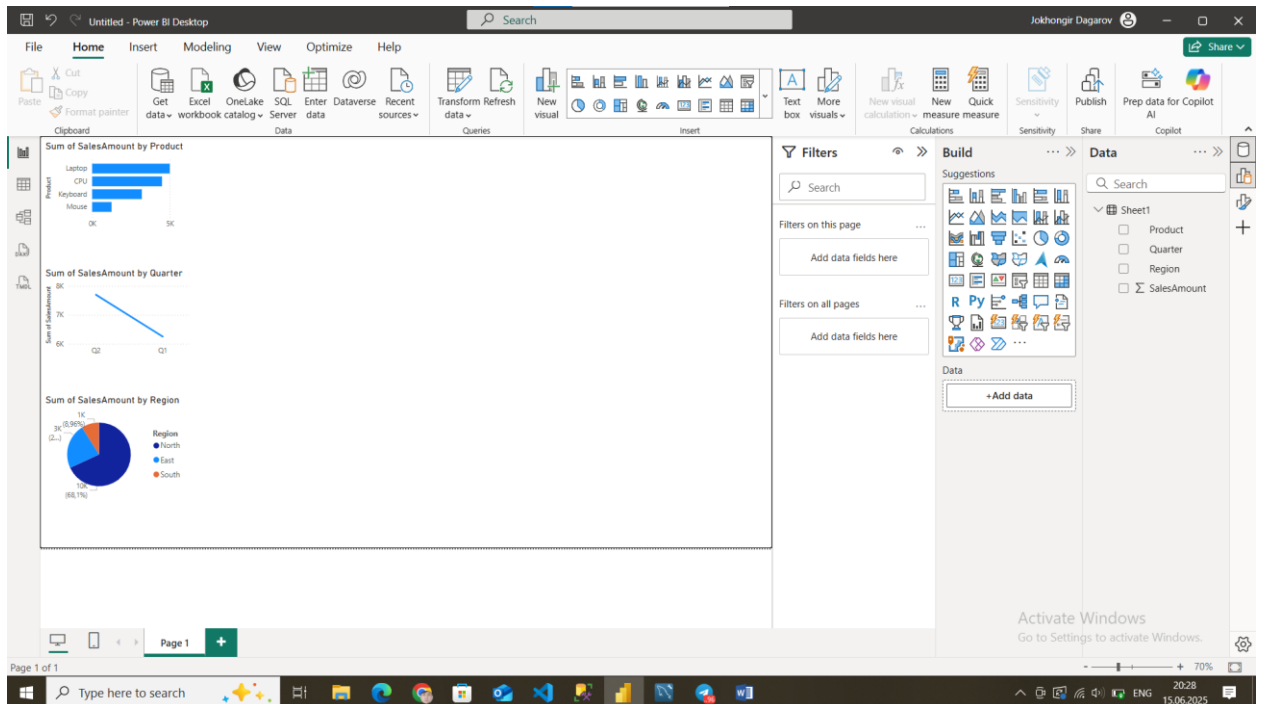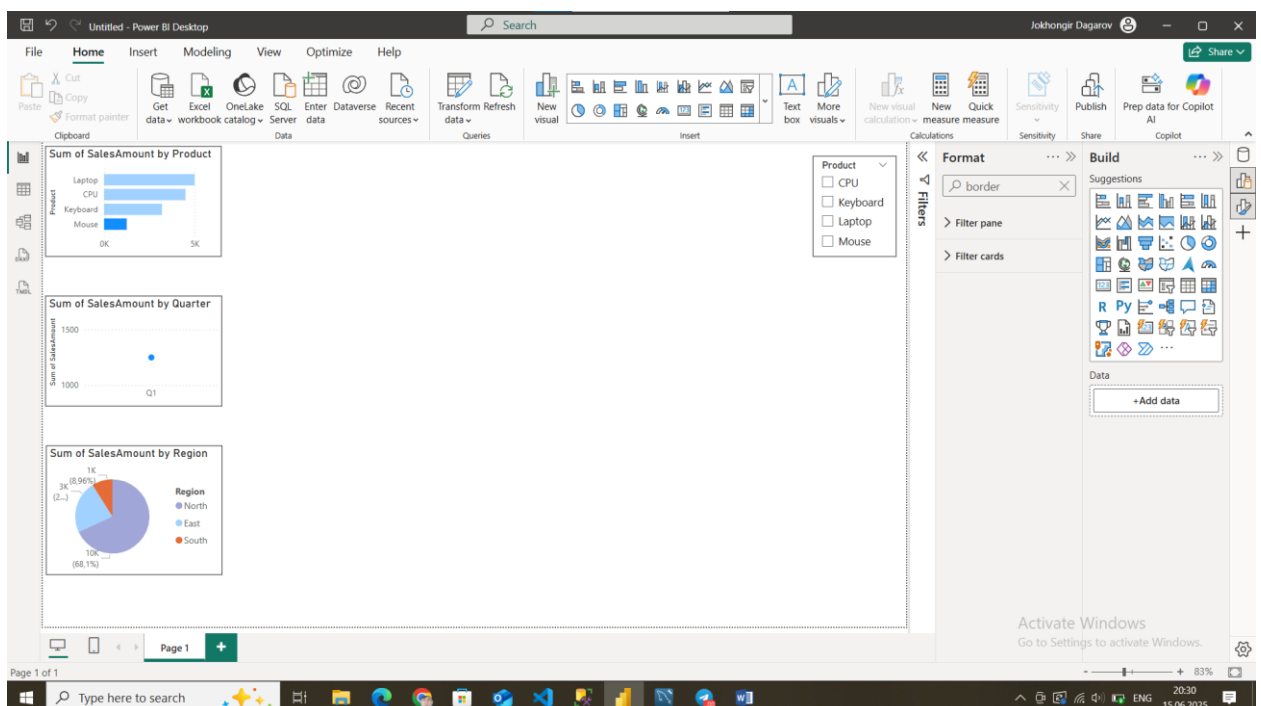### 1.Name three types of visuals you can create in Power BI:

1. **Bar Chart**
2. **Line Chart**
3. **Pie Chart**

2. How do you add a slicer to a report?

1. In **Power BI Desktop**, go to the **Visualizations pane**.
2. Click on the **Slicer** icon (looks like a filter/funnel).
3. Drag a field to the **Field** well of the slicer.
4. It will now act as a filter for all visuals on that page.

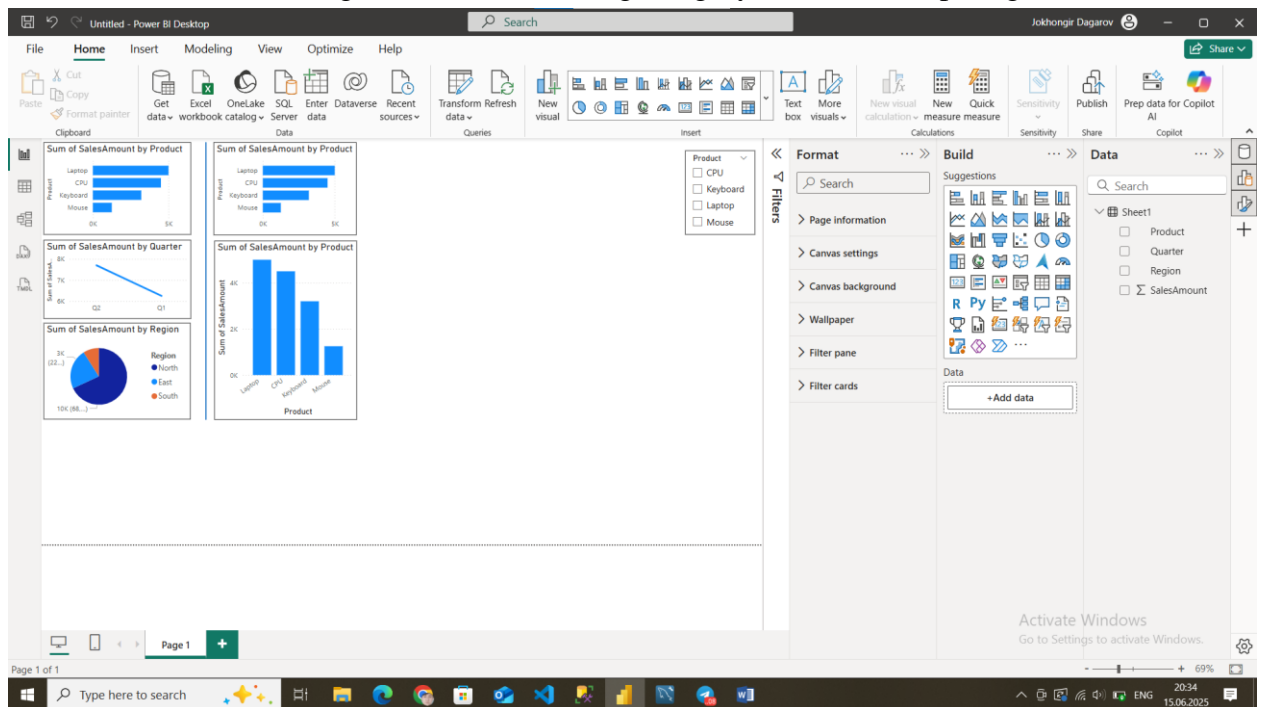# 3. What is the difference between a bar chart and a column chart?

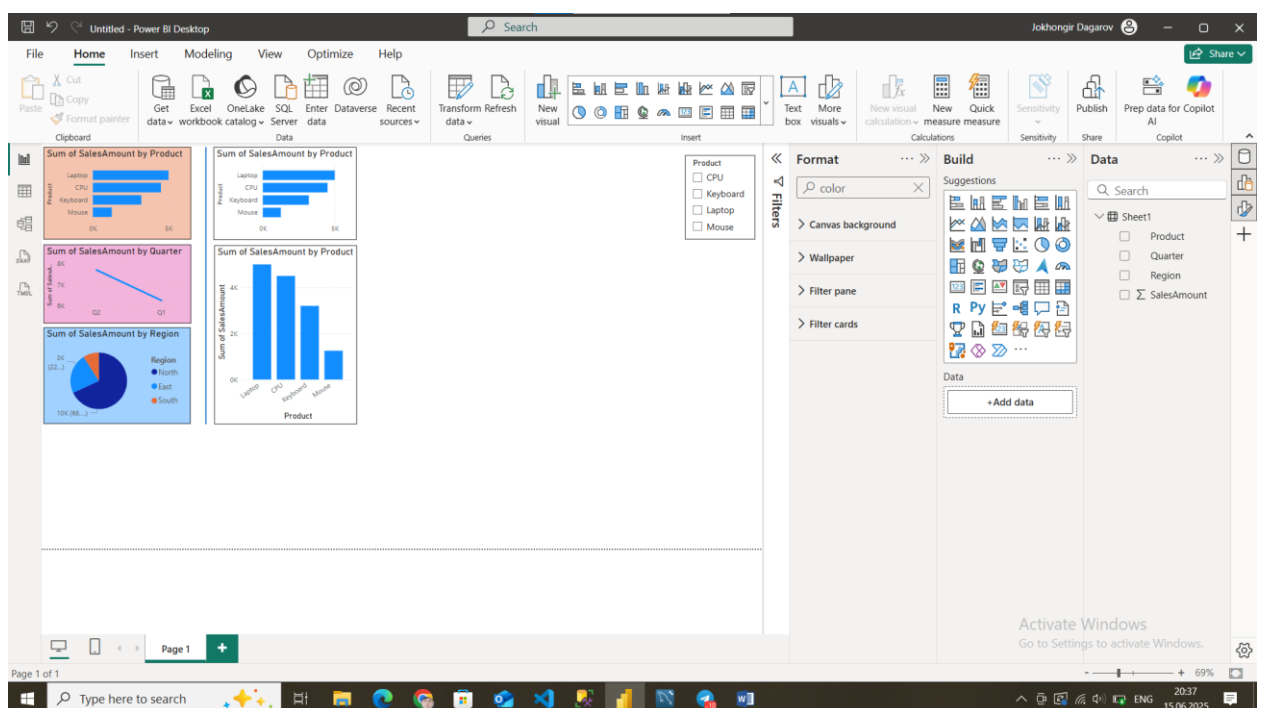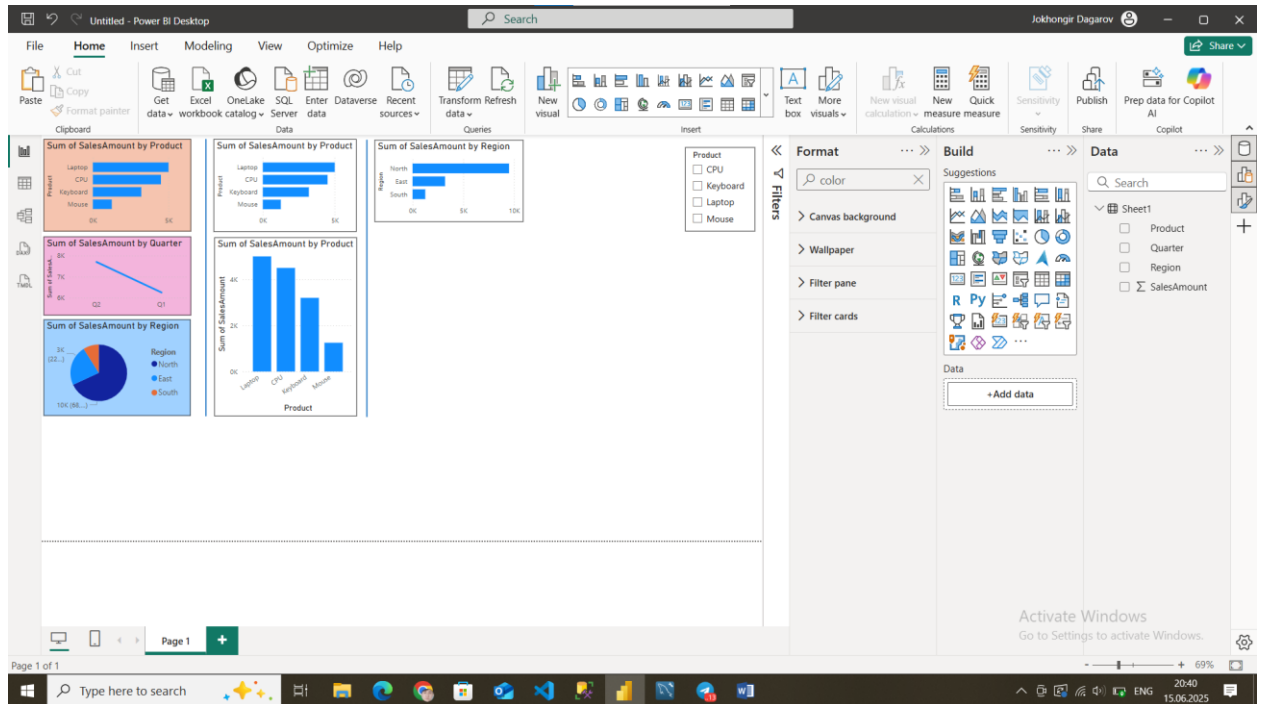| Column Chart	Bar Chart
Displays data using **vertical bars**	Displays data using **horizontal bars**
Good for time-based categories	Good for long category names or comparing values

4.How do you change the color of a visual background?

1. Select the visual.
2. In the **Visualizations pane**, click on the **Format (paint roller)** icon.
3. Expand **General → Effects → Background**.
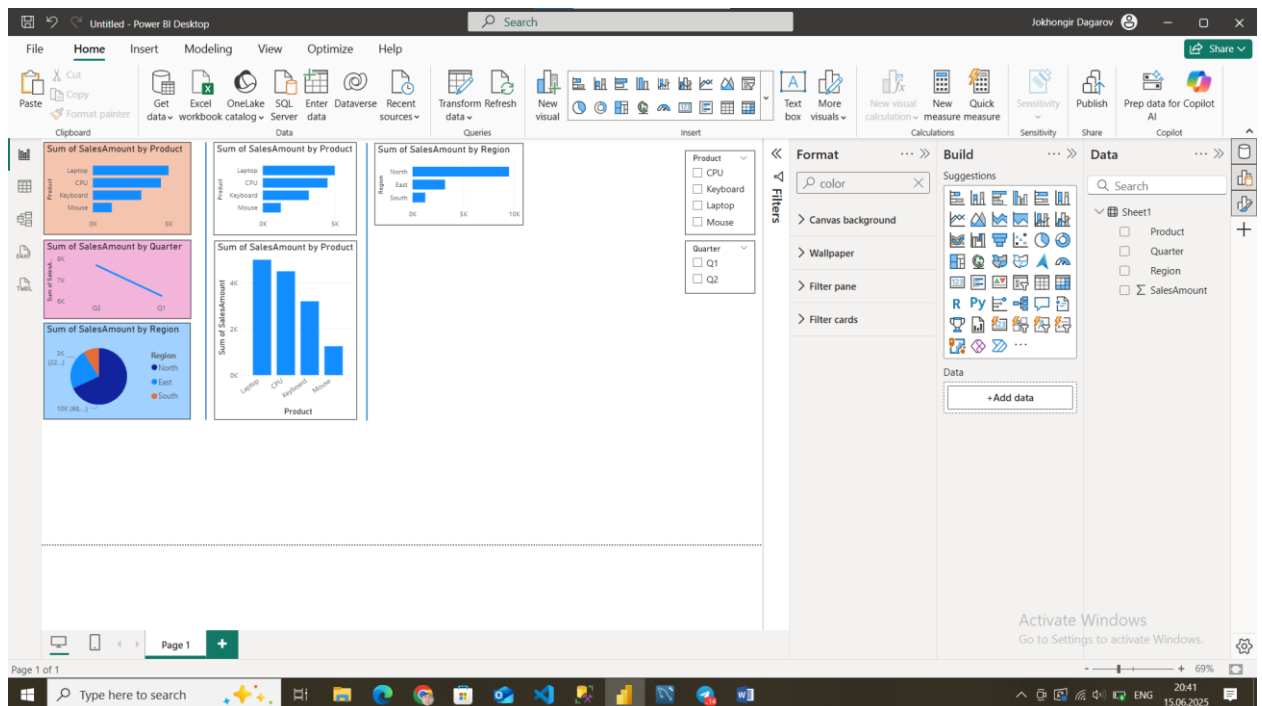4. Toggle **On** and choose your desired color.

5. What does "drill-down" mean in a visual?

It allows users to **click into a data point to view more detailed levels of data**.
Example: from **Region → Product → Quarter** by using a hierarchy.
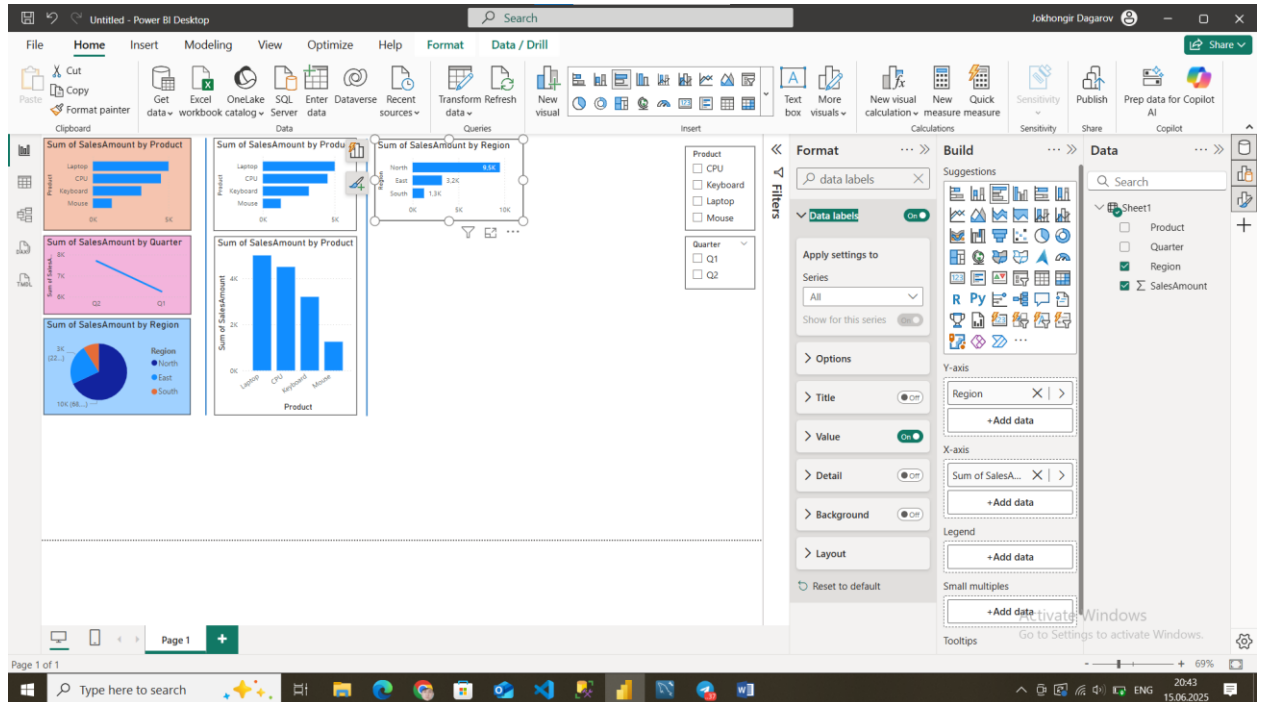
6. Create a bar chart showing `SalesAmount` by `Region`:
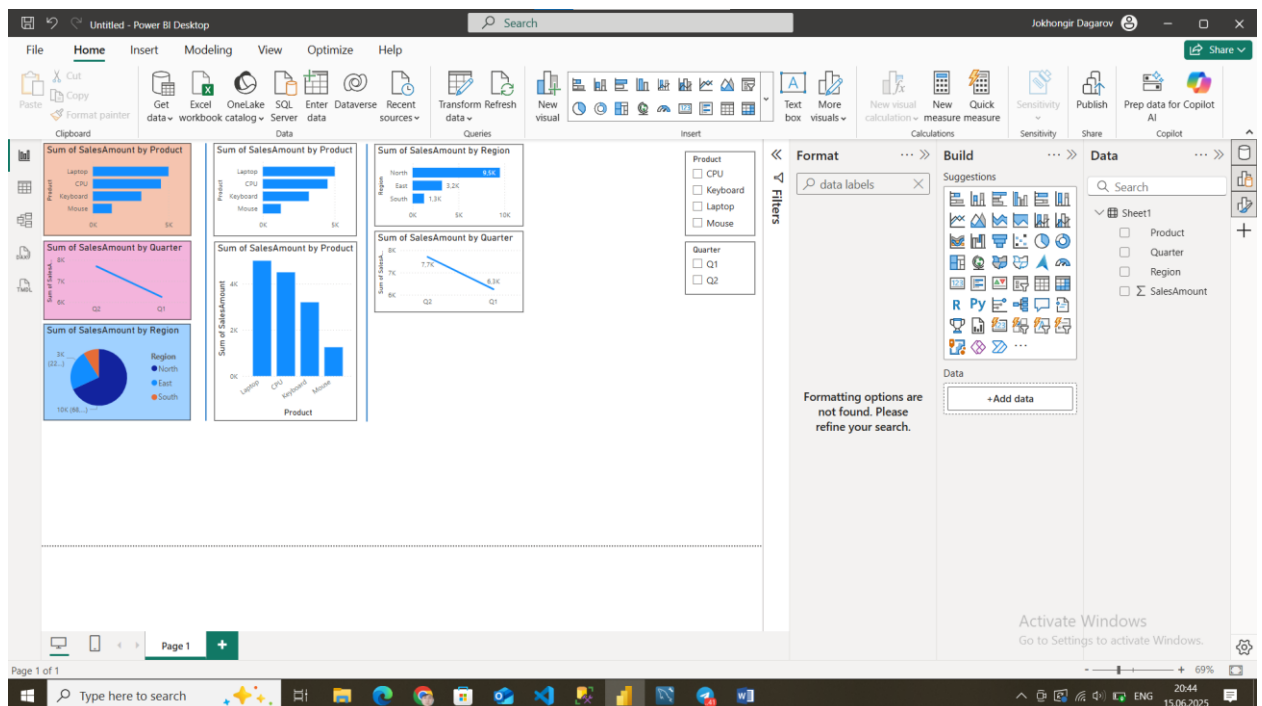

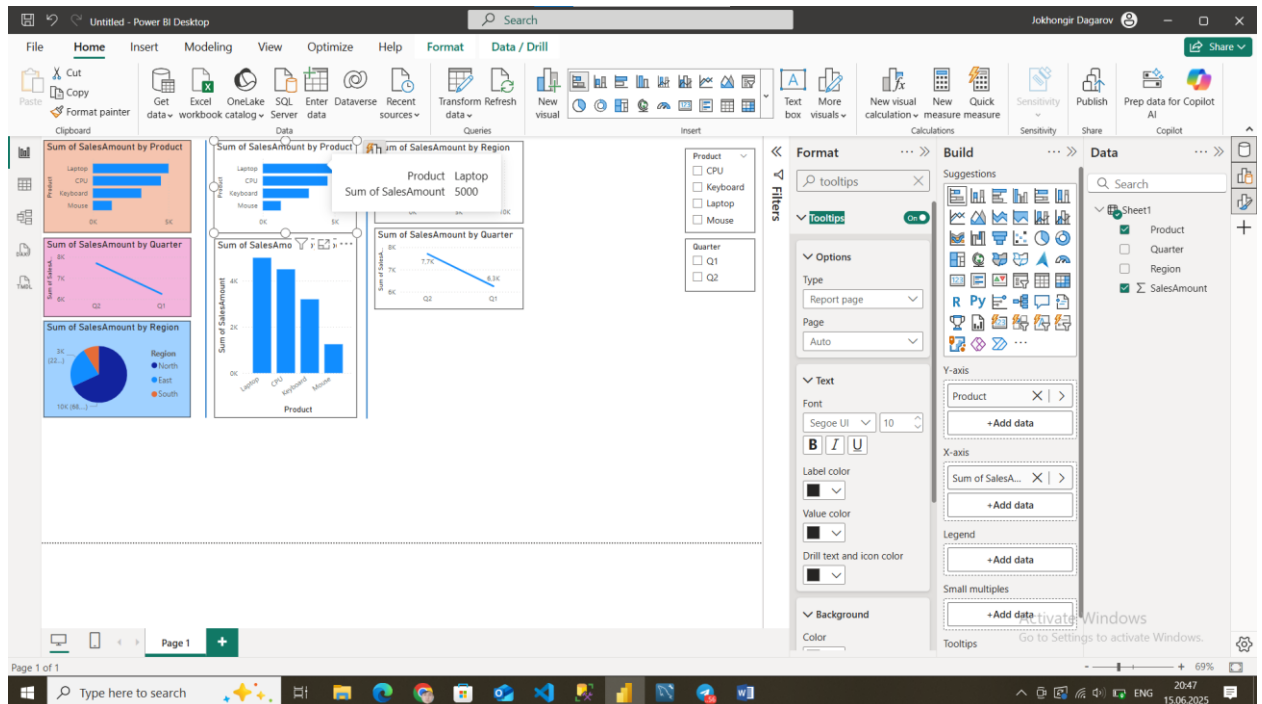## 7. Add a slicer for `Quarter` to filter all visuals on the page:

8. Format the bar chart to show data labels:

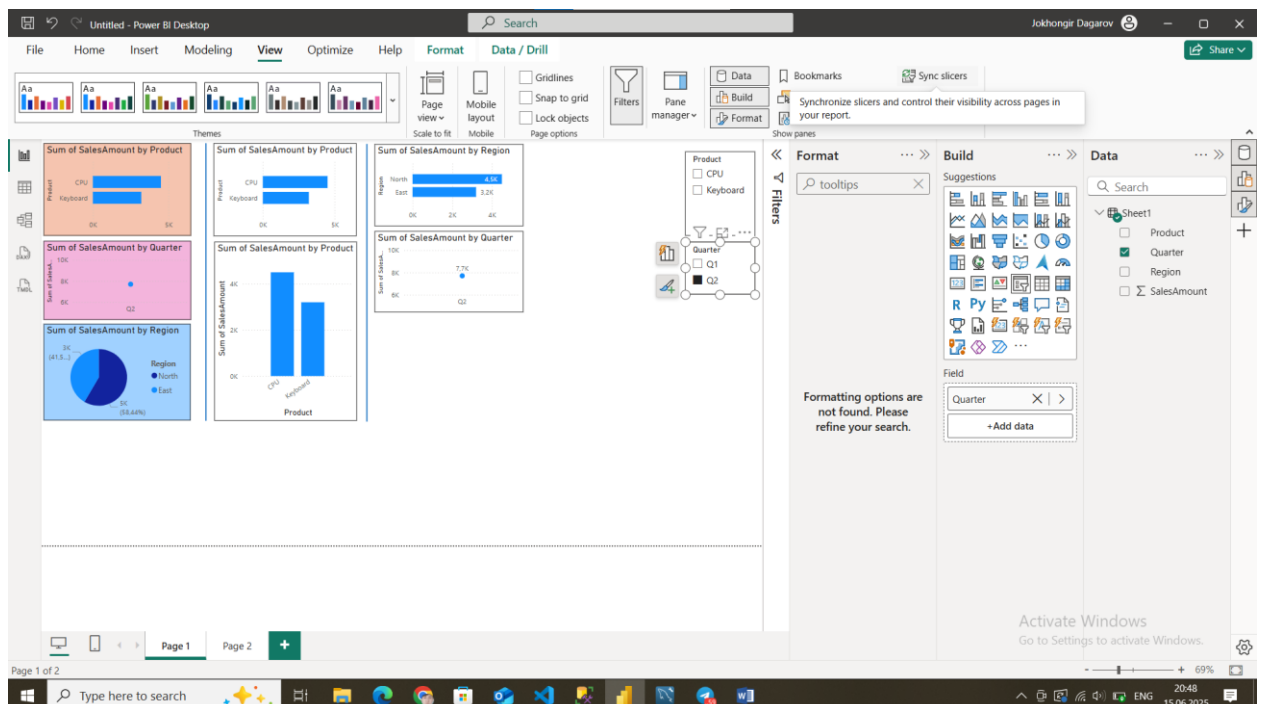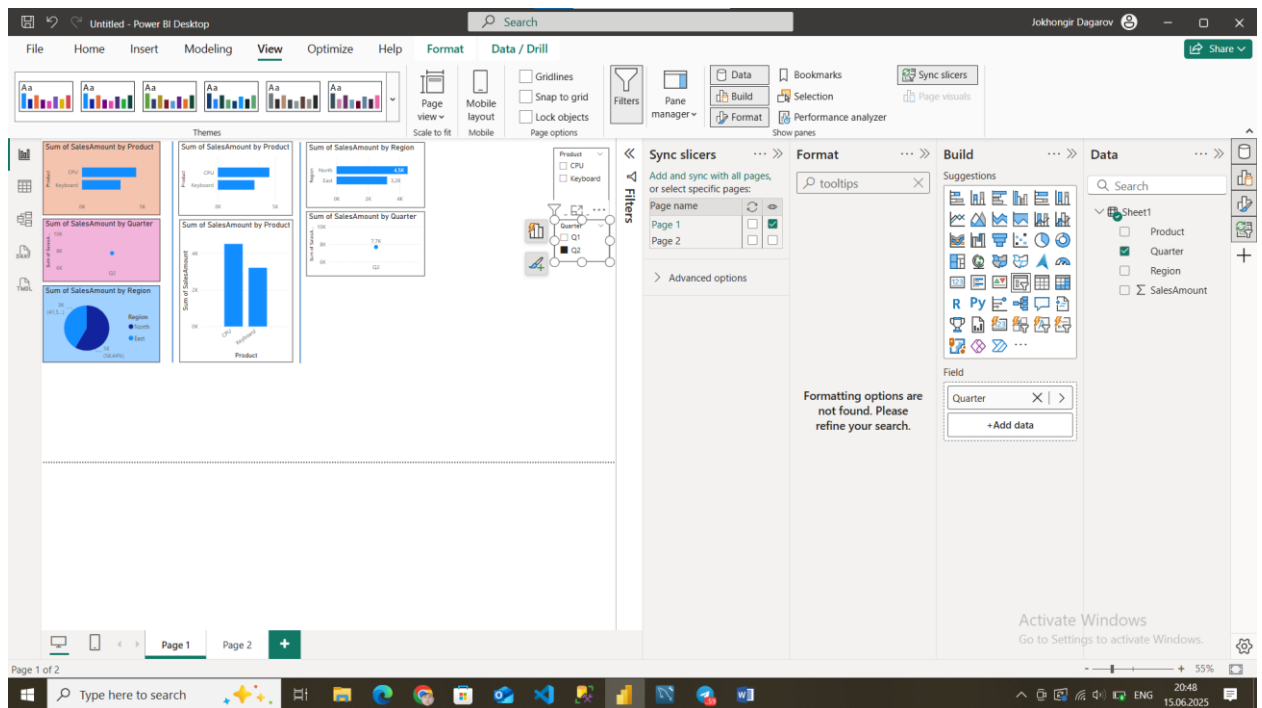## 9. Use a line chart to show `SalesAmount` trends over `Quarter`:

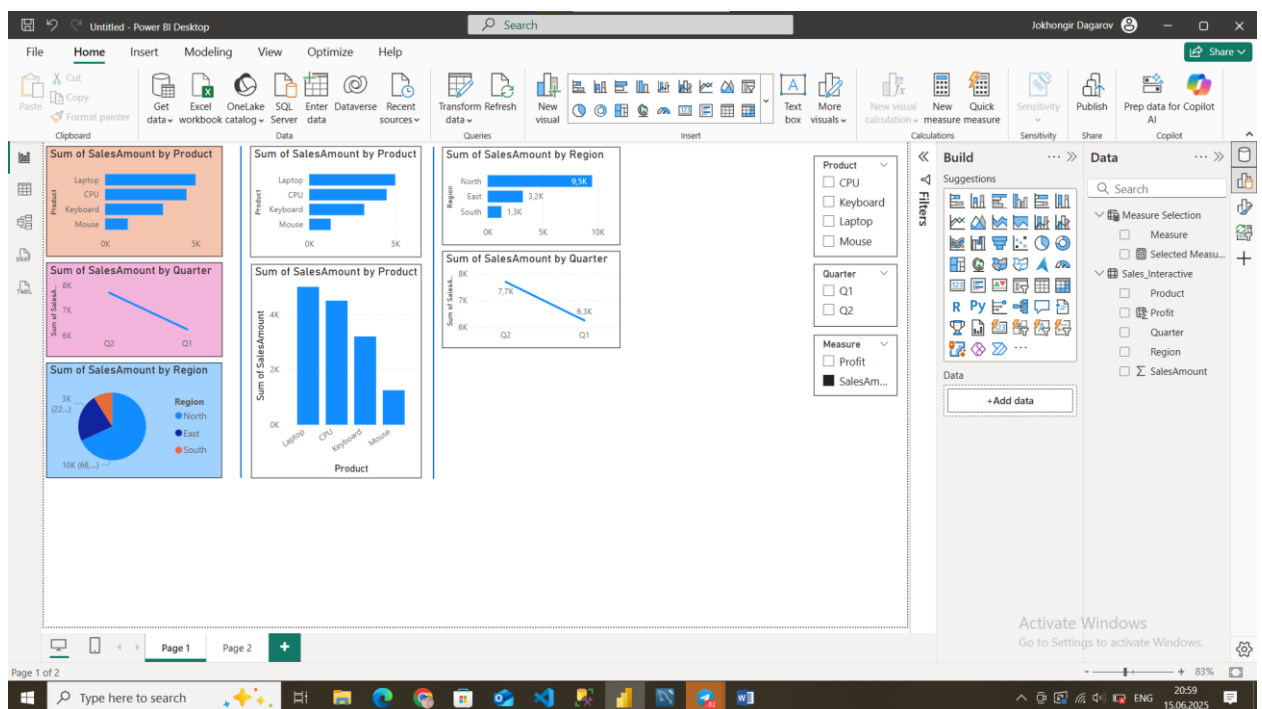## 10. Add a tooltip to display `Product` details when hovering over bars:

11. Sync slicers across multiple report pages:

1. Select a slicer.
2. In the ribbon, go to **View → Sync Slicers Pane**.
3. Choose which pages the slicer should sync with and whether to make it visible or hidden.

12. Create a custom visual with dynamic measure selection (Sales vs. Profit):
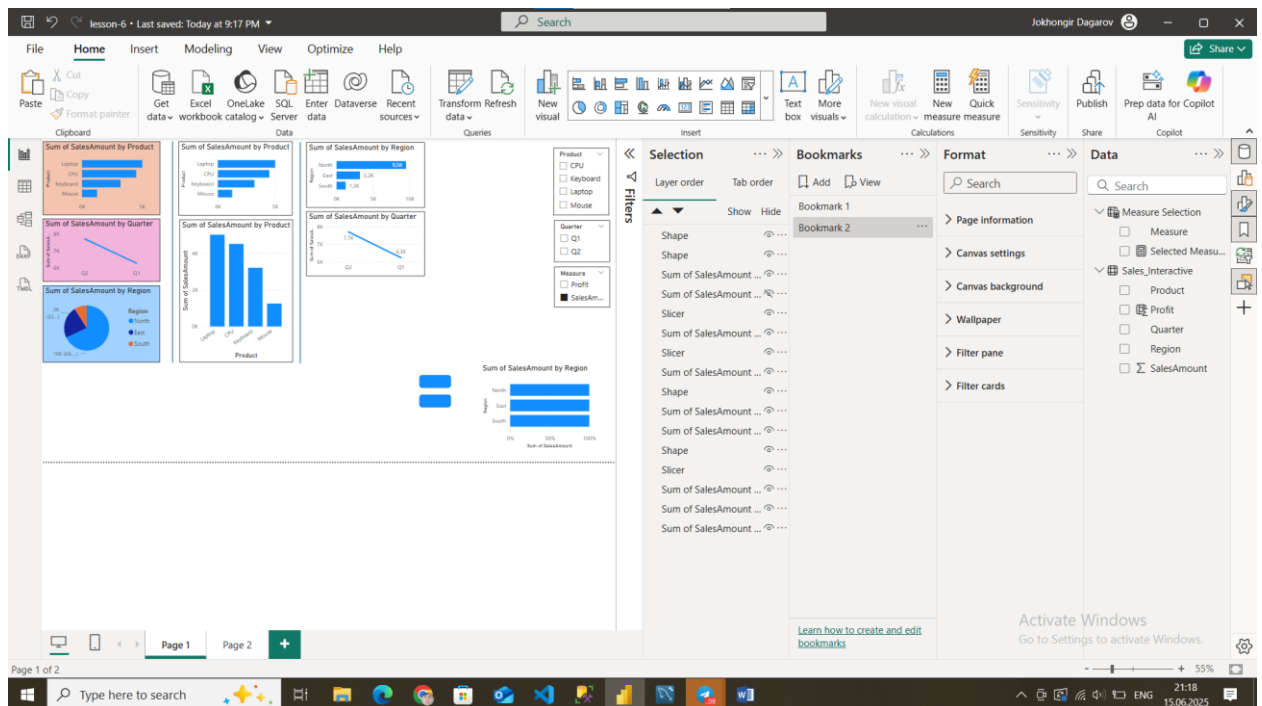
13. Implement a hierarchy for `Region` > `Product` > `Quarter` drill-down:

1. In the **Fields pane**, right-click `Region` → **New hierarchy**.
2. Add `Product` and `Quarter` to this hierarchy.
3. Use this hierarchy in your bar or column chart.
4. Enable **drill-down buttons** on the visual toolbar.

14. Use bookmarks to toggle between two visuals in the same space:

1. Create both visuals (e.g., Bar Chart and Line Chart) in the same position.
2. In **View** → enable **Bookmarks pane** and **Selection pane**.
3. Hide one visual and add a bookmark.
4. Swap visibility and create another bookmark.
5. Add **buttons** and assign actions to toggle between bookmarks.

15. Optimize a slow-rendering report with 10+ visuals:

- Limit data points in visuals (filter unnecessary records).
- Use **Aggregated data** instead of raw data when possible.
- Disable **interactions** where not needed.
- Avoid **high-cardinality fields** in visuals.
- Optimize **DAX measures** and use variables inside them.
- Turn off **Auto Date/Time** in model settings.
- Use **Performance Analyzer** to detect slow visuals.