Assignment 6
Creating a Bar Graph (10 points)
Due Date: April 22, Wednesday, 11:59pm

Objective: To create a colored bar graph using the GDP dataset

Must use D3 v5 (Version 5). Changes between D3v5 and D3v4 are described in https://github.com/d3/d3/blob/master/CHANGES.md
One of the most important changes is how you read a csv file. This change is described at the above weblink and reflected in partial solutions provided below.

We have provided a partial solution to this assignment with both D3v4 and D3v5. Both of these solutions work with older dataset GDP2016TrillionUSDollars.csv. This partial solution must be modified to incorporate changes as described below.

For the solution to this assignment, you must use

1. D3 V5 (changes between
2. Dataset: GDP2020TrillionUSDollars.csv (2020 GDP for 15 countries in Trillions of US Dollars). You are **not** allowed to change the dataset or the column headings. Please note that the column headings are country, gdp.
3. Change the title "2020 GDP".
4. Put your name at the bottom of the visualization.

Your assignment will receive **zero** credit without the above four changes.

Expected Output: The output should look *similar* to the BarGraphSampleOutput.pdf (provided). You graph will be different because the data used to generate this sample output is different than the data provided to you.

Expected Comments: **embed detailed comments** inside the *BarGraphSamplev5.html*, *BarGraphSamplev5.css* and *BarGraphSamplev5.js files* on canvas. Submit these 3 files on canvas after making the changes. Suggested comments to be included are described below. In addition, also submit the output file *BarGraphOutput.pdf* as pdf. Please also include the datafile GDP2020TrillionsUSDollars so that it is easy for us to run your code. You may submit all of these files as a zip file.

BarGraphSamplev5.html
Some minor changes are needed including but not limited to changes as described in items 3, and 4 above.

BarGraphSamplev5.css
Add .axis path and .axis line commands as described in the book with comments

BarGraphSamplev5.js
1. Add tick marks along y-axis at interval of 5 with a $ sign (2 points)
2. Make the bars increasingly blue for higher values (2 points)
3. Label the data values inside the bars (2 points)
4. Orient the x-axis labels so that they are at -60 degrees and not 5. Add y-axis with the caption “Trillions of US Dollars” as shown in the output. (1+1 point).

Add comments through out to demonstrate your understanding of the code (2 points)
1. Add comments to explain margin conventions
2. Add comments to explain svg section
3. Add comments to explain xy scale
4. Add comments to explain reading the data
5. Add comments to explain the domain code
6. Add comments on new code that you add
7. Add comments on adding rectangular bars (demonstrate your understanding of key commands used here)

Resources/References (concepts/code needed to complete the assignment):
1. Let’s Make a Bar Chart I, II, and III by Mike Bostock

Additional Guidelines
You may seek assistance from any source including internet and the teaching team. Please note the following:

1. It is also ok to seek assistance from peers. *If you provide or receive assistance, you are required to provide this information underneath your name stating something like that “I have received assistance from student_name(s)” or “I have worked together with student_name(s).”*
2. *Make sure that each part of the code is well commented with good explanations*. Even if you are seeking or receiving assistance, final comments must be added individually in **your own words**. Two submissions with identical comments will be subject to review, investigation, and possible zero points.
3. You must understand every line of the code that you submit. The instructor and the teaching team reserves the right to ask you to explain any part of the code later in the course. If you are unable to provide adequate explanation, your score may be reverted to zero. This is one of the reasons why you should insert comments generously so that you can explain your own code later.