**Analysis of Unicorn Data**

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

1. SELECT *Count*(\*)  
FROM   customers

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

2. SELECT *Year*(o.order\_date)    AS year,  
       o.shipping\_city,  
       *Sum*(od.order\_profits) AS total\_profit  
FROM   orders o  
       JOIN order\_details od  
         ON o.order\_id = od.order\_id  
GROUP  BY *Year*(o.order\_date),  
          o.shipping\_city  
HAVING *Year*(o.order\_date) = 2015  
ORDER  BY *Sum*(od.order\_profits) DESC

**3. How many different cities do we have in the data?**

3 . SELECT *Count*(DISTINCT shipping\_city) AS total\_cities  
FROM   orders

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

4. SELECT c.customer\_id,  
       c.customer\_name,  
       *Sum*(od.order\_sales) AS spent\_per\_customer  
FROM   customers c  
       JOIN orders o  
         ON c.customer\_id = o.customer\_id  
       JOIN order\_details od  
         ON o.order\_id = od.order\_id  
GROUP  BY c.customer\_id,  
          c.customer\_name  
ORDER  BY *Sum*(od.order\_sales) ASC

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

5.  SELECT o.shipping\_city,  
       *Sum*(od.order\_profits)  
FROM   orders o  
       JOIN order\_details od  
         ON o.order\_id = od.order\_id  
WHERE  o.shipping\_state = 'Tennessee'  
GROUP  BY o.shipping\_city  
ORDER  BY *Sum*(od.order\_profits) DESC

**6. What’s the average annual profit for that city across all years in that city?**

6. SELECT o.shipping\_city,  
       *Avg*(od.order\_profits) avg\_profit  
FROM   orders o  
       JOIN order\_details od  
         ON o.order\_id = od.order\_id  
GROUP  BY o.shipping\_city  
HAVING o.shipping\_city = 'Lebanon'

**7. What is the distribution of customer types in the data?**

7. SELECT DISTINCT customer\_segment,  
                *Count*(customer\_id)  
FROM   customers  
GROUP  BY customer\_segment

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

8. SELECT o.shipping\_state,  
       p.product\_category,  
       *Avg*(od. order\_profits) AS avg\_profit  
FROM   orders o  
       JOIN order\_details od  
         ON o.order\_id = od.order\_id  
       JOIN product p  
         ON p.product\_id = od.product\_id  
GROUP  BY o.shipping\_state,  
          p.product\_category  
HAVING o.shipping\_state = 'Iowa'  
ORDER  BY *Avg*(od. order\_profits)DESC

**9. What is the most popular product in that category across all states in 2016?**

9. SELECT p.product\_name,  
       *Sum*(od.quantity) AS no\_of\_product  
FROM   orders o  
       JOIN order\_details od  
         ON o.order\_id = od.order\_id  
       JOIN product p  
         ON p.product\_id = od.product\_id  
WHERE  p.product\_category = 'Furniture'  
       AND *Year*(o.order\_date) = '2016'  
GROUP  BY p.product\_name  
ORDER  BY *Sum*(od.quantity) DESC

**10. Which customer got the most discount in the data? (in total amount)**

10. WITH fun(customer\_id, total\_price, sale\_price)  
     AS (SELECT c.customer\_id,  
                ( od.order\_sales / ( 1 - od.order\_discount ) ) AS total\_price,  
                od.order\_sales  
         FROM   customers c  
                JOIN orders o  
                  ON c.customer\_id = o.customer\_id  
                JOIN order\_details od  
                  ON o.order\_id = od.order\_id)  
SELECT customer\_id,  
       total\_price - sale\_price AS discount  
FROM   fun  
ORDER  BY discount DESC

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

11. WITH fun(year, month, profit, diff\_profit)  
     AS (SELECT *Year*(o.order\_date),  
                *Month*(o.order\_date),  
                *Sum*(od.order\_profits)             AS profit,  
                **Lag**(*Sum*(od.order\_profits))  
                  OVER (  
                    ORDER BY *Month*(o.order\_date)) AS diff\_profit  
         FROM   orders o  
                JOIN order\_details od  
                  ON o.order\_id = od.order\_id  
         GROUP  BY *Year*(o.order\_date),  
                   *Month*(o.order\_date)  
         HAVING *Year*(o.order\_date) = 2018)  
SELECT( profit - diff\_profit ) AS diff  
FROM   fun

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

12. SELECT od.order\_id,  
       *Sum*(od.order\_sales)  
FROM   order\_details od  
       JOIN orders o  
         ON o.order\_id = od.order\_id  
WHERE  *Year*(o.order\_date) = 2015  
GROUP  BY od.order\_id  
ORDER  BY *Sum*(order\_sales) DESC

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

13. SELECT o.shipping\_city,  
       **Rank** ()  
         OVER (  
           ORDER BY Sum(od.quantity) DESC) AS Rank\_no  
FROM   orders o  
       JOIN order\_details od  
         ON o.order\_id = od.order\_id  
WHERE  *Year*(o.order\_date) = 2015  
       AND o.shipping\_region = 'East'

Group BY o.shipping\_city

**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.**

14. SELECT c.customer\_id,  
       c.customer\_name,  
       c.customer\_segment,  
       o.order\_id,  
       o.order\_date,  
       o.shipping\_city,  
       o.shipping\_state,  
       o.shipping\_region,  
       o.shipping\_country,  
       o.shipping\_postal\_code,  
       o.shipping\_date,  
       o.shipping\_mode,  
       od.order\_details\_id,  
       od.quantity,  
       od.order\_discount,  
       od.order\_profits,  
       od.order\_profit\_ratio,  
       od.order\_sales,  
       p.product\_id,  
       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