Visualization Project Proposal

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Dataset:

The united states have an obesity problem, which is caused by consuming excessive calories. I will be looking at Sugar and Sweeteners Yearbook Tables published by the United States Department of Agriculture and research whether a correlation can be found between obesity and consumption of sweeteners. If possible, try to find a correlation by state. Otherwise, I will find the relationship between these events in the country.

The datasets I am choosing for this project are going to be accessed from the following databases:

- Sugar and Sweeteners Yearbook Tables published by the United States Department of Agriculture: https://www.ers.usda.gov/data-products/sugar-and-sweeteners-yearbook-tables.aspx

- The Overweight and Obesity Data, Trends and Maps published by the Centre for Disease Control and Prevention of the United States. https://www.cdc.gov/obesity/data/databases.html

During the course of the project, I will be using the various tools I have learned over the duration of the course.

The data processing and the back end will be built using Flask.

The styling of the project will be done using Bootstrap and CSS.

The graphs, charts and the maps will be made using D3.js.

Approach:

There are many datasets published under each category. The task is to compile the data which will be useful for this task and then perform analysis and then visualize the results.

I will start by finding total usage of caloric sweeteners. This can be divided into corn sweetener, beet sugars, maple syrup, and cane sugar.

I will first analyze how the sugar consumption for the entire country is divided into sub-categories. Then this can be represented in terms of barcharts and pie charts so that data from multiple tables is present in an easily digestible format. All this data will have to be linked manually and combined so that all data can be linked by a key of data which will help to form joins between tables.

https://www.ers.usda.gov/data-products/sugar-and-sweeteners-yearbook-tables/sugar-and-sweeteners-yearbook-tables/#U.S.%20Imports%20of%20Sugar%20Syrups

This website has most of the data to form a comprehensive view of the subject.

Firstly, I can compile the production by state and make a graph of production by state.

Second, I can make a graph of the per capita consumption of various forms of caloric sweeteners. This will show a breakdown of the various caloric sweeteners people are consuming.

Third, after plotting a general trend of consumption of caloric sweeteners over the years, I will take data from the CDC overweight and obesity website and plot the trends and see whether there is a correlation between these 2 data.

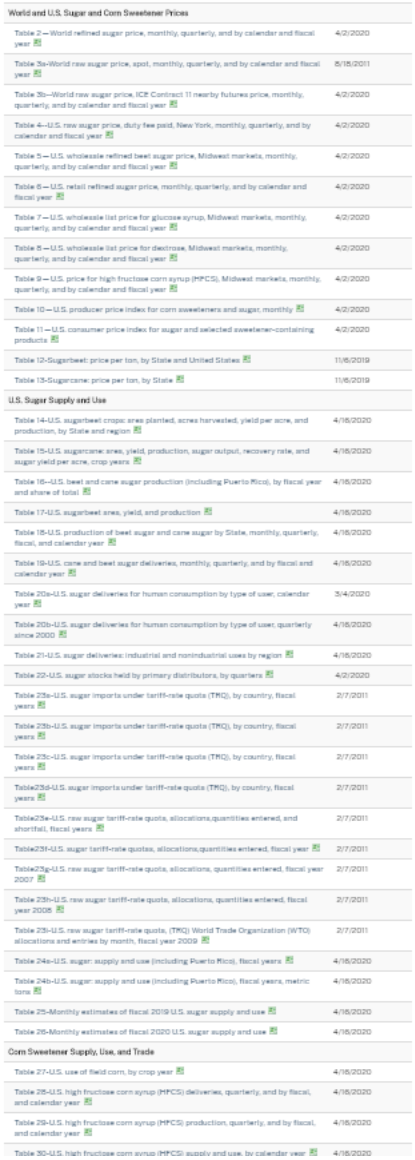
Different plots:

I will be making use of various plots from d3.js to make this dataset extremely intuitive.

I plan to use the following:

- USA Map chart
- Bar Charts
- Pie Charts
- Graphs

The main contribution of this project is to make visualizing this page much easier. I have not found a dataset of obesity per state and hopefully I do, but this is already a huge task.



World and U.S. Sugar and Corn Sweetener Prices	
Table 2—World refined sugar price, monthly, quarterly, and by calendar and fiscal year	4/2/2020
Table 3a-World raw sugar price, spot, monthly, quarterly, and by calendar and fiscal year	8/18/2011
Table 3b—World raw sugar price, ICE Contract 11 nearby futures price, monthly, quarterly, and by calendar and fiscal year	4/2/2020
Table 4—U.S. raw sugar price, duty fee paid, New York, monthly, quarterly, and by calendar and fiscal year	4/2/2020
Table 5—U.S. wholesale refined beet sugar price, Midwest markets, monthly, quarterly, and by calendar and fiscal year	4/2/2020
Table 6—U.S. retail refined sugar price, monthly, quarterly, and by calendar and fiscal year	4/2/2020
Table 7—U.S. wholesale list price for glucose syrup, Midwest markets, monthly, quarterly, and by calendar and fiscal year	4/2/2020
Table 8—U.S. wholesale list price for dextrose, Midwest markets, monthly, quarterly, and by calendar and fiscal year	4/2/2020
Table 9—U.S. price for high fructose corn syrup (HFCS), Midwest markets, monthly, quarterly, and by calendar and fiscal year	4/2/2020
Table 10—U.S. producer price index for corn sweeteners and sugar, monthly	4/2/2020
Table 11—U.S. consumer price index for sugar and selected sweetener-containing products	4/2/2020
Table 12-Sugarbeet: price per ton, by State and United States	11/6/2019
Table 13-Sugarcane: price per ton, by State	11/6/2019
U.S. Sugar Supply and Use	
Table 14-U.S. sugarbeet crops: area planted, acres harvested, yield per acre, and production, by State and region	4/16/2020
Table 15-U.S. sugarcane: area, yield, production, sugar output, recovery rate, and sugar yield per acre, crop years	4/16/2020
Table 16—U.S. beet and cane sugar production (including Puerto Rico), by fiscal year and share of total	4/16/2020
Table 17-U.S. sugarbeet area, yield, and production	4/16/2020
Table 18-U.S. production of beet sugar and cane sugar by State, monthly, quarterly, fiscal, and calendar year	4/16/2020
Table 19-U.S. cane and beet sugar deliveries, monthly, quarterly, and by fiscal and calendar year	4/16/2020
Table 20a-U.S. sugar deliveries for human consumption by type of user, calendar year	3/4/2020
Table 20b-U.S. sugar deliveries for human consumption by type of user, quarterly since 2000	4/16/2020
Table 21-U.S. sugar deliveries: industrial and nonindustrial uses by region	4/16/2020
Table 22-U.S. sugar stocks held by primary distributors, by quarters	4/2/2020
Table 23a-U.S. sugar imports under tariff-rate quota (TRQ), by country, fiscal years	2/7/2011
Table 23b-U.S. sugar imports under tariff-rate quota (TRQ), by country, fiscal years	2/7/2011
Table 23c-U.S. sugar imports under tariff-rate quota (TRQ), by country, fiscal years	2/7/2011
Table23d-U.S. sugar imports under tariff-rate quota (TRQ), by country, fiscal years	2/7/2011
Table23e-U.S. raw sugar tariff-rate quota, allocations,quantities entered, and shortfall, fiscal years	2/7/2011
Table23f-U.S. sugar tariff-rate quotas, allocations,quantities entered, fiscal year	2/7/2011
Table23g-U.S. raw sugar tariff-rate quota, allocations, quantities entered, fiscal year 2007	2/7/2011
Table 23h-U.S. raw sugar tariff-rate quota, allocations, quantities entered, fiscal year 2008	2/7/2011
Table 23i-U.S. raw sugar tariff-rate quota, (TRQ) World Trade Organization (WTO) allocations and entries by month, fiscal year 2009	2/7/2011
Table 24a-U.S. sugar: supply and use (including Puerto Rico), fiscal years	4/16/2020
Table 24b-U.S. sugar: supply and use (including Puerto Rico), fiscal years, metric tons	4/16/2020
Table 25-Monthly estimates of fiscal 2019 U.S. sugar supply and use	4/16/2020
Table 26-Monthly estimates of fiscal 2020 U.S. sugar supply and use	4/16/2020
Corn Sweetener Supply, Use, and Trade	
Table 27-U.S. use of field corn, by crop year	4/16/2020
Table 28-U.S. high fructose corn syrup (HFCS) deliveries, quarterly, and by fiscal, and calendar year	4/16/2020
Table 29-U.S. high fructose corn syrup (HFCS) production, quarterly, and by fiscal, and calendar year	4/16/2020
Table 30-U.S. high fructose corn syrup (HFCS) supply and use, by calendar year	4/16/2020

As you can see, this website provides datasets which are very comprehensive but they are extremely unintuitive. There are millions of datasets like these in the world, but almost all of them are just that datasets. Only people with the knowledge and skills to work with the data can understand the data.

There is a negative connotation to data collection these days, but I believe that data collection is a huge contributor towards mankind's step towards the future. Through this project, I aim to make this dataset accessible and show the importance of data collection.

If I can link the caloric sweetener consumption of obesity, that is an example of how data can be used to plan future actions and help decide legislation.