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Assignment #1

Before working on this assignment, I had recently read about monoculture, the practice of growing one strain of a plant. In the past, one type of banana was grown everywhere because of the unique taste and size of the variety. When a disease threatened one type, it threatened banana plantations everywhere. I thought about how useful barley is and decided to “use the data to tell a story” about providing safer alternatives to monoculture.

To tell my story, I focused on plotting the average yield of each variety per year. I used average yield as a metric for evaluating which varieties were best. I transformed my data, averaging the yield of each variety together from both years. The varieties of Trebi and Wisconsin No. 38 had the largest average variety. To combat monoculturalism, one could grow both varieties instead of only focusing on the variety that has the largest average yield. Since monoculture is used when one variety has a clear advantage on average, I determined that focusing on the location or year would only distract from my focus. When creating my visualization, I focused on simple colors for background information. I wanted eyes to be drawn to the data first, before looking at the titles of the visualization. I chose red, a color that stands out, for my data, in order to draw attention towards my data first. My background and titles are either black or grey for the aforementioned reason. I used a bar chart since I had ordinal and nominal data and a bar chart seems to be an appropriate way to show this combination of data types.

By focusing on certain aspects, I downplayed other aspects. My visualization does not capture how the location of the variety varies with the yield. Additionally, variations of each year are not emphasized since I averaged data from both years together. While it would be interesting to consider how location and year affect the yield, the goal of my visualization was to tell a story of providing a safer alternative to monoculture. In monoculture, one variety is chosen and grown by everyone, meaning yearly variations and locations are not as important as unique properties of the variety, such as having a higher average yield than other varieties.

To create my visualization, I used python. I used a library called matplotlib.pyplot to create the graph. I also used a library called csv to read in my data. After reading in the data row by row, I entered each row member into a list that corresponded to their values. (For example I entered the variety into a list of varieties) After doing this, I zipped all four lists together to create a list that contained all information on each row. I then transformed that list by averaging the barley yield of each variety and plotted my results in my visualization.

