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

d3.select(“p") for instance accesses the first <p> element of the html document and adding .style("color","red") to the end of that statement changes the font colour within that paragraph to red.

d3.selectAll("p") accesses all the <p> elements in the html

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

A function can be passed to change an attribute within the html. The d in function(d) could be something else and is nothing more than a convention. In function(d, i) the i is an argument passed in the 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.

```
<div class="barChart1"></div>
<script src="//d3js.org/d3.v3.min.js"></script>
<script>

var data = [4, 8, 15, 16, 23, 42];

var x = d3.scale.linear()
   .domain([0, d3.max(data)])
   .range([0, 420]);

d3.select(".barChart1")
  .selectAll("div")
   .data(data)
  .enter().append("div")
   .style("width", function(d) { return x(d) + "px"; })
   .text(function(d) { return d; });

</script>
```

(from https://bl.ocks.org/mbostock/7322386)

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

append, update, enter, and exit and selection tools.
This selects all bodies of a certain kind, binds the data, selects the virtual .enter() selection and appends the element

(from https://www.dashingd3js.com/creating-svg-elements-based-on-data)

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

Graphics created using HTML Canvas is resolution dependent, whereas SVG is vector in nature. SVG is scalable, images can be printed with at any resolution with great quality and images can be zoomed to any level.

(from http://www.dotnetcurry.com/html5/987/create-charts-html5-svg)

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?

bars with a set width and a specific length were appended, together with corresponding values for those bars