

Questions

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

D3 can select parts of the DOM based on class names, and add parts to the DOM by ‘appending’ those elements. With `select` only the first element that matches is selected. `selectAll` selects all the elements that match the select statement, and preserves it’s order.

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

‘d’ simply represents the data that is given with the selection, and ‘i’ represents the index of the data.

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.

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

```
d3.select('body').append("svg").attr("class", "barChart2").attr("width", 100).attr("height", 100);
```

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

Append: Insert a element of a given type to the DOM

Update: Updates the chart accordingly to new available data. This could mean more bars, or just other values.

Enter: Contains the items that are not used in the canvas (If data is bigger than the amount of data presented in the chart)

Exit: Contains items from the dataset that you want to be removed from the DOM.

“`selectAll + data + enter + append`” refers to the method that first the enter selection is empty, and by appending the right amount of bars are created in the DOM.

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

SVG is based on vectors, not on pixels. This means SVG can be resized without loosing quality. Also SVG elements can be added dynamically. With HTML that is not possible, because the elements has to be redrawn completely.

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?

Text: The text on the X and Y axis describing the content.

Bars: The actual bars based on the input data.

G elements: New SVG elements containing the X and Y axis.

D3-Tip: Corresponds to the tooltip that shows when hovering a bar in the chart.