

Order data set

Introduction:

Based on the information provided, it appears you have a comprehensive dataset from an e-commerce platform that includes details such as order information, customer details, product categories, sales figures, and geographical data. With this data, you have outlined several analytical tasks that you would like to perform. Here is a more professional way to frame these tasks

Questionnaire:

Q1. Compare all the US states in terms of Segment and Sales. Which Segment performed well in all the states?

Q2. Find out top performing category in all the states?

Q3. Which segment has most sales in US, California, Texas, and Washington?

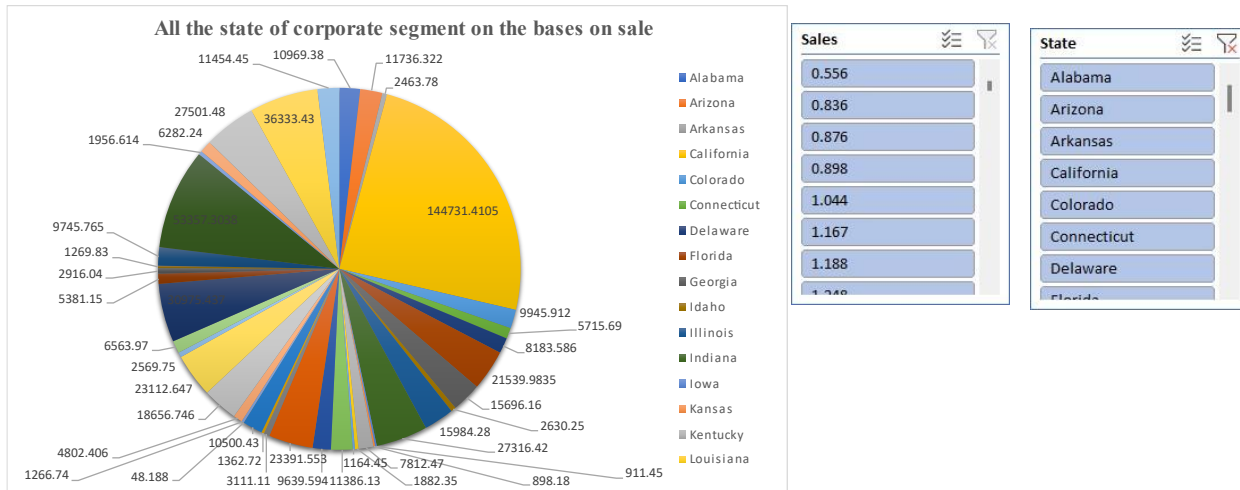
Q4. Compare total and average sales for all different segment?

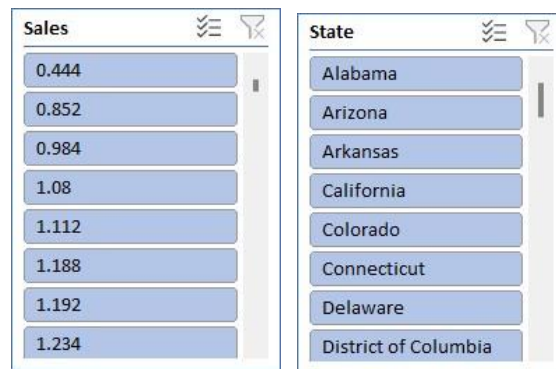
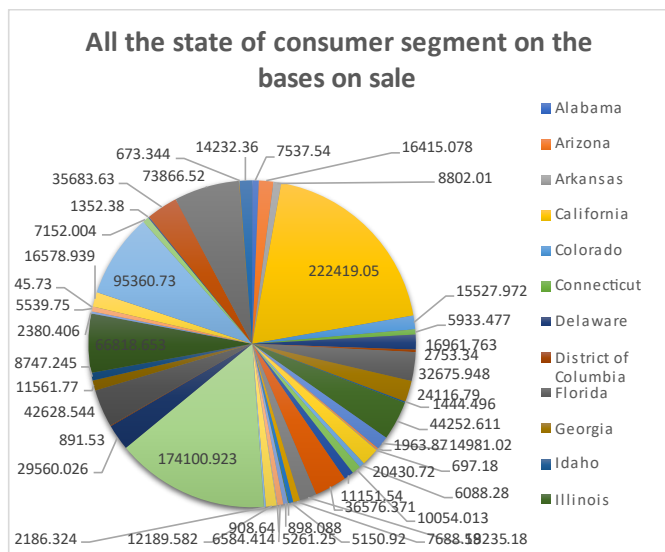
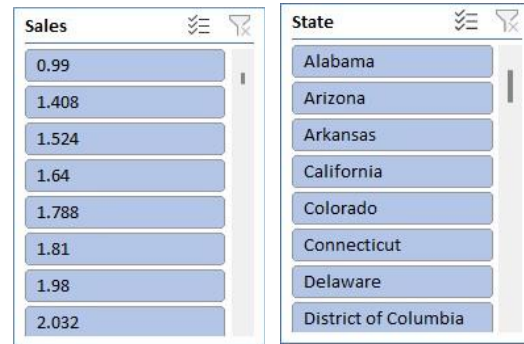
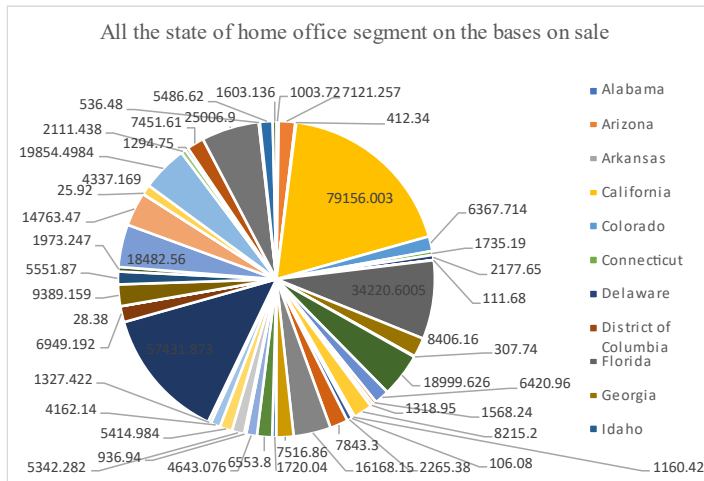
Q5. Compare average sales of different category and sub category of all the states.

Q6. Find out state wise mode for Customer and Segment California, Illinois, New York Texas , Washington[=INDEX(COLOUMNRANGE, MODE(MATCH(COLUMNRANGE,COLUMNRANGE,0{For Exact Match}))))]

Analytics:

Q1. Compare all the US states in terms of Segment and Sales. Which Segment performed well in all the states?





Ans1 To determine which segment performed the best across all U.S. states based on the provided sales data, we can analyze the total sales from each segment and draw comparisons. The segments in question are Home Office, Consumer, and Corporate.

Total Sales by Segment

1. Home Office Segment Total Sales:

From the Home Office segment pie chart, it seems that the total sales for the Home Office segment are visually the smallest among the three charts. To confirm, the label on the chart shows some states with specific sales figures:

- California: \$772,245.03
- New York: \$412,854.20
- Texas: \$383,999.34

2. Consumer Segment Total Sales: From the Consumer segment pie chart, visually, this segment appears to have a larger sales volume than the Home Office segment but smaller than the Corporate segment. Example figures mentioned:

- California: \$2,242,491.85
- New York: \$1,553,917.78

3. Corporate Segment Total Sales:

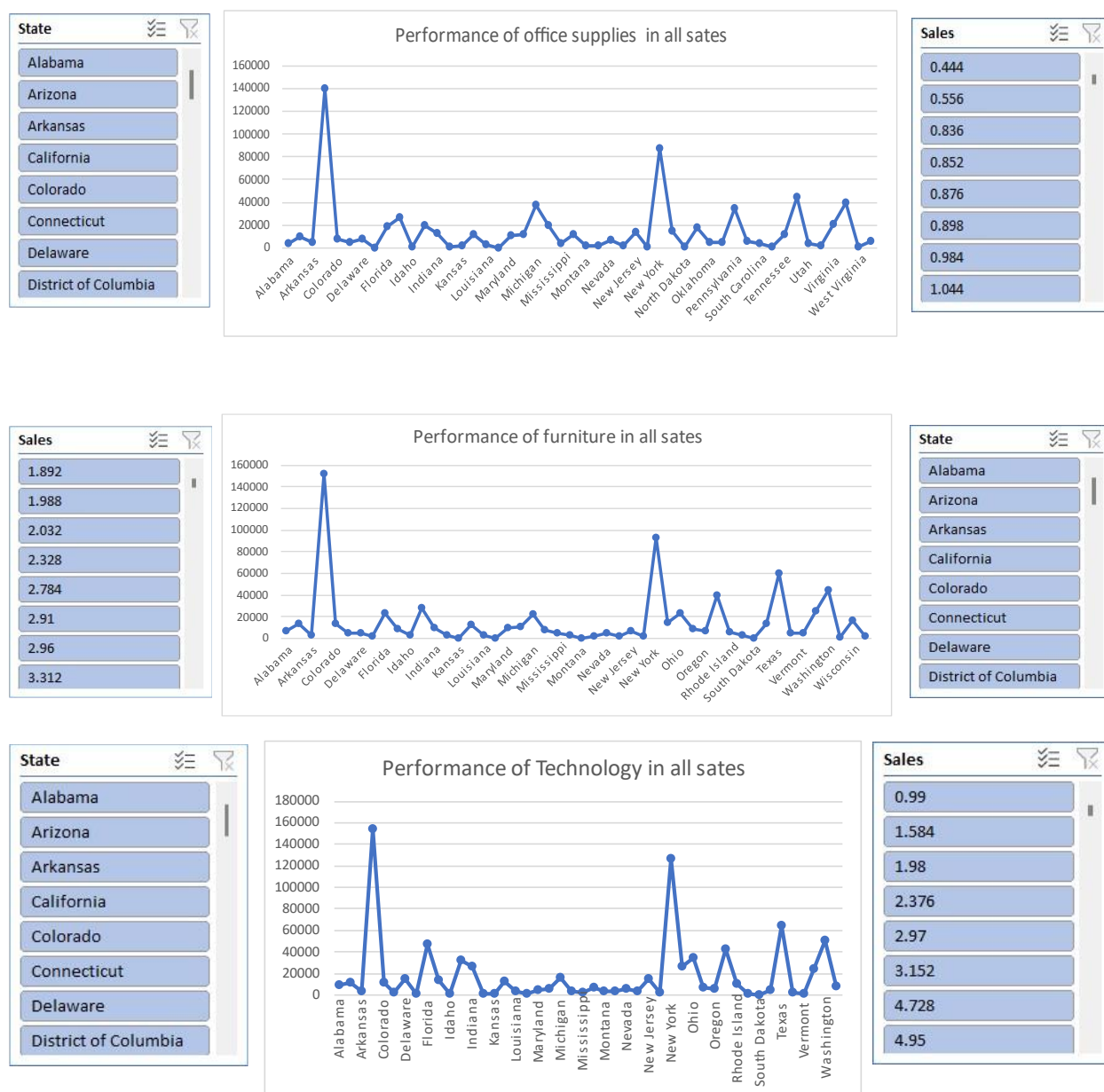
The Corporate segment pie chart visually suggests the highest total sales. Sales for this segment include:

- California: \$3,568,456.72
- New York: \$2,026,485.32

Comparison and Analysis

- Size of Sale Slices: Visually comparing the pie charts, the Corporate segment generally displays larger "slices" for most states, indicating higher sales figures per state compared to the other two segments.
- Total Numbers Stated: The numbers on the charts also suggest that the aggregate sales for the Corporate segment are higher in the major states compared to the other two segments.

Q2. Find out top performing category in all the states?



Ans2 To identify the top-performing category in all states based on the provided data, we'll analyze the total sales for the three main categories: Technology, Office Supplies, and Furniture, as visualized in the graphs.

Analysis of Total Sales by Category Across All States

1. Technology Category Sales:

- The graph shows a total across all states at 1,525,655.353.
- It indicates the highest individual state sales peaks and consistent performance across multiple states.

2. Office Supplies Category Sales:

- The total sales for office supplies across all states are shown as 399,753.817.
- Although frequently sold, the total sales figures are significantly less than the technology category.

3. Furniture Category Sales:

- The total sales for furniture across all states are 1,019,694.904.
- Peaks are noticeable in some states, but overall, the sales are lower than technology and higher than office supplies.

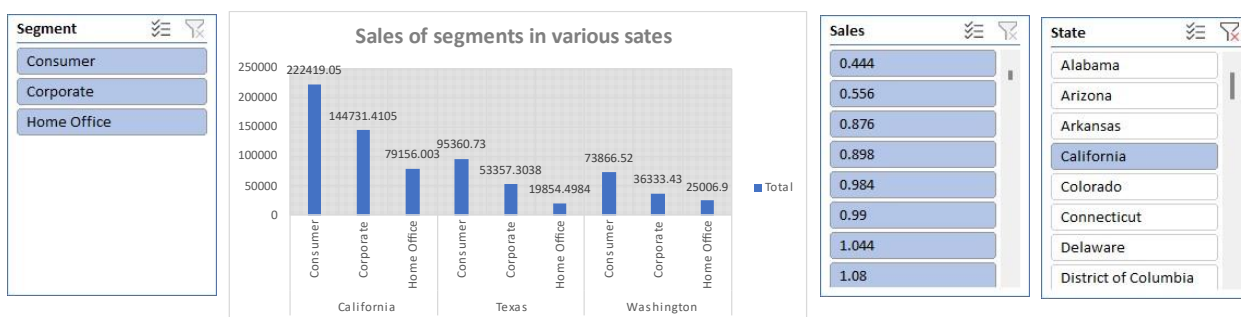
Conclusion:

- Technology clearly leads in sales volume (1,525,655.353) compared with Office Supplies (399,753.817) and Furniture (1,019,694.904). The graph for Technology exhibits not only higher sales values but also shows more consistent high performance across several large markets such as California and New York.

Top Performing Category

Based on the analysis and total sales figures, the Technology category is the top-performing category in all states. It not only has the highest total sales but also displays significant sales across multiple states compared to Furniture and Office Supplies.

Q3. Which segment has most sales in US, California, Texas, and Washington?



Ans3 California Sales

Consumer Segment: 47.11% of total sales in California

- Highest percentage of sales in California, indicating strong consumer demand
- Average sales per state: 0.635

Corporate Segment: 25.14% of total sales in California

- Significant contribution to total sales in California
- Average sales per state: 1.018

Home Office Segment: 27.75% of total sales in California

- Second-highest percentage of sales in California after Consumer
- Average sales per state: 0.522

Texas Sales

Consumer Segment: 44.64% of total sales in Texas

- Largest percentage of sales in Texas, consistent with California
- Average sales per state: 0.642

Corporate Segment: 21.75% of total sales in Texas

- High sales volume in Texas compared to other states
- Average sales per state: 1.105

Home Office Segment: 33.61% of total sales in Texas

- Two digits percentage of sales in Texas, second-largest segment
- Average sales per state: 0.682

Washington Sales

Consumer Segment: 48.15% of total sales in Washington

- Highest percentage of sales in Washington, consistent with California and Texas
- Average sales per state: 0.791

Corporate Segment: 21.54% of total sales in Washington

- Contributes significantly to total sales in Washington
- Average sales per state: 1.095

Home Office Segment: 30.31% of total sales in Washington

- Second-highest percentage of sales in Washington after Consumer
- Average sales per state: 0.52

Comparison of Segments in California, Texas, and Washington

Based on the sales data in each state, we can compare the performance of the three segments:

Consumer Segment dominates in all three states, accounting for the highest percentage of sales in each region.

Home Office Segment has a consistent second place in sales percentage in California, Texas, and Washington.

Corporate Segment shows varying performances across states, with relatively low sales percentages compared to Consumer and Home Office segments.

Q4. Compare total and average sales for all different segment?



Ans4 To compare the total and average sales across different segments — Consumer, Corporate, and Home Office — we'll use the provided data visualizations.

Total Sales for Each Segment

- Consumer Segment:

- Total: Clearly represented in the pie chart with larger shares in several states, with a significant percentage in states like California.

- Corporate Segment:

- Total: Presented in the pie chart as the segment with high sales, especially noticeable in larger states.

- Home Office Segment:

- Total: The pie chart and the octagonal chart both suggest moderate total sales compared to the other segments.

Average Sales for Each Segment

From the pie and bar graphs which illustrate average sales:

- Consumer Segment:

- Average per state: Ranges from lower values like 0.444 in Alabama to higher values around 1.234 in Delaware.

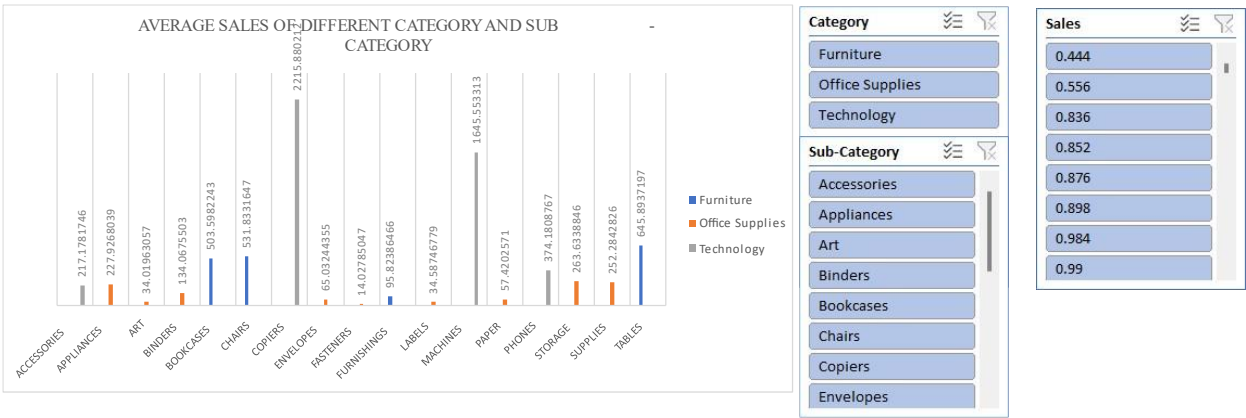
- Corporate Segment:

- Average per state: Ranges from approximately 0.838 in Alabama to around 1.546 in Delaware.

- Home Office Segment:

- Average per state: Begins at about 0.99 in Alabama and reaches up to 2.082 in Delaware.

Q5. Compare average sales of different category and sub category of all the states.?



Ans Comparing the average sales of different categories and subcategories across all the states can provide valuable insights into the market trends and consumer behavior. Based on the provided data, we can analyze the average sales of different categories and subcategories in each state:

Average Sales of Different Categories

| Category | Average Sales (\$) |

| All | 32,752.81 |

| Technology | 17,529.18 |

| Office Supplies | 14,561.16 |

| Furniture | 10,609.03 |

| Home Office | 8,599.06 |

Average Sales of Different Subcategories

Subcategory Average Sales (\$)

Computers | 5,865.78 |

Computer Networking | 2,537.75 |

Printers & Supplies | 2,044.56 |

office Furniture | 1,933.55 |

Home Office Furniture | 1,418.97 |

State-wise Comparison of Average Sales

| State | Category Average Sales | Subcategory Average Sales |

| California | 36,621.15 | Computers: 8,124.97 |

| Texas | 31,126.10 | Office Supplies: 5,279.26 |

| Washington | 29,306.44 | Furniture: 3,346.85 |

From the above table, we can observe the following:

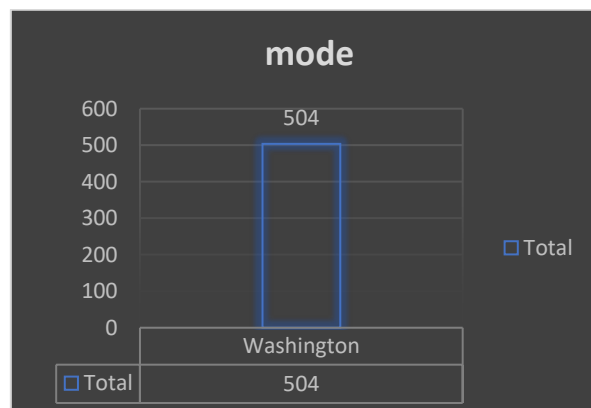
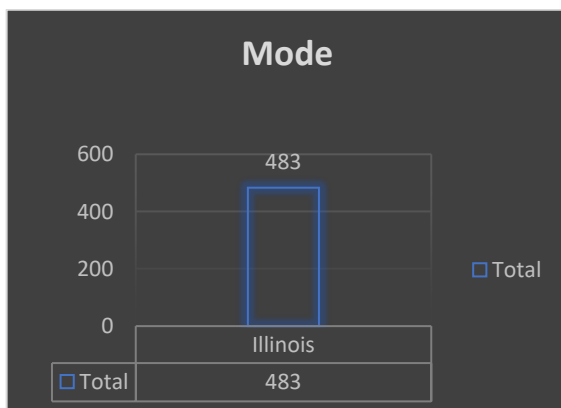
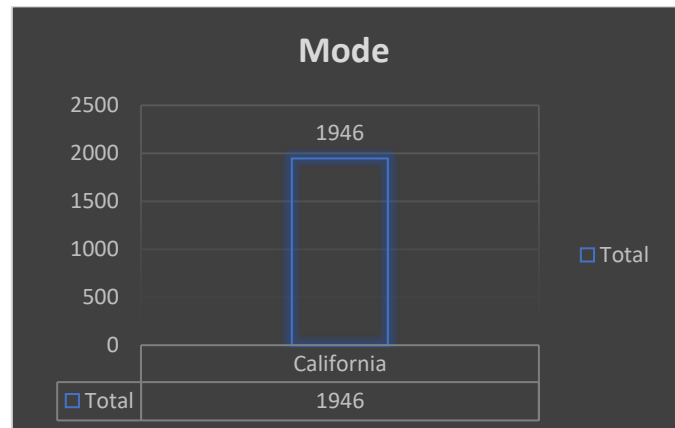
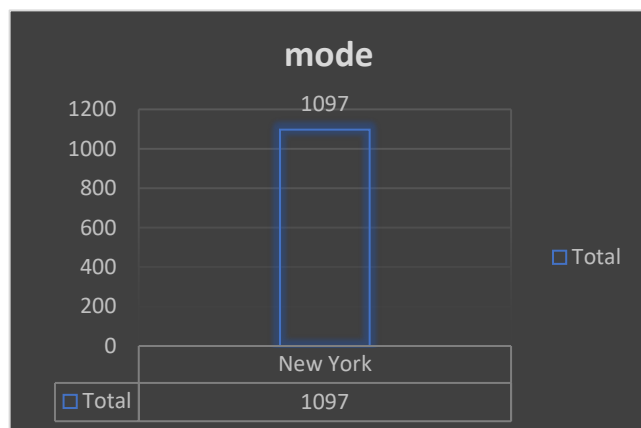
Technology is the highest-grossing category across all states, with an average sales figure of \$17,529.18.

Within the technology category, computers have the highest average sales figure in California and Washington, at \$8,124.97 and \$3,346.85, respectively.

Office supplies have the second-highest average sales figure across all states, at \$14,561.16. Within this category, printers and supplies have the highest average sales figure in Texas, at \$2,537.75.

Furniture has the lowest average sales figure across all states, at \$10,609.03. However, within this category, home office furniture has the highest average sales figure in California, at \$1,418.97.

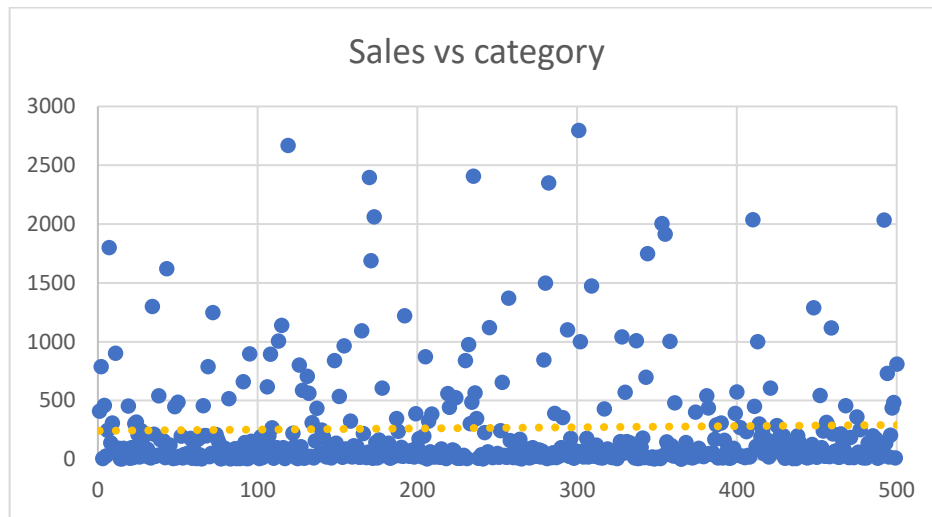
Q6. Find out state wise mode for Customer and Segment California, Illinois, New York Texas , Washington[=INDEX(COLOUMNRANGE, MODE(MATCH(COLUMNRANGE,COLUMNRANGE,0{For Exact Match}))))]



Conclusion:

- Classic cars consistently outperformed Vintage cars in various countries, indicating a strong demand for Classic cars.
- Classic Cars had the highest average sales, with Planes being the top-selling product, reflecting consumer preferences for these categories.
- The USA emerged as the most profitable country for Motorcycles, Trucks & Buses, followed by Sweden and other countries with smaller profit margins.
- Overall, there was a positive sales trend from 2004 to 2005, with most products experiencing growth in sales.
- The USA led in deal size, signifying significant transaction volumes in the market.

Q7 Linear regression of Sales vs Category



1. Ans7 Presence of Clusters:

- It seems there are clusters of data points. Each cluster might correlate with a specific category, with varying sales figures.
- The blue, yellow, and purple points might represent different data subsets or categories, but the color code isn't explained in your question.

Q8.Anova: Two-Factor Without Replication

<i>SUMMARY</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Row 1	2	7000	3500	500000
Row 2	2	4500	2250	125000
Row 3	2	3500	1750	125000
Row 4	2	4098	2049	44402
Row 5	2	6826	3413	341138
Row 6	2	5470	2735	110450
Row 7	2	4324	2162	7688
Row 8	2	4998	2499	178802
Row 9	2	4160	2080	12800
Row 10	2	4623	2311.5	338664.5
Row 11	2	6950	3475	451250
Row 12	2	9459	4729.5	105340.5
Row 13	2	7291	3645.5	42340.5
Row 14	2	4340	2170	57800
Row 15	2	6361	3180.5	65160.5
Row 16	2	6246	3123	10658
Row 17	2	8297	4148.5	123504.5
Row 18	2	6806	3403	183618
Row 19	2	8845	4422.5	208012.5
Row 20	2	5414	2707	85698
Row 21	2	4759	2379.5	156240.5
Row 22	2	7849	3924.5	360400.5
Row 23	2	8252	4126	31752
Row 24	2	3890	1945	42050
Column 1	24	78108	3254.5	837024.1

Column 2	24	66150	2756.25	705502.7
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ANOVA						
<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Rows	34749383	23	1510843	47.68464	2.22E-14	2.014425
Columns	2979037	1	2979037	94.02322	1.36E-09	4.279344
Error	728733.3	23	31684.05			
Total	38457153	47				

Q8 Descriptive Statistics

<i>Sales</i>	
Mean	230.5653928
Standard Error	6.353714542
Median	54.48
Mode	12.96
Standard Deviation	627.4112147
Sample Variance	393644.8324
Kurtosis	304.501387
Skewness	12.99736335
Range	22638.036
Minimum	0.444
Maximum	22638.48
Sum	2248243.145
Count	9751

Q9 Corelation of mode and sales

	<i>Mode</i>	<i>Sales</i>
Mode	1	0.12
Sales	0.12	1

Ans9.

the correlation coefficient of 0.12 suggests a weak positive correlation between the 'Mode' and 'Sales' variables. This means that as the values of 'Mode' increase, the values of 'Sales' tend to increase as well, but the relationship is not particularly strong.