**-- Q0 Union**

select \* from fact\_internet\_sales

union

select \* from fact\_internet\_sales\_new;

**-- Q1 the productname from the Product sheet to Sales sheet.**

**-- This query retrieves the ProductKey from the salesf table and the corresponding EnglishProductName**

**-- from the dimproduct table, using an inner join on ProductKey.**

SELECT

S.ProductKey,

P.EnglishProductName

FROM

salesf S

JOIN

dimproduct P

ON

S.ProductKey = P.ProductKey;

**-- Q2 A) Customerfullname**

**-- This SQL query combines the FirstName, MiddleName, and LastName columns**

**-- from the dimcustomer table into a single string, separated by spaces. The result is labeled as FullName.**

SELECT CONCAT(FirstName, ' ', MiddleName, ' ', LastName) AS FullName

FROM dimcustomer;

**-- Q2 B) Customer and Unit Price from Product sheet to Sales sheet**

**-- This query calculates the TotalPrice by multiplying OrderQuantity and UnitPrice**

**-- for each product in the fact\_internet\_sales table, joining it with the dimproduct table on ProductKey.**

SELECT

s.ProductKey,

s.UnitPrice,

s.OrderQuantity,

(s.OrderQuantity \* s.UnitPrice) AS TotalPrice

FROM

fact\_internet\_sales s

JOIN

dimproduct p

ON

s.ProductKey = p.ProductKey;

**-- Q3 the following fields from the Orderdatekey**

**-- This query converts orderdatekey from YYYYMMDD format into a date and labels it as OrderDate.**

SELECT STR\_TO\_DATE(orderdatekey, '%Y%m%d') AS OrderDate FROM salesf;

**-- A) Year**

SELECT STR\_TO\_DATE(orderdatekey, '%Y%m%d') AS OrderDate, YEAR(OrderDatekey) AS Year FROM salesf;

**-- B) Month**

select STR\_TO\_DATE(orderdatekey, '%Y%m%d') AS OrderDate, Month(orderdatekey) as Month from salesf;

**-- C) Month Number**

select STR\_TO\_DATE(orderdatekey, '%Y%m%d') AS OrderDate, monthname(orderdatekey) as Month\_Name from salesf;

**-- D) Quarter**

select STR\_TO\_DATE(orderdatekey, '%Y%m%d') AS OrderDate, quarter(orderdatekey) as Quarter FROM salesf;

**-- E) YearMonth**

SELECT STR\_TO\_DATE(orderdatekey, '%Y%m%d') AS OrderDate, DATE\_FORMAT(OrderDatekey, '%Y-%m') AS YearMonth FROM salesf;

**-- F) Week Day Number**

SELECT STR\_TO\_DATE(orderdatekey, '%Y%m%d') AS OrderDate,

DAYOFWEEK(OrderDatekey) AS WeekdayNumber

FROM salesf;

**-- G) Week Day Name**

SELECT STR\_TO\_DATE(orderdatekey, '%Y%m%d') AS OrderDate,

DAYNAME(OrderDatekey) AS WeekdayName

FROM salesf;

**-- H) Financial Month**

-- This query converts orderdatekey into a date (OrderDate), extracts the calendar month (CalendarMonth),

-- and calculates the financial month, with the fiscal year starting in April.

SELECT STR\_TO\_DATE(orderdatekey, '%Y%m%d') AS OrderDate,

MONTH(orderdatekey) AS CalendarMonth,

CASE

WHEN MONTH(orderdatekey) >= 4 THEN MONTH(orderdatekey) - 3

ELSE MONTH(orderdatekey) + 9

END AS FinancialMonth

FROM

salesf ;

**-- I Financial Quarter**

-- This query converts orderdatekey into a date (OrderDate) and determines

-- the financial quarter (FinancialQuarter) based on the month, with Q1 starting in April.

SELECT STR\_TO\_DATE(orderdatekey, '%Y%m%d') AS OrderDate,

CASE

WHEN MONTH(orderdatekey) IN (4, 5, 6) THEN 'Q1'

WHEN MONTH(orderdatekey) IN (7, 8, 9) THEN 'Q2'

WHEN MONTH(orderdatekey) IN (10, 11, 12) THEN 'Q3'

ELSE 'Q4' -- January, February, March

END AS FinancialQuarter

FROM salesf ;

**-- Q4 Calculate the Sales amount**

**-- This query calculates the SalesAmount by applying a discount to the product of UnitPrice**

**-- and OrderQuantity, retrieving all relevant values from the salesf table**

SELECT

UnitPrice,

OrderQuantity,

DiscountAmount,

(UnitPrice \* OrderQuantity \* (1 - DiscountAmount)) AS SalesAmount

FROM salesf ;

**-- Q5 Production Cost**

**-- This query calculates the ProductionCost by multiplying UnitPrice and OrderQuantity, retrieving the values from the salesf table.**

SELECT

UnitPrice,

OrderQuantity,

(UnitPrice \* OrderQuantity) AS ProductionCost

FROM salesf;

**-- Q6 profit**

**-- This query calculates Profit by subtracting TotalProductCost from SalesAmount, retrieving these values from the salesf table.**

SELECT

SalesAmount,

TotalProductCost,

(SalesAmount - TotalProductCost) AS Profit

FROM salesf ;

**-- Q7 yearwise Sales**

**-- This query calculates the total SalesAmount for each year, compares it with the previous year's sales using LAG(),**

**-- and computes the year-over-year (YOY) change percentage. The results are grouped by year.**

select year(orderdatekey)as year,sum(SalesAmount),lag(sum(SalesAmount)) over(order by year(orderdatekey)) as previous\_year,

(sum(SalesAmount)-lag(sum(SalesAmount)) over(order by year(orderdatekey )))\*100/lag(sum(SalesAmount)) over(order by year(orderdatekey)) as yoy\_changes

from salesf group by year(orderdatekey);

**-- Q8 Month Wise Sales**

**-- This query calculates the total sales for each month, compares it with the previous month's sales using LAG(),**

**-- and computes the month-over-month (MoM) change percentage. The results are grouped by month.**

SELECT

MONTH(orderdatekey) AS month,

SUM(SalesAmount) AS current\_month\_sales,

LAG(SUM(SalesAmount)) OVER(ORDER BY MONTH(orderdatekey)) AS previous\_month\_sales,

(SUM(SalesAmount) - LAG(SUM(SalesAmount)) OVER(ORDER BY MONTH(orderdatekey))) \* 100

/ LAG(SUM(SalesAmount)) OVER(ORDER BY MONTH(orderdatekey)) AS MoM\_changes

FROM

salesf

GROUP BY

MONTH(orderdatekey);

**-- Q9 Quarter Wise Sales**

**-- This query calculates total sales for each quarter, compares it with the previous quarter's sales using LAG(),**

**-- and computes the quarter-over-quarter (QoQ) change percentage. The results are grouped by quarter.**

SELECT

QUARTER(orderdatekey) AS quarter,

SUM(SalesAmount) AS current\_quarter\_sales,

LAG(SUM(SalesAmount)) OVER(ORDER BY QUARTER(orderdatekey)) AS previous\_quarter\_sales,

(SUM(SalesAmount) - LAG(SUM(SalesAmount)) OVER(ORDER BY QUARTER(orderdatekey))) \* 100

/ LAG(SUM(SalesAmount)) OVER(ORDER BY QUARTER(orderdatekey)) AS QoQ\_changes

FROM

salesf

GROUP BY

QUARTER(orderdatekey);

**-- Q10 Sales And Production Cost**

**-- This query calculates the total sales and ProductionCost for each year by summing SalesAmount**

**-- and the product of UnitPrice and OrderQuantity, respectively, grouped by year.**

select year(orderdatekey) as Year,

sum(salesamount) as sales,

sum(UnitPrice\*OrderQuantity) as ProductionCost

from salesf group by year(orderdatekey);

**-- Q11 Top 10 Product Wise Sales**

**-- This query retrieves the top 10 products (EnglishProductName) by total SalesAmount.**

**-- using a left join between salesf and dimproduct tables, grouped by product name and ordered by sales amount.**

select P.EnglishProductName, sum(salesamount) from salesf S left join dimproduct P on

S.ProductKey = P.ProductKey group by P.EnglishProductName order by sum(SalesAmount) limit 10 ;

**-- Q12 Top 10 Region Wise Sales**

**-- This query retrieves the top 10 sales regions (SalesTerritoryRegion) by total SalesAmount.**

**-- using a left join between salesf and dimsalesterritory tables, grouped by region and ordered by sales amount**

select R.SalesTerritoryRegion, sum(salesamount) from salesf S left join dimsalesterritory R on

S.SalesTerritoryKey = R.SalesTerritoryKey group by R.SalesTerritoryRegion order by sum(SalesAmount) limit 10 ;

**-- Q13 Top 10 Customers Wise Sales**

**-- This query retrieves the top 10 customers (by full name) with the highest total SalesAmount,**

**-- using a left join between salesf and dimcustomer tables, grouped by customer name and ordered by sales amount.**

select CONCAT(FirstName, ' ', MiddleName, ' ', LastName) AS FullName, sum(salesamount) from salesf S left join dimcustomer C on

S.CustomerKey = C.CustomerKey Group by CONCAT(FirstName, ' ', MiddleName, ' ', LastName) order by sum(SalesAmount) limit 10 ;