

## Retail Sales Data

### 1. Data Cleaning and Transformation:

Quantity	Price_Per_Unit	Total_Amount	Customer_Region	Customer_Region2	Customer_Region3
3	500	1500	North	North	NORTH
2	800	16400	South	South	SOUTH
1	3500	3500	East	East	EAST
4	12619	16400	West	West	WEST
2	2500	5000	North	North	NORTH
2	7000	14000	NULL	NULL	NULL
1	12619	16400	South	South	SOUTH
3	4500	13500	East	East	EAST
2	6000	16400	North	North	NORTH
2	1500	3000	West	West	WEST
5	12619	16400	East	East	EAST
1	2200	2200	South	South	SOUTH
2	12000	24000	West	West	WEST
2	900	16400	North	North	NORTH
3	1800	5400	East	East	EAST
2	1500	16400	South	South	SOUTH
1	8000	8000	West	West	WEST
2	5500	11000	North	North	NORTH
1	20000	20000	East	East	EAST
2	1200	16400	South	South	SOUTH
2	4000	8000	West	West	WEST
2	15000	16400	North	North	NORTH
1	2500	2500	East	East	EAST
3	12619	16400	South	South	SOUTH
1	40000	40000	West	West	WEST
5	200	1000	North	North	NORTH
1	55000	55000	East	East	EAST
2	50000	16400	South	South	SOUTH
2	12000	24000	West	West	WEST
1	70000	70000	North	North	NORTH

### 2. PivotTable Analysis:

Total_Amount	Customer_Region
1500	North
16400	South
3500	East
16400	West
5000	North
14000	NULL
16400	South
13500	East
16400	North
3000	West
16400	East
2200	South
24000	West
16400	North
5400	East
16400	South
8000	West
11000	North
20000	East
16400	South
8000	West
16400	North
2500	East
16400	South
40000	West
1000	North
55000	East
16400	South
24000	West
70000	North

Customer_Region	Sum of Total_Amount
East	116300
North	137700
NULL	14000
South	100600
West	123400
<b>Grand Total</b>	<b>492000</b>

### 3. VLOOKUP and INDEX/MATCH Operations:

Order_ID	Product	Category	Quantity	Price_Per_Unit	Total_Amount	Customer_Region	Order_Date
1001	Wireless Mouse	Electronics	3	500	1500	North	01-03-2025

1002	Yoga Mat	Fitness	2	800	16400	South	02-03-2025
1003	Coffee Maker	Kitchenware	1	3500	3500	East	03-03-2025
1004	Bluetooth Speaker	Electronics	4	12619	16400	West	04-03-2025
1005	Running Shoes	Footwear	2	2500	5000	North	05-03-2025
1006	Smart Watch	Electronics	2	7000	14000	NULL	06-03-2025
1007	Treadmill	Fitness	1	12619	16400	South	07-03-2025
1008	Air Fryer	Kitchenware	3	4500	13500	East	08-03-2025
1009	Vacuum Cleaner	Appliances	2	6000	16400	North	09-03-2025
1010	Dumbbells	Fitness	2	1500	3000	West	10-03-2025
1011	Laptop Stand	Electronics	5	12619	16400	East	11-03-2025
1012	Toaster	Kitchenware	1	2200	2200	South	12-03-2025
1013	Air Purifier	Appliances	2	12000	24000	West	13-03-2025
1014	Resistance Bands	Fitness	2	900	16400	North	14-03-2025
1015	Hair Dryer	Appliances	3	1800	5400	East	15-03-2025
1016	Electric Kettle	Kitchenware	2	1500	16400	South	16-03-2025
1017	Office Chair	Furniture	1	8000	8000	West	17-03-2025
1018	Adjustable Dumbbells	Fitness	2	5500	11000	North	18-03-2025
1019	Soundbar	Electronics	1	20000	20000	East	19-03-2025
1020	Yoga Block	Fitness	2	1200	16400	South	20-03-2025
1021	Rice Cooker	Kitchenware	2	4000	8000	West	21-03-2025
1022	Monitor	Electronics	2	15000	16400	North	22-03-2025
1023	Iron	Appliances	1	2500	2500	East	23-03-2025
1024	Resistance Bands	Fitness	3	12619	16400	South	24-03-2025
1025	Smart TV	Electronics	1	40000	40000	West	25-03-2025
1026	Water Bottle	Kitchenware	5	200	1000	North	26-03-2025
1027	Sofa Set	Furniture	1	55000	55000	East	27-03-2025
1028	Treadmill	Fitness	2	50000	16400	South	28-03-2025
1029	Microwave Oven	Appliances	2	12000	24000	West	29-03-2025
1030	Laptop	Electronics	1	70000	70000	North	30-03-2025

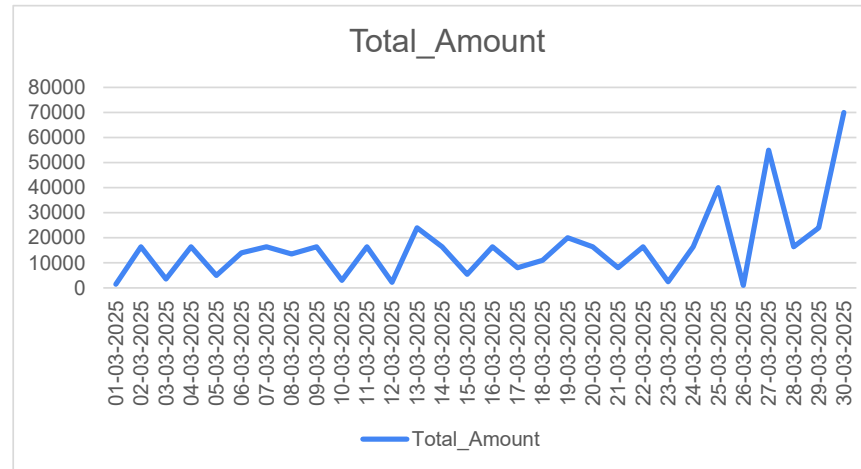
**VLOOKUP**  
**INDEX/MATCH**  
**DIFFERENCE**

**5400**  
**Furniture**  
 vlookup can search only from left to right, but index/match can search in both the directions .

#### 4. Trend Analysis: A. Create a Line Chart: B. Analyze the Trend:

Order_Date	Total_Amount
01-03-2025	1500

02-03-2025	16400
03-03-2025	3500
04-03-2025	16400
05-03-2025	5000
06-03-2025	14000
07-03-2025	16400
08-03-2025	13500
09-03-2025	16400
10-03-2025	3000
11-03-2025	16400
12-03-2025	2200
13-03-2025	24000
14-03-2025	16400
15-03-2025	5400
16-03-2025	16400
17-03-2025	8000
18-03-2025	11000
19-03-2025	20000
20-03-2025	16400
21-03-2025	8000
22-03-2025	16400
23-03-2025	2500
24-03-2025	16400
25-03-2025	40000
26-03-2025	1000
27-03-2025	55000
28-03-2025	16400
29-03-2025	24000
30-03-2025	70000



From the chart , it is clear that revenue is gradually increasing . This indicates positive sales growth .

#### 5. Profit Margin Calculation:

Order_ID	Product	Category	Quantity	Price_Per_Unit	Total_Amount	Customer_Region	Order_Date	Profit margin	Highest profit
1030	Laptop	Electronics	1	70000	70000	North	30-03-2025	28000	Laptop

1027	Sofa Set	Furniture	1	55000	55000	East	27-03-2025	22000	Sofa Set
1025	Smart TV	Electronics	1	40000	40000	West	25-03-2025	16000	Smart TV
1002	Yoga Mat	Fitness	2	800	16400	South	02-03-2025	15440	
1014	Resistance Bands	Fitness	2	900	16400	North	14-03-2025	15320	
1020	Yoga Block	Fitness	2	1200	16400	South	20-03-2025	14960	
1016	Electric Kettle	Kitchenware	2	1500	16400	South	16-03-2025	14600	
1013	Air Purifier	Appliances	2	12000	24000	West	13-03-2025	9600	
1029	Microwave Oven	Appliances	2	12000	24000	West	29-03-2025	9600	
1009	Vacuum Cleaner	Appliances	2	6000	16400	North	09-03-2025	9200	
1007	Treadmill	Fitness	1	12619	16400	South	07-03-2025	8828.6	
1019	Soundbar	Electronics	1	20000	20000	East	19-03-2025	8000	
1006	Smart Watch	Electronics	2	7000	14000	NULL	06-03-2025	5600	
1008	Air Fryer	Kitchenware	3	4500	13500	East	08-03-2025	5400	
1018	Adjustable Dumbbells	Fitness	2	5500	11000	North	18-03-2025	4400	
1017	Office Chair	Furniture	1	8000	8000	West	17-03-2025	3200	
1021	Rice Cooker	Kitchenware	2	4000	8000	West	21-03-2025	3200	
1015	Hair Dryer	Appliances	3	1800	5400	East	15-03-2025	2160	
1005	Running Shoes	Footwear	2	2500	5000	North	05-03-2025	2000	
1003	Coffee Maker	Kitchenware	1	3500	3500	East	03-03-2025	1400	
1010	Dumbbells	Fitness	2	1500	3000	West	10-03-2025	1200	
1023	Iron	Appliances	1	2500	2500	East	23-03-2025	1000	
1012	Toaster	Kitchenware	1	2200	2200	South	12-03-2025	880	
1001	Wireless Mouse	Electronics	3	500	1500	North	01-03-2025	600	
1026	Water Bottle	Kitchenware	5	200	1000	North	26-03-2025	400	
1022	Monitor	Electronics	2	15000	16400	North	22-03-2025	-1600	
1024	Resistance Bands	Fitness	3	12619	16400	South	24-03-2025	-6314.2	
1004	Bluetooth Speaker	Electronics	4	12619	16400	West	04-03-2025	-13885.6	
1011	Laptop Stand	Electronics	5	12619	16400	East	11-03-2025	-21457	
1028	Treadmill	Fitness	2	50000	16400	South	28-03-2025	-43600	