

M-M REVENUE ANALYSIS

FEB 2024

Self-Join, Date & CTE

LinkedIn Coding Challenge

Advanced

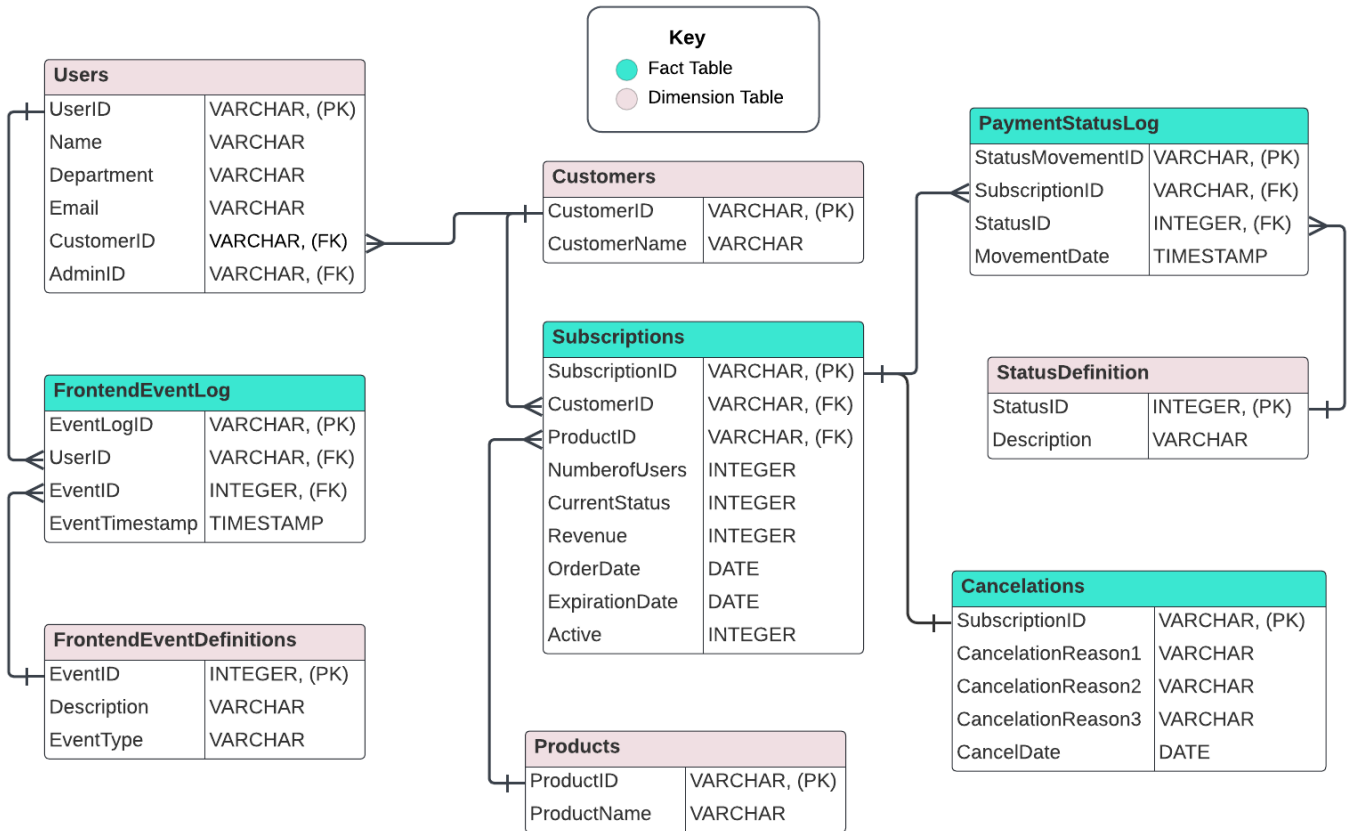
The 2022 all-hands call is fast approaching and the executive team would like to present the MoM revenue increase highlights as part of the EoY reporting.

Find the months where revenue increased MoM and highlight the extent of this increase as a percentage.

INPUT FORMAT

The main source table is **SUBSCRIPTIONS**.

Main Data Model



CODE SOLUTION

```
WITH monthly_revenue AS
(
  SELECT
    DATE_TRUNC('month', orderdate) AS order_month,
    SUM(revenue) AS monthly_revenue
  FROM
    subscriptions
  GROUP BY
    DATE_TRUNC('month', orderdate))

SELECT
  curr.order_month AS current_month,
  prev.order_month AS previous_month,
  curr.monthly_revenue AS current_revenue,
  prev.monthly_revenue AS previous_revenue,
  ROUND((CAST((curr.monthly_revenue-prev.monthly_revenue)AS
  FLOAT)/prev.monthly_revenue)*100,2) AS revenue_percent_increase
  FROM monthly_revenue AS curr
  JOIN monthly_revenue AS prev
  WHERE
    curr.monthly_revenue > prev.monthly_revenue
  AND DATEDIFF('month',prev.order_month,curr.order_month) = 1
```

SOLUTION PROCESS

- CTE function: This CTE labeled **MONTHLY_REVENUE** calculates the revenue for each month using the DATE_TRUNC function to extract the month from the **SUBSCRIPTIONS** table.
 - Self-Join function: This function creates places two iterations of the same table, **MONTHLY_REVENUE**, side by side. The table is joined to itself and each copy is given a different alias name using the AS function to differentiate the two. This function allows for comparing rows within the same table.
 - Select, Where and Datediff functions: This SELECT query places the differentiated columns for month and revenue side by side. The WHERE function ensures that the months and revenues listed are in descending chronological order are calculated to be one month apart by the DATEDIFF function.
 - Round and Cast functions: These functions are used to calculated the percentage revenue increase MoM and round them to two decimal places
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OUTPUT

CURRENT_MONTH	PREVIOUS_MONTH	CURRENT_REVENUE	PREVIOUS_REVENUE	REVENUE_PERCENT_INCREASE
2022-07-01 00:00:00.0	2022-06-01 00:00:00.0	63000	31000	103.23
2022-10-01 00:00:00.0	2022-09-01 00:00:00.0	27000	26000	3.85
