Visualization: Homework Assignment #2

In this assignment you will create an interactive bar chart that display statistics from Fifa World Cup Games dating back to 1930. Data retrieved from FIFA's website.

The original homework assignment required using d3. I am providing the resources for the d3 assignment; however you are allowed to use any visualization tool for this assignment.

Task: Create an Interactive Bar Chart using the visualization tools of your choosing; prepare a presentation of your result as well as walk the class through how you created it.

The interactive **bar chart** will allow us to see the evolution of attendance, total number of goals, the number of games, and the number of participating countries over the years.

Future homework assignments link these bar charts to other dimensions of interest, such as maps and detailed information panels.

Notes for using d3:

To be able to access the data files with javascript, you will need to be *serving* the hw2 directory, not just opening the HTML file in a browser. If your development environment doesn't already launch a server for you, you can start one with:

```
cd path/to/hw2
# python 2
python -m SimpleHTTPServer
# python 3
python -m http.server
```

And you can view the page at http://localhost:8000

Part I: Bar Chart

Your first task is to fill in the updateBarChart(selectedDimension) function. Create a bar chart that displays one of the numerical dimensions associated with each World Cup:

- Average Attendance
- Number of Goals
- Number of Games
- Number of Participants

Implement your bar chart such that it displays the dimension specified in the selectedDimension parameter.
Make sure to include x and y axes, with tick labels and use the proper d3 scales and axis.

Next, color each bar based on the selected data attribute (both height and color should encode the selected attribute); define and use the colorScale variable.

Updating the Bar Chart

Make your bar-chart update the data it shows depending on the selection of the drop-down box, which calls updateBarChart() with the new selectedDimension. When you're done with this part, your bar chart should behave like this:

Part II: Selecting a Word Cup

In the updateBarChart() function, there is one location flagged with

```
// ******* TODO: PART II*******
```

Here, you should make your bars respond to click events. This involves highlighting the selected bar with a different color, and outputting the selected bar to the javascript console using console.log().

Grading HW2

The rubrics on the assignment are:

75%: Part I: Bar chart shows current selection, with appropriate scales, axes, and coloring. Switching between the different attributes works.

25%: Part II: Bars can be selected and are highlighted, and selection outputs the selected bar to the javascript console.

Grading for the presentation of how you created it (tutorial like, demonstration) is a separate grade; 75% for in-class presentation and 25% for offline (annotated code, for example) materials.