D3

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Documentation of Project:

D3 is a JavaScript library and framework for creating visualizations. We can create visualizations by binding the data and graphical elements to the Document Object Model (DOM). In this tutorial, I plan to walk through the simple functions that could further help viewers work on maps, charts and plots with other javascript libraries. I will demonstrate the various functions in the library by small code snippets of select() function, DOM Manipulation, data binding (with arrays as well as ul), Scalable Vector Graphics (SVG) designs and plots, as well as animations and transitions.

Script:

5 minutes video

Outline -

1. install D3 on your preferred IDE
   D3 is a JS library so you can simply include it in your html file using the *script* tag
   using d3.select() function
   select and change the color and the font size of a heading tag
2. properties and designs (selectAll function, method chaining)
3. data binding

Script -

D3 is a JavaScript library and framework for creating visualizations. We can create visualizations by binding the data and graphical elements to the Document Object Model (DOM). As D3.js is a part of JavaScript code, so you can simply include it in your html file using the *script* tag and we should write all our D3 code within this script tag.

We may need to manipulate the existing DOM elements, so it is advisable to write the D3 code just before the end of the “body” tag. Installation of D3 is quite simple and so is its usage, so let’s jump right into that.

explain all code snippets
1. how the script is written and the .select() function [HTML tags to be referred to]
2. nested HTML codes, .styled(), .classed(), and .property() functions
3. data binding using array and enter() ing it to display text
4. simple shapes using svg object
5. simple bar graph using svg environment
6. simple animation with a .duration() function

Simple functions as such from the D3.js library could further help us work on advanced maps, charts and plots alongside other javascript libraries.

Resources Used -

- https://website.education.wisc.edu/~swu28/d3t/index.html
- http://objjob.phrogz.net/d3/methods

Personal Notes -

In our JavaScript code above, D3 first selects the `<ul>` and any `<li>` elements inside it using `select()` and `selectAll()` methods. It might seem a bit weird that we’re selecting all `li` elements before we’ve created them, but that’s just how D3 works.

We then pass in the data with the `data()` method, and add `enter()`, which works kind of like a loop. Everything after this point will be executed once per item in the `fruits` array.

In other words, it then appends an `<li>` for every item in data. For every `<li>` tag, it also appends text inside it using the `text()` method. The parameter `d` inside the `text()` callback function refers to the element in the array at the given iteration (*apple, mango, and so on*).
