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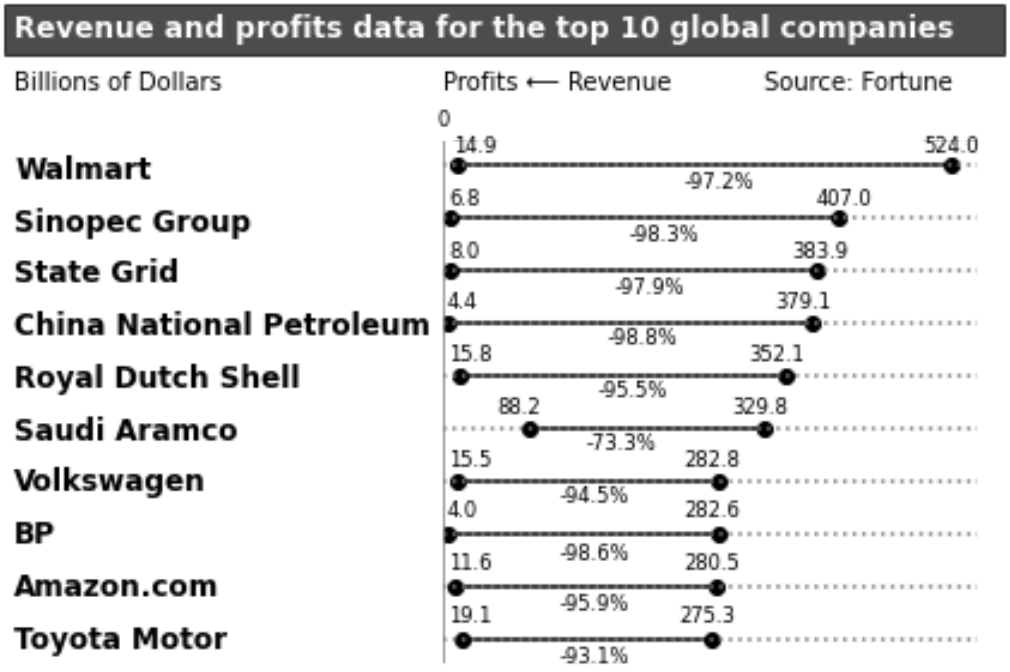
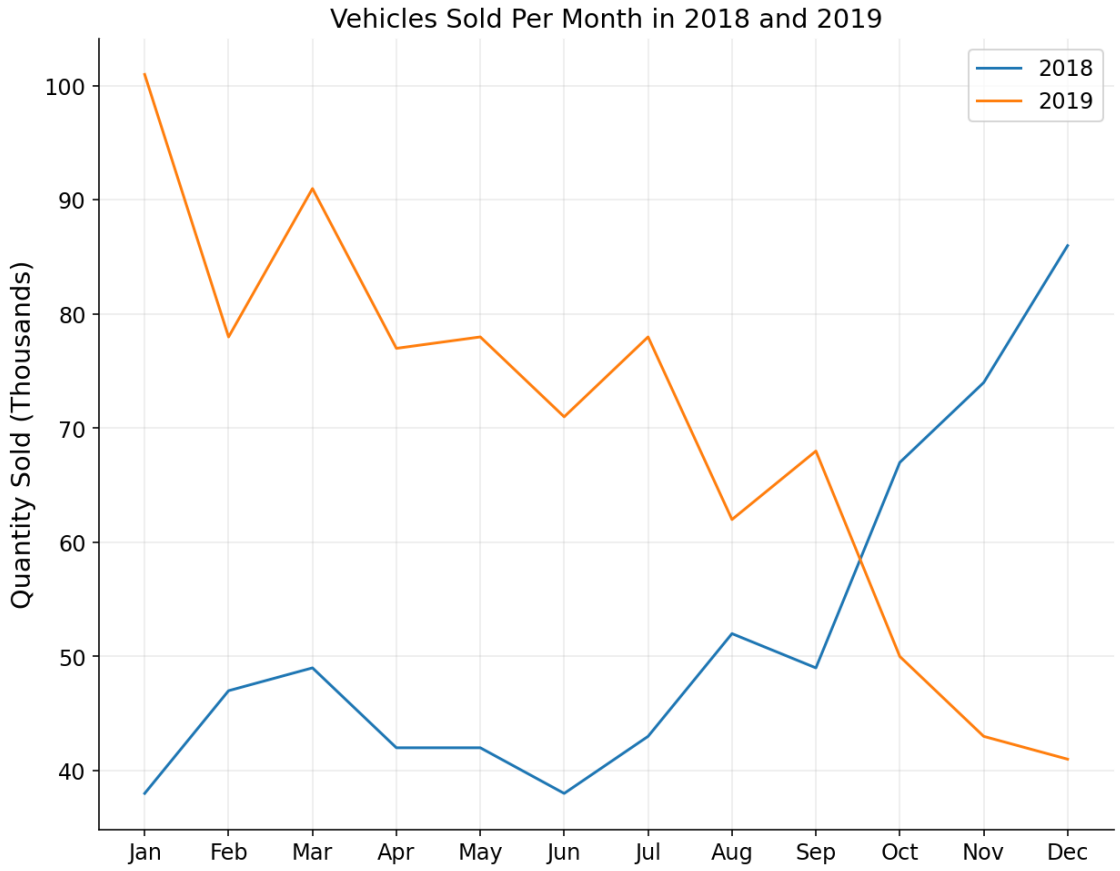
# Homework 2

## 1) Redesign a bubble chart



## 2) Decluttering




Steps taken to declutter/modify plot:

1) Less compressed y-axis, the original plot has an aspect ratio that makes the variations in the line seem more smoothened out than they really are. For example, the 2018 data has a significant increase of sales from 49k to 86k from Sept. to December. On the original plot, the magnitude of this increase in sales seems lesser than it does on a plot with a less compressed y-axis.

2) Rather than labelling each datapoint in the time series with the sales figure for the month, I used a grid so that readers can use the lines to find an approximate value if they are actually interested in the sales figure for the month, otherwise the plot is more effective at focusing on the trends in the data.

3) Two contrasting colors are used for the lines rather than two shades of blue, which helps differentiate which time series the reader is looking at.

4) The legend has been placed inside the plotting area, a bit closer to the lines it is providing information about, rather than below the x-axis label like the original plot.

5) Title has been changed to convey the same information in one line rather than two.

6) X-axis labels have been changed from the full name of the month to a shorthand version to avoid needing to rotate the labels, while making it quicker to read the month.

7) Some of the borders/spines around the plotting area have been removed to present less objects for the reader to interpret.

## 3) Which Gestalt principles are in use?

**Figure 2:** (Bayesian Inference Voting)
Proximity principle:

- Line labels are arranged on the plot so that they are closest to the segment of the graph where it's clear to correlate the label to the line.

Similarity principle:

- Line labels also are the same color as their corresponding lines on the plot, helping the reader to connect the two pieces of information

**Figure 3:** (Flu excess deaths by age group)
Enclosure principle:

- Segments of the data are constrained by the drawn rectangles, indicating the timeframe of the flu seasons so that readers can focus on data within these regions and compare to other flu seasons

Closure principle:

- The dataset is segmented into 5 discrete subsets for “all ages,  85+, 45-64, 15-44, 0-14”. The data for these subsets is plotted within horizontally spanning rectangles, with horizontal separation between each subset of the data.

**Figure 3:** (Incumbent party vote percentage change)
Similarity principle:

- On each of the two graphs, several time series plots are overlapped for the years within the date range specified on each plot. While one line on the 1968-1992 plot is contrasted with the other low opacity lines, all of the plotted lines are of the same color, indicating that they belong to the same group (they are all representing the same statistic, just from different years).

- Also, this principle is used when the 2020 data is plotted with a contrasting color from all the rest, to draw the viewer's attention to this specific year so that the viewer can identify how its behavior is different from the other years

Connection principle:

- The yearly data plotted on this chart is connected by lines so that the variation in the data can be more easily identified by the viewer