AN EXCEL PROJECT REPORT

Analysing and Visualizing Regional Sales Performance

Project work done by

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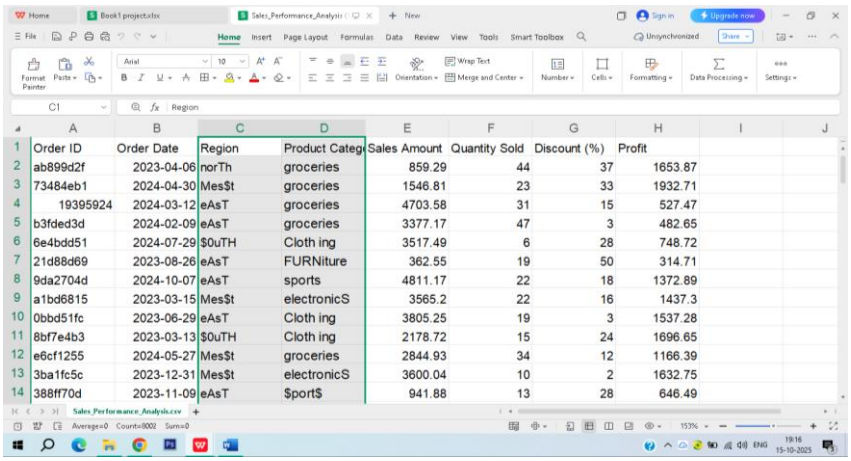
Data Analysis

Before working with data, I did data cleaning

Old Data set

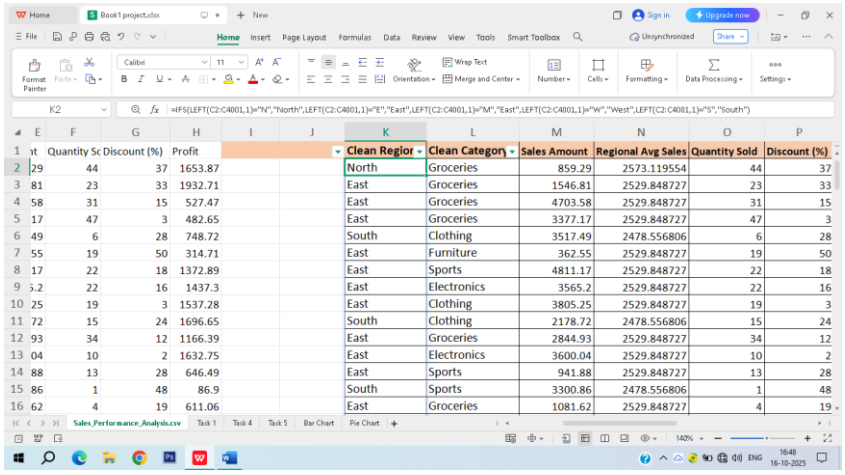


Order ID	Order Date	Region	Product Categ	Sales Amount	Quantity Sold	Discount (%)	Profit
ab899d2f	2023-04-06	norTh	groceries	859.29	44	37	1653.87
73484eb1	2024-04-30	Mes$t	groceries	1546.81	23	33	1932.71
19395924	2024-03-12	eAsT	groceries	4703.58	31	15	527.47
b3fded3d	2024-02-09	eAsT	groceries	3377.17	47	3	482.65
6e4bdd51	2024-07-29	$0uTH	Cloth ing	3517.49	6	28	748.72
21d88d69	2023-08-26	eAsT	FURNiture	362.55	19	50	314.71
9da2704d	2024-10-07	eAsT	sports	4811.17	22	18	1372.89
a1bd6815	2023-03-15	Mes$t	electronicS	3565.2	22	16	1437.3
0bbd51fc	2023-06-29	eAsT	Cloth ing	3805.25	19	3	1537.28
8bf7e4b3	2023-03-13	$0uTH	Cloth ing	2178.72	15	24	1696.65
e6cf1255	2024-05-27	Mes$t	groceries	2844.93	34	12	1166.39
3ba1fc5c	2023-12-31	Mes$t	electronicS	3600.04	10	2	1632.75
388ff70d	2023-11-09	eAsT	$port$	941.88	13	28	646.49

Cleaned data by the following steps

1. Select the column wanted to clean(i.e., region and category)
2. Click on Find & Replace button
3. In replace button enter the letter want to replace.
4. Then used Ifs() and Left() function to get a clear and concise data.

Cleaned Data:



Clean Regior	Clean Category	Sales Amount	Regional Avg Sales	Quantity Sold	Discount (%)
North	Groceries	859.29	2573.119554	44	37
East	Groceries	1546.81	2529.848727	23	33
East	Groceries	4703.58	2529.848727	31	15
East	Groceries	3377.17	2529.848727	47	3
South	Clothing	3517.49	2478.556806	6	28
East	Furniture	362.55	2529.848727	19	50
East	Sports	4811.17	2529.848727	22	18
East	Electronics	3565.2	2529.848727	22	16
East	Clothing	3805.25	2529.848727	19	3
South	Clothing	2178.72	2478.556806	15	24
East	Groceries	2844.93	2529.848727	34	12
East	Electronics	3600.04	2529.848727	10	2
East	Sports	941.88	2529.848727	13	28
South	Sports	3300.86	2478.556806	1	48
East	Groceries	1081.62	2529.848727	4	19

Task 1: Searching and Filtering Data

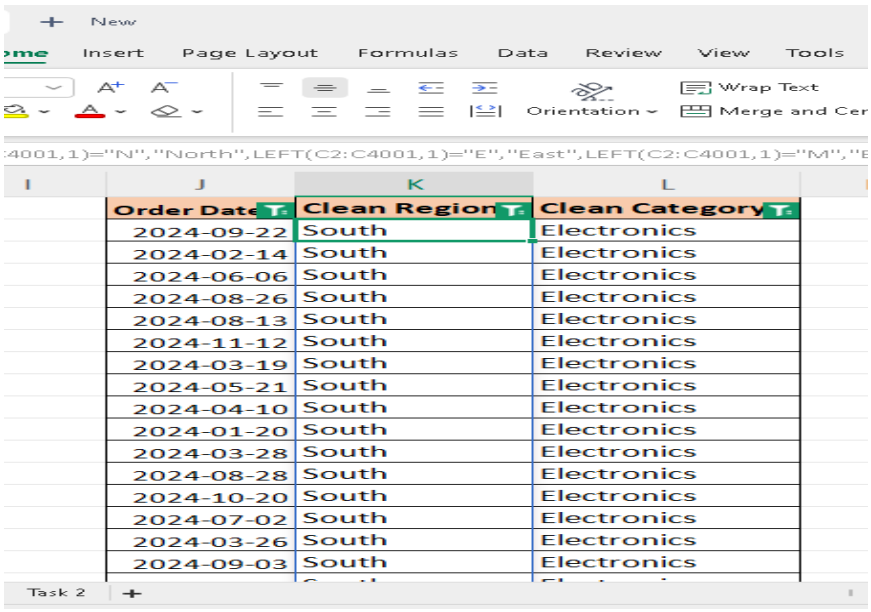
Objective

Practice using date filtering and category-based filtering.

Steps

1. Selected the entire data range.
2. Applied Filter by using the shortcut key **"**CTRL+SHIFT+L**"**
3. Chose Region - South and Category - Electronics.
4. Used Date Filter - Last Year (2024) to view only recent orders.

The filtered data results for the required region and category.



Order Date	Clean Region	Clean Category
2024-09-22	South	Electronics
2024-02-14	South	Electronics
2024-06-06	South	Electronics
2024-08-26	South	Electronics
2024-08-13	South	Electronics
2024-11-12	South	Electronics
2024-03-19	South	Electronics
2024-05-21	South	Electronics
2024-04-10	South	Electronics
2024-01-20	South	Electronics
2024-03-28	South	Electronics
2024-08-28	South	Electronics
2024-10-20	South	Electronics
2024-07-02	South	Electronics
2024-03-26	South	Electronics
2024-09-03	South	Electronics

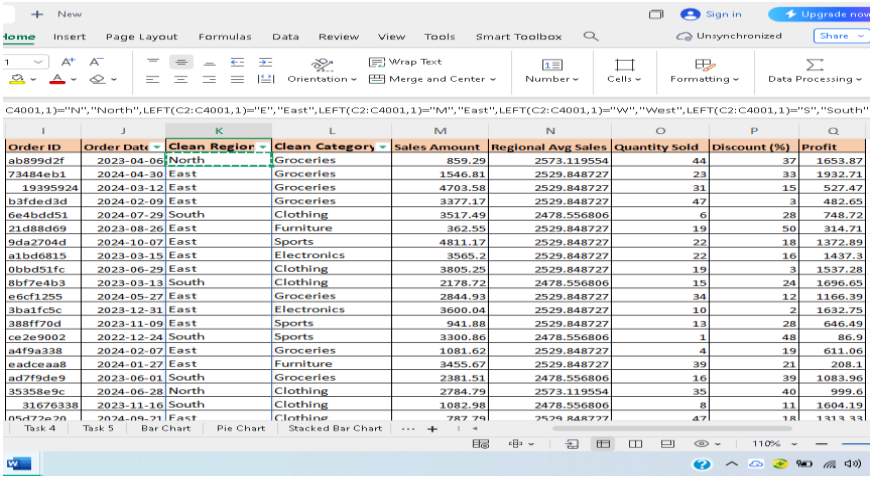
Task 2: Data Cleaning with Text Functions

Objective

Ensure uniformity in text data for analysis

Cleaned data by the following steps

1. Select the column wanted to clean(i.e., region and category)
2. Click on Find & Replace button
3. In replace button enter the letter want to replace.
4. Then used Ifs() and Left() function to get a clear and concise data.

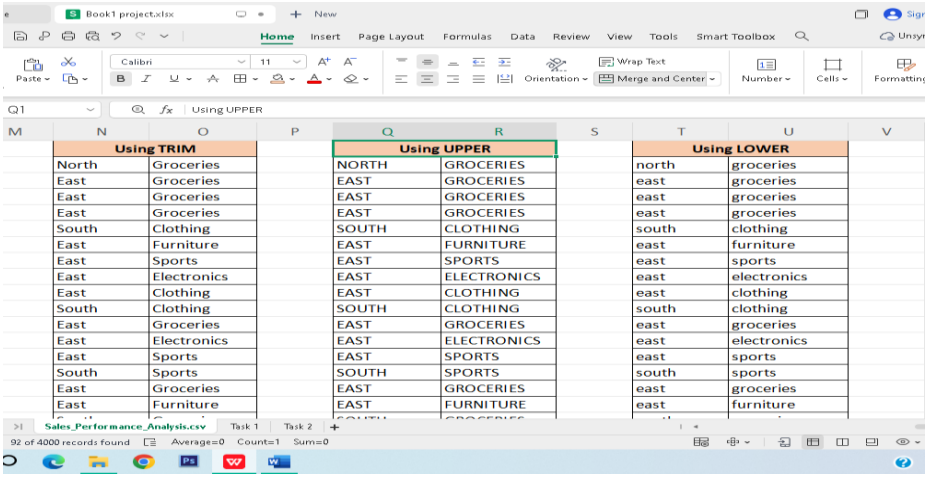


Order ID	Order Date	Clean Region	Clean Category	Sales Amount	Regional Avg Sales	Quantity Sold	Discount (%)	Profit
ab899d2f	2023-04-06	North	Groceries	859.29	2573.119554	44	37	1653.87
73484eb1	2024-04-30	East	Groceries	1546.81	2529.848727	23	33	1932.71
19395924	2024-03-12	East	Groceries	4703.58	2529.848727	31	15	527.47
b3fded3d	2024-02-09	East	Groceries	3377.17	2529.848727	47	3	482.65
6e4bdd51	2024-07-29	South	Clothing	3517.49	2478.556806	6	28	748.72
21d88d69	2023-08-26	East	Furniture	362.55	2529.848727	19	50	314.71
9da2704d	2024-10-07	East	Sports	4811.17	2529.848727	22	18	1372.89
a1bd6815	2023-03-15	East	Electronics	3565.2	2529.848727	22	16	1437.3
0bbd51fc	2023-06-29	East	Clothing	3805.25	2529.848727	19	3	1537.28
8bf7e4b3	2023-03-13	South	Clothing	2178.72	2478.556806	15	24	1696.65
e6cf1255	2024-05-27	East	Groceries	2844.93	2529.848727	34	12	1166.39
3ba1fc5c	2023-12-31	East	Electronics	3600.04	2529.848727	10	2	1632.75
388ff70d	2023-11-09	East	Sports	941.88	2529.848727	13	28	646.49
ce2e9002	2022-12-24	South	Sports	3300.86	2478.556806	1	48	86.9
a4f9a338	2024-02-07	East	Groceries	1081.62	2529.848727	4	19	611.06
eadceaa8	2024-01-27	East	Furniture	3455.67	2529.848727	39	21	208.1
ad7f9de9	2023-06-01	South	Groceries	2381.51	2478.556806	16	39	1083.96
35358e9c	2024-06-28	North	Clothing	2784.79	2573.119554	35	40	999.6
31676338	2023-11-16	South	Clothing	1082.98	2478.556806	8	11	1604.19

Steps

1. Used the formula =TRIM(A2) to remove extra spaces.
2. Applied =UPPER() to make text consistent (e.g., SOUTH, NORTH).
3. Applied =LOWER() to make text consistent (e.g., south, north).

Used TRIM,UPPER and LOWER functions to ensure consistent formatting across all records.



Using TRIM		Using UPPER		Using LOWER	
North	Groceries	NORTH	GROCERIES	north	groceries
East	Groceries	EAST	GROCERIES	east	groceries
East	Groceries	EAST	GROCERIES	east	groceries
East	Groceries	EAST	GROCERIES	east	groceries
South	Clothing	SOUTH	CLOTHING	south	clothing
East	Furniture	EAST	FURNITURE	east	furniture
East	Sports	EAST	SPORTS	east	sports
East	Electronics	EAST	ELECTRONICS	east	electronics
East	Clothing	EAST	CLOTHING	east	clothing
South	Clothing	SOUTH	CLOTHING	south	clothing
East	Groceries	EAST	GROCERIES	east	groceries
East	Electronics	EAST	ELECTRONICS	east	electronics
East	Sports	EAST	SPORTS	east	sports
South	Sports	SOUTH	SPORTS	south	sports
East	Groceries	EAST	GROCERIES	east	groceries
East	Furniture	EAST	FURNITURE	east	furniture

Task 3: Merging Data

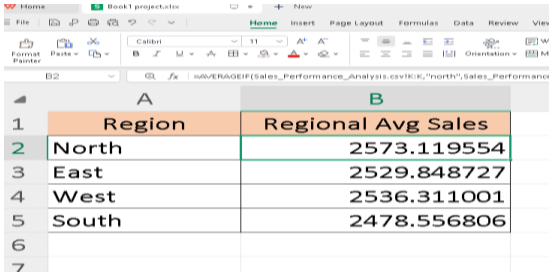
Objective

Learn to calculate summarized metrics and merge them into the dataset for enriched analysis.

Steps

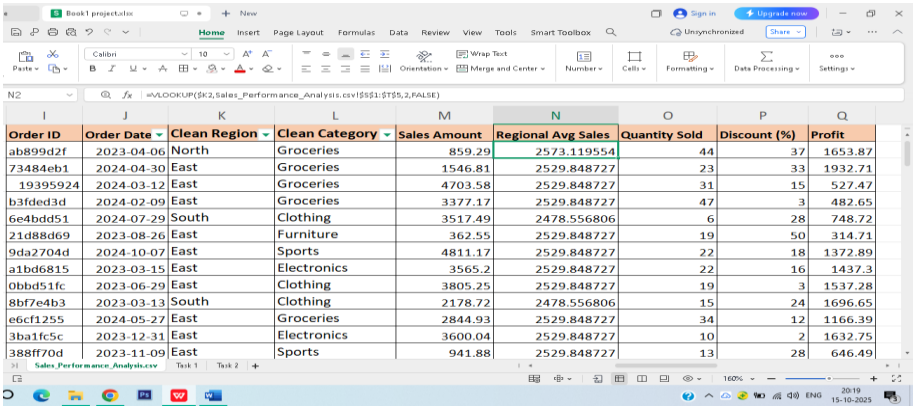
1. Used =AVERAGEIF(RegionRange, Region, SalesRange) to calculate average sales.
2. Created a new column for average sales by region.
3. Used **VLOOKUP** to merge the calculated values back into the main dataset.

Demonstrates calculation



Region	Regional Avg Sales
North	2573.119554
East	2529.848727
West	2536.311001
South	2478.556806

Demonstrates merged data columns



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ab899d2f	2023-04-06	North	Groceries	859.29	2573.119554	44	37	1653.87
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21d88d69	2023-08-26	East	Furniture	362.55	2529.848727	19	50	314.71
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a1bd6815	2023-03-15	East	Electronics	3565.2	2529.848727	22	16	1437.3
0bbd51fc	2023-06-29	East	Clothing	3805.25	2529.848727	19	3	1537.28
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388ff70d	2023-11-09	East	Sports	941.88	2529.848727	13	28	646.49

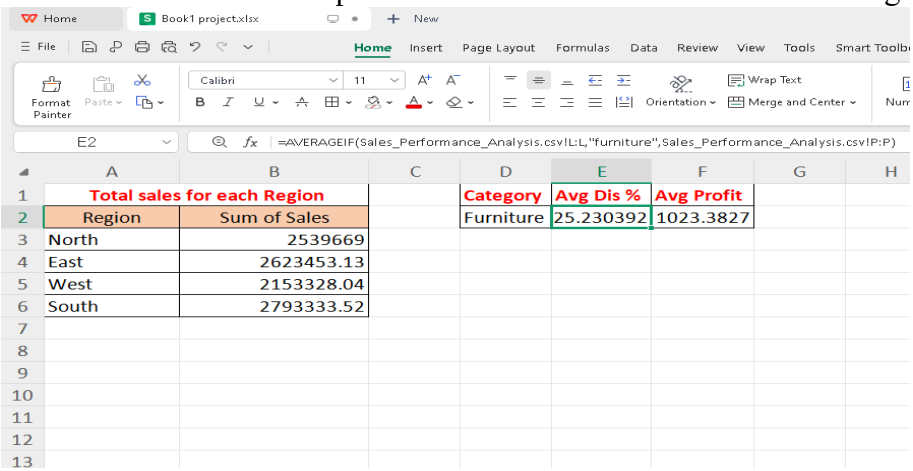
Task 4. Excel Formulas

Objective

Reinforce formula usage for summary statistics.

Steps

1. Used “SUMIF” to get total sales per region
2. Used “AVERAGEIF” for profit and discount for the “Furniture” category.



	A	B	C	D	E	F	G	H
1	Total sales for each Region			Category	Avg Dis %	Avg Profit		
2	Region	Sum of Sales		Furniture	25.230392	1023.3827		
3	North	2539669						
4	East	2623453.13						
5	West	2153328.04						
6	South	2793333.52						
7								
8								
9								
10								
11								
12								
13								

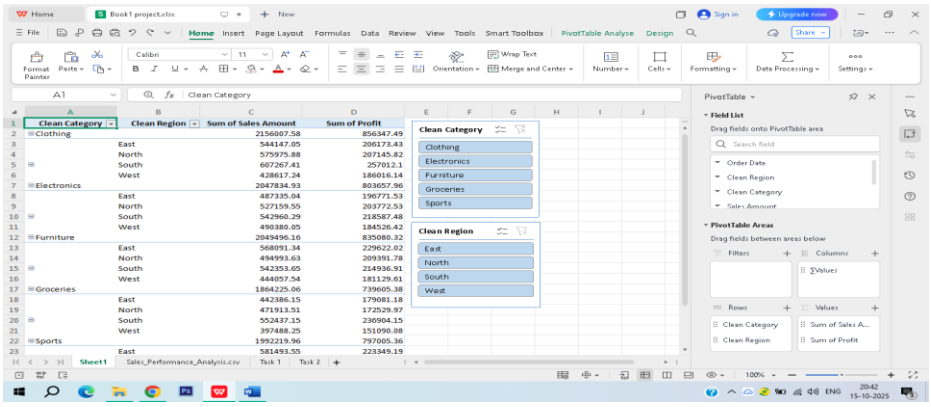
Task 5. Pivot Tables & Slicer

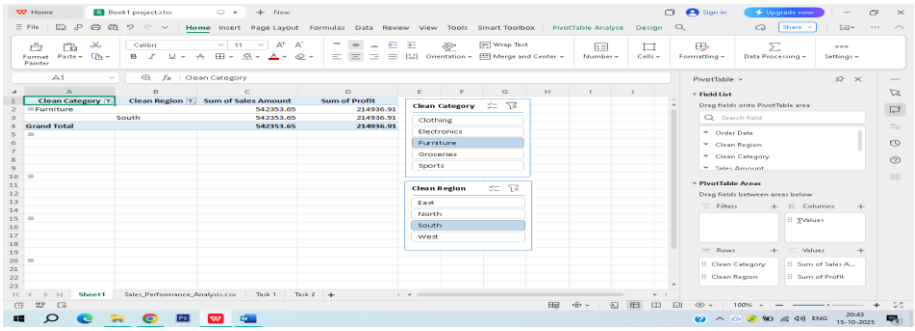
Objective

Created Pivot Table summarizing total sales and profit by region.

Steps

1. Selected the entire data range.
2. Go to Insert tab - click “Pivot table”.
3. It will display a dialog box with some details for creating pivot table in New worksheet click – “OK”.
4. In the PivotTable Fields pane, drag Region to Rows, Product Category to Columns, and Sales/Profit to Values.
5. Click inside the PivotTable - PivotTable Analyze - Insert Slicer - check Region and Category.
6. Use slicers to filter the pivot table and connected charts dynamically.Click on Insert Slicer button.
7. A dialogue box appears , check the boxes (Region & Category) to use as filters.





Task 6. Charts (Bar & Pie Charts)

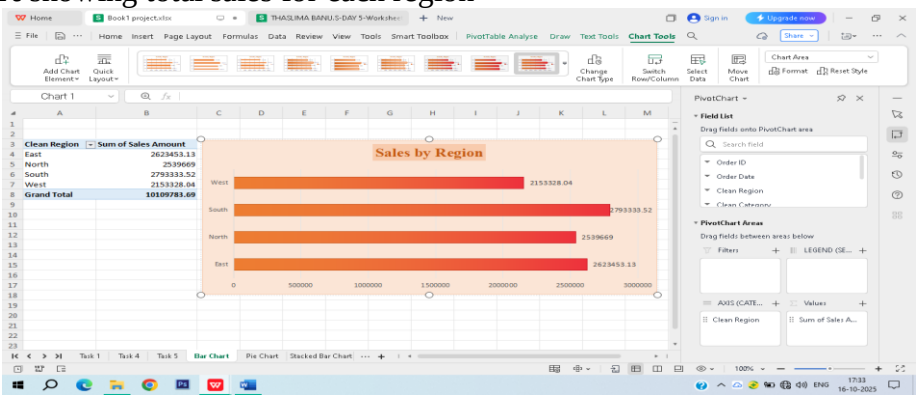
Objective

Practice visualizing categorical and regional sales data.

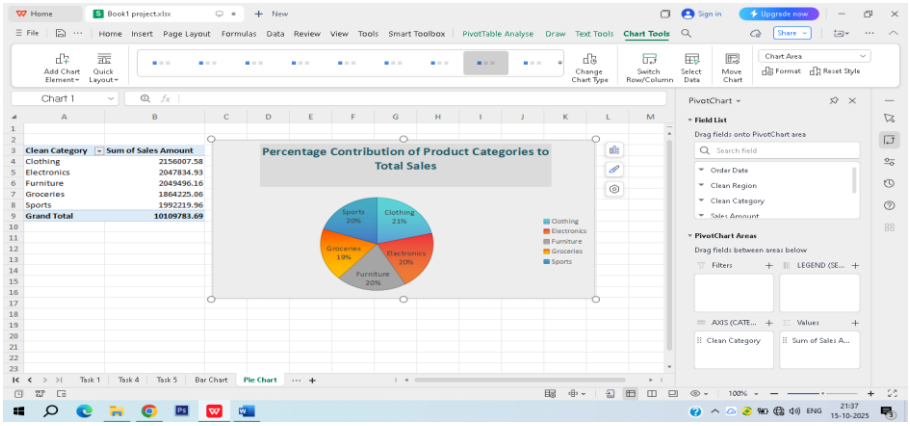
Steps

1. After creating the pivot table click on the Pivot chart by selecting the pivot table to get the values in the chart.
2. Select the chart Type.

a. Bar chart showing total sales for each region



b. Pie chart showing the percentage contribution of each product category to total sales



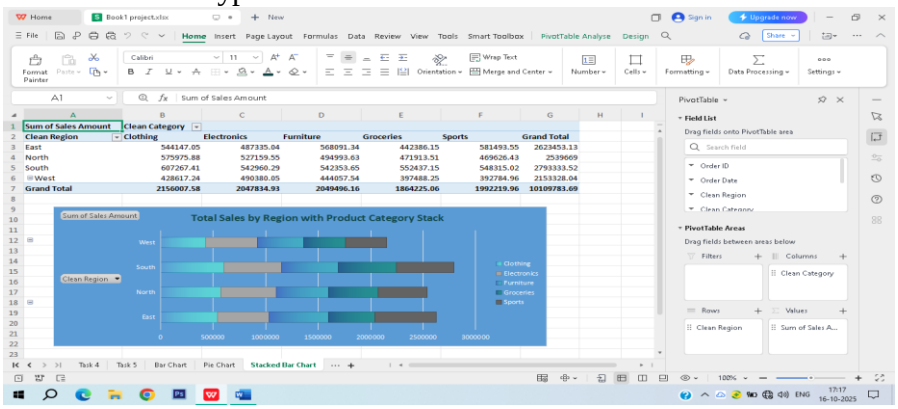
Task 7. Stacked Bar Chart

Objective

Practice creating detailed comparative visualizations to analyse sales distribution across regions and product category.

Steps

1. After creating the pivot table click on the Pivot chart by selecting the pivot table to get the values in the chart.
2. Select the chart Type - Bar chart in that choose Stacked Bar Chart.



Task 8. Basic Dashboard

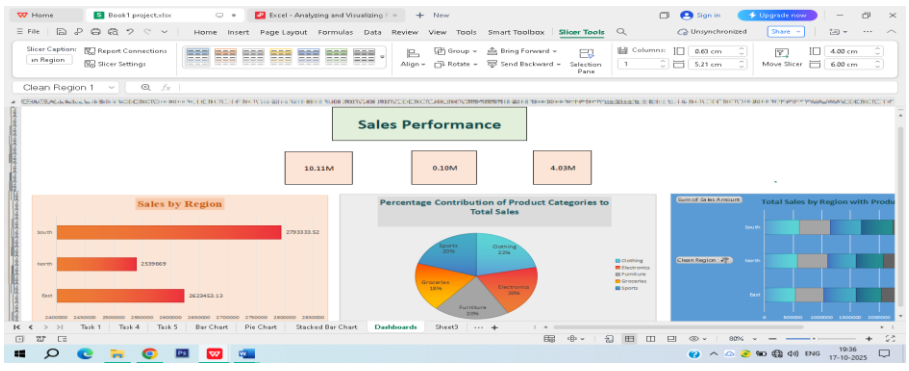
Objective

Learn to design an interactive and user-friendly dashboard.

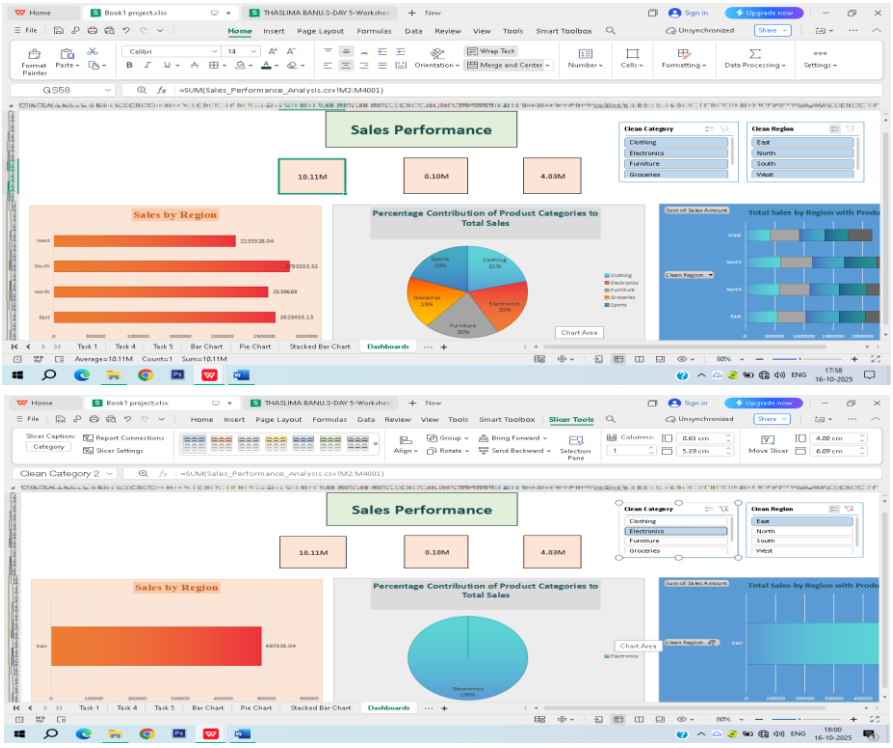
Steps

1. Add new sheet.
2. Merge and centre and Give heading (Minimize the rows and columns).
3. Click on view tab – uncheck the Gridlines.
4. Click and drag at the centre of the page and click merge and centre and type the heading as required.
5. Click and drag, and make square shape three boxes and click on merge and centre
6. Implement Key Performance Indicators (KPI'S) by entering the formulas
7. To get the values in "Millions" & "Thousands" convert the values in Readability Format
8. Right click on the KPI Value – Format cells – General – Type 0.00," K"- to get the value in Thousands and 0.00,"M" – to get the value in Millions.
9. Copy the charts and paste in this sheet
10. Click the Chart and Insert Slicer button.
11. A dialogue box appears , check the boxes (Region & Category) to use as filters.
12. Right click the slicers – Report Connection – Tick all the charts in the sheet in the dialogue box – OK.

a. Create a dashboard showing key metrics (e.g., total sales, total profit,highest-selling product category).



b. Add interactive elements like slicers or dropdowns for dynamic filtering.



Task 9. Highlight High Performers (Conditional Formatting)

Objective

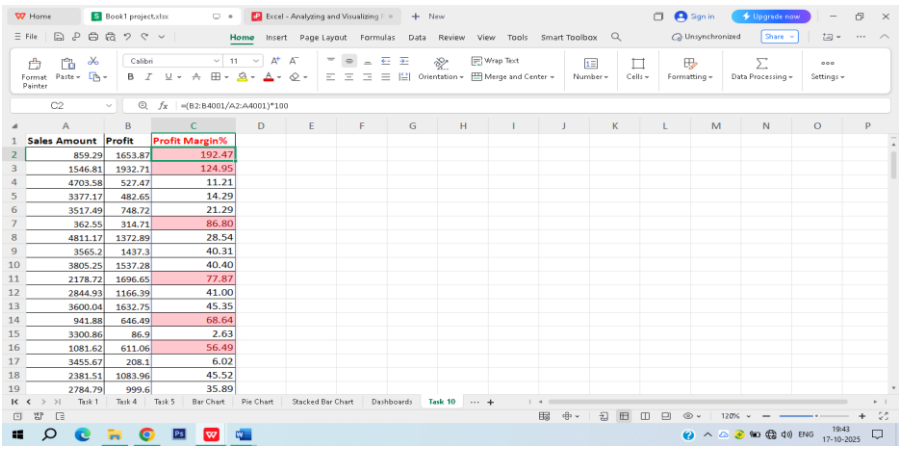
Enhance analytical insights through visual cues.

Task

Use conditional formatting to highlight orders with a profit margin greater than 50% or sales amounts above ₹4000.

Steps

1. To calculate the profit margin formula used =Profit/Sales*100
2. Then Click on conditional formatting.
3. Select Highlight cell Rules – Greater than.
4. Then Enter 50 and press OK.



	A	B	C
1	Sales Amount	Profit	Profit Margin%
2	859.29	1653.87	192.47
3	1546.81	1932.71	124.95
4	4703.58	527.47	11.21
5	3377.17	482.65	14.29
6	3517.49	748.72	21.29
7	362.55	314.71	86.80
8	4811.17	1372.89	28.54
9	3565.2	1437.3	40.31
10	3805.25	1537.28	40.40
11	2178.72	1696.65	77.87
12	2844.93	1166.39	41.00
13	3600.04	1632.75	45.35
14	941.88	646.49	68.64
15	3300.86	86.9	2.63
16	1081.62	611.06	56.49
17	3455.67	208.1	6.02
18	2381.51	1083.96	45.52
19	2784.79	999.6	35.89