**1. Demographic Distribution: Customers by Gender and Continent**

SELECT Gender, Continent, COUNT(CustomerKey) AS CustomerCount

FROM data\_spark

GROUP BY Gender, Continent

ORDER BY CustomerCount DESC;

**2. Demographic Distribution: Age Group Distribution by Country**

SELECT Country,

CASE

WHEN YEAR(CURDATE()) - YEAR(Birthday) < 25 THEN 'Under 25'

WHEN YEAR(CURDATE()) - YEAR(Birthday) BETWEEN 25 AND 35 THEN '25-35'

WHEN YEAR(CURDATE()) - YEAR(Birthday) BETWEEN 36 AND 50 THEN '36-50'

ELSE 'Above 50'

END AS AgeGroup,

COUNT(CustomerKey) AS CustomerCount

FROM data\_spark

WHERE Birthday IS NOT NULL

GROUP BY Country, AgeGroup

ORDER BY CustomerCount DESC;

**3. Customer Distribution by City and Country**

SELECT

City, Country,

COUNT(CustomerKey) AS CustomerCount

FROM

data\_spark

GROUP BY

City, Country

ORDER BY

CustomerCount DESC LIMIT 5;

**4. Segmentation: Top 3 Product Categories Preferred by Female Customer**

SELECT Subcategory, SUM(Quantity) AS TotalPurchased

FROM data\_spark

WHERE Gender = 'Female'

GROUP BY Subcategory

ORDER BY TotalPurchased DESC

LIMIT 3;

**5. Overall Sales Performance Over Time**

SELECT

DATE\_FORMAT(`Order\_Date`, '%Y-%m') AS month,

SUM(`Quantity` \* `Unit Price USD`) AS total\_sales

FROM

data\_spark

GROUP BY

month

ORDER BY

month;

**6. Top Performing Products by Quantity Sold**

SELECT

`Product Name`,

SUM(`Quantity`) AS total\_quantity\_sold,

SUM(`Quantity` \* `Unit Price USD`) AS total\_revenue

FROM

data\_spark

GROUP BY

`Product Name`

ORDER BY

total\_quantity\_sold DESC;

**7. Geographical analysis by sales**

SELECT

`City`,

SUM(`Quantity` \* `Unit Price USD`) AS total\_sales

FROM

data\_spark

GROUP BY

`City`

ORDER BY

total\_sales DESC;

**8. Sales by Currency**

SELECT

`Currency Code`,

SUM(`Quantity` \* `Unit Price USD`) AS total\_sales,

AVG(`Exchange`) AS average\_exchange\_rate

FROM

data\_spark

GROUP BY

`Currency Code`

ORDER BY

total\_sales DESC;

**9. Profitability Analysis by Product**

SELECT

`Product Name`,

(SUM(`Unit Price USD`) - SUM(`Unit Cost USD`)) AS profit\_margin

FROM

data\_spark

GROUP BY

`Product Name`

HAVING

profit\_margin > 0

ORDER BY

profit\_margin DESC;

**10. Online Store Performance**

SELECT

'Square Metres' AS Store,

SUM(`Quantity` \* `Unit Price USD`) AS total\_sales,

COUNT(DISTINCT `Order Number`) AS total\_orders

FROM

data\_spark

WHERE

`StoreKey` = 0;