

Analyzing and Visualizing Regional Sales Performance

EXCEL PROJECT

TASK 2: DATA CLEANING WITH TEXT FUNCTIONS

I cleaned and standardized the Region and Product Category columns by replacing special symbols using CTRL+H and applying IFS formulas in helper columns to ensure consistent naming conventions. After trimming extra spaces in the Order column and standardizing regional and category values, I pasted the cleaned data back into the main columns.

Task 1: Searching and Filtering Data

Order ID	Order Date	Region	Product Category	Sales Amt.	Quantity Sold	Discount %	Net - Profit	% Profit		
Task #	Task 1	Task 2	Task 3	Task 4	Task 5	Task 6 (a)	Task 6(b)	Task 8	Task 9	Task 9 - Max
9aUe327	2023-09-22	South	Electronics	581.50	15	34	863	15%		
9bXf456	2023-09-23	North	Electronics	975.10	30	30	607.50	12%		
9cYd449	2023-11-29	South	Electronics	3300.86	43	11	715.41	21%		
9dZk448	2024-01-05	South	Electronics	1696.76	4	34	1342.89	79%		
9eTt4052	2023-10-20	East	Electronics	2900.85	20	10	1471.43	50%		
9fWv447	2023-11-15	South	Electronics	4750.00	30	30	1425.00	30%		
9gXy458	2023-06-06	South	Electronics	1053.19	22	20	570.11	53%		
9hRz4556	2024-08-13	South	Electronics	1132.27	24	45	1967.35	100%		
9iSd476C	2023-11-12	South	Electronics	2000.00	10	2	400.00	20%		
9jVt446	2024-03-19	South	Electronics	3767.5	11	0	922.22	22%		
9kXt4485	2024-05-21	South	Electronics	1510.36	2	11	185.29	12%		
9lWv4478	2023-09-20	South	Electronics	681.38	18	18	129.06	20%		
9mYd4515	2023-02-22	South	Electronics	1947.55	24	16	389.77	20%		
9nZk4520	2027-07-08	South	Electronics	3076.47	17	14	1866.22	60%		
9oTa47C9	2023-03-10	South	Electronics	2175.35	29	56	1763.89	80%		
9pWv4474	2023-11-18	South	Electronics	1273.14	11	12	137.31	10%		
9qXy4509	2021-11-07	South	Electronics	3869.49	31	39	1916.26	50%		
9rRz4529	2022-11-23	South	Electronics	2843.57	22	22	419.23	15%		
9sWv4475	2023-07-10	South	Electronics	2947.45	24	4	1189.00	40%		
9tXf4524	2024-04-10	South	Electronics	3000.92	23	15	296.84	10%		
9uYd4520	2024-01-20	South	Electronics	3696.95	15	44	1545.25	40%		
9vZk4516	2023-06-10	South	Electronics	4702.20	44	47	1384.05	30%		
9wTa47C1	2023-07-01	South	Electronics	1311.21	13	13	85.83	6%		
9xWv4471	2023-09-07	South	Electronics	1083.12	13	12	100.46	9%		
9yXf4514	2023-02-15	South	Electronics	4846.66	44	33	1484.77	30%		
9zRz4507	2021-09-07	South	Electronics	942.53	27	29	234.52	25%		
9aWv4479	2023-09-07	South	Electronics	2500.85	44	37	1390.37	55%		

I used the shortcut CTRL+SHIFT+L to filter the dataset, selecting "South" in the Region column and "Electricity" in the Product Category column. This displayed the order details, quantity, sales amount, profit, and discount for the electronics category in the South region, enabling focused performance analysis.

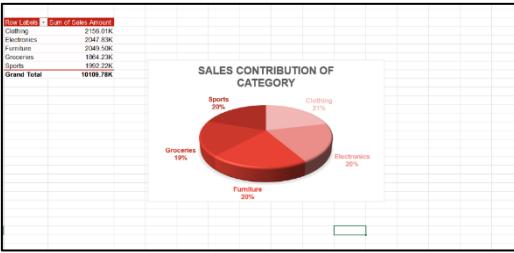
Task 3: Merging Data

I created a PivotTable using CTRL+SHIFT with arrow keys, placing the Region column in the Rows area and the Average Sales Amount in the Values area to calculate region-wise

averages. Then, using the XLOOKUP formula, I mapped these averages to a new column named Avg_sales_region_wise, enabling dynamic integration of regional performance data into the main dataset.

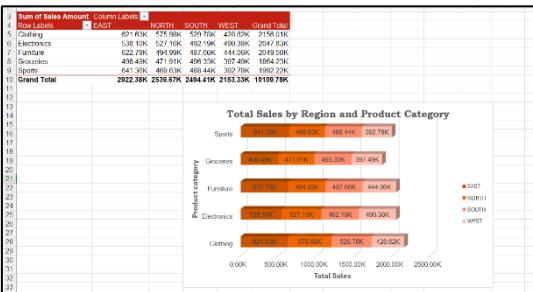
Task 4: Excel Formulas

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	
1	Region	Product Category	Sales	Profit	Discount	Region	Sales	Profit	Discount	Region	Sales	Profit	Discount	Region	Sales	Profit	
2	1 EAST	Groceries	2000.50	1000.25	10.00	2 EAST	2100.50	1050.25	10.00	3 SOUTH	1540.81	770.41	10.00	4 WEST	1400.50	700.25	10.00
5	5 NORTH	Clothing	1200.25	600.13	10.00	6 SOUTH	1200.25	600.13	10.00	7 EAST	1200.25	600.13	10.00	8 WEST	1200.25	600.13	10.00
9	9 EAST	Clothing	1600.75	800.38	10.00	10 WEST	1600.75	800.38	10.00	11 SOUTH	1600.75	800.38	10.00	12 EAST	1600.75	800.38	10.00
13	13 WEST	Groceries	1800.50	900.25	10.00	14 EAST	1800.50	900.25	10.00	15 SOUTH	1800.50	900.25	10.00	16 WEST	1800.50	900.25	10.00
17	17 EAST	Furniture	2200.50	1100.25	10.00	18 WEST	2200.50	1100.25	10.00	19 SOUTH	2200.50	1100.25	10.00	20 EAST	2200.50	1100.25	10.00
21	21 WEST	Clothing	2400.75	1200.38	10.00	22 EAST	2400.75	1200.38	10.00	23 WEST	2400.75	1200.38	10.00	24 SOUTH	2400.75	1200.38	10.00
25	25 EAST	Groceries	2600.50	1300.25	10.00	26 WEST	2600.50	1300.25	10.00	27 SOUTH	2600.50	1300.25	10.00	28 EAST	2600.50	1300.25	10.00
29	29 WEST	Clothing	2800.75	1400.38	10.00	30 EAST	2800.75	1400.38	10.00	31 WEST	2800.75	1400.38	10.00	32 SOUTH	2800.75	1400.38	10.00
33	33 EAST	Furniture	3000.50	1500.25	10.00	34 WEST	3000.50	1500.25	10.00	35 SOUTH	3000.50	1500.25	10.00	36 EAST	3000.50	1500.25	10.00
37	37 WEST	Groceries	3200.50	1600.25	10.00	38 EAST	3200.50	1600.25	10.00	39 WEST	3200.50	1600.25	10.00	40 SOUTH	3200.50	1600.25	10.00
41	41 EAST	Clothing	3400.75	1700.38	10.00	42 WEST	3400.75	1700.38	10.00	43 SOUTH	3400.75	1700.38	10.00	44 EAST	3400.75	1700.38	10.00
45	45 WEST	Furniture	3600.50	1800.25	10.00	46 EAST	3600.50	1800.25	10.00	47 WEST	3600.50	1800.25	10.00	48 SOUTH	3600.50	1800.25	10.00
49	49 EAST	Groceries	3800.50	1900.25	10.00	50 WEST	3800.50	1900.25	10.00	51 SOUTH	3800.50	1900.25	10.00	52 EAST	3800.50	1900.25	10.00
53	53 WEST	Clothing	4000.75	2000.38	10.00	54 EAST	4000.75	2000.38	10.00	55 WEST	4000.75	2000.38	10.00	56 SOUTH	4000.75	2000.38	10.00
57	57 EAST	Furniture	4200.50	2100.25	10.00	58 WEST	4200.50	2100.25	10.00	59 SOUTH	4200.50	2100.25	10.00	60 EAST	4200.50	2100.25	10.00
61	61 WEST	Groceries	4400.50	2200.25	10.00	62 EAST	4400.50	2200.25	10.00	63 WEST	4400.50	2200.25	10.00	64 SOUTH	4400.50	2200.25	10.00
65	65 EAST	Clothing	4600.75	2300.38	10.00	66 WEST	4600.75	2300.38	10.00	67 SOUTH	4600.75	2300.38	10.00	68 EAST	4600.75	2300.38	10.00
69	69 WEST	Furniture	4800.50	2400.25	10.00	70 EAST	4800.50	2400.25	10.00	71 WEST	4800.50	2400.25	10.00	72 SOUTH	4800.50	2400.25	10.00
73	73 EAST	Groceries	5000.50	2500.25	10.00	74 WEST	5000.50	2500.25	10.00	75 SOUTH	5000.50	2500.25	10.00	76 EAST	5000.50	2500.25	10.00
77	77 WEST	Clothing	5200.75	2600.38	10.00	78 EAST	5200.75	2600.38	10.00	79 WEST	5200.75	2600.38	10.00	80 SOUTH	5200.75	2600.38	10.00
81	81 EAST	Furniture	5400.50	2700.25	10.00	82 WEST	5400.50	2700.25	10.00	83 SOUTH	5400.50	2700.25	10.00	84 EAST	5400.50	2700.25	10.00
85	85 WEST	Groceries	5600.50	2800.25	10.00	86 EAST	5600.50	2800.25	10.00	87 WEST	5600.50	2800.25	10.00	88 SOUTH	5600.50	2800.25	10.00
89	89 EAST	Clothing	5800.75	2900.38	10.00	90 WEST	5800.75	2900.38	10.00	91 SOUTH	5800.75	2900.38	10.00	92 EAST	5800.75	2900.38	10.00
93	93 WEST	Furniture	6000.50	3000.25	10.00	94 EAST	6000.50	3000.25	10.00	95 WEST	6000.50	3000.25	10.00	96 SOUTH	6000.50	3000.25	10.00
97	97 EAST	Groceries	6200.50	3100.25	10.00	98 WEST	6200.50	3100.25	10.00	99 SOUTH	6200.50	3100.25	10.00	100 EAST	6200.50	3100.25	10.00
101	101 WEST	Clothing	6400.75	3200.38	10.00	102 EAST	6400.75	3200.38	10.00	103 WEST	6400.75	3200.38	10.00	104 SOUTH	6400.75	3200.38	10.00
105	105 EAST	Furniture	6600.50	3300.25	10.00	106 WEST	6600.50	3300.25	10.00	107 SOUTH	6600.50	3300.25	10.00	108 EAST	6600.50	3300.25	10.00
109	109 WEST	Groceries	6800.50	3400.25	10.00	110 EAST	6800.50	3400.25	10.00	111 WEST	6800.50	3400.25	10.00	112 SOUTH	6800.50	3400.25	10.00
113	113 EAST	Clothing	7000.75	3500.38	10.00	114 WEST	7000.75	3500.38	10.00	115 SOUTH	7000.75	3500.38	10.00	116 EAST	7000.75	3500.38	10.00
117	117 WEST	Furniture	7200.50	3600.25	10.00	118 EAST	7200.50	3600.25	10.00	119 WEST	7200.50	3600.25	10.00	120 SOUTH	7200.50	3600.25	10.00
121	121 EAST	Groceries	7400.50	3700.25	10.00	122 WEST	7400.50	3700.25	10.00	123 SOUTH	7400.50	3700.25	10.00	124 EAST	7400.50	3700.25	10.00
125	125 WEST	Clothing	7600.75	3800.38	10.00	126 EAST	7600.75	3800.38	10.00	127 WEST	7600.75	3800.38	10.00	128 SOUTH	7600.75	3800.38	10.00
129	129 EAST	Furniture	7800.50	3900.25	10.00	130 WEST	7800.50	3900.25	10.00	131 SOUTH	7800.50	3900.25	10.00	132 EAST	7800.50	3900.25	10.00
133	133 WEST	Groceries	8000.50	4000.25	10.00	134 EAST	8000.50	4000.25	10.00	135 WEST	8000.50	4000.25	10.00	136 SOUTH	8000.50	4000.25	10.00
137	137 EAST	Clothing	8200.75	4100.38	10.00	138 WEST	8200.75	4100.38	10.00	139 SOUTH	8200.75	4100.38	10.00	140 EAST	8200.75	4100.38	10.00
141	141 WEST	Furniture	8400.50	4200.25	10.00	142 EAST	8400.50	4200.25	10.00	143 WEST	8400.50	4200.25	10.00	144 SOUTH	8400.50	4200.25	10.00
145	145 EAST	Groceries	8600.50	4300.25	10.00	146 WEST	8600.50	4300.25	10.00	147 SOUTH	8600.50	4300.25	10.00	148 EAST	8600.50	4300.25	10.00
149	149 WEST	Clothing	8800.75	4400.38	10.00	150 EAST	8800.75	4400.38	10.00	151 WEST	8800.75	4400.38	10.00	152 SOUTH	8800.75	4400.38	10.00
153	153 EAST	Furniture	9000.50	4500.25	10.00	154 WEST	9000.50	4500.25	10.00	155 SOUTH	9000.50	4500.25	10.00	156 EAST	9000.50	4500.25	10.00
157	157 WEST	Groceries	9200.50	4600.25	10.00	158 EAST	9200.50	4600.25	10.00	159 WEST	9200.50	4600.25	10.00	160 SOUTH	9200.50	4600.25	10.00
161	161 EAST	Clothing	9400.75	4700.38	10.00	162 WEST	9400.75	4700.38	10.00	163 SOUTH	9400.75	4700.38	10.00	164 EAST	9400.75	4700.38	10.00
165	165 WEST	Furniture	9600.50	4800.25	10.00	166 EAST	9600.50	4800.25	10.00	167 WEST	9600.50	4800.25	10.00	168 SOUTH	9600.50	4800.25	10.00
169	169 EAST	Groceries	9800.50	4900.25	10.00	170 WEST	9800.50	4900.25	10.00	171 SOUTH	9800.50	4900.25	10.00	172 EAST	9800.50	4900.25	10.00
173	173 WEST	Clothing	10000.75	5000.38	10.00	174 EAST	10000.75	5000.38	10.00	175 WEST	10000.75	5000.38	10.00	176 SOUTH	10000.75	5000.38	10.00
177	177 EAST	Furniture	10200.50	5100.25	10.00	178 WEST	10200.50	5100.25	10.00	179 SOUTH	10200.50	5100.25	10.00	180 EAST	10200.50	5100.25	10.00
181	181 WEST	Groceries	10400.50	5200.25	10.00	182 EAST	10400.50	5200.25	10.00	183 WEST	10400.50	5200.25	10.00	184 SOUTH	10400.50	5200.25	10.00
185	185 EAST	Clothing	10600.75	5300.38	10.00	186 WEST	10600.75	5300.38	10.00	187 SOUTH	10600.75	5300.38	10.00	188 EAST	10600.75	5300.38	10.00
189	189 WEST	Furniture	10800.50	5400.25	10.00	190 EAST	10800.50	5400.25	10.00	191 WEST	10800.50	5400.25	10.00	192 SOUTH	10800.50	5400.25	10.00
193	193 EAST	Groceries	11000.50	5500.25	10.00	194 WEST	11000.50	5500.25	10.00	195 SOUTH	11000.50	5500.25	10.00	196 EAST	11000.50	5500.25	10.00
197	197 WEST	Clothing	11200.75	5600.38	10.00	198 EAST	11200.75	5600.38	10.00	199 WEST	11200.75	5600.38	10.00	200 SOUTH	11200.75	5600.38	10.00
201	201 EAST	Furniture	11400.50	5700.25	10.00	202 WEST	11400.50	5700.25	10.00	203 SOUTH	11400.50	5700.25	10.00	204 EAST	11400.50	5700.25	10.00
205	205 WEST	Groceries	11600.50	5800.25	10.00	206 EAST	11600.50	5800.25	10.00	207 WEST	11600.50	5800.25	10.00	208 SOUTH	11600.50	5800.25	10.00
209	209 EAST	Clothing	11800.75	5900.38	10.00	210 WEST	11800.75	5900.38	10.00	211 SOUTH	11800.75	5900.38	10.00	212 EAST	11800.75	5900.38	10.00
213	213 WEST	Furniture	12000.50	6000.25	10.00	214 EAST	12000.50	6000.25	10.00	215 WEST	12000.50	6000.25	10.00	216 SOUTH	12000.50	6000.25	10.00
217	217 EAST	Groceries	12200.50	6100.25	10.00	218 WEST	12200.50	6100.25	10.00	219 SOUTH	12200.50	6100.25	10.00	220 EAST	12200.50	6100.25	10.00
221	221 WEST	Clothing	12400.75	6200.38	10.00	222 EAST	12400.75	6200.38	10.00	223 WEST	12400.75	6200.38	10.00	224 SOUTH	12400		



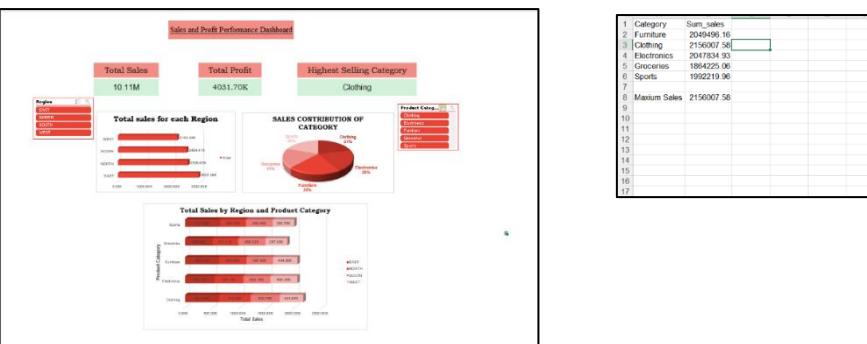
I created a PivotTable from the dataset by adding Product Category to the Rows area and Sales to the Values area, then inserted a Pie Chart through the PivotTable Analyze tab. After customizing the chart's title, colours, and design, it effectively displayed the percentage share of total sales by product category, highlighting top-performing segments.

Task 8: Stacked Bar Chart



I created a PivotTable by organizing Product Category in the Rows area, Region in the Columns area, and Sales in the Values area, then inserted a Stacked Bar Chart from the Insert tab. After customizing its title, colors, and layout, the chart effectively compared total sales across product categories by region, highlighting top revenue-generating segments.

Task 9: Basic Dashboard



I designed an interactive KPI dashboard by resizing cells, removing gridlines, and merging sections to create a clean layout, then calculated total sales, total profit, and the highest selling product category using SUM, SUMIF, MAX, INDEX, and MATCH formulas. Finally, I integrated bar, pie, and stacked bar charts with slicers for Region and Product Category to enable dynamic, synchronized filtering and clear visual analysis of sales performance.

Task 10: Highlight High Performers (Conditional Formatting)

C2	F4	I4	I4	Alignment			
A	B	C	D	E	F	G	H
2	Sales	Amount	Profit Margin	=I2:B4001/A2:A4001*100			
3	809.29	1653.87	102.47				
4	1546.81	1932.71	124.95				
5	4700.58	527.47	11.21				
6	1344.55	1055.95	78.93				
7	3517.49	748.72	21.29				
8	302.55	314.71	66.80				
9	4811.14	1322.89	29.54				
10	3835.25	1517.28	40.40				
11	2178.72	1696.65	77.87				
12	2841.93	1166.39	41.00				
13	3000.75	1075.75	35.83				
14	941.88	846.49	68.64				
15	3300.86	66.9	2.63				
16	1001.82	61.06	56.49				
17	2424.11	700.11	28.69				
18	2301.51	1031.96	45.52				
19	2784.19	959.6	35.89				
20	1089.98	1004.19	148.13				
21	1250.75	1030.51	81.21				
22	312.7	559.52	178.93				
23	265.32	595.91	224.60				
24	1250.75	1030.51	131.91				
25	1841.07	1783.26	10.34				
26	2561.71	800.82	31.26				
27	1960.74	1530.61	78.06				
28	2416.22	335.57	11.89				
29	2204.22	1892.59	17.70				
30	2118.56	702.15	33.14				

I added a new column named Profit Margin calculated using the formula (Profit / Sales Amount) * 100 and applied conditional formatting to highlight key insights. Profit margins above 50% were shown in green and sales amounts over 4000 in red, making high-profit and high-sales transactions easily identifiable.