

Project 9: Profitability Analysis by Region

Analyze profitability across different regions to optimize regional sales strategies.

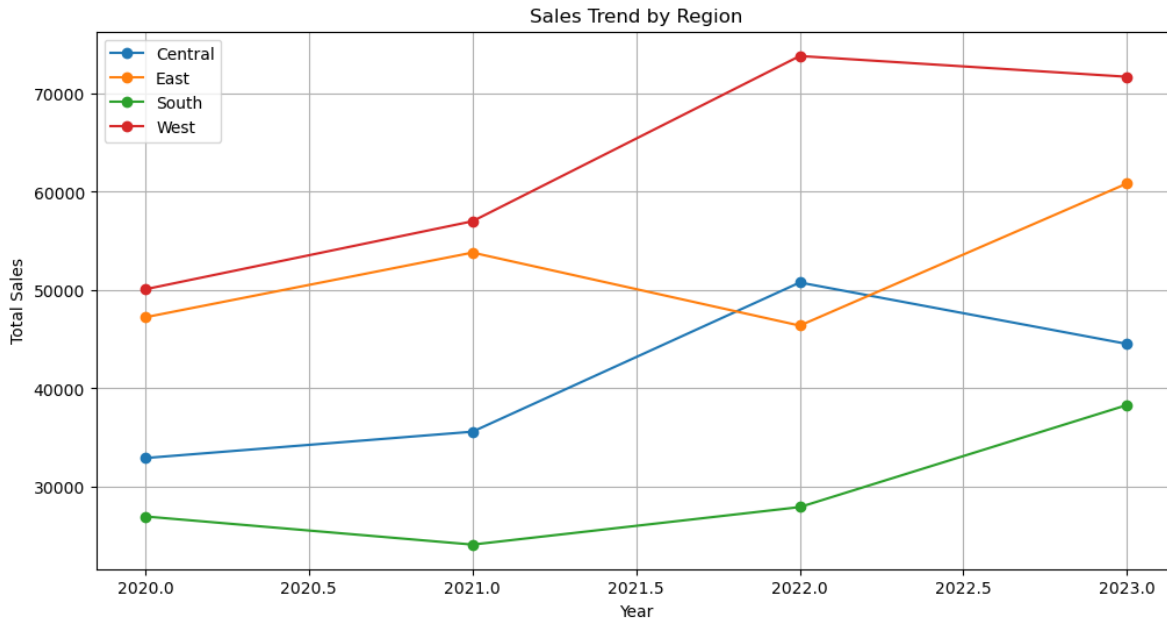
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Calculate the total profit and profit margin for each region

Rank regions by profitability and total sales volume

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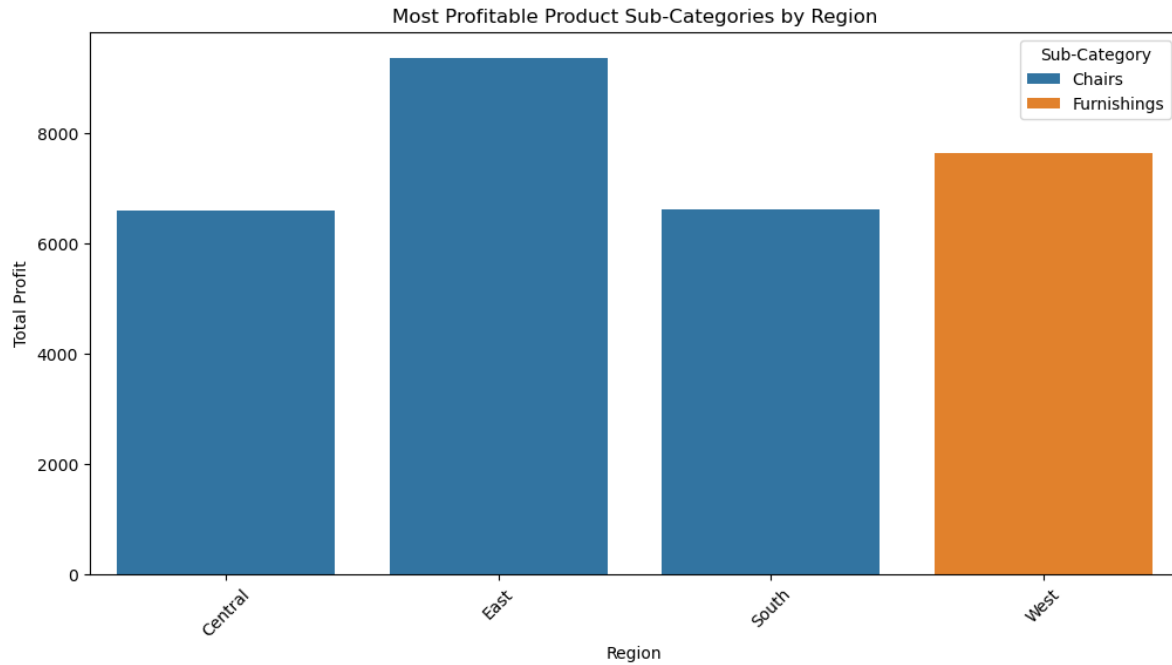
Potential Causes of Declining Sales:

	region	total_sales	avg_discount	avg_quantity	avg_profit
0	Central	163797.1638	0.297380	3.798337	-5.968918
1	East	208291.2040	0.154077	3.683860	5.068496
2	South	117298.6840	0.121536	3.888554	20.395199
3	West	252612.7435	0.131400	3.813296	16.272914

Analyze which product categories and sub-categories are most profitable in each region.

Most Profitable Product Sub-Categories in Each Region:

	region	sub_category	profit
1	Central	Chairs	6592.7221
5	East	Chairs	9357.7706
9	South	Chairs	6612.0893
14	West	Furnishings	7641.2704



Create a report that recommends regions for increased marketing investment based on profitability and sales growth potential.

Recommended Regions for Increased Marketing Investment:

	region	total_sales	avg_discount	avg_quantity	avg_profit \
2	South	117298.6840	0.121536	3.888554	20.395199
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0	Central	163797.1638	0.297380	3.798337	-5.968918
1	East	208291.2040	0.154077	3.683860	5.068496

	avg_sales_growth
2	0.141359
3	0.134852
0	0.128308
1	0.104405

— The end —