Assignment #1: Start Thinking Critically About Data Visualization
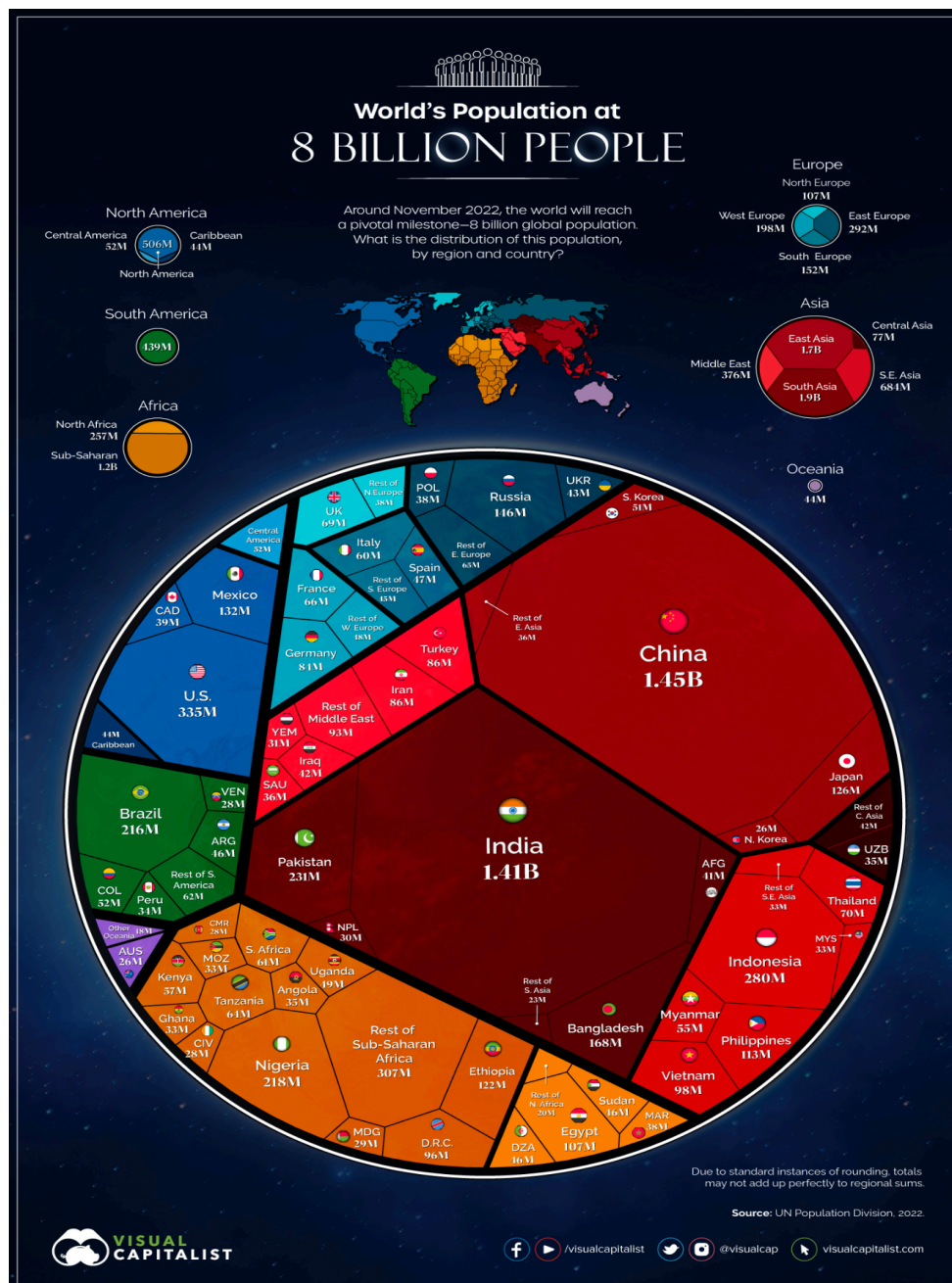
Introduction to Data Visualization and Data Storytelling

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Visualization 1: Article on "Visualized: The World's Population at 8 Billion" *(effective)*

Source : https://www.visualcapitalist.com/visualized-the-worlds-population-at-8-billion/

There are various reasons why this infographic is a powerful visual aid:

1. **Chunking**: The global map, the population distribution in the style of a pie chart, the legend, and the title with a brief explanation are among the few chunks that are used in this visualization. The main components of the data are arranged so that the viewer may rapidly and readily understand the general structure of the information with little eye movement.

2. **Clean**: The layout is orderly and free of clutter. There are no diagonal text or gridlines, which can frequently clog a visualization and make it more difficult to understand. Because of the suitable font size, it is easy to read without overpowering the visual aspects. To avoid creating confusion, legends and labels are positioned strategically to direct the viewer's attention through the data.

3. **Clear**: The way the chart is presented makes it quite clear. Colour is used in a meaningful and natural way; different tones signify distinct areas and population sizes are indicated by density. The description that goes with the title is succinct and helpful, giving the viewer background information without being overly wordy. Labels that are seamlessly integrated into the graphic show each nation's demographic data in a straightforward and understandable manner.

4. **Concise**: There is no repetition in the visualization. Every piece on the chart has a purpose, and no information is repeated. For instance, population data are only displayed when required, and self-explanatory color coding minimizes the need for further explanation. This concision guarantees that the audience will swiftly and distraction-free comprehend the desired message.

All things considered, the infographic successfully communicates the global population's distribution by strategically utilizing chunking, cleanliness, clarity, and conciseness—all while upholding the 3Cs of visualization. The end product is a clear and interesting picture of the world's population.
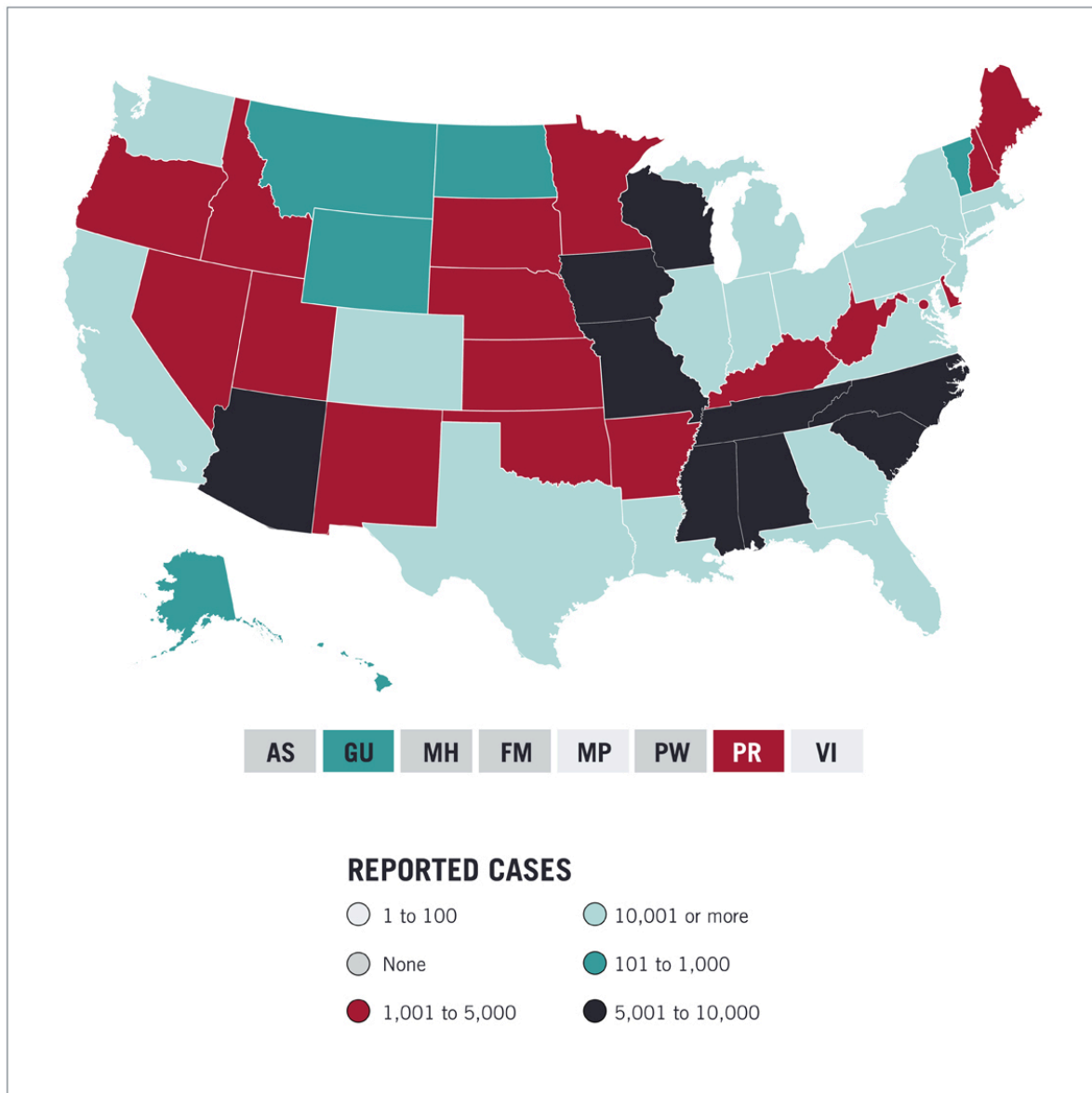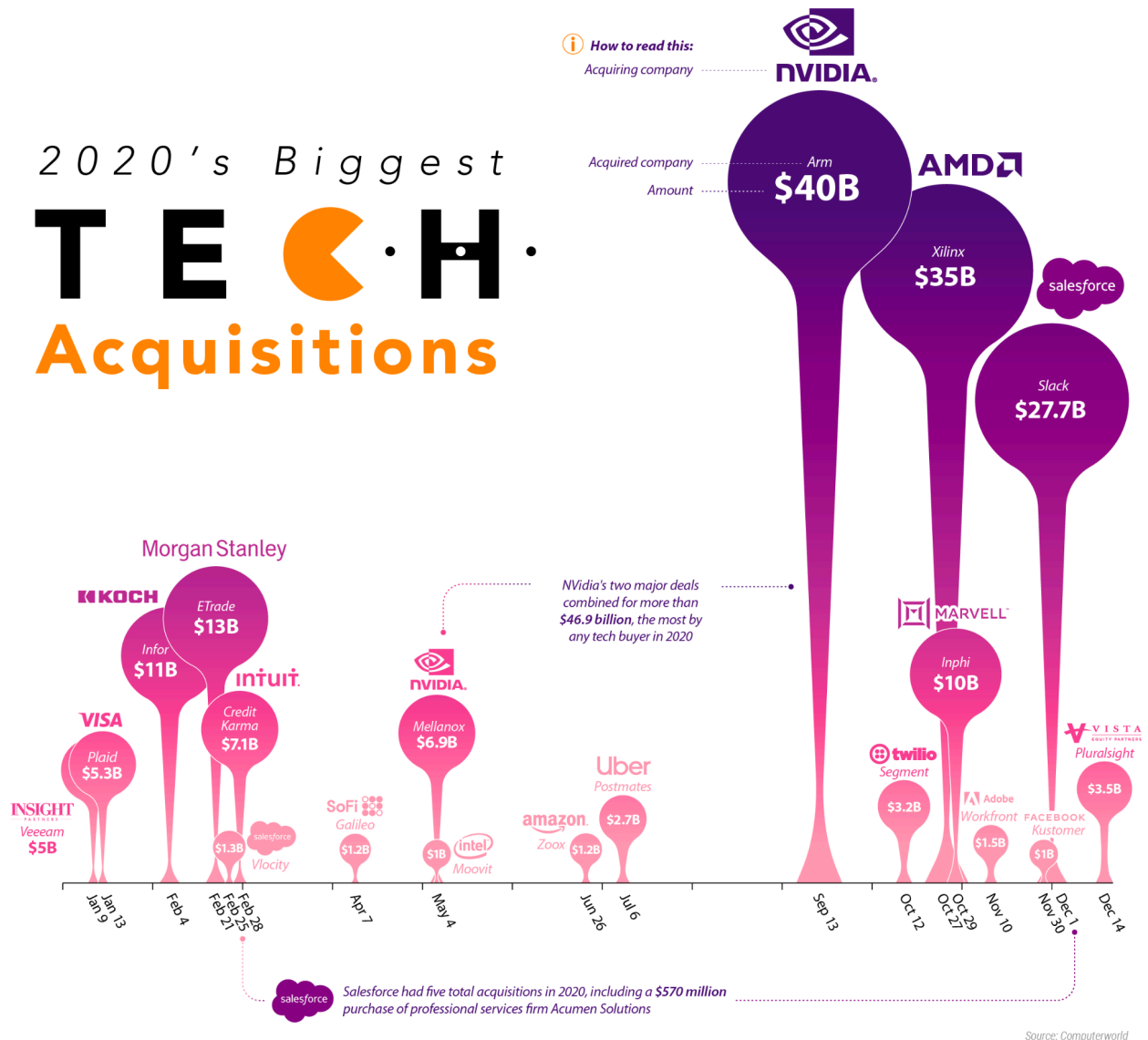
Examining this map visualization against chunking principles and the 3C's notion reveals various concerns with its effectiveness:

1. **Chunking**: The employment of four different colors results in an excessive number of chunks, with each state functioning as a separate chunk. Because of this segmentation, the viewer's eye movement and cognitive burden are heightened since they must constantly consult the legend to understand the meaning of each color. The different legends for states and cases that have been reported further divide the viewer's attention into discrete regions of emphasis.

2. **Clean**: There are errors in the visualization. The use of diverse colors with low contrast can make it tough to identify between the data points, especially for persons with color vision problems. For example, the hues of red and dark red are similar, making it difficult to distinguish between them, which could cause the data to be interpreted incorrectly. Furthermore, the legend might have been made simpler by using fewer color fills and varied circle sizes to represent different data ranges.

3. **Clear**: The narrative of the map lacks clarity. The observer may be duped if well-known colors are used in novel ways. In choropleth maps, a darker color usually denotes a larger concentration; yet, this map seems to employ reds and blues to convey severity without using a distinct gradient, as this could go against the viewer's expectations. Additionally, the territories are represented by their abbreviations at the bottom, which may not be instantly recognisable to all viewers, making it more difficult for them to understand quickly.

4. **Concise**: The visualization lacks succinctness. Redundancy exists in the way that case counts are represented by the colors and sizes of the circles. It divides the viewer's attention between two visual cues that convey the same information, rather than reiterating the information. This repetition may make it more difficult for the audience to quickly and clearly comprehend the information. Moreover, the viewer must use more effort to find and comprehend the facts associated with the areas that have been included with abbreviations rather than having them integrated into the map itself.

In conclusion, by using a more logical color scheme, cutting down on redundancy, and displaying the data in a manner consistent with user expectations and accepted practices in data representation, this visualization might be greatly enhanced.

Visualization 3: Article on "Visualizing the Biggest Tech Mergers and Acquisitions of 2020" (*effective*)

Source:https://www.visualcapitalist.com/visualizing-biggest-tech-mergers-and-acquisitions-of-2020/

2 0 2 0 ' s   B i g g e s t

TE·C·H·
Acquisitions

How to read this:

Acquiring company

Acquired company

Amount

NVIDIA

Arm
$40B

AMD

Xilinx
$35B

salesforce

Slack
$27.7B

NVidia's two major deals combined for more than **$46.9 billion**, the most by any tech buyer in 2020

MARVELL

Inphi
$10B

Morgan Stanley

KOCH

ETrade
$13B

Infor
$11B

INTUIT

VISA

Credit Karma
$7.1B

Plaid
$5.3B

INSIGHT PARTNERS
Veeeam
$5B

nVIDIA

Mellanox
$6.9B

SoFi
Galileo
$1.2B

Uber
Postmates
$2.7B

amazon
Zoox
$1.2B

twilio
Segment
$3.2B

Adobe
Workfront
$1.5B

FACEBOOK
Kustomer
$1B

VISTA EQUITY PARTNERS
Pluralsight
$3.5B

salesforce
Vlocity
$1.3B

$1B (intel)
Moovit

Jan 13
Jan 9

Feb 4

Feb 28
Feb 25
Feb 21

Apr 7

May 4

Jun 26
Jul 6

Sep 13

Oct 12

Oct 29
Oct 27

Nov 10

Dec 1
Nov 30

Dec 14

salesforce
Salesforce had five total acquisitions in 2020, including a **$570 million** purchase of professional services firm Acumen Solutions

Source: Computerworld

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In keeping with the chunking principles and the three C's of visualization, this infographic presents the largest tech acquisitions of 2020 in an effective way.

1. **Chunking**: The infographic uses a gradient of color from light to dark purple to show the purchase cost, effectively grouping the acquisitions into two to three primary chunks. This technique makes it possible to quickly comprehend the extent of each acquisition by minimizing the need for unnecessary eye movement around the chart.

2. **Clean**: The visualization is really well-maintained. It stays away from things like diagonal text, gridlines, and other things that can add to visual clutter. Consistent and readable font size improves the graphic's legibility. There is no overlap that could confuse the visitor thanks to thoughtful element spacing. The infographic also sticks to a minimalist style, skillfully employing whitespace to break up sections and make the whole thing visually pleasing.

3. **Clear**: The information is presented in a clear manner thanks to design decisions made about the type of chart, context, and use of color. Darker hues on the color gradient correspond to larger acquisitions, which is consistent with widely accepted visual standards. By stating the year and emphasizing tech acquisitions, the infographic also clearly establishes context. This is reinforced by the use of corporate logos, which facilitate faster identification of the relevant parties.

4. **Concise**: The information is presented without repetition. To prevent duplication, each acquisition is simply mentioned once and given a single value. Without overwhelming the reader with extraneous details, the infographic contains relevant information like the sum and the acquiring and acquired companies. A key located in the upper right corner of the chart provides a brief explanation of how to interpret it, ensuring that all relevant information is presented without being overly verbose. The use of bubbles to illustrate the size of the acquisition is a clear way to express scale without the need for additional language.

All things considered, the infographic does a good job of adhering to the fundamentals of effective visualization by presenting the data in a way that is simple to understand, visually clear, and communicates information quickly, thereby making it interesting and accessible to its audience.