

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

By using `d3.select()` or `d3.selectAll()`. By giving nodes or classes or id's as arguments. D3 can find the first (`select()`) or all (`selectAll()`) the elements that match the input criteria.

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

The `d` returns the data of that element and `i` is the position of that element in the list.

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 body = d3.select('body')
    .append('div')
    .attr('class', "barChart1");

body.append('svg')
    .attr("width", width)
    .attr("height", height)
    .append('rect')
    .attr('class', "barChart2")
    .attr("width", squareWidth)
    .attr("height", squareHeight)
    .attr("fill", "steelblue");
```

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

Append creates a new node. Enter works with select all and adds the nodes if necessary (if there aren't enough nodes for the data). Exit deletes the nodes.

"selectAll + data + enter + append": selects all nodes that match the search criteria and adds the data to them. If there aren't enough nodes for the data selection then enter will make sure those nodes will be added/created with the append function.

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

A vector image (SVG) can be scaled in all kind of dimensions without losing quality. SVG's are objects where drawing with HTML are not.

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?

The SVG canvas that give the dimensions of the total chart, rectangles that are the bars and text elements that show the data for the bars and on the axis'.