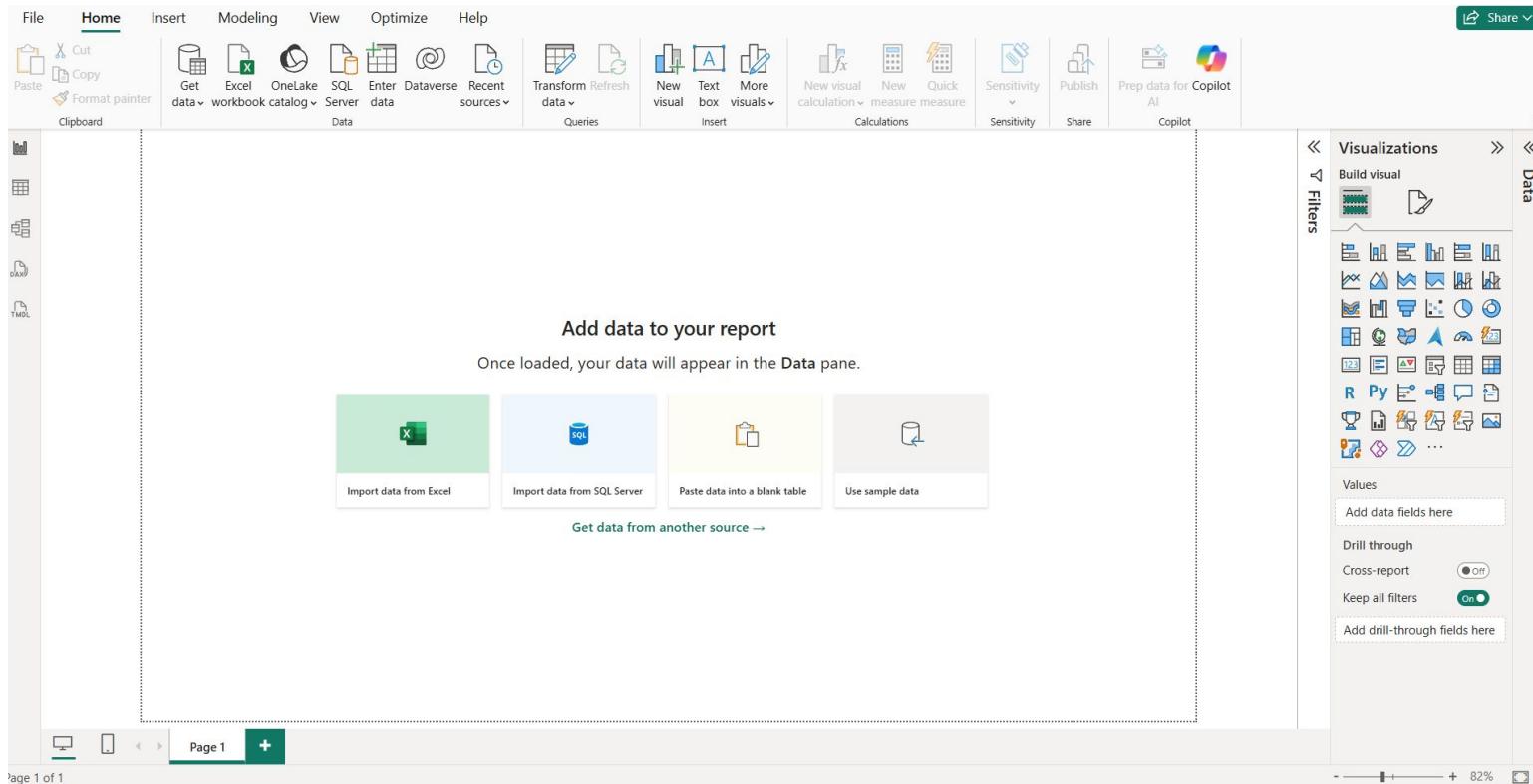


# Introduction to Business Intelligence & Power BI

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IS 107 - Business Intelligence

# PART 1 | Step 1: Open Power BI Desktop



# PART 1 | Step 2: Load the Dataset

The screenshot shows the Microsoft Power BI Data Editor interface. A central window displays a preview of a CSV file named "BI\_LW1\_Basic\_Sales\_Data.csv". The preview shows a table with columns: Date, Product, Category, Region, and Sales. The data consists of 20 rows of sales information for various products across different regions. The Power BI ribbon is visible at the top, and the right side features the "Visualizations" pane with various chart and report icons.

**BI\_LW1\_Basic\_Sales\_Data.csv**

File Origin: 1252: Western European (Windows) Delimiter: Comma Data Type Detection: Based on first 200 rows

Date	Product	Category	Region	Sales
01/01/2024	Product A	Electronics	East	175
02/01/2024	Product B	Furniture	South	378
03/01/2024	Product A	Electronics	North	842
04/01/2024	Product E	Furniture	North	582
05/01/2024	Product A	Electronics	South	245
06/01/2024	Product B	Furniture	North	667
07/01/2024	Product E	Furniture	West	353
08/01/2024	Product B	Furniture	East	609
09/01/2024	Product A	Electronics	West	313
10/01/2024	Product C	Office Supplies	South	434
11/01/2024	Product B	Furniture	North	494
12/01/2024	Product A	Electronics	North	539
13/01/2024	Product C	Office Supplies	East	502
14/01/2024	Product A	Electronics	West	897
15/01/2024	Product E	Furniture	West	277
16/01/2024	Product A	Electronics	East	715
17/01/2024	Product E	Furniture	South	520
18/01/2024	Product A	Electronics	South	196
19/01/2024	Product C	Office Supplies	South	231
20/01/2024	Product A	Electronics	East	539

The data in the preview has been truncated due to size limits.

Extract Table Using Examples Load Transform Data Cancel

Visualizations

Filters

Values

Add data fields here

Drill through

Cross-report  off

Keep all filters  On

Add drill-through fields here

Page 1 1 + 82%

# PART 1 | Step 3: Verify Data in Data View

Screenshot of Power BI Data View showing a table of sales data.

The table has the following columns:

- Date
- Product
- Category
- Region
- Sales

The data shows sales for Product D across three regions (East, West, North) from January to July 2024. The Sales values range from 602 to 833.

Date	Product	Category	Region	Sales
Sunday, 21 January 2024	Product D	Electronics	East	800
Friday, 2 February 2024	Product D	Electronics	West	808
Sunday, 11 February 2024	Product D	Electronics	West	760
Thursday, 15 February 2024	Product D	Electronics	West	311
Sunday, 3 March 2024	Product D	Electronics	West	679
Saturday, 16 March 2024	Product D	Electronics	West	512
Sunday, 17 March 2024	Product D	Electronics	North	628
Tuesday, 26 March 2024	Product D	Electronics	West	647
Friday, 29 March 2024	Product D	Electronics	West	421
Saturday, 13 April 2024	Product D	Electronics	North	473
Friday, 19 April 2024	Product D	Electronics	East	706
Sunday, 5 May 2024	Product D	Electronics	North	280
Sunday, 12 May 2024	Product D	Electronics	South	835
Tuesday, 14 May 2024	Product D	Electronics	West	189
Saturday, 18 May 2024	Product D	Electronics	East	486
Saturday, 25 May 2024	Product D	Electronics	North	770
Sunday, 26 May 2024	Product D	Electronics	South	740
Tuesday, 4 June 2024	Product D	Electronics	West	830
Thursday, 6 June 2024	Product D	Electronics	North	711
Saturday, 8 June 2024	Product D	Electronics	East	743
Sunday, 9 June 2024	Product D	Electronics	West	602
Sunday, 16 June 2024	Product D	Electronics	North	775
Monday, 17 June 2024	Product D	Electronics	South	574
Tuesday, 18 June 2024	Product D	Electronics	West	656
Monday, 24 June 2024	Product D	Electronics	East	833
Tuesday, 25 June 2024	Product D	Electronics	West	777
Thursday, 27 June 2024	Product D	Electronics	East	610
Thursday, 4 July 2024	Product D	Electronics	South	860

Table: BI\_LW1\_Basic\_Sales\_Data (400 rows)

## PART 1 | Step 3: Verify Data in Data View

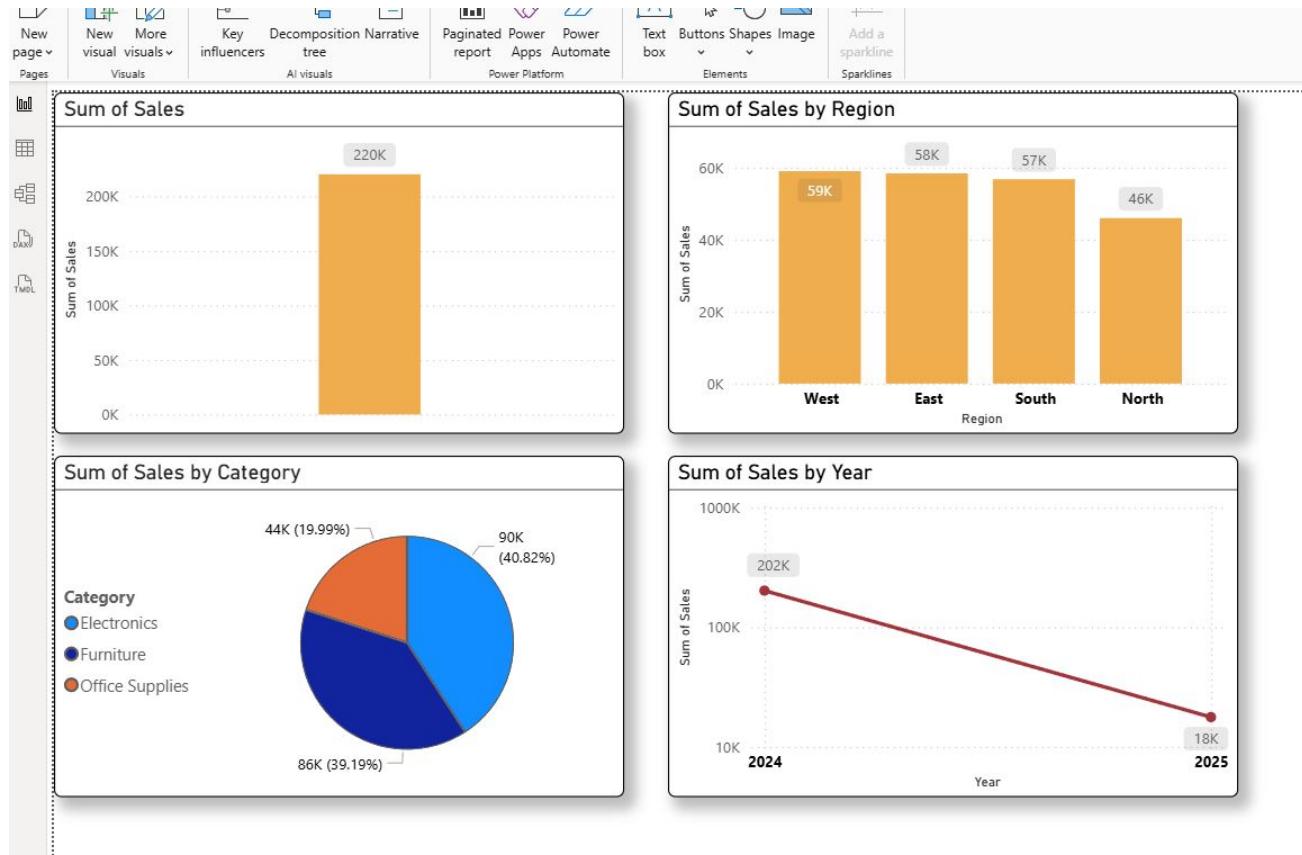
### Question:

- Are all columns visible?
- Is “Date” formatted as Date?
- Is “Sales” formatted as Decimal Number?

### Answers:

- Yes, all columns are visible in the Data View.
- Yes, all data in date are formatted as date
- No, the sales is not formatted as decimal, it was formatted as whole number

## PART 2 | Report View



## PART 2 | Data View

File Home Help **Table tools** Share ▾

Name BI\_LW1\_Basic\_Sales...  
Manage relationships  
New measure column  
New table  
Mark as date table  
Calendars

Date Product Category Region Sales

Date	Product	Category	Region	Sales
Sunday, 21 January 2024	Product D	Electronics	East	800
Friday, 2 February 2024	Product D	Electronics	West	808
Sunday, 11 February 2024	Product D	Electronics	West	760
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Thursday, 4 July 2024	Product D	Electronics	South	860

Table: BI\_LW1\_Basic\_Sales\_Data (400 rows)

## PART 2 | Report View

The screenshot shows the Microsoft Power BI Report View interface. The top navigation bar includes File, Home (selected), Help, and a Share button. The Home ribbon contains sections for Clipboard, Data, Queries, Relationships, Calculations, Parameters, and Q&A.

A context menu is open over a card titled "BI\_LW1\_Basic\_Sales...". The menu items include Category, Date, Product, Region, and Sales. A "Collapse" button is also present at the bottom of the menu.

The main workspace displays a "Properties" pane on the right with the following settings:

- Cards:
  - Show the database in the header when applicable: No (radio button)
  - Show related fields when card is collapsed: Yes (radio button)
  - Pin related fields to top of card: No (radio button)

The "Tables" tab is selected in the Model pane, showing a search bar and a result for "BI\_LW1\_Basic\_Sales\_Data".

At the bottom, there are buttons for "All tables" and a green "+" button, along with standard window control buttons.

# PART 3 | Step 1: Quick Visualization

The screenshot shows the Microsoft Power BI desktop application interface. The ribbon menu is visible at the top, with the "Home" tab selected. The main workspace displays a single bar chart titled "Sum of Sales". The Y-axis is labeled "Sum of Sales" and has major ticks at "0.0M", "0.1M", and "0.2M". A single blue bar reaches up to the "0.2M" mark. The X-axis is unlabeled. To the right of the chart, the "Visualizations" pane is open, showing various chart and report templates. The "Data" pane is also visible, displaying the data source "BL1W1\_Basic\_Sales\_D..." with a selected table named "Sales". The bottom navigation bar includes icons for "Page 1" and a green "+" button.

File Home Insert Modeling View Optimize Help Format Data / Drill

Cut Copy Format painter Paste Get data workbook catalog OneLake SQL Server Enter data Recent sources Transform Refresh data New visual Text box More visuals Insert New visual calculation New measure measure Calculations Sensitivity Share Publish Prep data for Copilot AI Copilot

Clipboard Data

Sum of Sales

Sum of Sales

0.2M  
0.1M  
0.0M

Filters

Build visual

Visualizations

Data

Search

BL1W1\_Basic\_Sales\_D...

Category

Date

Product

Region

Sales

Filters on this visual

Sum of Sales  
is (All)

Add data fields here

Filters on this page

Add data fields here

Filters on all pages

Add data fields here

X-axis

Add data fields here

Y-axis

Sum of Sales

Legend

Add data fields here

Small multiples

Add data fields here

Tooltips

Page 1 +

Page 1 of 1

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## PART 3 | Step 1: Quick Visualization

### Question:

- What type of chart was created?
- What does it show?

### Answers:

- Cluttered column chart
- It shows the sum of sales

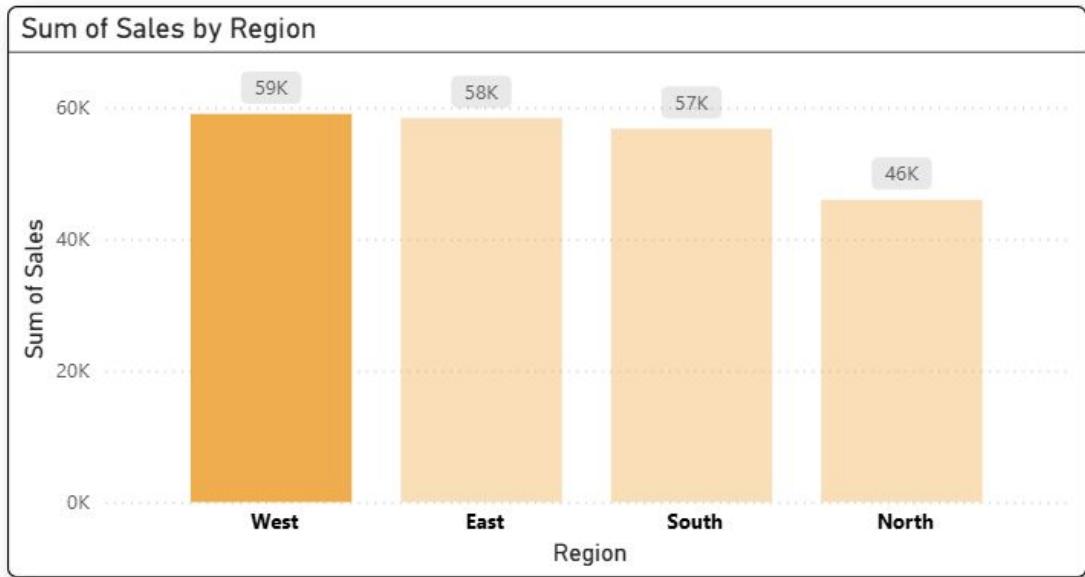
## PART 3 | Step 2: Create a Sales by Region Chart

### Question:

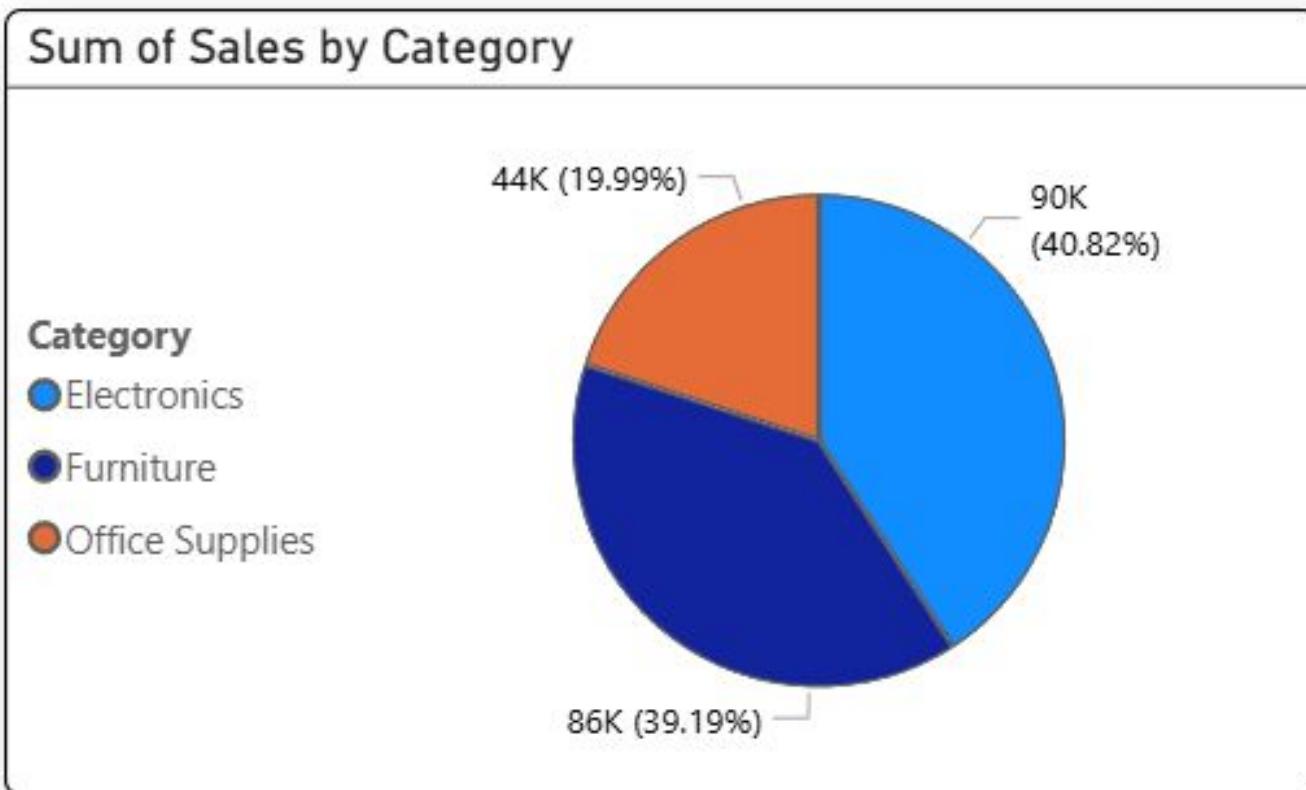
- Which region has highest sales?

### Answer:

- The region that is highest us the region West



## PART 3 | Step 3: Sales by Category



## PART 3 | Step 3: Sales by Category

### Questions:

- Which category dominates?
- Is the distribution balanced?

### Answers:

- The Electronics category dominates.
- The distribution is moderately balanced between the two larger categories, but overall it is not fully balanced because Office Supplies has a much smaller share.

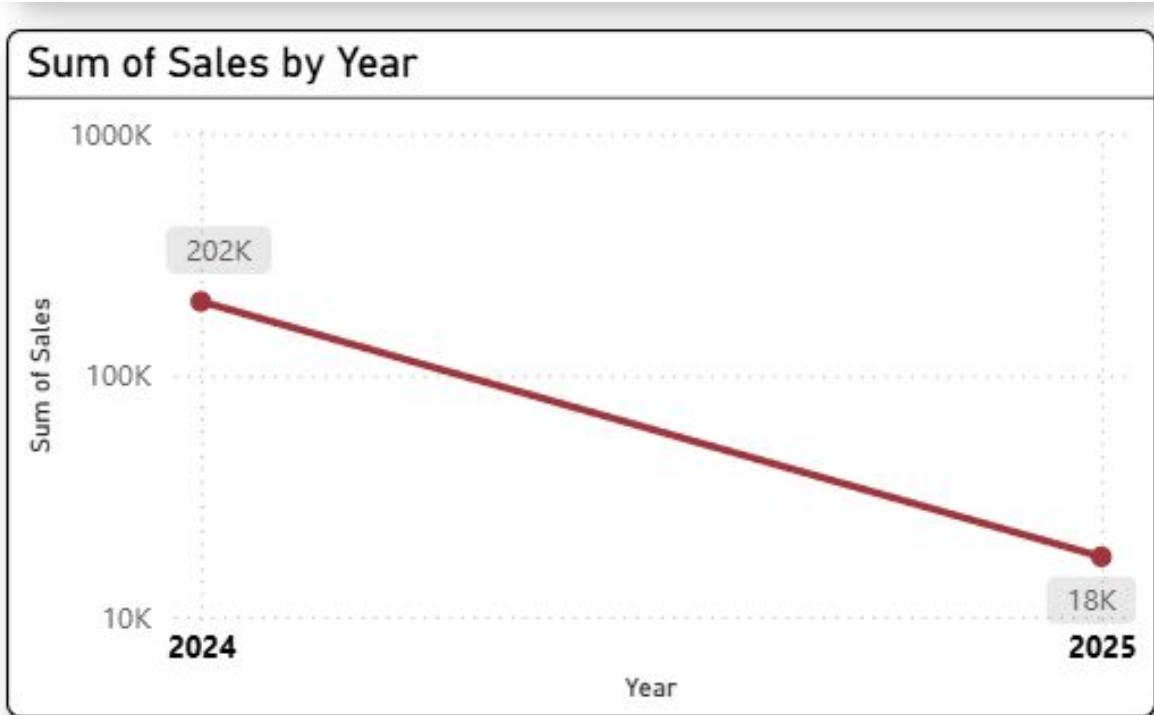
## PART 3 | Step 4: Sales Over Time

### Questions:

- Is there growth?
- Any noticeable trend?

### Answers:

- No, there is no growth
- Yes, there is a downward trend



## PART 4 | Basic Data Insight Interpretation

### Questions:

- Which region contributes the most revenue?
- Which product category performs best?
- Are sales consistent across dates?
- What business recommendation can you suggest?

### Answers:

- The West region contributes the most revenue.
- The Electronics category performs best.
- No, sales are not consistent across dates.
- Investigate the major drop in 2025 sales.

# LABORATORY QUESTIONS

## Part A – Technical Questions

- What are the five columns in the dataset?
- What data type is assigned to the “Sales” column?
- Which Power BI view allows you to see raw data?
- What chart type is best for showing trends over time?
- What aggregation is automatically applied to Sales?

### Answers:

- The five columns in the dataset are Date, Product, Category, Region, and Sales.
- The data type assigned to the Sales column is Decimal Number.
- The Table (Data) View allows you to see raw data.
- A Line Chart is best for showing trends over time.
- The Sum aggregation is automatically applied to Sales.

## Part B – Analytical Questions

- Which region has the highest total sales?
- Which category has the lowest performance?
- Are sales increasing, decreasing, or stable?
- If you were a manager, which region would you prioritize?
- Provide one actionable recommendation based on the data.

### Answers:

- The West region has the highest total sales.
- Office Supplies has the lowest performance among the categories
- Sales are decreasing.
- If I were the manager, I would prioritize the North region because it has the lowest sales.
- Launch a targeted sales campaign in the North region to improve performance.

## Enhancement Section | Task 1: Add a Card Visualization

**Question:**

What is the total sales amount?

**Answer:**

The total sales amount is 220,000.



**220K**  
**Total Sales**

## Enhancement Section | Task 2: Add Slicer

### Question:

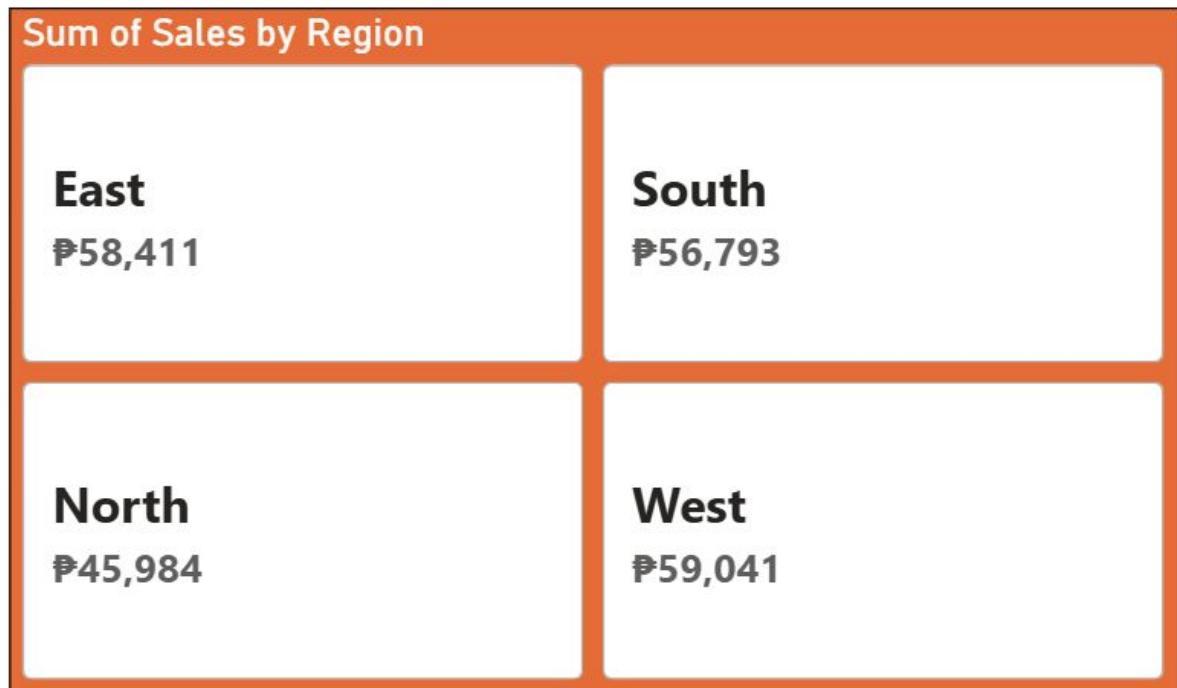
What happens to other visuals when you click a region?

Why is filtering important in BI?

### Answer:

When you click a region, all other visuals change to show data only for that region.

Filtering helps you focus on specific data so you can understand it faster and make better decisions.



## Enhancement Section | Task 3: Sort Sales

### Question:

Does sorting improve readability?

Why?

### Answer:

Yes, sorting makes it easier to compare values quickly. Because it arranges the data from highest to lowest (or lowest to highest), so you can easily see the top and bottom performers.



## Enhancement Section | Task 4: Identify Outliers

### **Questions:**

Which region is significantly higher or lower?

What might explain that difference?

### **Answers:**

The North region is lower compared to the others. West, East, and South are all close to 60K and performing similarly.

The North may have fewer customers, stronger competitors, or fewer resources compared to the other regions.

## INSIGHT SUMMARY

- The West region achieves the highest revenue among all regions.
- Electronics is the best-performing product category.
- Sales show a downward trend from 2024 to 2025.
- Office Supplies consistently underperform compared to other categories.
- The North region needs focused strategies to boost its sales performance.