SUPERMARKET SALES ANALYSIS PROJECT

DETAILS ABOUT THE PROJECT;

- **EXCEL** – Used for data cleaning, removing duplicates, handling missing values, and preparing the dataset.
- **SQL** – Imported cleaned data to perform queries, analyze sales trends, customer behavior, and order details.
- **POWER BI** – Created interactive dashboards to visualize sales performance, customer insights, and order trends.

SQL QUESTIONS;

1. Retrieve all transactions where the MRP is greater than ₹1000.
2. Find all orders where the Final Price is less than ₹500.
3. Display all sales made in the city of Mumbai.
4. Retrieve records where the Payment Status is 'Pending'.
5. Find all sales where the Discount Amount is more than ₹200.
6. Calculate the total revenue generated from all sales.
7. Find the average discount amount applied on all products.
8. Count the total number of orders placed.
9. Retrieve the highest shipping charge applied in any transaction.
10. Extract the first 5 characters of each Product Name.
11. Find all customers from Mumbai who are Male and have an age above 35 OR have an active subscription.
12. Retrieve all products sorted by MRP in descending order.
13. Retrieve the third to fifth highest priced products.
14. Find all product names that start with ‘Ariel’ and contain the word ‘Liquid’ anywhere.
15. List all customers from Chennai, Bangalore, and Hyderabad, but exclude customers from Delhi and Mumbai.
16. Get all orders placed between January 1, 2022, and December 31, 2022.
17. Display Customer_ID, City but rename them as ID, Location.

SQL QUESTIONS AND ANSWERS;

#1. Retrieve all transactions where the MRP is greater than ₹1000.

```
select *

from supermarket_sales

where MRP >1000;
```

#2. Find all orders where the Final Price is less than ₹500.

```
select *
from supermarket_sales
where Final_Price <500;
```

#3. Display all sales made in the city of Mumbai.

```
select *
from supermarket_sales
where City='Mumbai';
```

#4. Retrieve records where the Payment Status is 'Pending'.

```
select *
from supermarket_sales
where Payment_Status='Pending';
```

#5. Find all sales where the Discount Amount is more than ₹200.

```
select *
from supermarket_sales
where Discount_Amount >200;
```

#6. Calculate the total revenue generated from all sales.

```
select sum(Final_Price) As Revenue
from supermarket_sales;
```

#7. Find the average discount amount applied on all products.

```
select avg(Discount_Amount) as Average
from supermarket_sales;
```

#8. Count the total number of orders placed.

```
select count(Order_id) As total_orders
from supermarket_sales;
```

#9. Retrieve the highest shipping charge applied in any transaction.

```
select max(shipping_charges) as highest_charge
from supermarket_sales;
```

#10. Extract the first 5 characters of each Product Name.

```
SELECT Product_Name, LEFT(Product_Name, 5) AS ShortName
FROM supermarket_sales;
```

#11. Find all customers from Mumbai who are Male and have an age above 35 OR have an active subscription.

```
select * from supermarket_sales
where city='mumbai'
and gender='male'
and (customer_age >30 or subscription ='premium');
```

#12. Retrieve all products sorted by MRP in descending order.

```
select  *
from supermarket_sales
order by MRP desc;
```

#13. Retrieve the third to fifth highest priced products.

```
select product_name, final_price
from supermarket_sales
order by final_price desc
limit 3 offset 2;
```

#14. Find all product names that start with ‘Ariel’ and contain the word ‘Liquid’ anywhere.

```
select *
from supermarket_sales
where product_name like 'Ariel%' and product_name like '%liquid%';
```

#15. List all customers from Chennai, Bangalore, and Hyderabad, but exclude customers from Delhi and Mumbai.

```
select *
from supermarket_sales
where city in('chennai', 'bangalore','hyderabad') and city not in ('delhi', 'mumbai');
```

#16. Get all orders placed between January 1, 2022, and December 31, 2022.

```
select *

from supermarket_sales

where order_date between "2022-01-01" and "2022-12-31";
```

#17. Display Customer_ID, City but rename them as ID, Location.

```
select customer_id as ID, city as location from supermarket_sales;
```

POWER BI QUESTIONS AND ANSWERS;

Sales Overview

1. **What is the total revenue -** (KPI Card) Shows overall earnings from sales (₹17M).
2. **How many total orders were placed -** (KPI Card) Displays the total number of transactions (24,991).
3. **What is the average revenue per order -** (KPI Card) Helps understand spending per order (₹678).
4. **Which are the top 5 best-selling products -** (Bar Chart) Identifies the most popular products.
5. **Which payment method is most preferred -** (Pie Chart) Analyzes customer payment preferences (Debit Card).
6. **How does sales trend over time -** (Line Chart) Tracks revenue fluctuations over months/years.
7. **Which subscription type generates the most revenue -** (Stacked Bar Chart) Compares revenue contribution by subscription plans.
8. **Which year had the highest sales -** (Column Chart) Helps identify peak-performing years (2022).
9. **Which state has the highest sales -** (Bar Chart) Shows regional sales performance (Maharashtra).

Customer Insights

10. **How many total customers made purchases -** (KPI Card) Displays total unique buyers (24,991).
11. **What is the average order value -** (Card Chart) Shows how much customers spend per order (₹678).
12. **Which age group generates the highest revenue -** (Bar Chart) Helps target high-value customer segments (Middle Age).
13. **Which year had the highest revenue -** (Column Chart) Compares revenue growth across years (2022).
14. **Which gender places more orders -** (Pie Chart) Analyzes shopping behavior by gender (More Male).

15. **Which state has the most orders -** (Bar Chart) Identifies the busiest sales regions (Maharashtra).
16. **What is the average customer rating -** (Gauge Chart) Measures customer satisfaction (3.01).
17. **What is the average time spent on the website -** (Card Chart) Analyzes customer engagement (10.15 min).

Order & Delivery Performance

18. **How many total orders were placed -** (KPI Card) Displays total transactions (24,991).
19. **How many orders were successfully delivered -** (Card Chart) Shows completed deliveries (23,207).
20. **How many orders were canceled -** (Card Chart) Helps track order failure rate (1,784).
21. **Which city had the most canceled orders -** (Bar Chart) Identifies areas with delivery issues (Thane).
22. **Which city had the most total orders -** (Bar Chart) Shows top-performing sales locations (Vadodara).
23. **What is the order cancellation percentage -** (Pie Chart) Measures unsuccessful order rate (7.1%).
24. **What is the most common delivery status -** (Doughnut Chart) Tracks the success rate of deliveries (90%+).
25. **Which months had the highest cancellations -** (Line Chart) Identifies problematic months (Feb, Aug, Nov).
26. **Which age group has the most canceled orders -** (Bar Chart) Helps analyze order drop-offs (Middle Age).