

## Homework D3

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1. In a similar way that JavaScript can access the DOM through e.g. `getElementById`, D3 uses methods such as `d3.select` and `d3.selectAll`. It takes a string and will return the corresponding elements in the DOM. The difference between `select` and `selectAll` is that the latter indeed selects all elements that have the identifier, whereas `select` only returns the first element.
2. `d` refers to the data that is bound to the element that we are manipulating. The `i` is the index of the element (its position in the list of all elements).

3. 

```
d3.select("body").append("div")
  .attr("class", "barChart1");
  .attr("width", 4);
  .attr("height", 4);
  .attr("x", 7);
  .attr("y", 7);
```

```
d3.select("body").append("svg")
  .attr("class", "barChart2");
  .attr("width", 4);
  .attr("height", 4);
  .attr("x", 7);
  .attr("y", 7);
```

4. Append: we add a new object of a certain type so that we can attach data to it. Update: data is joined with an existing element. Enter: in this selection, the data elements are stored that cannot immediately be bound to an element. Exit: when there are more elements than data points we can use `exit` to remove the redundant elements. Then, the `selectAll + data + enter + append` sequence indicates that we first select the existing elements, bind data to them, save the data points that cannot be bound in `enter` and then append new elements for those data points.
5. SVG is much more dynamic: whereas with HTML, we can mostly only add rectangular shapes, SVG also allows us to draw all kinds of curves.
6. Three types of elements were appended: `g`, rectangles and text. The rectangles (so the bars) and the text (the labels) were each contained in a `g` element.