Tutorials to learn D3.js:

**Tutorial 3 Basic SVG Shapes:**

https://www.youtube.com/watch?v=TR39nfAW1dw&list=PL6il2r9i3BqH9PmbOf5wA5E1wOG3FT22p&index=3

SVG: Scalable Vector Graphics - use to make 2d images

**Tutorial 4 Visualizing Data:**

https://www.youtube.com/watch?v=4haBbPEClP4&index=4&list=PL6il2r9i3BqH9PmbOf5wA5E1wOG3FT22p

"In the HTML DOM (Document Object Model), everything is a node:

The document itself is a document node

All HTML elements are element nodes

All HTML attributes are attribute nodes

Text inside HTML elements are text nodes

Comments are comment nodes

"

The DOM is a W3C (World Wide Web Consortium) standard.

The DOM defines a standard for accessing documents:

"The W3C Document Object Model (DOM) is a platform and language-neutral interface that allows programs and scripts to dynamically access and update the content, structure, and style of a document."

The W3C DOM standard is separated into 3 different parts:

Core DOM - standard model for all document types

XML DOM - standard model for XML documents

HTML DOM - standard model for HTML documents

**Tutorial 5 Scales:**

https://www.youtube.com/watch?v=iMYkVLWc3y0&list=PL6il2r9i3BqH9PmbOf5wA5E1wOG3FT22p&index=5

Scales: let you scale stuff

Note how the widthScale is a variable but is USED AS A FUNCTION?! Whaaa..same for color->color(d)

Anonymous function: function without name (often invoked within other functions as arguments)

**Tutorial 6: Groups and Axes**

- d3.svg.axis() creates an axis

- .append("g") - groups everything together in a container (ex: we grouped the rects in the body)

- appending to canvas, creates a new group within the canvas

**Tutorial 7: Enter, Update, Exit**

**Why use these!?**

**-** so you don’t have to have for loops and conditionals to bind data to visuals

- has value when making things dynamic, by “Reselecting” elements, thus minimizing DOM changes

https://www.youtube.com/watch?v=OZXYk\_bgQGQ&index=6&list=PL6il2r9i3BqH9PmbOf5wA5E1wOG3FT22p#t=12.808934

ALSO: https://bost.ocks.org/mike/join/ <-- NOTE: uses "elements" to refer to circles (DOM elements)

http://www.w3schools.com/jsref/dom\_obj\_all.asp

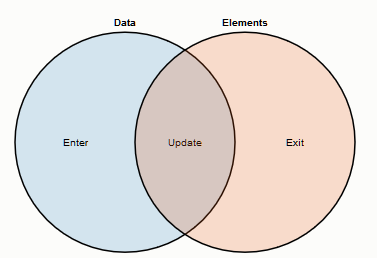
Consider three possiblities:

DOM elements < data elements (enter )(DOM elements being the shapes we added, the rects)

DOM elements > data elements (exit)

DOM elements = data elements (update)

visual of this , left being data> elements case -- > goes to Enter:

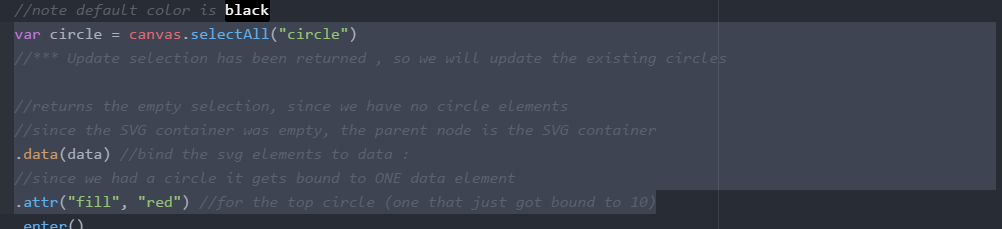


datum: piece of data (element in this case)

**Selection:** A **selection** is an array of elements pulled from the current document. D3 uses [CSS3](http://www.w3.org/TR/css3-selectors/) to select elements. For example, you can select by tag ("div"), class (".awesome"), unique identifier ("#foo"), attribute ("[color=red]"), or containment ("parent child")

**-**Thinking with joins means declaring a relationship between a selection (such as "circle") and data, and then implementing this relationship through the three *enter*, *update* and *exit* states.

\*\*\* NOTE THERE IS NO .update()!!! You update existing DOM elements with data via just

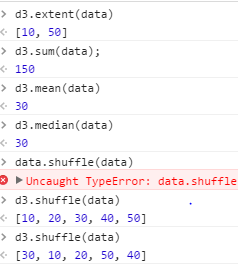


**Tutorial 8 Transitions:**

**-**code

**Tutorial 9- working with arrays:**

-shows how to test arrays in your console (ex: d3.mix(data) )



**Tutorial 10- Loading External Data**

JSON: JavaScript Object **Notation** (just a notation!)- arrays of key value pairs

For data files (JSON, CSV, etc) use Python to create a local server:

python -m http.server [<portNo>]

then go to browser: <http://localhost:8000/> (if 8000 was your port number)

-why was there an error when using d3.min.js instead of d3.js

var obj = {a: 'foo', b: 'bar'};

obj.a //foo

obj['b'] //ba

JSON vs. SQL from stackoverflow:

Are they the same type of thing? No.

Absolutely not. JSON is the data format in order to pass the data from the sender to the receiver. SQL is the language used by relational databases in order to define data structures and query the information from them. JSON is not associated with any way to store or retrieve the data.

-JSON isn't a database, but there isn't anything stopping you from using JSON in a database. Mongo DB is a database that uses JSON

**Tutorial 11- Paths**

-Paths: Components /elements of SVG. Can be used to create any shape.

the ‘d’ attribute stores the path data when we inspect element

-Transform css property: The transform property applies a 2D or 3D transformation to an element. This property allows you to rotate, scale, move, skew, etc., elements.

|  |  |  |
| --- | --- | --- |
| translate(*x,y*) | Defines a 2D translation | [Play it »](http://www.w3schools.com/cssref/playit.asp?filename=playcss_transform_translate) |
| translate3d(*x,y,z*) | Defines a 3D translation |  |