

Customer Placing the Largest Number of Orders

Question:

<https://leetcode.com/problems/customer-placing-the-largest-number-of-orders/>

ORDERS	
Column	Type
order_number	int
customer_number	int

order_number is the primary key for this table.

This table contains information about the order ID and the customer ID.

Write an SQL query to find the customer_number for the customer who has placed the largest number of orders.

The test cases are generated so that exactly one customer will have placed more orders than any other customer.

Query 1

Tried using the **COUNT** function to find the **MAX** occurrence of customer_number.

This gave an error because the alias of our function was similar to the column name so I was actually trying to use an **aggregate function** for grouping which ended up giving the error.

SELECT

```
MAX(COUNT(customer_number)) AS customer_number
```

FROM Orders

```
GROUP BY customer_number
```

NOTE : Never use aggregate functions for grouping since aggregate functions return a single value and we can't group a single value.

Query 2(Accepted)

So I used a **subquery** along with the **GROUPBY** function to group data based on **customer_number**.

First I created a table mapping each customer_number with its number of occurrences.

Used this table as subquery for finding the max count.

```
SELECT s.customer_number
FROM (SELECT
      O.customer_number,
      COUNT(O.customer_number) AS cnt
FROM Orders AS O
GROUP BY O.customer_number
ORDER BY cnt DESC
LIMIT 1 ) AS s
```

This query is unnecessarily complex. Notice the **ORDER BY** clause, the cnt is the count of each customer. We can optimize this query by using the **COUNT** function in **ORDER BY** directly thereby replacing the **Subquery**.

Query 3(Accepted)

Simply removed the **subquery** and used the **COUNT** aggregate function in the **ORDER BY** clause worked and gave us the best solution.

```
SELECT
```

```
    O.customer_number
```

```
FROM Orders AS O
```

```
GROUP BY O.customer_number
```

```
ORDER BY COUNT(O.customer_number) DESC
```

```
LIMIT 1
```

PS : This was the best solution and the fastest one too!!!