

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

It can do this by traversing the DOM and placing new lines of HTML at certain locations. It finds its way through the DOM by using **select** or **selectAll**. This returns certain locations that have a particular class or tag. Here it can add HTML to have certain elements appear using **svg**.

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

d would refer to the dataset you are using and have declared above. **i** works as an iterator moving through the dataset

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.

```
var body = d3.select('body')
```

```
  .selectAll('div')
```

```
  .data(data)
```

```
  .enter().append('div')
```

```
  .attr('class', 'barChart1')
```

```
var chart = d3.select(".chart")
```

```
  .attr("width", 200)
```

```
  .attr("height", 200);
```

```
chart.append("rect")
```

```
  .attr('class', 'barChart2')
```

```
  .attr("x", 10)
```

```
  .attr("y", 10)
```

```
  .attr("width", 50)
```

```
  .attr("height", 100);
```

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

Append is adding a single element to the parent element in the DOM,

Update is for changing existing elements

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Enter() is for entering more than one element and can be used to for example append multiple elements.

“selectAll + data + enter + append” is the basic workflow for adding multiple elements from data.

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

Firstly SVG uses scalable vector graphics. But most importantly is that SVG remembers your drawings as objects and thus they can be manipulated later on. HTML on the other hand forgets them after having drawing them. Therefor requiring the page to be refreshed to rerender the drawings.

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?

Rect and text, these corresponded to the literal shape of the bar and the value of the data that was displayed in the bars.