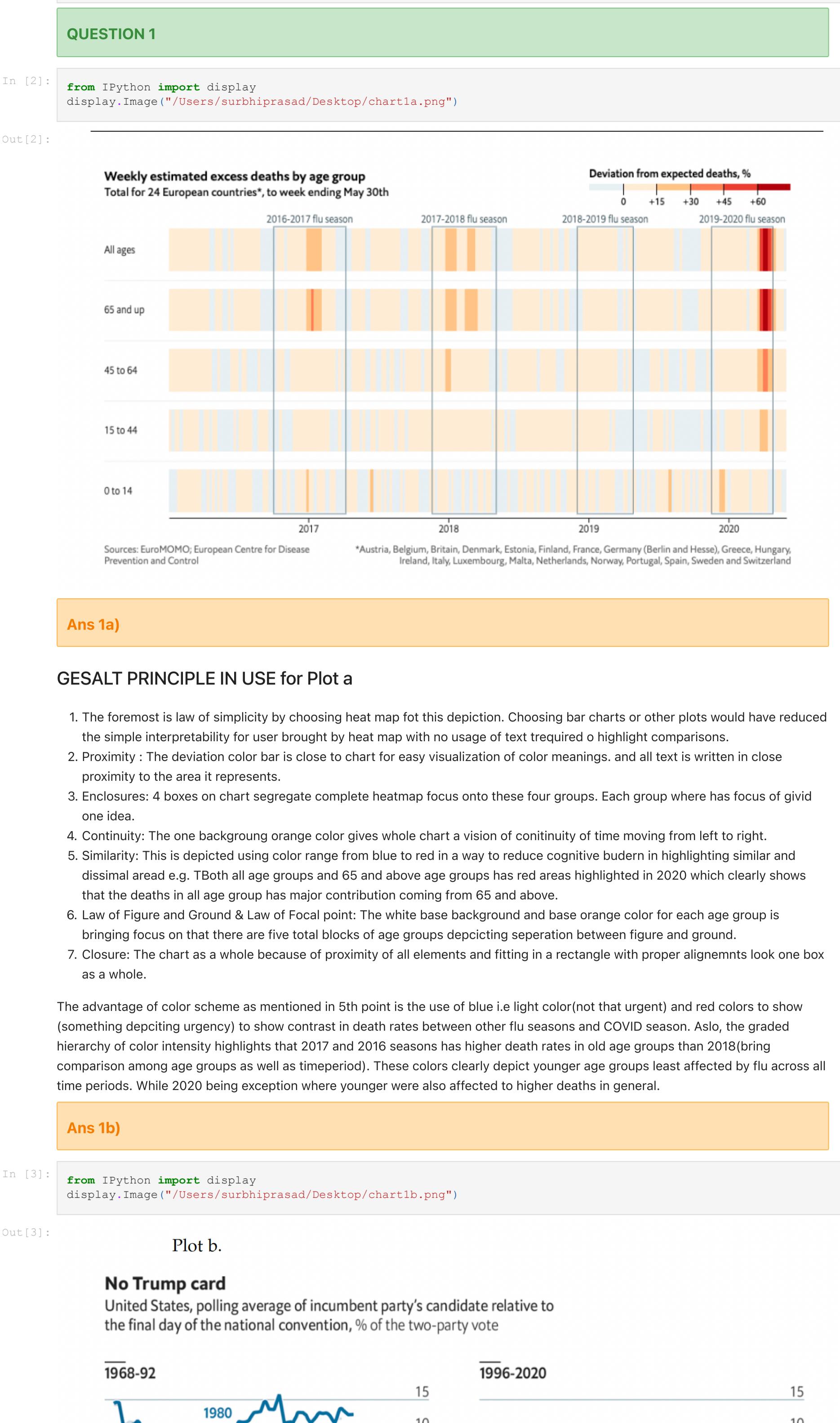


HOMEWORK 4 EDA and Visualization



Ans 1a)

GESALT PRINCIPLE IN USE for Plot a

- The foremost law of simplicity by choosing bar chart for this depiction. Choosing bar charts or other plots would have reduced the proximity; the readability for user brought by heatmap do not usage of text required o highlight all comparisons.
- The proximity; the readability bar chart for easy visualization of color meanings. and all text is written in close proximity to the areas it represents.
- Enclosure: 4 boxes on chart segregate complete heatmap focus onto these four groups. Each group where has focus of grid one area.
- Continuity: The one background orange color gives whole chart a vision of continuity of time moving from left to right.
- Similarity: This is depicted using range from blue to red in a way to reduce cognitive burden in highlighting similarly shows that deaths in all age group has major contribution coming from 65 and above.
- Law of Figure and Ground & Law of Focal point: Major contribution coming from 65 and above.
- Closure: the chart as a whole because of proximity of all elements and fitting in a rectangle with proper alignments look one box as a whole.

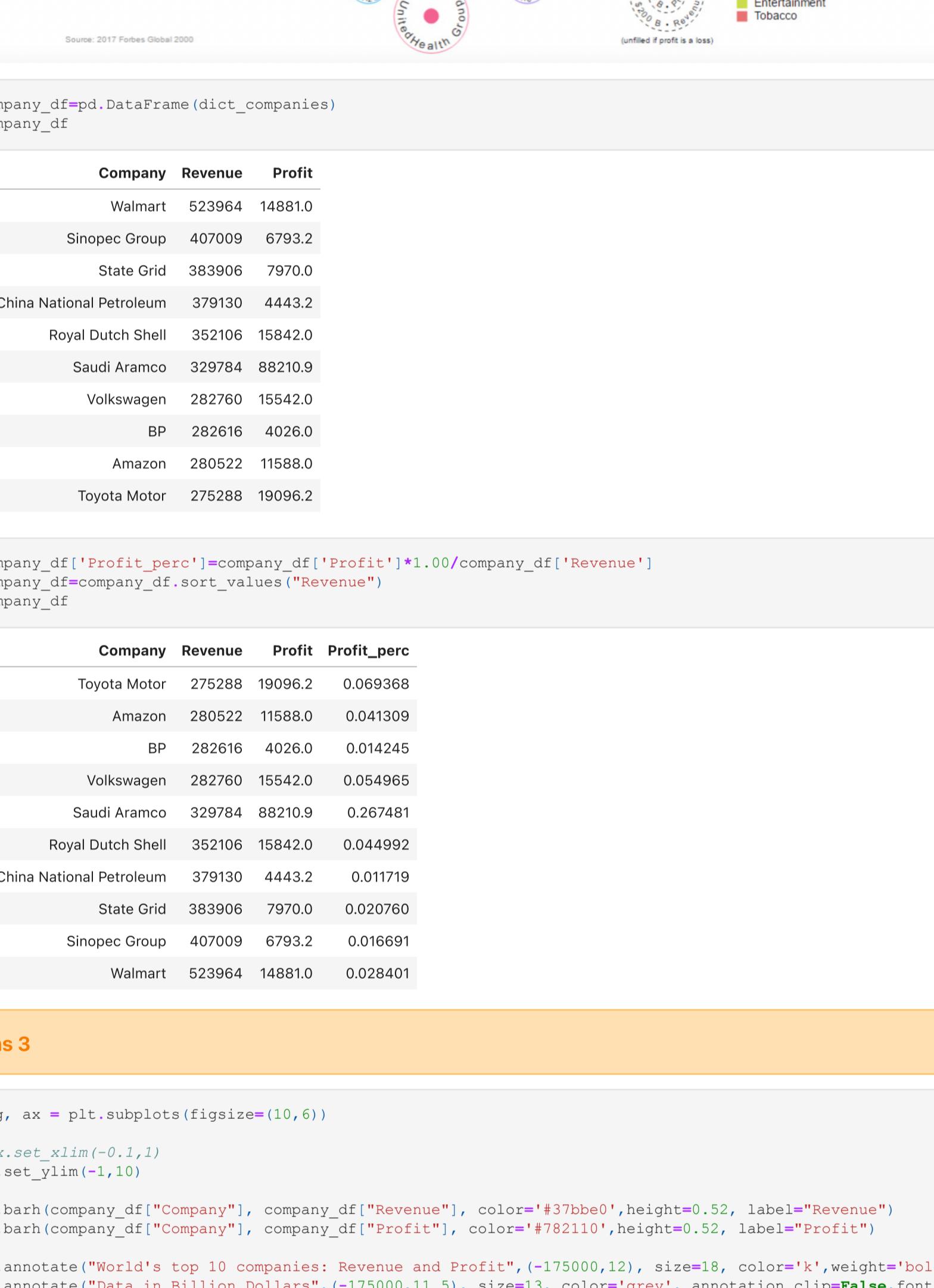
The advantage of color scheme as mentioned in death rates is the use of blue i.e light color(not that urgent) and red colors to show (something depicting urgency) to show contrast in death rates between other flu seasons and COVID season. Also, the graded hierarchy of color intensity highlights that 2017 and 2016 seasons has higher death rates in old age groups than 2018 bring comparison among 2020 groups as its timeperiod. These colors clearly depict younger age groups least affected by flu across all time periods. While 2020 being exception where younger were also affected to highest deaths in general.

Ans 1b)



No Trump card

United States, polling average of incumbent party's candidate relative to the final day of the national convention, % of the two-party vote



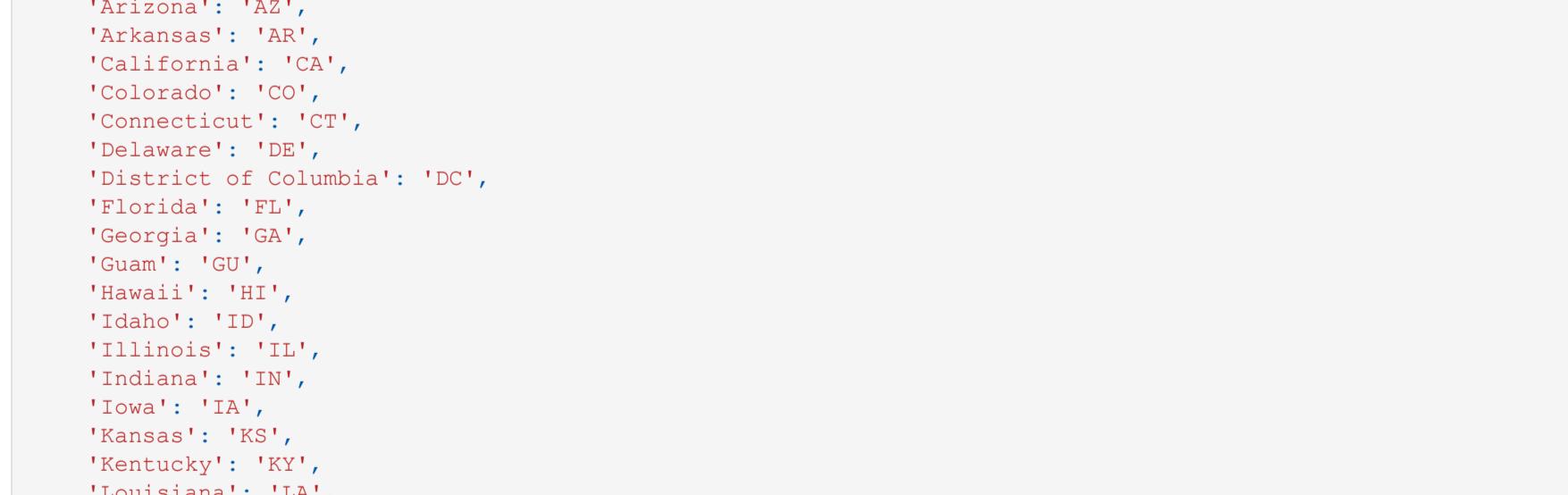
Ans 1b)

GESALT PRINCIPLE IN USE for Plot b

- Law of Proximity: Bringing both charts in one visual rather than showing separately indicated the comparison made between two different times. The mentioning of years close to line further brings association of which year each line depicts. Mentioning year range (1968-92) in header & x-label close to x-axis is helping in providing supporting information neatly.
- Law of Focal point: It is clearly visible in both charts by reducing intensity of years other than 1980 and showing as blurred. Since there are many lines in two charts, to keep audience focus to what is to be shown, highlighting lines of 1980, 2016, 2020 encourages audience to focus on these years trend more. The black dot marker is also helping in dividing both sections before and after of each year trend clearly. This is acting as divisor for showing change in trends. The emphasis by mentioning headers bold and bigger size compels audience to read it in first few seconds as what this chart. It was also important before starting with these charts.
- Law of Similarity: The similar color for text "2020" as red line and blue "2016" text with blue line brings similarity and shows clearly to audience which years that line actually depicts. Similarly keeping all other years as light blue colors also brings all blue in the same group and red stand alone as most recent and odd year depiction.
- Closure: Easily demonstrated by use of whites spaces and alignment to demarcate two separate charts as complete two entities in single chart.
- Law of Continuity: The same level for all groups and axes also brings both as a whole one to two pictures.

The advantage of color scheme can be seen in taking a neutral color like blue for all trends other than 2020 so that visuals don't look overcrowded or filled with many colors. The black font for all text brings coherence in dividing picture from text easily. The most important contrasts of blue and red is the most striking about second plot clearly helping in advancing to the point chart wants to showcase. The red color easily stands out as the most odd/different showcasing how before final day also had similar polling rates.

Question 2)



Ans 2)

Step 1a: To declutter the above plot, first thing is to remove outer heavy black border around chart which is not required and brings more clumsiness to the visual.

Step 1b: Gridlines can also be removed as it brings no extra information.

Step 2: Next step is to change the x-axis rotation to 90 degrees make it vertical. Or keep 0 degree by not mentioning complete month names and only first three letters of each months as abbreviation instead which is common notation across world.

Step 3: Change X axis units to 'K' instead of adding '000' in each label basically to simplify units depictions.

Step 4: Law of Focal point: To remove markers on lines which is not required. We can only keep markers(of different colors for months of the year which had significantly higher/lower sales than general).

Step 5: Law of Simplicity: We can remove the data labels along the trendline as it is making it more difficult to read and only highlight those data labels which resonates with story if needed.

Step 6: The legends at bottom can be move to close to trendline for increase Proximity. df_cars

Step 7: Alignment: The title can be moved to left and the sub-title might not be needed as it repeats what is evident in chart. Rather than this sub-title, other insight from chart can be highlighted if needed e.g January has the highest variation in sales or maybe about upward and downward trend in two years after September.



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