Assisted Visualization In D3
A visualization tool to display user-supplied data.

Problem
Software visualization tools such as Tableau can create visualizations easily given appropriate user input. However, the images can be cumbersome to share online, and they do not always follow best visualization practices.

Motivation
It should be simple to create and share well-designed visualizations.

From our personal experiences from this class, putting Tableau visualizations on the wiki page requires many steps. We plan on building an online visualization tool using d3 to create more portable visualizations.

Approach
We decided to implement variations of scatter plots and bar charts as the visualization types available for the user. We created a UI that allows the user to specify which columns of the data they want to visualize, and they can then choose which type of visualization they want for their data.

To make the visualization more portable, we want to be able to export the visualization in an easily embeddable format. We decided that PNG and SVG would be the most useful formats to export.

Results
The visualization tool we created is very simple, but is easily extensible. We were able to incorporate some of Tufte’s chart design goals and combine them with other visualization work, such as the requirement that colors be easily distinguishable. It features a limited degree of automation, such as recognizing data types and suggesting chart designs, but that aspect is not as advanced as other work, such as Autoviz. The primary strength of the project is its flexibility; from this framework it is easy to add a wide variety of other designs using standard d3.

Future Work
The primary opportunity for future work is to increase the number of chart designs supported. In addition, the tool could automatically determine which columns to display, rather than merely suggesting chart designs. Additionally, none of the chart designs feature a significant degree of interactivity currently.

More important than any specific changes, however, is the goal of making advanced visualization techniques easy to use.