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

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;

Question Answering with SQL

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

Question Answering with SQL

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	27.6666666666667

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

Question Answering with SQL

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

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	23929.0833333333

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

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;
```

Question Answering with SQL