city AS cty ON addr.city_id = cty.city_id
13 INNER JOIN country AS ctry ON cty.country_id = ctry.country_id
14 WHERE ctry.country IN (
15  SELECT ctry.country
16  FROM customer AS cus
17  INNER JOIN address AS addr ON cus.address_id = addr.address_id
18  INNER JOIN city AS cty ON addr.city_id = cty.city_id
19  INNER JOIN country AS ctry ON cty.country_id = ctry.country_id
20  GROUP BY ctry.country
21  ORDER BY COUNT (cus.customer_id) DESC
22  LIMIT 10)
23 AND cty.city IN(
24  SELECT cty.city

```

Data Output   Messages   Notifications













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	average_amount_paid numeric
1	107.3540000000000000

**Find out how many of the top 5 customers you identified in step 1 are based within each country**

```
SELECT cnt1.country,  
COUNT(DISTINCT cust1.customer_id) AS all_customer_count,  
COUNT(DISTINCT top_5_customers.customer_id) AS top_customer_count  
FROM customer AS cust1  
INNER JOIN address AS addr1 ON cust1.address_id = addr1.address_id  
INNER JOIN city AS cty1 ON addr1.city_id = cty1.city_id  
INNER JOIN country AS cnt1 ON cty1.country_id = cnt1.country_id  
LEFT JOIN  
(SELECT customer.customer_id,  
customer.first_name,  
customer.last_name,
```

```

    ctry.country,
    cty.city,
    SUM (pay.amount) AS total_amount_paid
FROM customer

INNER JOIN payment AS pay ON customer.customer_id= pay.customer_id
INNER JOIN address AS addr ON customer.address_id = addr.address_id
INNER JOIN city AS cty ON addr.city_id = cty.city_id
INNER JOIN country AS ctry ON cty.country_id = ctry.country_id
WHERE

ctry.country IN (
SELECT ctry.country
FROM customer AS cus
INNER JOIN address AS addr ON cus.address_id = addr.address_id
INNER JOIN city AS cty ON addr.city_id = cty.city_id
INNER JOIN country AS ctry ON cty.country_id = ctry.country_id
GROUP BY ctry.country
ORDER BY COUNT (cus.customer_id) DESC
LIMIT 10)
AND cty.city IN (
SELECT cty.city
FROM customer AS cus
INNER JOIN address AS addr ON cus.address_id = addr.address_id
INNER JOIN city AS cty ON addr.city_id = cty.city_id
INNER JOIN country AS ctry ON cty.country_id = ctry.country_id
WHERE country IN ('India','China','United States','Japan', 'Mexico','Brazil',
'Russian Federation','Philippines','Turkey', 'Indonesia')

```

```

GROUP BY cty.city,
        ctry.country
ORDER BY COUNT (cus.customer_id) DESC
LIMIT 10)
GROUP BY customer.customer_id, customer.first_name,
customer.last_name, cty.city, ctry.country
ORDER BY total_amount_paid DESC
LIMIT 5) AS top_5_customers ON top_5_customers.country = cnt1.country
GROUP BY cnt1.country
ORDER BY top_customer_count DESC, all_customer_count DESC;

```

Query Query History

```

1  SELECT cnt1.country,
2  COUNT(DISTINCT cust1.customer_id) AS all_customer_count,
3  COUNT(DISTINCT top_5_customers.customer_id) AS top_customer_count
4  FROM customer AS cust1
5  INNER JOIN address AS addr1 ON cust1.address_id = addr1.address_id
6  INNER JOIN city AS cty1 ON addr1.city_id = cty1.city_id
7  INNER JOIN country AS cnt1 ON cty1.country_id = cnt1.country_id
8  LEFT JOIN
9  (SELECT customer.customer_id,
10   customer.first_name,
11   customer.last_name,
12   ctry.country,
13   cty.city,
14   SUM (pay.amount) AS total_amount_paid
15  FROM customer
16  INNER JOIN payment AS pay ON customer.customer_id = pay.customer_id
17  INNER JOIN address AS addr ON customer.address_id = addr.address_id
18  INNER JOIN city AS cty ON addr.city_id = cty.city_id
19  INNER JOIN country AS ctry ON cty.country_id = ctry.country_id
20  WHERE

```

Data Output Messages Notifications

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