

## Answers to the questions of Week 3 | Nadja van 't Hoff (11030720)

- 1. How can D3 access and change the DOM? What do select and selectAll do?**  
Through select the first element with the specification is returned which allows a manipulation of individual nodes. With selectAll, all elements with the specification (e.g. the class) are selected, which allows a selection and thus a modification of several elements at the same time. D3 can access the DOM when a script link is added in the html file. Data is binded to the DOM which enables data-driven transformations.
- 2. What are the d and i in function(d){} and function(d, i){}?**  
In D3, d is the data value associated with the value at the index i.
- 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.**  
`d3.select("body").append("div").attr("class", "barChart1")`  
`d3.select("body").append("svg").attr("class", "barChart2")` (I don't understand what is meant by square dimensions)
- 4. Describe append, update, enter, and exit at a high level. What does "selectAll + data + enter + append" refer to?**  
With append, a new element can be added to an existing element, if this doesn't yet exist. With enter, new nodes for incoming data can be created, whereas outgoing nodes can be removed with exit. With update, modifications can be made to an element. When first using selectAll and then data, the data from the data array is joined with a node. When there are not enough nodes, new ones are created and become the enter selection. This is done by enter + append.
- 5. What are the main differences between drawing a bar chart with HTML and SVG?**  
SVG can be embedded in the HTML code. It is a lot more flexible and less tedious to use compared to drawing a bar chart with HTML. Furthermore, SVG can be modified by Javascript code in real time.
- 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 elements for the chart were appended. To this chart, the elements for the header, the bars and the axes were appended. The part of the bars again consisted of elements – one for each bar (and text belonging to that bar).