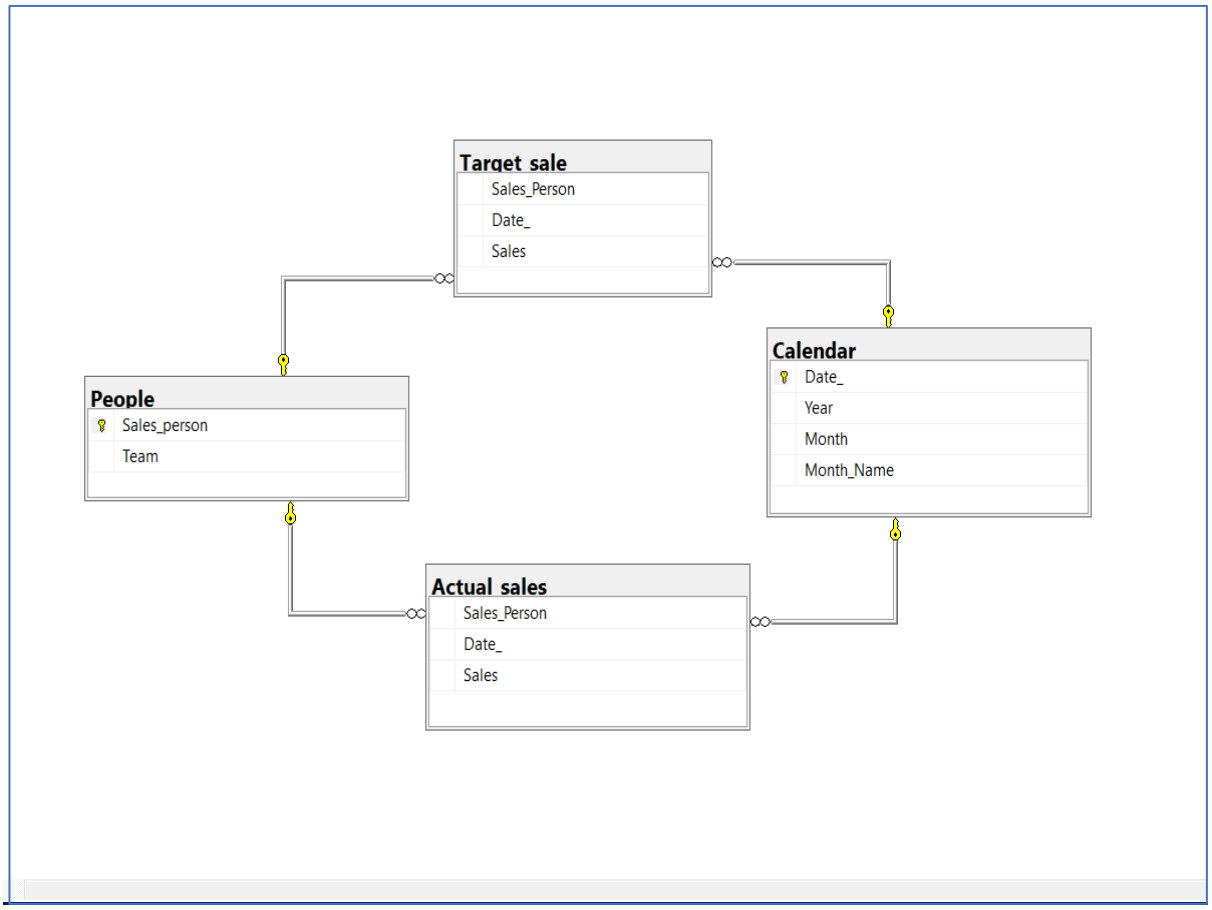
SALES ANALYSIS

BACKGROUND: We have sales data from January 2023 to February 2024. We'll analyze sales achievements against individual targets, focusing on both year-to-date (YTD) performance and identifying the top performer for each month. This will help us understand overall progress towards goals, pinpoint areas for improvement, and recognize outstanding salespeople.

SCHEMA



Q1. Write a query to find out total actual sales and total Target Sales.

```
--Q1. Write a query to find out total Actual sales and total Target Sales
SELECT
   CONCAT('$', ROUND(((SELECT SUM(a.Sales)
   FROM Actual_Sales AS a) / 1000000 ),1), 'M') AS Total_Actual_Sales,
   CONCAT('$', ROUND(((SELECT (SUM(t.Sales))
   FROM Target_Sale AS t) / 1000000),1),'M')AS Total_Target_Sales;
```

Results | Messages

	Total_Actual_Sales	Total_Target_Sales
1	$18.9M	$19M

Q2. Write a query to find out both YTD (Year-To-Date) Target Sales and YTD (Year-To-Date) Actual Sales.

```
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SELECT
  (SELECT
     CONCAT('$', ROUND(SUM(CASE WHEN YEAR(t.Date_) = YEAR(GETDATE()) THEN t.Sales ELSE 0 END) / 1000000, 2), 'M')
   FROM Target_sale AS t) AS YTD_Target_Sales,
  (SELECT
     CONCAT('$', ROUND(SUM(CASE WHEN YEAR(a.Date_) = YEAR(GETDATE()) THEN a.Sales ELSE 0 END) / 1000000, 3), 'M')
   FROM Actual_sales AS a) AS YTD_Actual_Sales;
```

Results | Messages

	YTD_Target_Sales	YTD_Actual_Sales
1	$2M	$2.44M

Q3. What is the overall percentage difference between total actual sales and total target sales.

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SELECT
  CASE WHEN SUM(t.Sales) = 0 THEN 'Division by Zero'
  ELSE CONCAT(Round((SUM(a.Sales) - SUM(t.Sales)) / (SUM(t.Sales)) * 100, 2), '%')
  END AS Sales_Difference_Pct
  FROM Actual_Sales AS a
  LEFT JOIN Target_Sale AS t ON a.Date_ = t.Date_;
```

Results Messages

	Sales_Difference_Pct
1	-1.9%

Q4. Write a query to find the monthly sales trend.

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 --Q4.Write a query to find the monthly sales trend.
SELECT C.Month_Name,
CONCAT('$', ROUND(SUM(COALESCE(a.Sales, 0)) / 1000000, 2), 'M') AS Total_Actual_Sales
FROM Actual_Sales  AS a
LEFT JOIN
 Calendar AS c ON a.Date_ = c.Date_
GROUP BY c.Month_Name
ORDER BY  Total_Actual_Sales Desc;
```

Results Messages

	Month_Name	Total_Actual_Sales
1	January	$2.64M
2	February	$2.23M
3	June	$1.63M
4	August	$1.58M
5	November	$1.54M
6	March	$1.47M
7	May	$1.45M
8	September	$1.43M
9	July	$1.33M
10	October	$1.2M
11	December	$1.28M
12	April	$1.17M

Q5. Write a query to identify all months and corresponding years where total actual sales met or exceeded the total target sales.

```
--Q5. Write a query to identify all months and corresponding years where total actual sales met or exceeded the total target sales
SELECT s.Year,s.Month_Name
  FROM (
    SELECT c.Year,c.Month_Name,
    SUM(a.Sales) AS Total_Actual_Sales,
    SUM(t.Sales) AS Total_Target_Sales
  FROM Calendar AS c
  LEFT JOIN Actual_Sales AS a ON c.Date_ = a.Date_
  LEFT JOIN Target_Sale AS t ON c.Date_ = t.Date_
  GROUP BY c.Year, c.Month_Name
  HAVING SUM(a.Sales) >= SUM(t.Sales)) AS s
GROUP BY s.Year,s.Month_Name
ORDER BY s.Month Name;
```

Results | Messages

	Year	Month_Name
1	2023	July
2	2023	March

Q6. Identify the salesperson with the highest sales who achieved or surpassed their individual target.

```
--Q6. Identify the salesperson with the highest sales who achieved or surpassed their individual target.
WITH RankedSales AS (
    SELECT c.Month_Name,a.sales_person,
        CONCAT('$',ROUND((SUM(a.Sales)/1000000),0),'M') AS Total_Actual_Sales,
        CONCAT('$',ROUND((SUM(t.Sales)/1000000),0),'M')AS Total_Target_Sales,
        RANK() OVER (PARTITION BY c.Month_Name ORDER BY SUM(a.Sales) DESC) AS SalesRank
    FROM Calendar AS c
        LEFT JOIN Actual_Sales AS a ON c.Date_ = a.Date_
        LEFT JOIN Target_Sale AS t ON c.Date_ = t.Date_
    GROUP BY c.Month_Name, a.sales_person
    HAVING SUM(a.Sales) >= SUM(t.Sales)
)
SELECT  Month_Name,sales_person,Total_Actual_Sales,Total_Target_Sales
FROM RankedSales
WHERE SalesRank = 5
ORDER BY Total_Actual_Sales Desc;
```

Results | Messages

	Month_Name	sales_person	Total_Actual_Sales	Total_Target_Sales
1	February	Dennison Crosswaite	$3M	$2M
2	January	Curtice Advani	$3M	$2M
3	July	Kaine Padly	$2M	$1M
4	June	Curtice Advani	$2M	$1M
5	March	Ches Bonnell	$2M	$1M
6	May	Dennison Crosswaite	$2M	$1M
7	November	Mallorie Waber	$2M	$1M
8	October	Marney O'Breen	$2M	$1M
9	September	Kelci Walkden	$2M	$1M
10	April	Oby Sorrel	$2M	$1M
11	August	Gunar Cockshoot	$2M	$1M
12	December	Kelci Walkden	$2M	$1M