jQuery for d3

What is jQuery?

jQuery is a Javascript library of functions designed to help the programer to “write less, do more.” jQuery uses a unique syntax that allows for less text to be coded. The jQuery library contains many features including HTML element selections/manipulations and JavaScript effects and animations.

Syntax

jQuery was designed for selecting HTML elements and performing an action on them. All jQuery lines are preceded with a “**$**” to signify it's a jQuery statement, then there is the **selector** which will define what HTML element we will select, and finally **action()** which will determine what we do with the element.

$(selector).action()

Depending on how the selector is defined will affect what items are selected.

(this) will select the current element
(“p”) will select all the elements with property p (all paragraphs)
(“#test”) will select the element with ID = “test”

For more examples of jQuery Selectors see here:
http://www.w3schools.com/jquery/jquery_ref_selectors.asp

Method Chaining

Many of the jQuery methods will also return a jQuery object that can then be used to call another method. This is called Method chaining as is allows the programmer to do many things with a single element by just simply adding another method rather than having to select the object again.

Example:
This:

```
$(“p”).text(“This is just a test”);
$(“p”).css(“color”, “blue”);
```

Can be replaced by this:

```
$(“p”).text(“This is just a test”).css(“color”, “blue”);
```

Or this:

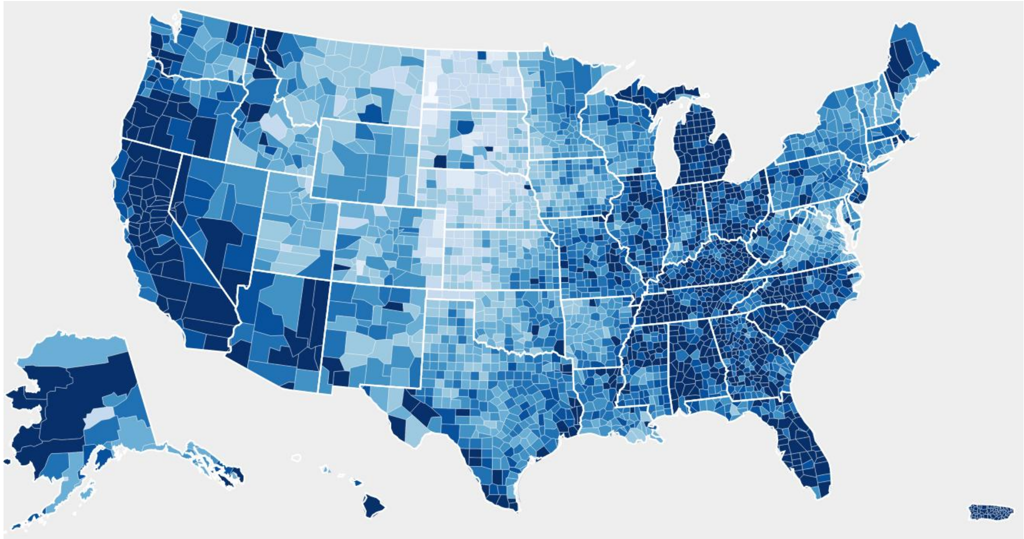
```
$(“p”).text(“This is just a test”)
          .css(“color”, “blue”);
```

How does it relate to d3?

Much of the syntax of jQuery is shared with d3. Method chaining is a very important part of writing code in d3. d3 does not directly use jQuery, so the jQuery library of functions is not directly accessible in d3 by default. Selections are handled differently in d3 as well, but that will be discussed in detail later.

jQuery Syntax in a d3 example:

The following visualization is directly from the d3 example page. This is a Choroplet design of the United States.



Source: http://mbostock.github.com/d3/ex/choropleth.html
Below is the 38 lines of d3 code used to implement this visualization (not including source files). You can see that the jQuery style of Method Chaining is used in many of these lines of code

```
var data; // loaded asynchronously

var path = d3.geo.path();

var svg = d3.select("#chart")
  .append("svg");

var counties = svg.append("g")
    .attr("id", "counties")
    .attr("class", "Blues");

var states = svg.append("g")
    .attr("id", "states");

d3.json("../data/us-counties.json", function(json) {
  counties.selectAll("path")
      .data(json.features)
    .enter().append("path")
      .attr("class", data ? quantize : null)
      .attr("d", path);
});

d3.json("../data/us-states.json", function(json) {
  states.selectAll("path")
      .data(json.features)
    .enter().append("path")
      .attr("d", path);
});

d3.json("unemployment.json", function(json) {
  data = json;
  counties.selectAll("path")
      .attr("class", quantize);
});

function quantize(d) {
  return "q" + Math.min(8, ~~(data[d.id] * 9 / 12)) + "-9";
}
```