

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

You can access the DOM by calling the object `d3` in the JavaScript script. Then use one of its inherent function, within brackets and quotes one can provide arguments. So you can select stuff.

The `select` function selects the first element that matches the specified selector string (the argument in-between the brackets and quotes that I referred to in the previous paragraph).

The `selectAll` function selects all elements that match the specified selector string. The elements will be selected in document order from top to bottom.

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

Arguments to the callback function

3. 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("div")
    .append("svg")
    .attr("width", 500)
    .attr("height", 500)
    .attr("class", "barchart1");

var rect = div.append("rect")
    .attr("width", 100)
    .attr("height", 100)
```

```
.attr("fill", "black")  
.attr("class", "barchart2");
```

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

Enter: with enter one can create new nodes for incoming data. So that unexisting element can be made to existence. (as a placeholder)

Append: with append one can insert elements in tot he DOM.

Exit: with exit one can remove outgoing nodes that arn’t needed anymore.

Data: with data one can call the data that you want to use and bind this to the DOM elements

SelectAll: The selectAll function selects all elements that match the specified selector string. The elements will be selected in document order from top to bottom.

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

SVG is Vector-based, HTML Canvas manipulates pixels

SVG can be interactive, HTML Canvas can’t

6. 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 rectangles are appended this elements correspond to the data.