

# Question Answering with SQL

1. How many Customers do we have in the data?

A:

```
SELECT count (*)  
From customers ;
```

795

2. What was the city with the most profit for the company in 2015 and how much was it?

A:

```
SELECT shipping_city, Sum(order_profits) as profit, shipping_date  
FROM order_details AS od  
JOIN orders as o on od.order_id = o.order_id  
WHERE order_date LIKE '%2015'  
GROUP by shipping_city  
ORDER by profit DESC;
```

New York City	14753	9/6/2015
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3. How many different cities do we have in the data?

A:

```
SELECT count(DISTINCT shipping_city) as citynumber  
FROM orders ;
```

531

4. Show the total spent by customers from low to high.

A:

```
SELECT sum(order_sales) as total_spent, c.customer_id  
FROM order_details AS od  
JOIN orders as o on od.order_id = o.order_id  
JOIN customers as c on c.customer_id = o.customer_id  
GROUP by 2  
ORDER by 1  
limit 10;
```

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5	456
5	738
16	546
17	124
22	657
48	626
49	725
50	448
58	9
72	355

### 5. What is the most profitable City in the State of Tennessee?

A:

```
SELECT shipping_city , shipping_state ,sum (order_profits)
FROM orders AS o
JOIN order_details as od on o.order_id = od.order_id
WHERE shipping_state = 'Tennessee'
GROUP by 1
Order by 3 DESC
LIMIT 10 ;
```

Lebanon	Tennessee	83
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6. What's the average annual profit for that city across all years in that city?

A:

```
SELECT shipping_city , shipping_state ,avg(order_profits)
FROM orders AS o
JOIN order_details as od on o.order_id = od.order_id
WHERE shipping_city ='Lebanon';
```

Lebanon	Tennessee	27.66666666666667
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7. What is the distribution of customer types in the data?

A:

```
SELECT count( customer_segment), customer_segment
FROM customers
GROUP by customer_segment;
```

410	Consumer
237	Corporate
148	Home Office

8. What's the most profitable product category on average in Iowa across all years?

A:

```
SELECT avg(order_profits),product_category, shipping_state
FROM orders as o
JOIN order_details as od ON o.order_id=od.order_id
JOIN product as p on od.product_id=p.product_id
WHERE shipping_state = 'Iowa'
GROUP by 2
ORDER by 1 DESC
```

130.25	Furniture	Iowa
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9. What is the most popular product in that category across all states in 2016? (כמות)

A:

```
SELECT p.product_name, sum(od.quantity) as total_quantity
FROM orders AS o
JOIN order_details as od on o.order_id = od.order_id
JOIN product as p on od.product_id = p.product_id
WHERE p.product_category = 'Furniture' AND substr(order_date, -4)= '2016'
group by 1
Order by 2 DESC;
```

Global Push Button Manager's Chair, Indigo
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10. Which customer got the most discount in the data? (in total amount)

A:

```
select c.customer_id ,c.customer_name, sum((od.order_sales /
(1-od.order_discount )) - od.order_sales) as total_discount_amount
from order_details as od
join orders as o on o.order_id = od.order_id
join customers as c on c.customer_id = o.customer_id
group by 2
order by 3 desc
limit 1;
```

687	Sean Miller	23929.08333333333
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# Question Answering with SQL

## 11. How widely did monthly profits vary in 2018?

A:

```
WITH monthly_profit as (SELECT CAST(substr(o.order_date, 1
,(instr(o.order_date, '/') -1)) as int) month , sum(od.order_profits)as profit
from order_details od
JOIN orders o on od.order_id = o.order_id
where substr(order_date , -4) = '2018'
group by substr(o.order_date ,1 , (instr(o.order_date , '/')-1))
order by month , sum(od.order_profits) DESC)
select month, profit ,lag(profit, 1) OVER (order by month )
prev_month_profit , profit - (lag(profit,1) over (order by month)) difference
from monthly_profit
order by 4
```

1	7137		
4	934	14758	-13824
2	1612	7137	-5525

## 12. Which order was the highest in 2015?

A:

```
SELECT od.order_sales as totalsales, shipping_date, od.order_id
FROM order_details AS od
JOIN orders as o on od.order_id = o.order_id
WHERE shipping_date LIKE '%2015'
ORDER by 1 DESC;
```

22638	3/23/2015	CA-2015-145317
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# Question Answering with SQL

**13. What was the rank of each city in the East region in 2015?**

**A:**

```
SELECT sum(quantity ) as sq, shipping_city, shipping_region,  
ROW_NUMBER() OVER( ORDER BY quantity) AS rank  
FROM order_details AS od  
JOIN orders as o on od.order_id = o.order_id  
WHERE shipping_region = 'East' and shipping_date like '%2015'  
GROUP by 2  
ORDER by 1 DESC;
```

**14. Join all DB tables into one dataset that includes all unique columns and download it as a csv file. In the second part of the project, you're gonna work with this one table.**

**A:**

```
SELECT c.customer_id, c.customer_name,  
c.customer_segment,o.order_id, o.order_date,  
o.shipping_city, o.shipping_country, o.shipping_state, o.shipping_region,  
o.shipping_postal_code, o.shipping_date, o.shipping_mode,  
od.order_details_id, od.product_id, od.quantity, od.order_discount,  
od.order_profits, od.order_profit_ratio, od.order_sales,  
p.product_name, p.product_category, p.product_subcategory,  
p.product_manufacturer  
FROM customers c JOIN orders o on c.customer_id = o.customer_id  
JOIN order_details od on od.order_id = o.order_id  
JOIN product p on p.product_id = od.product_id;
```

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