

CSCE 5320 Section(s) 003,600 (Spring 2024 1)

Scientific Data Visualization

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Tutorial-1

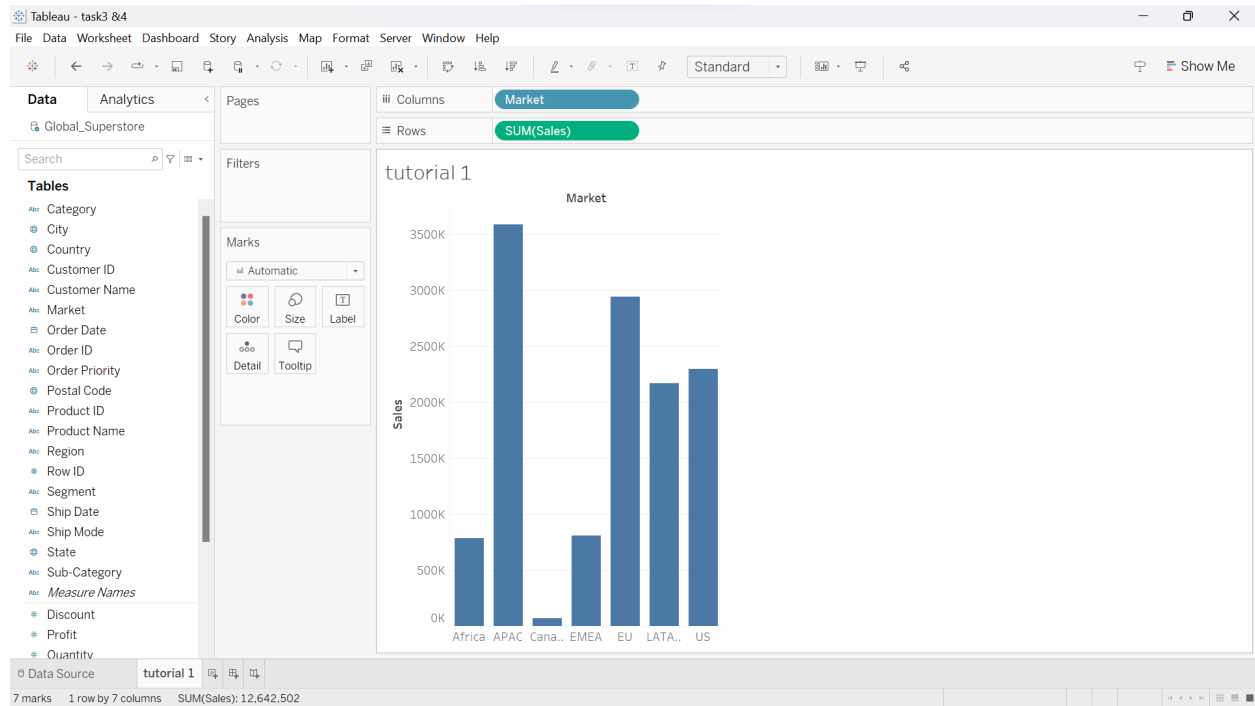


Figure 1: Sales of each market

In the above figure, we can see the sum of sales made by each market using a vertical bar graph. We can identify that the APAC market has the highest sales and the least is Canada.

Tutorial-2

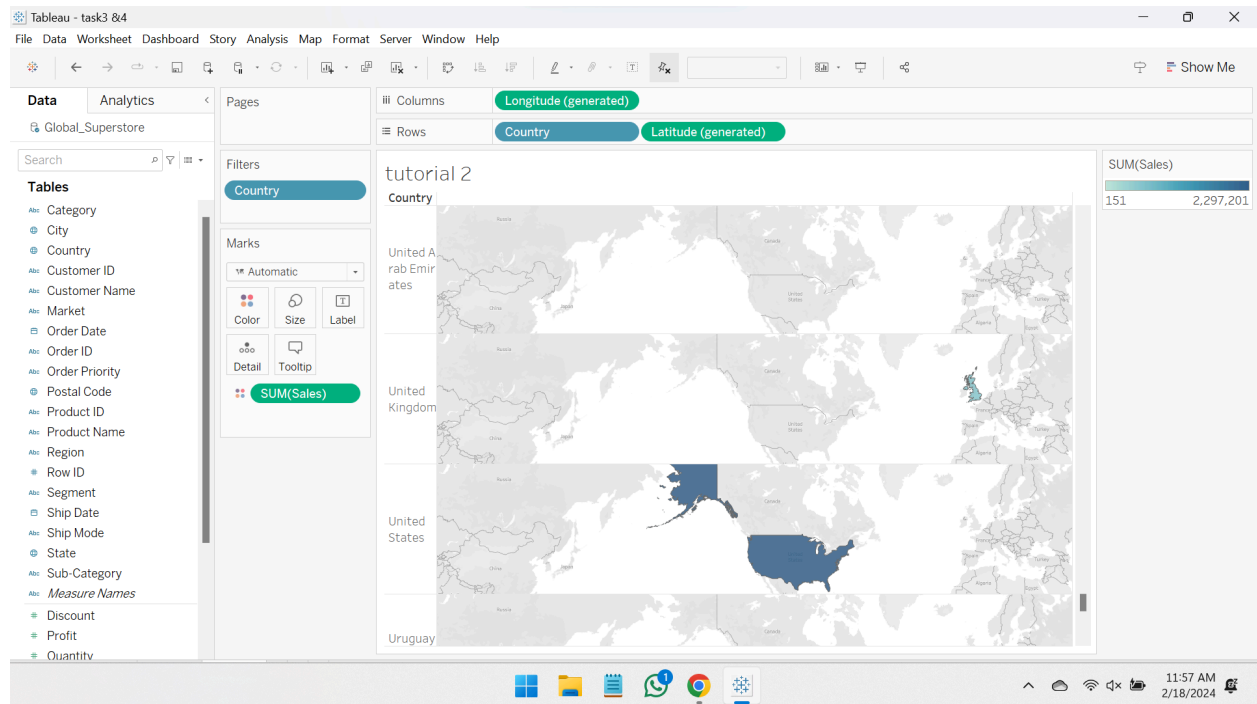


Figure 2: Sales of each country

The map visualization displayed above is used to show the sales figures for each country. To create this visualization, I utilized the longitude and latitude data and added the country attribute to the filter region. The density of color in the top right corner indicates the sum of sales for each country, while the color of each country on the map represents its corresponding sales.

Tutorial-3

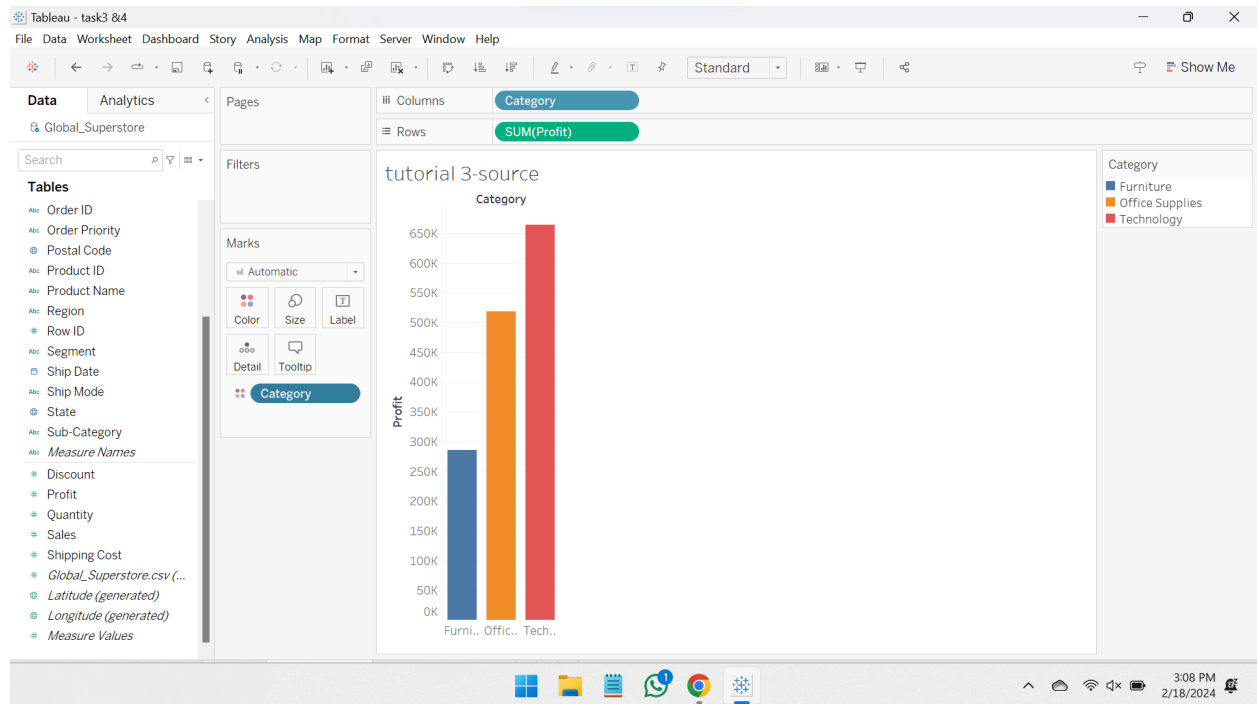


Figure 3: Profit of each category

The visualization above is a source sheet for adding an action. It displays the profit for each category. Based on the bar graph, we can see that technology is the most profitable, and furniture is the least profitable. To improve the bar graph, I added a color marker to the category attributes.

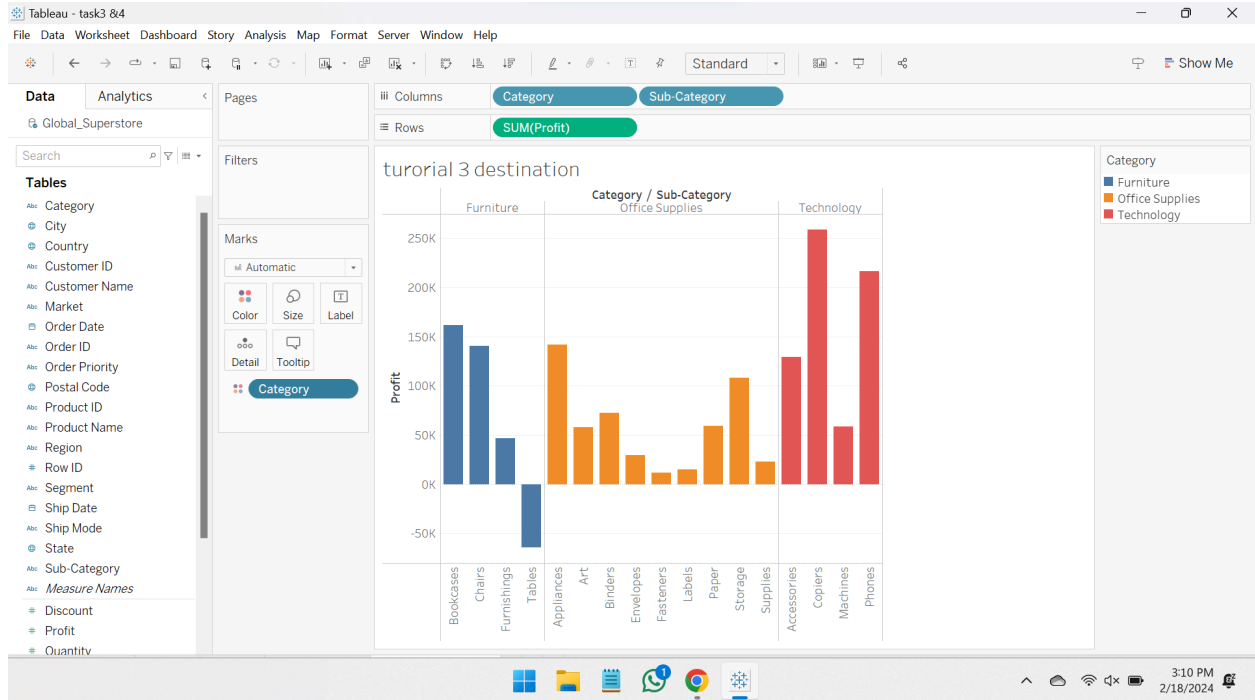


Figure 4: Profit of each sub-category

This figure is the destination sheet where the action is performed. This bar graph visualizes the profit of each subcategory.

Edit Filter Action

Name: Filter1

Source Sheets:

- ☒ Global_Superstore
- ☒ tutorial 3 destination
- ☒ tutorial 1
- ☒ tutorial 2
- ☒ tutorial 3-source

Run action on:

- ☐ Hover
- ☒ Select
- ☐ Menu
- ☐ Single-select only

Target Sheets:

- ☒ tutorial 3 destination

Clearing the selection will:

- ☐ Keep filtered values
- ☒ Show all values
- ☐ Exclude all values

Filter:

☒ All fields ☐ Selected fields

Source Field	Target Data Source	Target Field
<input type="checkbox"/> Click to add		

Buttons: Remove, Cancel, OK

Figure 5: Adding action feature

To add the action features, we have to click on the worksheet and then select "action." From there, we can choose the source sheet and destination sheet from the drop-down menus. Additionally, we can also select when the action should run and on which fields it should run.

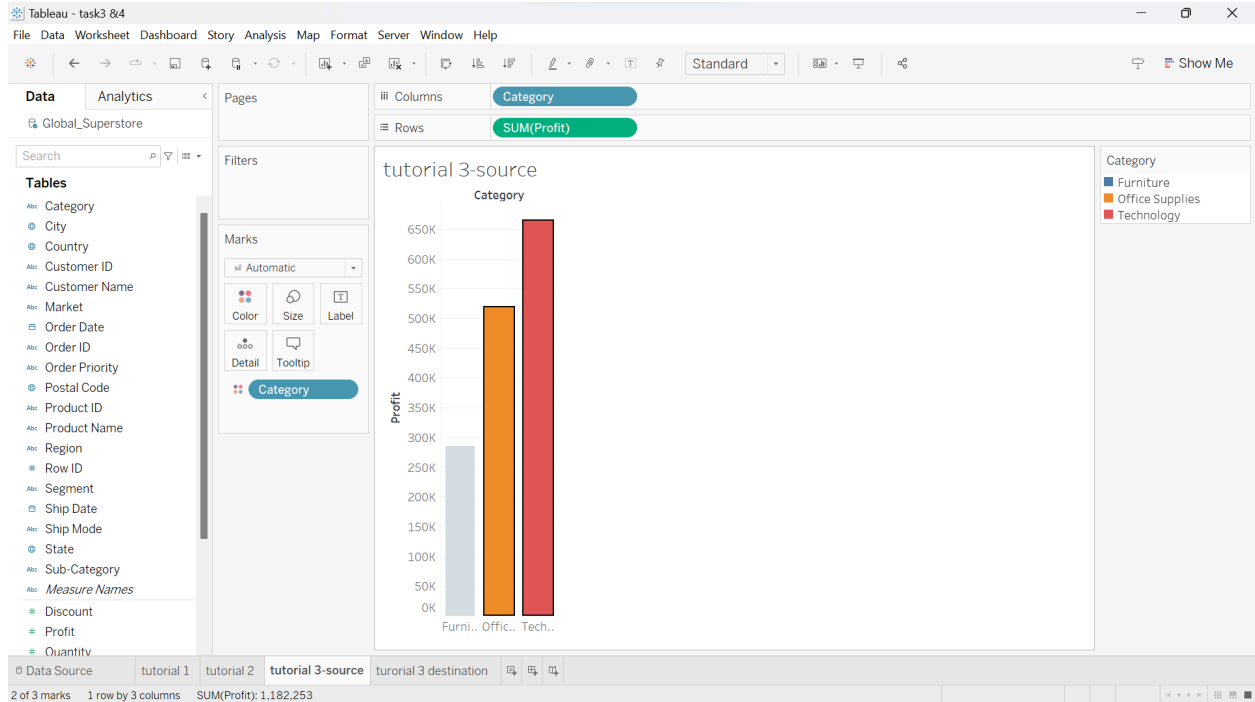


Figure 6: Selecting certain categories

Here, we can observe that the office and technology are selected using the control key in the source sheet.

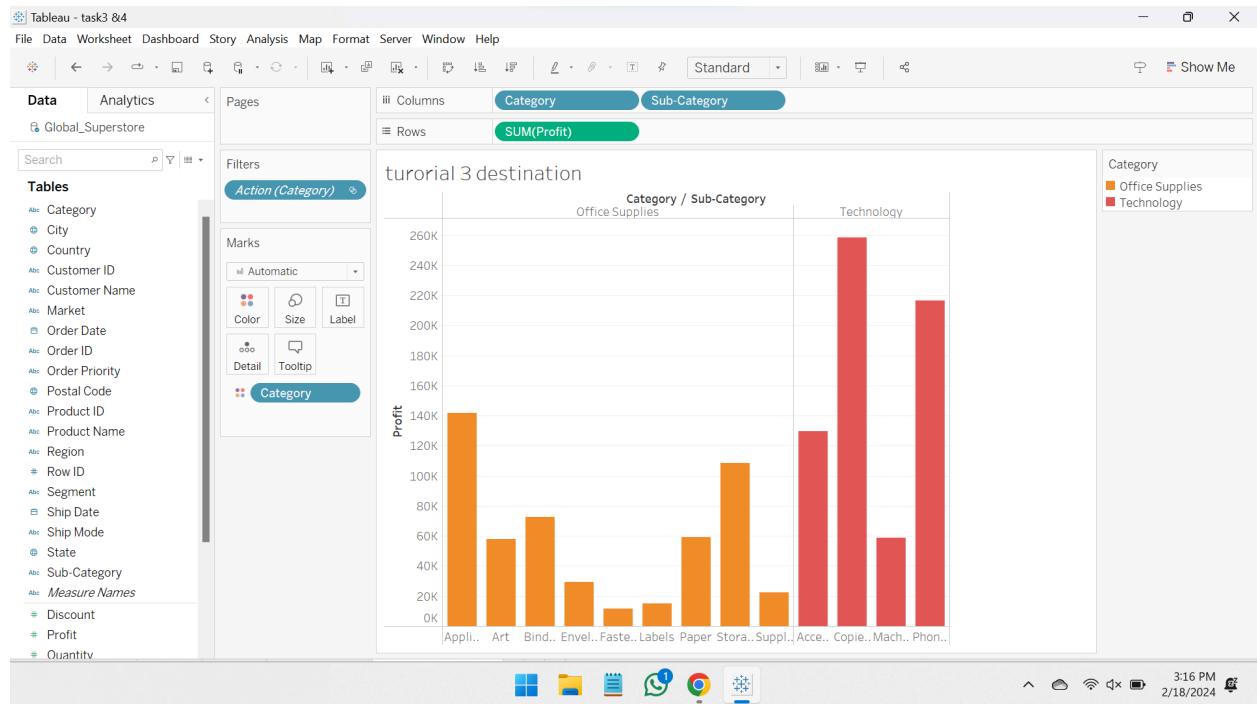


Figure 7: Outcome in destination

Only the selected categories in the source sheet are visible in the destination sheet. The Action feature helps identify insights for specific attributes or data.

Power BI Tutorial-4

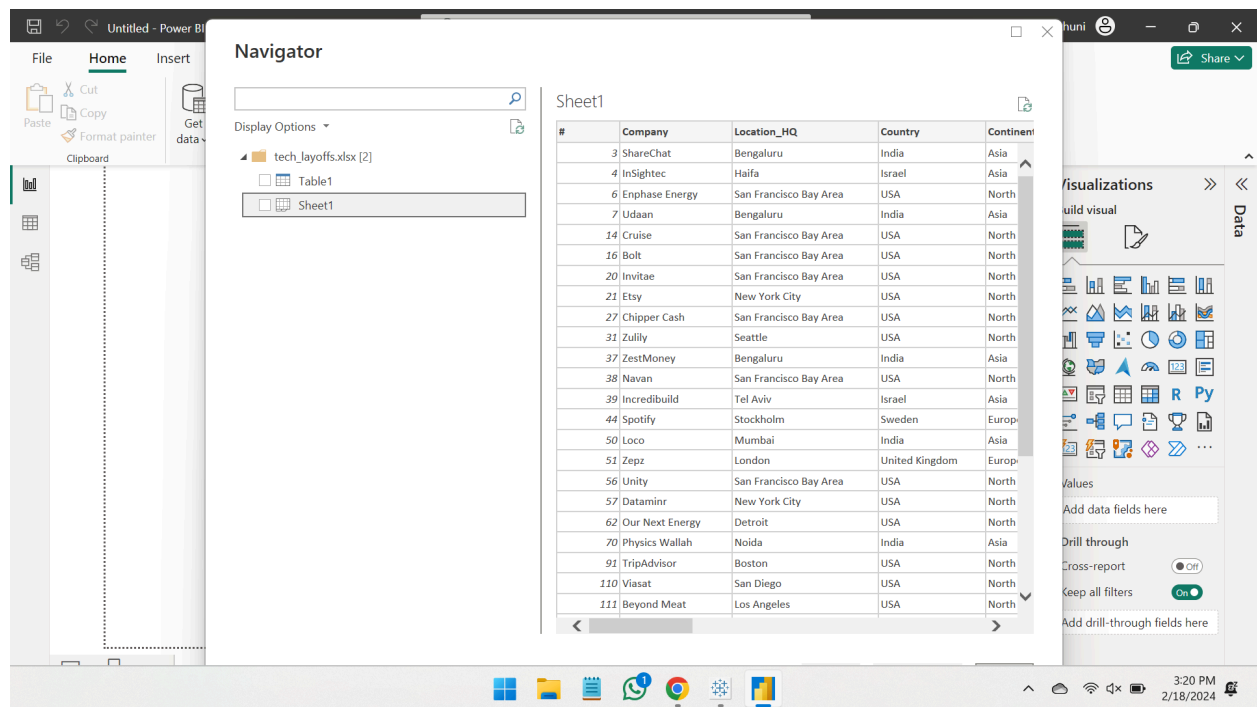


Figure 8: Adding the data to the worksheet

In the above figure, the data is exported to PowerBI from the Excel sheet.

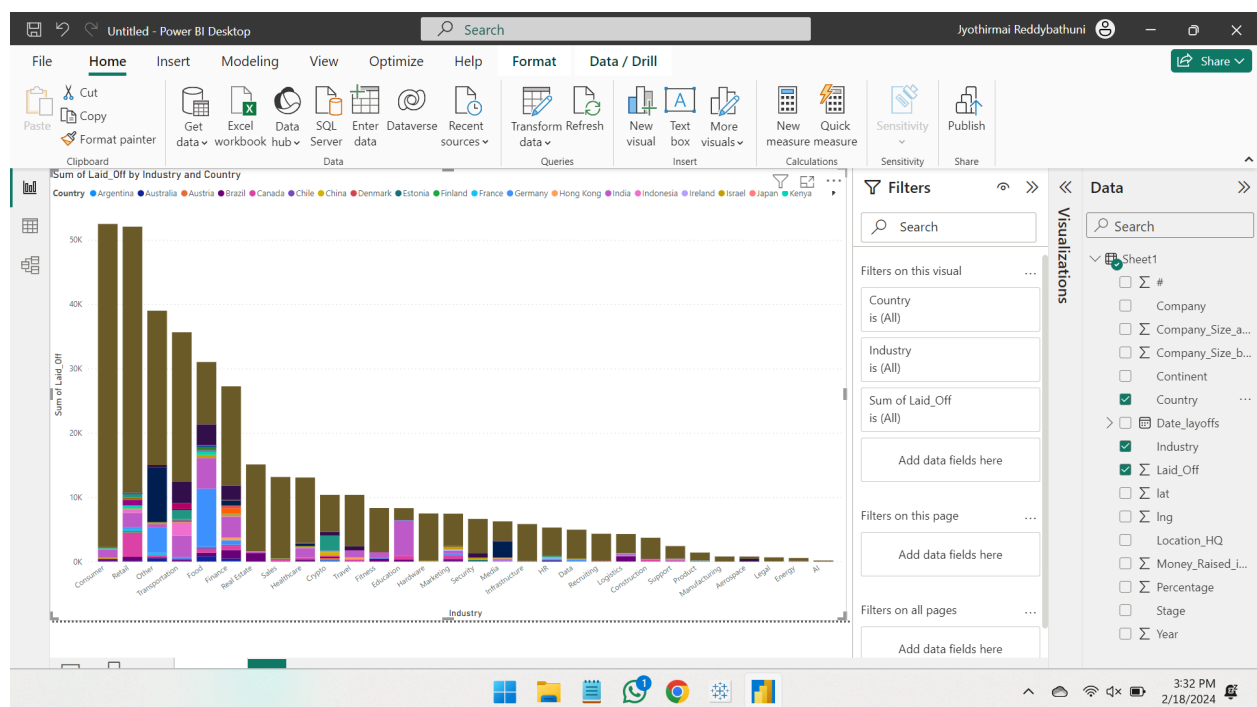


Figure 9: Sum of laid off in each Industry

I have added the country, Industry, and Sum of Laid_OFF in a vertical bar graph. From this visualization, we can identify how many people are laid off in each industry, and the country is added to the legend.

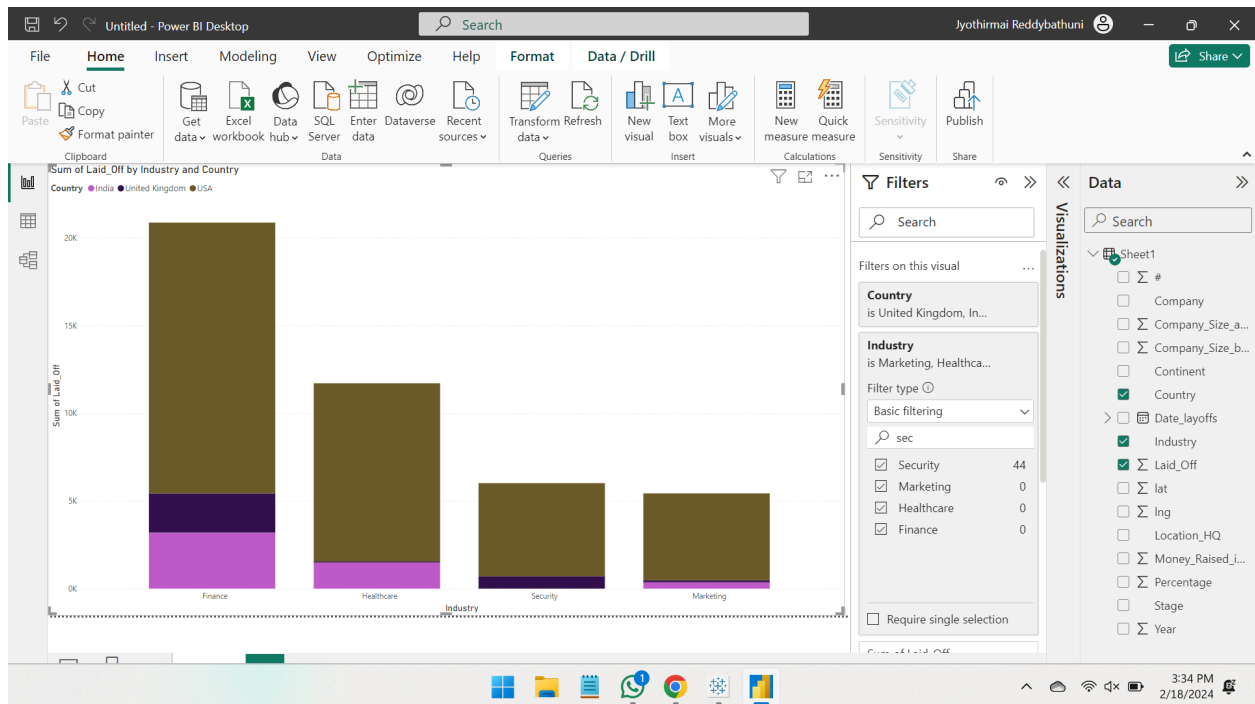


Figure 10: Sum of laid-off in specific industries

This visualization is an extension of the previous one, it was very complex and crowded to understand data, so I have added a filter to the industry. This figure only shows the Finance, Healthcare, Marketing and Security industries.

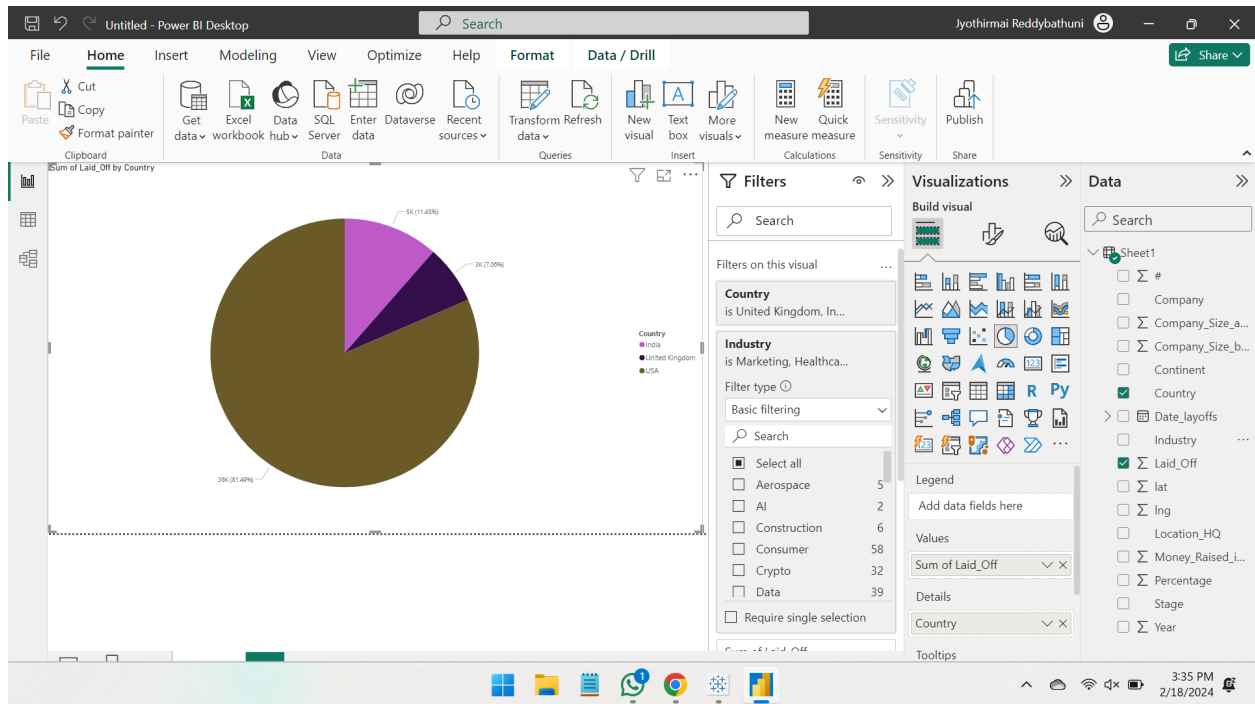


Figure 11: Sum of laid-off in specific countries

This visualization represents a pie chart that displays the proportions of people who have been laid off in India, the UK, and the USA. The chart clearly illustrates that the United States has the highest percentage of layoffs, with a staggering 82% of individuals experiencing job loss. This data provides valuable insights into the current state of the job market, demonstrating the severe impact of layoffs on the US workforce.

Tutorial-2

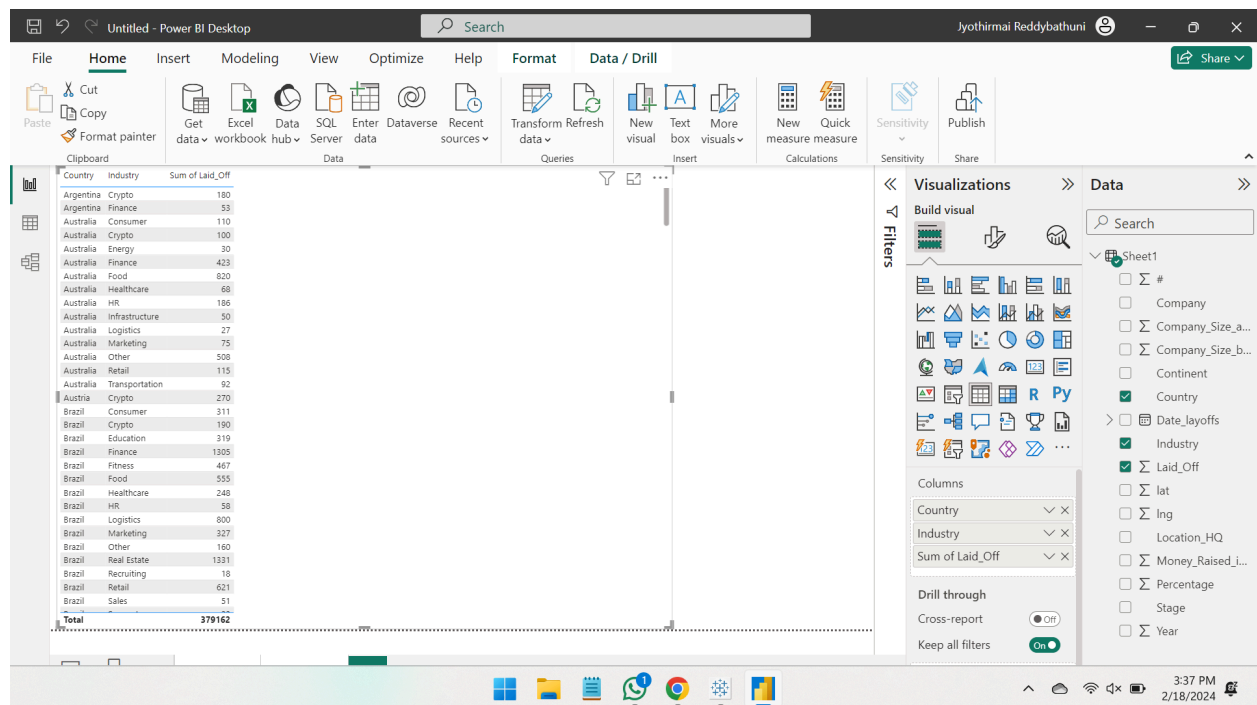


Figure 12: Dataset representation

It is a table representation of the attributes Country, Industry, and Laid_off.

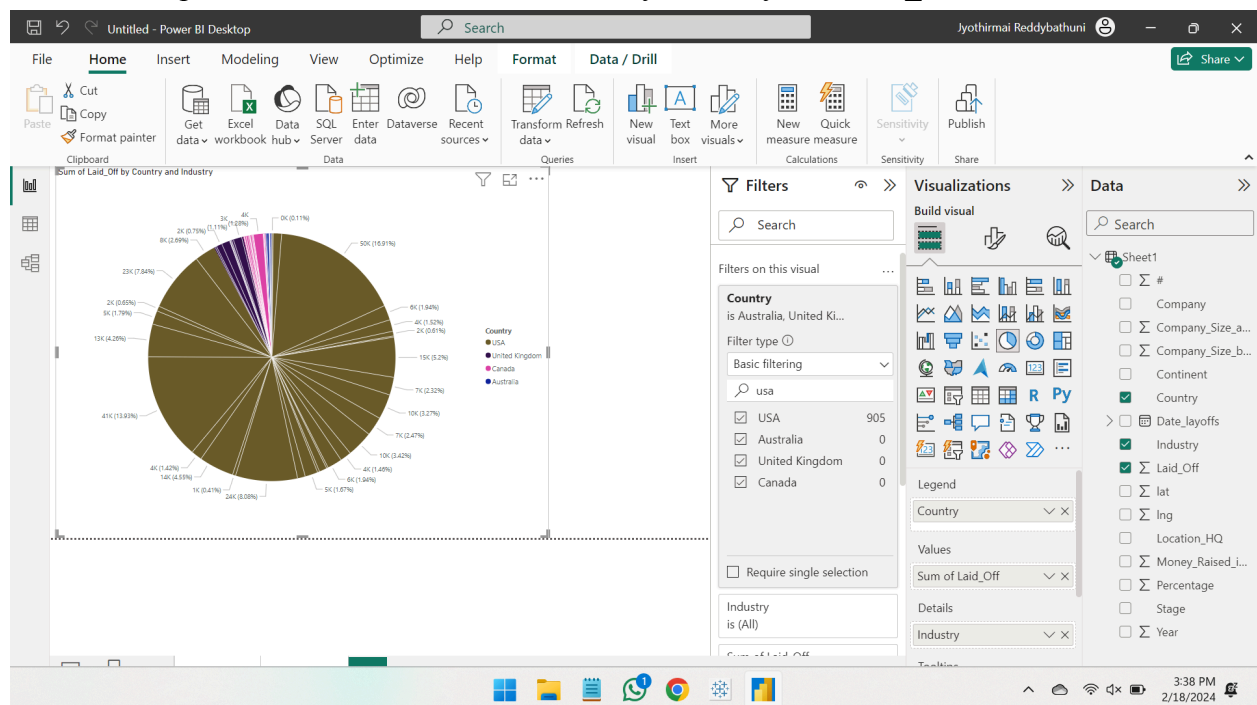


Figure 13: Pie chart visualization

I added the pie chart visualization and also put some filters in the Country data field. The pie chart only shows the lay offs in the USA, Australia, UK, and Canada.

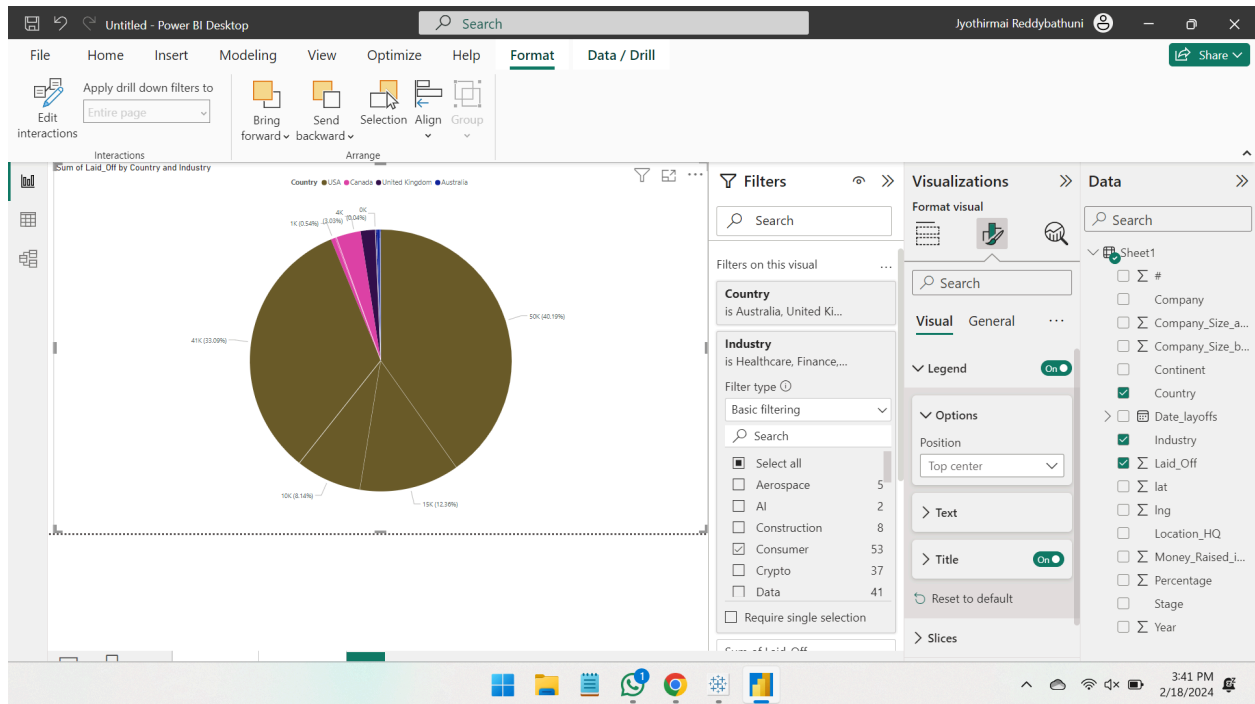


Figure 15: Changing the position of Legend

I changed the position of the legend to the top center using the Format visual option in Visualizations.

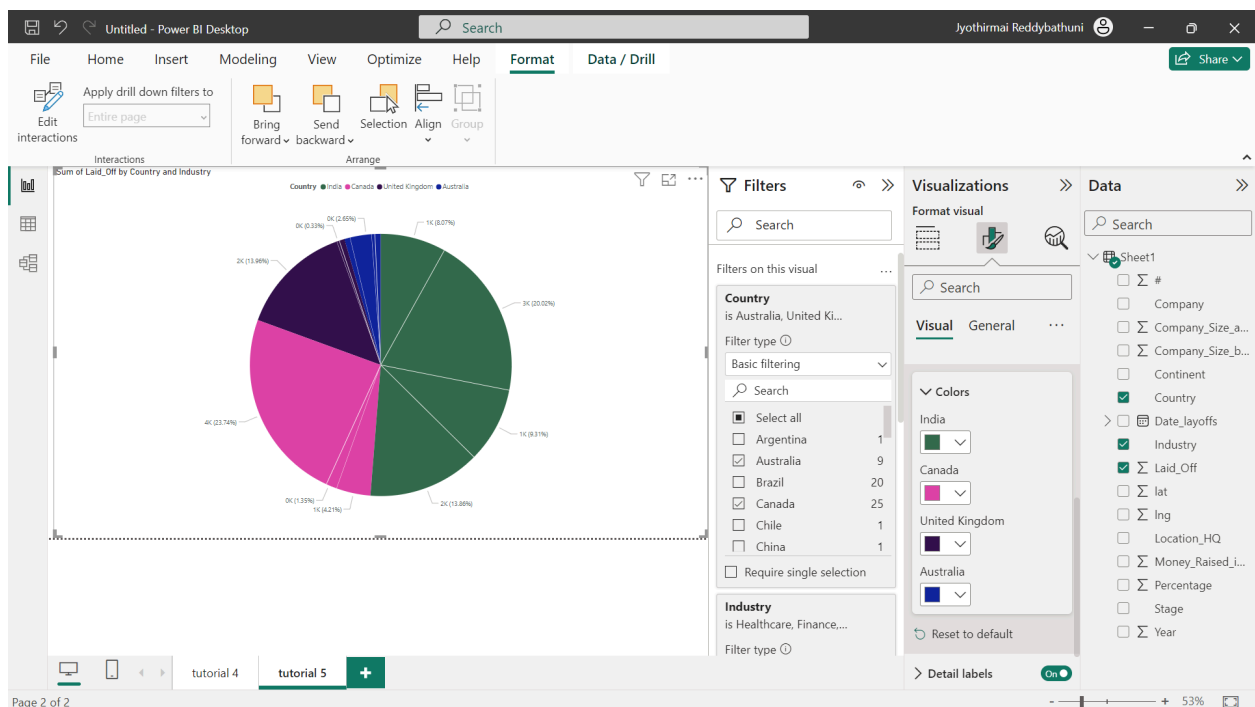


Figure 16: Sum of laid off in Specific Countries

From the visual options in the visualizations field, I changed the color of a country to green.

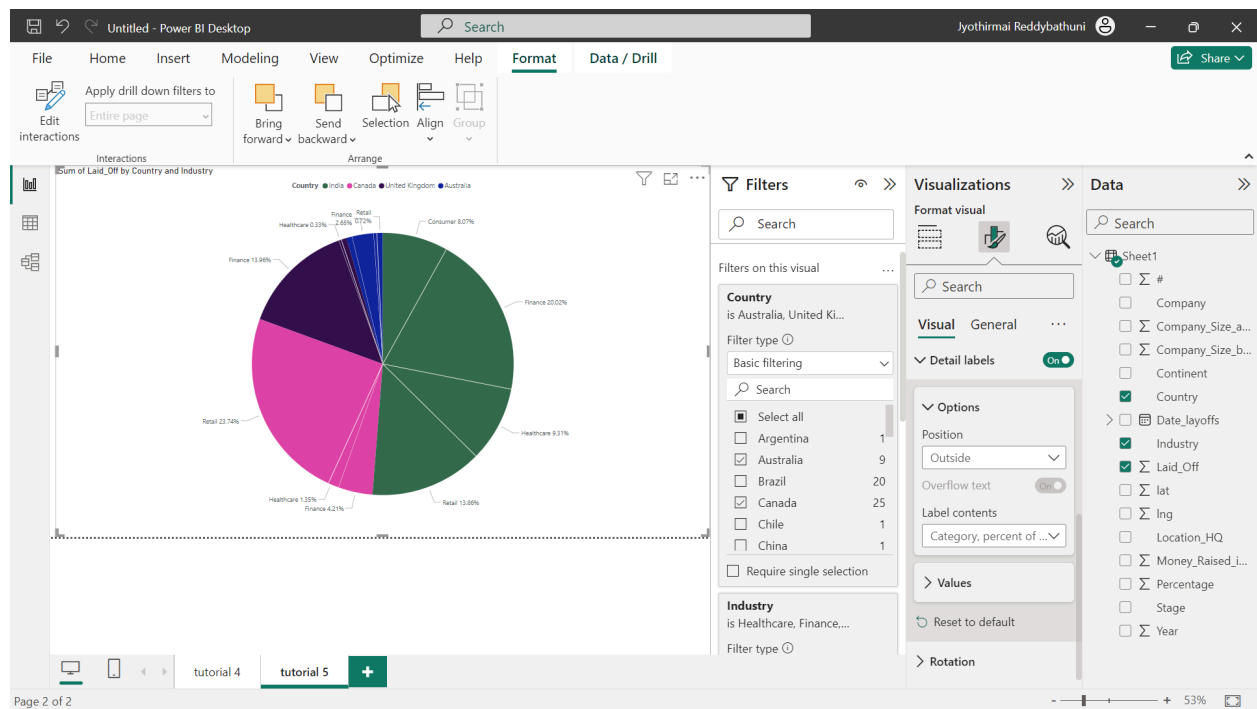


Figure 17: Sum of laid off in Specific Industries and Countries

From the visual option in the visualizations, I choose the position of the text to be outside and the labels should contain the category and percent of total.