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Homework 3 Data Processing

How can D3 access and change the DOM? What do select and selectAll do?

It can access the DOM by selecting an element. Select selects a certain element with a class in the DOM whereas selectAll accesses all elements with that class name.

What are the d and i in function(d){} and function(d, i){}?

D refers to every datapoint in the database, i is every datapoint in the created output array.

Write sample lines of JavaScript to add a div element with class "barChart1" and to add an svg element with class "barChart2" with square dimensions.

```
var div = d3.select("body").append("div")  
    .attr("class", "barChart2")  
    .attr("width", 10)  
    .attr("height", 10)
```

Describe append, update, enter, and exit at a high level. What does "selectAll + data + enter + append" refer to?

Append adds an element to a selected element of the DOM.

Update: ??

Enter: when enter() is called on a selection, we switch to a sub-selection representing the data that is yet to be mapped to an element.

Exit: the reverse of enter, when there are elements but nowhere for them to be mapped to, we have to exit the selection.

What are the main differences between drawing a bar chart with HTML and SVG?

As opposed to html, svg bars can be interactive and dynamic.

In drawing the simple bar chart with D3 and SVG, what elements were appended, and what parts of the graph did these elements correspond to?

rect - bars

g - axis

text - axis legend

div - tooltip (display temp when hovering over)