

1. How can D3 access and change the DOM? What do `select` and `selectAll` do?  
`select` returns the first element of the specified type, class or id. `selectAll` returns all of the elements that meet these criteria.
2. What are the `d` and `i` in `function(d){}` and `function(d, i){}`?  
the '`d`' specifies the dataset used in the function, the '`i`' specifies the index. The letters are just conventional, you could replace them for any other character, because it's the position that matters. so in function "`( i, d ) { return i }`" the `i` would represent the data. You don't need to use the data set or the indices if you specify them.
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(".barChart1").append("svg").attr("class","barChart2").attr("width", 50).attr("height",50)
```
4. Describe `append`, `update`, `enter`, and `exit` at a high level. What does "selectAll + data + enter + append" refer to?  
`append` adds a DOM element at the end of the specified domain. `Update` (`re`) applies the values of the dataset to the specific selection. `Enter` creates a placeholder for elements based on the specified data set, which can later be specified to be of a certain type and appended or inserted. `Exit` selects all the elements which don't have a corresponding value in the data set. "selectAll + data + enter + append" refers to the line of functions used to add new elements to the DOM, based on the dataset. First a selection of elements is made, then a dataset is specified, then placeholders are created for new elements, then those placeholders are instantiated.
5. What are the main differences between drawing a bar chart with HTML and SVG?  
when drawing a bar with html you are drawing bars in pixels. When drawing a bar in svg, you draw in coordinates based on the position of the svg element.
6. In drawing the simple bar chart with D3 and SVG, what elements were appended, and to what parts of the graph did these elements correspond?  
div elements were added, which corresponded with the bars. Later,

<g> elements were used instead, because these can scale in a svg element, where div's cannot.