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

D3 accesses DOM by less-abstract ways than languages like html. D3 bundles certain repetitive lines for one action call. For example, “selectAll” selects all objects of a given element and followed with a function, adjustments can be made to all objects in just on line of code, where with “select”, individual nodes can be manipulated =>

-d3.selectAll("p").style("color", "white");

-d3.select("body").style("background-color", "black");

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

Arbritray values that represent input arguments that can be used in the function itself, the function is described between { }

1. 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\_new = document.createElement("div");  
div\_new.className = "barChart1";  
var node = node.createTextNode("this is a new div element");  
div\_new.appendChild(node);  
var element\_to\_append\_to = document.getElementById("Body");  
  
var svg = document.createElementNS("http://www.w3.org/2000/svg", "svg").className = "barChart2";  
var new\_rect = document.createElementNS("http://www.w3.org/2000/svg", "rect");  
new\_rect.setAttributeNS("x" , 5);  
new\_rect.setAttributeNS("y" , 5);  
new\_rect.setAttributeNS("width", 500);  
new\_rect.setAttributeNS("height", 500);  
new\_rect.setAttributeNS();  
svg.appendChild(rect)

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

With enter you can create new nodes for incoming data

With exit you can remove outgoing nodes that are no longer needed.

Update comes in hand when there are fewer DOM elements than data. Selected with exit, elements outside of the data range can be reached an manipulated.

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

HTML is more of a custom type of barchart, while with svg all parts can be customized to own preference

1. 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?

In SVG you have to create and element before you can edit it, in D3 you can create while editing