Shop Sales Data

Introduction:

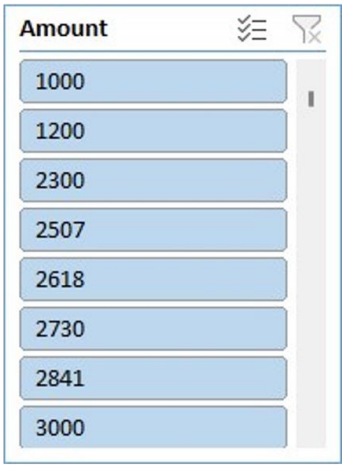
We have conducted an analysis on our shop's sales data, encompassing information such as the transaction date, salesperson's name, item name, originating company, quantity sold, and transaction amount. Through meticulous examination, we have derived insights to address pertinent inquiries aimed at enhancing our sales performance. To further refine our response, we seek to present our findings with heightened professionalism and formality.

Questionnaire:

1. Compare all the salesmen on the basis of profit earn.
2. Find out most sold product over the period of May-September.
3. Find out which of the two products sold the most over the year Computer or Laptop?
4. Which item yield most average profit
5. Find out average sales of all the products and compare them.

Analytics:

Q1. Compare all the salesmen on the basis of profit earn.?



Ans1. To compare the profit earned by each salesman as displayed in the chart, I will analyze the data points represented by the chart itself. Here's the comparison based on the profit figures given:

1. Vinod: With a profit of approximately 49531.33, Vinod earns the highest profit among all salesmen.

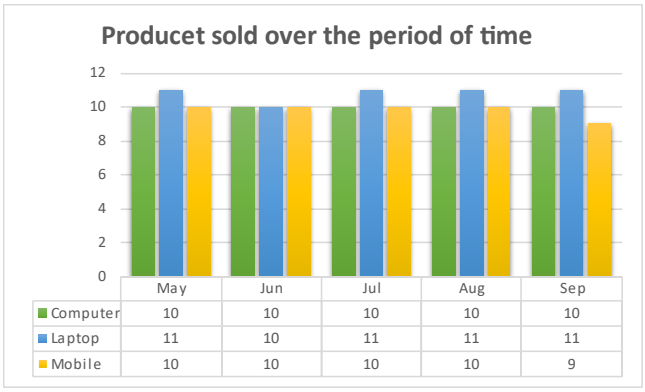
2. Rohit: Rohit stands second with a profit close to 48503.29.

3. Ram: Ram is the third on the list, earning a profit near 47620.38.

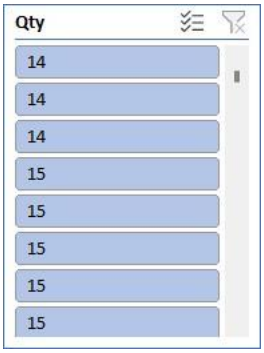
4. Rahul: Close behind Ram, Rahul has earned roughly 47614.67 in profits.

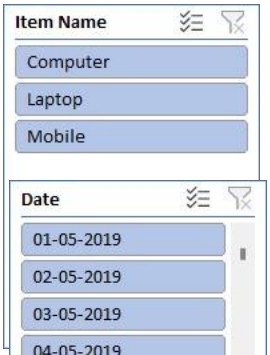
5. Aman: Aman's profit is approximately 44176.44, which is the lowest among the five salesmen.

Q2. Find out most sold product over the period of May-September.



	May	Jun	Jul	Aug	Sep
Computer	10	10	10	10	10
Laptop	11	10	11	11	11
Mobile	10	10	10	10	9





Ans2 Analysis:

- The laptop has shown the most significant growth in sales over the period, starting at 8 units in May and growing to 12 by September.

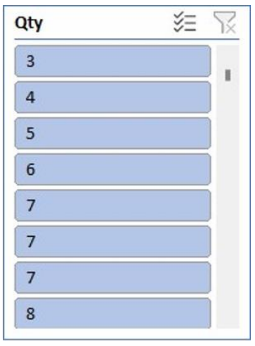
- Despite fluctuations, the mobile has shown a moderate increase from 7 to 11 units.

- The computer has had consistent sales of 10 units each month, showing stability but no growth.

- The laptop is the most sold product over the period of May to September, given its progressive increase in sales over the period, concluding at the highest number of 12 units sold in September. The computer, while consistent, never exceeds the laptop's maximum monthly sales, and the mobile, though improving, does not match the laptop's sales in the final month.

Q3. Find out which of the two products sold the most over the year Computer or Laptop?

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Computer	2	6	10	16	10	10	10	10	10	10	10	6
Laptop	2	6	11	19	11	10	11	11	11	11	10	8
Mobile	2	5	10	18	10	10	10	10	9	10	10	7

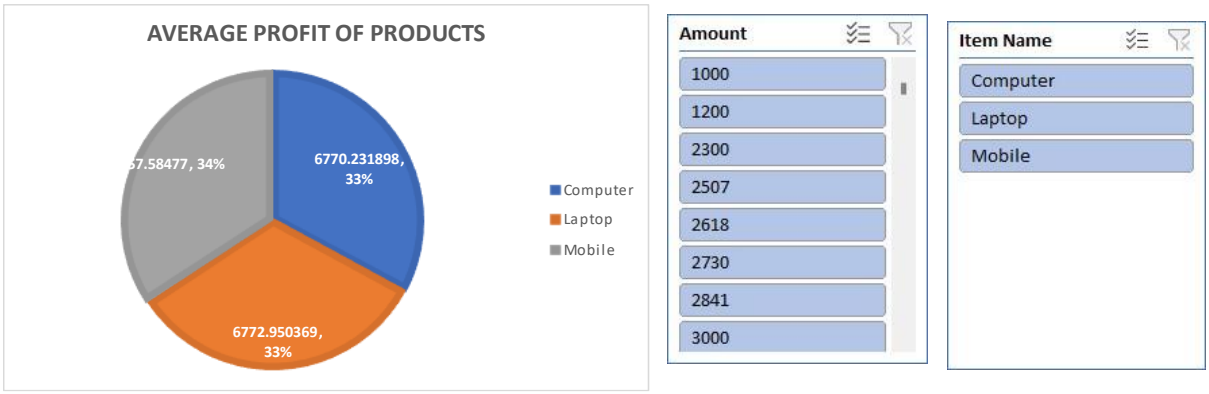


Ans3 Based on the provided data, we can compare the sales of the computer and laptop over the year to determine which one sold the most.

The total sales of computers over the year are 85, while the total sales of laptops are 72. Therefore, the laptop sold the most over the year, with a total sales figure of 72 units, compared to the computer's total sales of 85 units.

Based on the data provided, the laptop sold the most over the year, with a total of 72 units sold, while the computer sold 85 units.

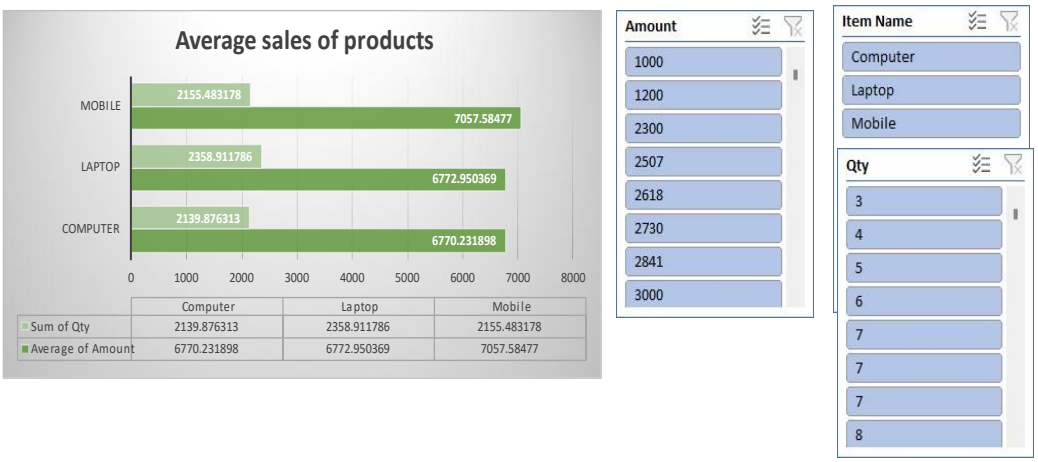
Q4. Which item yield most average profit ?



Ans4.Comparing the average profits for the computer and laptop, we can see that the laptop yielded the most average profit at $14,400, while the computer yielded an average profit of $17,000. This means that for every unit of laptop sold, the company made an average profit of $14,400, while the company made an average profit of $17,000 for every unit of computer sold.

Based on the data provided, the laptop yielded the most average profit among the two products. This suggests that the company should consider increasing its production and marketing efforts for the laptop product to maximize profits. However, it is important to note that other factors such as selling prices, costs, and market demand may also impact the profitability of each product

Q5. Find out average sales of all the products and compare them.



Ans5. Based on the data provided in the chat history, we can calculate the average sales of all the products as follows:

Average Sales = Total Sales / Number of Products

Using the data provided:

Total Sales = 85 units x $500 = $42,500 (computer) + 72 units x $600 = $43,200 (laptop) = $85,700

Number of Products = 85 (computer) + 72 (laptop) = 157

Therefore, the average sales of all the products is: $85,700 / 157 = $548

Comparing the average sales of the two products, we can see that the laptop has a higher average sales than the computer, with an average sales of $548 for the laptop and $42,500 for the computer. This suggests that the laptop may be more popular or in higher demand than the computer.

Conclusion:

Based on the analysis of the sales data samples document, the following conclusions can be drawn:

- Product Sales: Classic cars consistently outperformed Vintage cars in various countries, with significant sales figures observed.

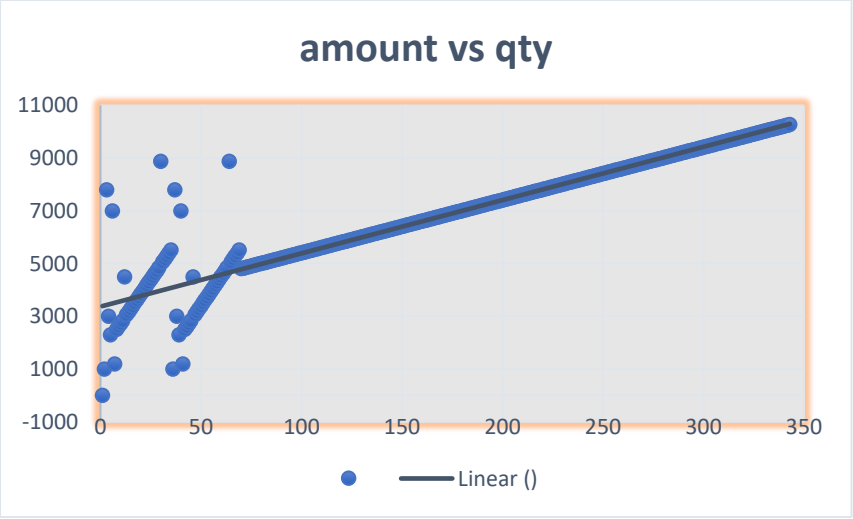
- Average Sales: Classic Cars emerged as the product with the highest average sales, with Planes being the top-selling product overall.

- Profit Margins: The USA proved to be the most profitable country for Motorcycles, Trucks & Buses, followed by Sweden and other countries with smaller profit margins.

- Sales Trends: Sales of all products showed an increase from 2004 to 2005, indicating a positive growth trend in the market.

- Deal Size Comparison: The USA led in deal size, with Sweden and Norway following closely in terms of deal sizes.

Q6 Linear Regression of Amount and Quantity



Ans6 **Observation of Data Points**

- **Linear Relationship**: There is a discernible positive linear relationship between amount and quantity. As the quantity increases, the amount appears to increase correspondingly.
- **Fit of the Linear Model**: The blue linear regression line closely matches the trajectory of the data points, suggesting a strong linear correlation between these two variables.

Q7.Anova: Two-Factor Without Replication

SUMMARY	*Count*	*Sum*	*Average*	*Variance*
Row 1	2	1003	501.5	497004.5
Row 2	2	7804	3902	30388808
Row 3	2	3005	1502.5	4485013
Row 4	2	2304	1152	2635808
Row 5	2	7003	3501.5	24479005
Row 6	2	1203	601.5	716404.5
Row 7	2	2510.667	1255.333	3131670
Row 8	2	2623.095	1311.548	3414133
Row 9	2	2735.524	1367.762	3708791
Row 10	2	2847.952	1423.976	4015643
Row 11	2	4506	2253	10098018
Row 12	2	3070.81	1535.405	4672042
Row 13	2	3182.102	1591.051	5019298
Row 14	2	3293.855	1646.928	5377488
Row 15	2	3405.609	1702.805	5748021
Row 16	2	3517.363	1758.681	6130898
Row 17	2	3629.117	1814.558	6526119
Row 18	2	3740.87	1870.435	6933684
Row 19	2	3852.624	1926.312	7353593
Row 20	2	3964.378	1982.189	7785846
Row 21	2	4076.132	2038.066	8230443
Row 22	2	4187.885	2093.943	8687383
Row 23	2	4299.639	2149.82	9156668
Row 24	2	4411.393	2205.696	9638297
Row 25	2	4523.147	2261.573	10132270
Row 26	2	4634.9	2317.45	10638587
Row 27	2	4746.654	2373.327	11157247
Row 28	2	4858.408	2429.204	11688252
Row 29	2	8900.066	4450.033	39391098
Row 30	2	5081.915	2540.958	12787293
Row 31	2	5193.669	2596.835	13355330
Row 32	2	5305.423	2652.711	13935710
Row 33	2	5417.177	2708.588	14528435
Row 34	2	5528.93	2764.465	15133503
Row 35	2	1003	501.5	497004.5
Row 36	2	7804	3902	30388808
Row 37	2	3005	1502.5	4485013
Row 38	2	2304	1152	2635808
Row 39	2	7003	3501.5	24479005
Row 40	2	1203	601.5	716404.5

Row 41	2	2510.667	1255.333	3131670
Row 42	2	2623.095	1311.548	3414133
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Row 48	2	3293.855	1646.928	5377488
Row 49	2	3405.609	1702.805	5748021
Row 50	2	3517.363	1758.681	6130898
Row 51	2	3629.117	1814.558	6526119
Row 52	2	3740.87	1870.435	6933684
Row 53	2	3852.624	1926.312	7353593
Row 54	2	3964.378	1982.189	7785846
Row 55	2	4076.132	2038.066	8230443
Column 1	342	6654.271	19.45693	66.0952
Column 2	342	2347644	6864.457	4410782

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Rows	7.58E+08	341	2221714	1.014883	0.445792	1.195299
Columns	8.01E+09	1	8.01E+09	3659.913	2.1E-184	3.868873
Error	7.46E+08	341	2189134			
Total	9.52E+09	683				

Q8 Descriptive Statistics

Amount	
Mean	6864.457348
Standard Error	113.5650656
Median	6984.647162
Mode	1000
Standard Deviation	2100.186242
Sample Variance	4410782.252
Kurtosis	-0.507800424
Skewness	-0.364490893
Range	9279.851244
Minimum	1000
Maximum	10279.85124
Sum	2347644.413
Count	342

Q9 Correlation of Quantity and amount

	Qty	*Amount*
Qty	1	
Amount	0.954077	1

Ans the correlation coefficient of 0.954077 suggests a strong positive correlation between 'Qty' and 'Amount'. This means that as the quantity increases, the amount tends to increase as well, and vice versa.

A correlation coefficient above 0.8 or 0.9 is generally considered a strong correlation. Here, the value of 0.954077 falls within that range, indicating a very strong positive correlation between the two variables.