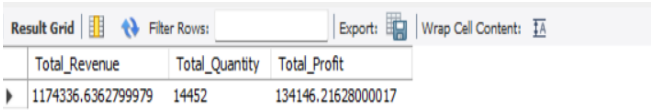
Practical Exercise

- ## Global Superstore Data Analysis using SQL

Q.1) Find the total revenue, quantities and profit generated.

```
use indexing;
SELECT
    SUM(Sales) AS Total_Revenue,
    SUM(Quantity) AS Total_Quantity,
    SUM(Profit) AS Total_Profit
FROM superstore;
```

Output :



Total_Revenue	Total_Quantity	Total_Profit
1174336.6362799979	14452	134146.21628000017

Q.2) Find the segment wise distribution of the sales.

```
SELECT
    Segment,
    SUM(Sales)  AS Total_Sales
    FROM superstore
    GROUP BY Segment
    ORDER BY Total_Sales DESC;
```

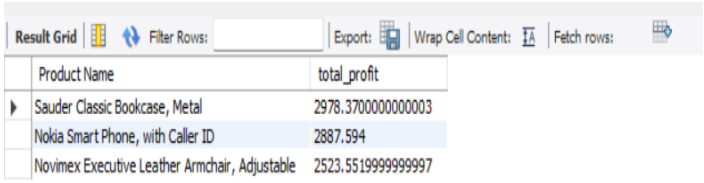
Output :

Segment	Total_Sales
Consumer	624094.8519599998
Corporate	350747.61732000054
Home Office	199494.16700000007

Q.3) Find the top 3 most profitable products.

```
SELECT
`Product Name`,
SUM(Profit) AS total_profit
FROM superstore
GROUP BY `Product Name`
ORDER BY total_profit DESC
LIMIT 3;
```

Output :



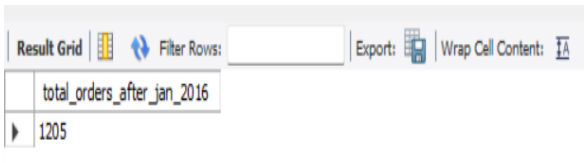
Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

Product Name	total_profit
Sauder Classic Bookcase, Metal	2978.3700000000003
Nokia Smart Phone, with Caller ID	2887.594
Novimex Executive Leather Armchair, Adjustable	2523.5519999999997

Q.4) How many orders are placed after January 2016.

```
SELECT
COUNT(DISTINCT `Order ID`) AS total_orders_after_jan_2016
FROM superstore
WHERE STR_TO_DATE(`Order Date`, '%d-%m-%Y') > '2016-01-31';
```

Output :



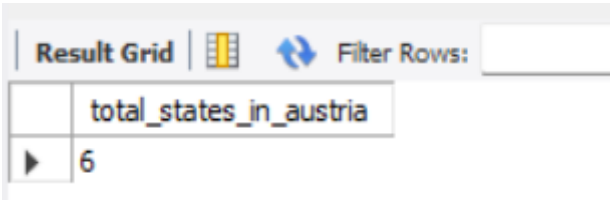
Result Grid | Filter Rows: | Export: | Wrap Cell Content:

total_orders_after_jan_2016
1205

Q.5) How many states from Austria are under the roof of business?

```
SELECT
COUNT(DISTINCT `State`) AS total_states_in_austria
FROM superstore
WHERE Country = 'Austria';
```

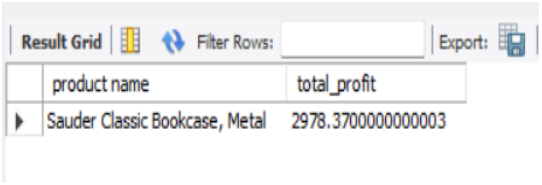
Output :



Q.6) Which products and subcatagories are most and least profitable?

```
-- Most profitable product
SELECT
`product name`,
SUM(profit) AS total_profit
FROM superstore
GROUP BY `product name`
ORDER BY total_profit DESC
LIMIT 1;
```

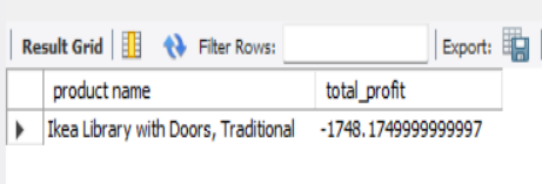
Output :



-- Least profitable product

```
SELECT
`product name`,
SUM(profit) AS total_profit
FROM superstore
GROUP BY `product name`
ORDER BY total_profit ASC
LIMIT 1;
```

Output :



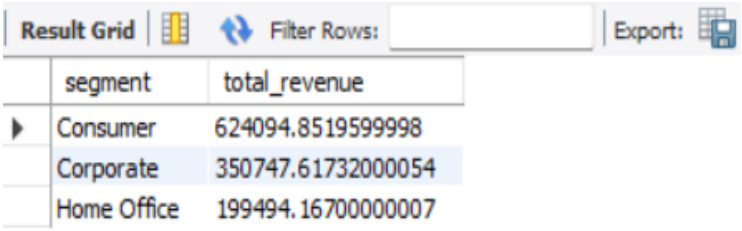
Result Grid | Filter Rows: | Export:

product name	total_profit
Ikea Library with Doors, Traditional	-1748.1749999999997

Q.7 Which customer segment contributes the most to the total revenue?

```
SELECT
segment,
SUM(sales) AS total_revenue
FROM superstore
GROUP BY segment
ORDER BY total_revenue DESC;
```

Output :



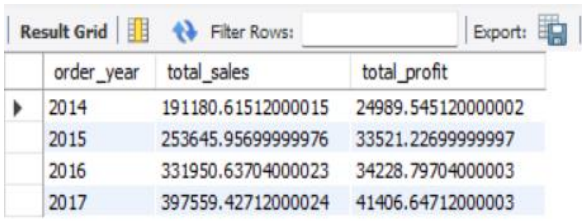
Result Grid | Filter Rows: | Export:

segment	total_revenue
Consumer	624094.8519599998
Corporate	350747.61732000054
Home Office	199494.16700000007

Q.8) Wahat is the year-over-year growth in sales and profit?

```
SELECT
YEAR(STR_TO_DATE(`Order Date`, '%d-%m-%Y')) AS order_year,
SUM(sales) AS total_sales,
SUM(profit) AS total_profit
FROM superstore
GROUP BY YEAR(STR_TO_DATE(`Order Date`, '%d-%m-%Y'))
ORDER BY order_year;
```

Output :



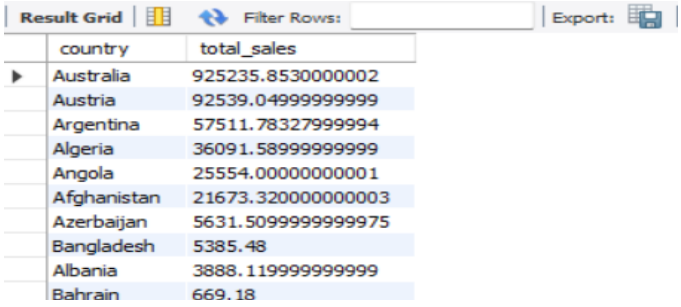
Result Grid | Filter Rows: | Export:

order_year	total_sales	total_profit
2014	191180.61512000015	24989.545120000002
2015	253645.95699999976	33521.22699999997
2016	331950.63704000023	34228.79704000003
2017	397559.42712000024	41406.64712000003

Q.9) Which countries and cities are driving the highest sales?

```
SELECT
country,
SUM(sales) AS total_sales
FROM superstore
GROUP BY country
ORDER BY total_sales DESC
limit 10;
```

Output :



Result Grid | Filter Rows: | Export:

country	total_sales
Australia	925235.8530000002
Austria	92539.04999999999
Argentina	57511.78327999994
Algeria	36091.58999999999
Angola	25554.00000000001
Afghanistan	21673.320000000003
Azerbaijan	5631.5099999999975
Bangladesh	5385.48
Albania	3888.119999999999
Bahrain	669.18

Q.10) What is the average delivery time from order to ship date across regions?

```
SELECT
region,
ROUND(AVG(DATEDIFF(
STR_TO_DATE(`Ship Date`, '%d-%m-%Y'),
STR_TO_DATE(`Order Date`, '%d-%m-%Y')
)), 2) AS avg_delivery_days
FROM superstore
GROUP BY region
ORDER BY avg_delivery_days;
```

Output :

Result Grid | Filter Rows: | Export:

region	avg_delivery_days
Western Asia	3.44
Southern Europe	3.63
South America	3.83
North Africa	3.85
Oceania	3.95
Western Europe	3.98
Central Africa	4.20
Southern Asia	4.52

Q.11) what is the profit distribution across order priority?

```
SELECT
`Order Priority`,
SUM(profit) AS total_profit,
ROUND(AVG(profit), 2) AS avg_profit_per_order
FROM superstore
GROUP BY `Order Priority`
ORDER BY total_profit DESC;
```

Output :

Result Grid | Filter Rows: | Export:

Order Priority	total_profit	avg_profit_per_order
Medium	73509.69276000009	32.04
High	46576.51983999997	36.7
Critical	9776.810679999997	34.18
Low	4283.192999999999	31.73

Q.12) Suggest data-driven recommendations for improving profit and reducing losses.

```
SELECT
`Sub-Category`,
SUM(sales) AS total_sales,
SUM(profit) AS total_profit
FROM superstore
GROUP BY `Sub-Category`
ORDER BY
total_profit ASC
LIMIT 10;
```

Output :

Result Grid | Filter Rows: | Export:

Sub-Category	total_sales	total_profit
Tables	60215.85899999999	-5042.570999999997
Fasteners	9270.744000000006	882.0540000000001
Labels	8075.6039999999975	1317.7739999999994
Envelopes	16385.483999999993	1410.9439999999993
Supplies	24244.476000000006	2505.195999999998
Paper	22673.031000000006	3214.2910000000024
Art	24695.373	3343.4429999999984
Binders	24592.889999999996	3446.9199999999973
Furnishings	32568.485999999997	4696.606000000002
Machines	59335.61999999999	6580.159999999998