SALES ANALYSIS PROJECT

Dataset from Kaggle- Data collection

- **Excel** for Data Preparation/Cleaning/Wrangling/Munging/Transformation:
  - **Power Query Editor:**
    - ✓ Removing unnecessary columns(RowID)
    - ✓ Fixed columns datatype(orderDate, shipDate)
    - ✓ Adding columns(orderMonth, orderYear)

- **SQL** for Data Analysis, Querying/Filtering:
  - **MySQL:**
    - Create new Database and import CSV file data into table
    - Perform Exploratory Data Analysis (EDA)
    - Answered to business questions from query output
    - Deliver insights to make decisions

- **PowerBI** for Data Visualisation:
  - ✓ Create dashboard with a detailed breakdown of total sales and profits across different time periods (monthly, yearly), regions, and customer segments, enabling quick identification of high-performing areas and opportunities for growth.
  - ✓ By analyzing sales trends, product category performance, and customer behavior, the dashboard highlights key insights such as peak sales periods, top-selling products, and the most profitable customer segments, supporting data-driven decision-making.
  - ✓ Interactive charts and filters that allow users to explore sales data by various dimensions such as region, ship mode, and product sub-category, facilitating a deeper understanding of sales drivers and potential areas for improvement.

BUSINESS QUESTIONS/PROBLEMS AND ANSWERS/SOLUTIONS

What are total sales and total profits over a period?

```sql
SELECT SUM(Sales) AS Total_Sales, SUM(Profit) AS Total_Profit FROM store;
```

Result:

	Total_Sales	Total_Profit
▶	2272450.0699999626	282858.4599999995

What are total sales and total profits over the years?

```sql
SELECT orderYear, SUM(Sales) AS Total_Sales, SUM(Profit) AS Total_Profit FROM store
GROUP BY orderYear
ORDER BY orderYear;
```

Result:

	orderYear	Total_Sales	Total_Profit
▶	2014	481763.8299999999	49044.47999999994
	2015	464426.18000000005	60907.79000000007
	2016	601265.5499999996	80130.74000000006
	2017	724994.5099999973	92775.4499999998

Insights:

In 2015, business sales fall down due to some factors.

In 2017, business made highest sales and profits.

What are total sales and total profits over a months?

```sql
SELECT orderMonth, SUM(Sales) AS Total_Sales, SUM(Profit) AS Total_Profit FROM store
GROUP BY orderMonth
ORDER BY Total_Sales DESC, Total_Profit DESC;
```

Result:

orderMonth	Total_Sales	Total_Profit
Nov	348834.5799999998	34806.080000000045
Dec	321161.0400000001	42996.75000000006
Sep	303536.69000000006	35955.56999999999
Mar	203719.28999999995	28356.56000000003
Oct	198440.0500000001	31698.09
Aug	157642.17999999993	21544.49999999997
May	153513.31999999992	22291.27000000002
Jun	151039.48000000024	21316.83000000003
Jul	145623.8600000002	13330.489999999989
Apr	135387.39	11238.460000000003
Jan	94539.37000000005	9132.699999999992
Feb	59012.81999999999	10191.159999999998

Insights:

In September, October, November and December, business made Highest number of Sales and profits due to various festivals like Ganesh Chaturthi, Diwali, Navratri, Dusshera etc...

What are total sales and total profits over the region?

```sql
SELECT region, SUM(Sales) AS Total_Sales, SUM(Profit) AS Total_Profit  FROM store
GROUP BY region
ORDER BY Total_Sales DESC, Total_Profit DESC;
```

Result:

region	Total_Sales	Total_Profit
West	713471.4499999977	106021.47
East	672194.1499999975	90672.03999999998
Central	497800.88	40128.9500000001
South	388983.5900000008	46035.99999999996

Insights:

In West region, business made highest number of Sales and Profits

In South region, business made least number of Sales.

In Central region, business made least number of Profits.

What are total sales and total profits over the Country and State?

```
SELECT Country, State, SUM(Sales) AS Total_Sales, SUM(Profit) AS Total_Profit   FROM store
GROUP BY Country,State
ORDER BY Total_Sales DESC, Total_Profit DESC
LIMIT 3;
```

Result:

Country	State	Total_Sales	Total_Profit
United States	California	450567.63000000035	74669.4100000001
United States	New York	309453.5599999999	73507.20000000001
United States	Texas	169553.57999999996	-25534.939999999962

Insights:

Top 3 States like California, New York, Texas made Highest number of Sales and Profits.

What are total sales and total profits over the City?

```
SELECT City, SUM(Sales) AS Total_Sales, SUM(Profit) AS Total_Profit   FROM store
GROUP BY City
ORDER BY Total_Sales DESC, Total_Profit DESC
LIMIT 3;
```

Result:

City	Total_Sales	Total_Profit
New York City	255248.93000000014	61624.12999999998
Los Angeles	173168.8500000002	29807.110000000026
Seattle	117772.58999999997	28869.03

Insights:

Top 3 Cities like New York, Seattle and Los Angeles made Highest number of Sales and Profits.

What are total sales and total profits by Ship Mode?

```sql
SELECT ShipMode, SUM(Sales) AS Total_Sales, SUM(Profit) AS Total_Profit  FROM store
GROUP BY ShipMode
ORDER BY Total_Sales DESC, Total_Profit DESC;
```

Result:

ShipMode	Total_Sales	Total_Profit
Standard Class	1342260.499999986	161548.39000000045
Second Class	453341.7300000001	56505.6
First Class	349494.86999999994	48778.940000000024
Same Day	127352.97000000009	16025.529999999999

Insights:

Standard class ship Mode made Highest number of Sales and Profits.

Which Products Category have highest number of Sales and Profits?

```sql
SELECT Category AS ProductCategory, SUM(Sales) AS Total_Sales, SUM(Profit) AS Total_Profit  FROM store
GROUP BY ProductCategory
ORDER BY Total_Sales DESC, Total_Profit DESC;
```

Result:

ProductCategory	Total_Sales	Total_Profit
Technology	835900.1399999908	145387.81
Furniture	733047.0599999985	16980.719999999983
Office Supplies	703502.8699999999	120489.93000000011

Insights:

Technology category of products made Highest number of Sales and Profits.

Which Products sub Category have highest number of Sales and Profits?

```sql
SELECT SubCategory, SUM(Sales) AS Total_Sales, SUM(Profit) AS Total_Profit  FROM store
GROUP BY SubCategory
ORDER BY Total_Sales DESC, Total_Profit DESC
LIMIT 10;
```

Result:

SubCategory	Total_Sales	Total_Profit
Phones	329753.1400000001	44448.40000000001
Chairs	328449.13000000047	26590.149999999998
Storage	216803.20000000033	21528.130000000023
Tables	206965.68	-17725.590000000015
Binders	199905.71999999994	29982.839999999993

Insights:

Phones, chairs, storage etc sold the most and made Highest number of Sales and Profits.

Which Segment have highest number of Sales and Profits?

```sql
SELECT Segment, SUM(Sales) AS Total_Sales, SUM(Profit) AS Total_Profit  FROM store
GROUP BY Segment
ORDER BY Total_Sales DESC, Total_Profit DESC;
```

Result:

Segment	Total_Sales	Total_Profit
Consumer	1150166.1799999897	132669.87999999995
Corporate	696604.5999999988	90366.56999999999
Home Office	425679.2900000001	59822.01000000009

Insights:

The consumer segment generates the most sales and profits.

Which Customers have highest number of Sales and Profits?

```sql
SELECT DISTINCT(CustomerID), SUM(Sales) AS Total_Sales, SUM(Profit) AS Total_Profit
FROM store
GROUP BY CustomerID
ORDER BY Total_Sales DESC, Total_Profit DESC;
```

Result:

CustomerID	Total_Sales	Total_Profit
SM-20320	25043.07	-1980.75
TC-20980	19017.85	8964.480000000001
RB-19360	15117.349999999999	6976.089999999999
TA-21385	14595.619999999999	4703.799999999999
AB-10105	14355.609999999997	5438.91
SC-20095	14142.34	5757.42
KL-16645	14071.92	768.8599999999999
HL-15040	12873.3	5622.429999999999
SE-20110	12209.440000000002	2650.67
CC-12370	12129.08	2177.05
TS-21370	11885.869999999999	2368.8500000000004
GT-14710	11820.119999999999	2163.4200000000005

Insights:

Customer ID SM-20320: High spending, low profit.

Customer ID TC-20980: Highest profitability.

CONCLUSIONS/RECOMMENDATIONS

1. Capitalize on Seasonal Trends:

Focus on increasing marketing efforts and promotional activities during peak sales months like **September** to **December**, when sales naturally increase due to festivals and holidays. Offer special discounts, bundles, and limited-time offers to drive even more sales during these periods.

2. Target High-Performing Regions:

Allocate more resources to the **West** region, where sales and profits are highest. This could include opening more stores, enhancing distribution channels, or increasing targeted marketing efforts. Simultaneously, investigate the reasons for lower performance in the **South** and **Central** regions and develop strategies to improve sales, such as localized marketing campaigns or product offerings tailored to regional preferences.

3. Focus on Top States and Cities:

Prioritize marketing and sales strategies in top-performing states like **California**, **New York**, and **Texas**, as well as cities like **New York**, **Seattle**, and **Los Angeles**. Consider opening new outlets or increasing product availability in these areas to capture more market share.

4. Enhance Product Category Offerings:

Invest in expanding the product range within the **Technology** category, which has shown the highest sales and profits. Introduce new products, accessories, or upgrades that align with current consumer trends. Additionally, consider bundling popular products with less popular ones to boost overall sales.

5. Optimize Shipping and Delivery Options:

Since the **Standard class** shipping mode generates the most sales and profits, consider offering free or discounted shipping options for this mode to encourage more purchases. Additionally, evaluate the feasibility of enhancing express shipping options for customers willing to pay a premium, potentially increasing overall revenue.

6. Leverage High-Performing Product Sub-Categories:

Focus on promoting sub-categories like **Phones**, **Chairs,** and **Storage**, which have been the top performers. Introduce targeted marketing campaigns and bundle offers for these products. Additionally, analyze customer feedback to improve or innovate within these sub-categories to maintain their strong sales performance.

7. Strengthen Customer Relationships

Develop a loyalty program or targeted promotions for high-spending customers, even if they currently yield lower profits (e.g., **Customer ID SM-20320**). For highly profitable customers (e.g., **Customer ID TC-20980),** offer exclusive deals, early access to new products, or personalized services to ensure continued patronage.

8. Tailor Strategies for Different Customer Segments

Since the **Consumer** segment generates the highest sales and profits, tailor marketing strategies to further engage this segment. This could include personalized email campaigns, special offers, and content marketing that resonates with consumer interests. For other segments, consider tailored approaches based on their unique needs and buying behavior.

9. Improve Underperforming Areas:

Conduct a detailed analysis to understand why certain **regions**, **states**, or **customer segments** are underperforming. This might involve customer surveys, focus groups, or competitive analysis. Use the insights gained to make targeted improvements in product offerings, customer service, or marketing strategies.

By implementing these recommendations, the business can strategically increase sales, optimize resource allocation, and improve overall profitability.