Xinyu Jiang

Assignment #1

The Original #1

Source:
https://twitter.com/obamawhitehouse/status/677242822920151045?lang=en
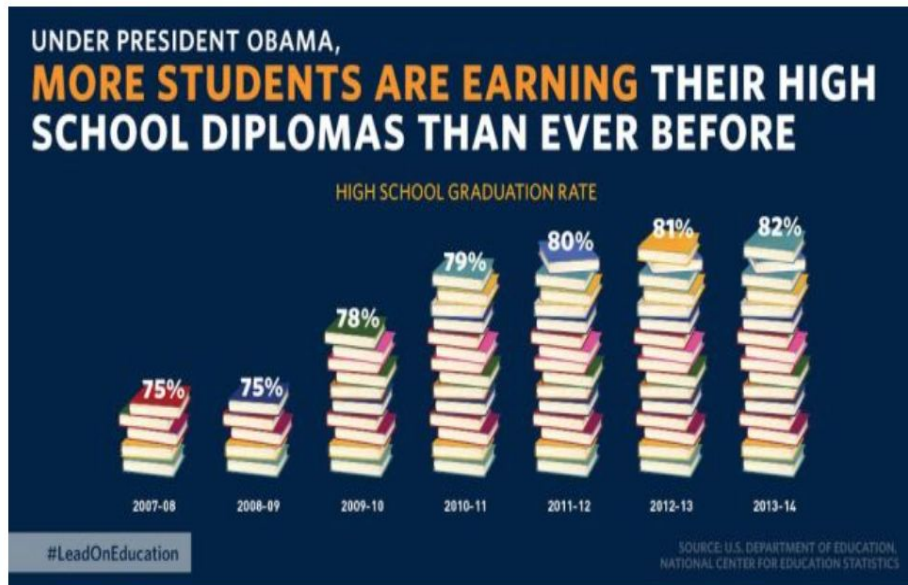
This image is published through the official twitter account of the White House showing that the percentage of U.S. high school students getting a diploma is increasing year by year. However, there are some places cause this chart misleading/hard to read.

- In the chart, it uses books instead of standard bar to show the percentage of high school graduation(The more books in a stack, the higher the graduation rate) . However, the author uses 5 books stack to represents 75% graduation rate and for 78% bar, the author put 10 books stack(twice as many as 75% stack) which could potentially cause misleading.
- There is no y-axis for the graph, which makes it hard for viewers to intuitively feel the increase in graduation rate, especially if the increase is not large.
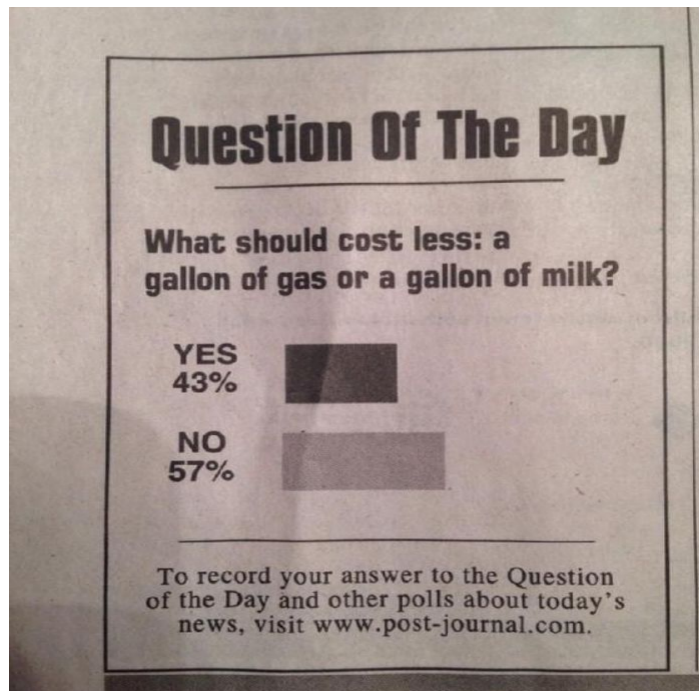
The Redesign #1

High School Graduation Rate Under President Obama
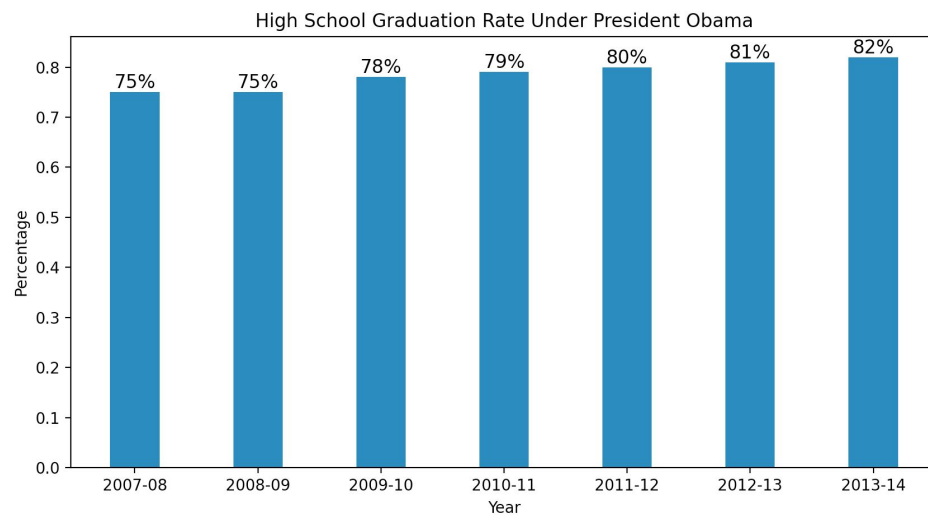
This chart is drawn using matplotlib in python. There are couple reason why this is less misleading.

- The chart uses bars to represents the percentage of high school graduation rate instead of using stacks of books in original chart which help people to see the changes more intuitively.
- It added y-axis to the data and kept the percentage numbers on each bar. Since the increase in the percentage of numbers is not particularly noticeable (about 1%-2% per year), keeping the numbers allows people to more intuitively see the increasing trend of the graduation rate

The Original #2

Question Of The Day

What should cost less: a gallon of gas or a gallon of milk?

YES
43%

NO
57%

To record your answer to the Question of the Day and other polls about today's news, visit www.post-journal.com.

This is a survey on a website about which product(a gallon of gas of milk) should cost less. The result is confusing because of the following reason:

- The survey question is asking about what product should cost less, however, in the results of the questionnaire, the chart shows a yes/no question result which would cause misleading. It is difficult to tell what percentage of people agree a gallon of gas should cost less than a gallon of milk.
- This survey isn't entirely fair on milk and gas usage. For example, one person could use multiple gallons of gas to drive from home to work, but it is difficult for a person to drink a gallon of milk in one day. Thus, it is ridiculous to compare two things with different uses under one metric.
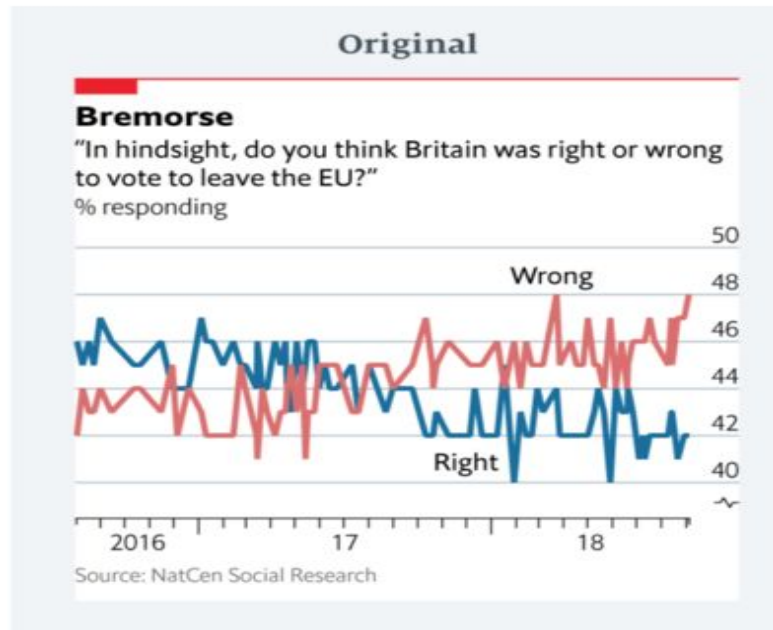
The Redesign #2

What should cost less: a cup of milk or a cup of soda
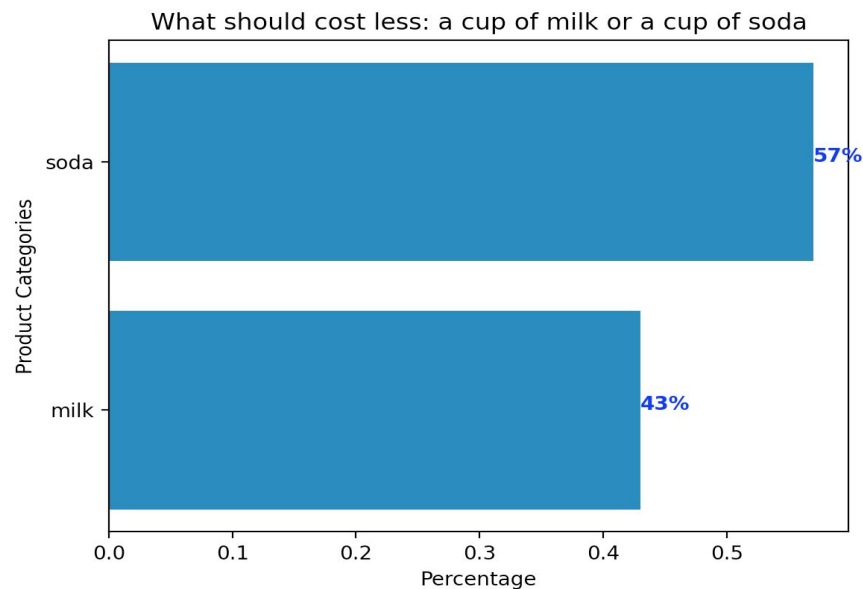
This chart is drawn using matplotlib in python. This chart is less misleading because of the following reasons:

- Instead of yes/no answer on the left, it uses product name as the y-axis showing 57% people agree soda should cost less than milk(data is created just for redesign purpose)
- This chart compares two product with the same usage(drinks). This makes the comparison more meaningful and helps people get useful information more intuitively (The data is created for redesign purpose).

The Original #3

Original

Bremorse
"In hindsight, do you think Britain was right or wrong
to vote to leave the EU?"
% responding

50
Wrong 48
46
44
Right 42
40
～
2016   17   18
Source: NatCen Social Research

Source:
https://www.allendowney.com/blog/2019/04/01/local-regr
ession-in-python/

The major problem of the chart is the author
chooses the wrong visualization method. The
author connected the results for each
respondents all in one line.

It uses a line chart to show attitudes towards the
EU referendum result. Based on the result of the
data, respondents' opinions of the referendum
results are volatile, fluctuating over time.

The method chosen by the author cause data
misleading/difficult to read. Thus, people cannot
intuitively understand the opinion of the voters
on the survey.

The Redesign #3

Source:
https://www.allendowney.com/blog/2019/04/01/local-regression-in-python/
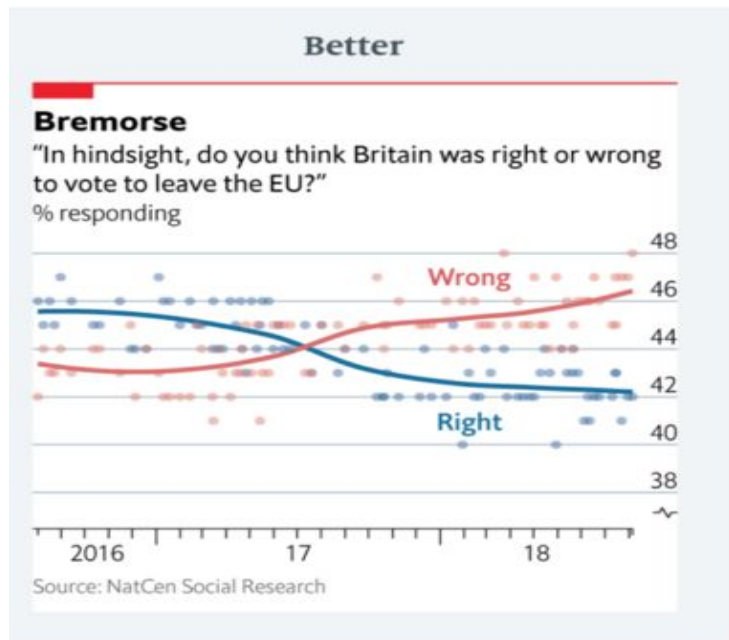
The chart on the left more intuitively shows the participants' opinions on the survey because of the following reason:

- This chart uses scatter plot to record all voters' responses, and then uses a smooth line to represent the trend of voting. The regression line helps people understand the results/trend of the voting more intuitively, at the same time, it contains all participants' votes.