

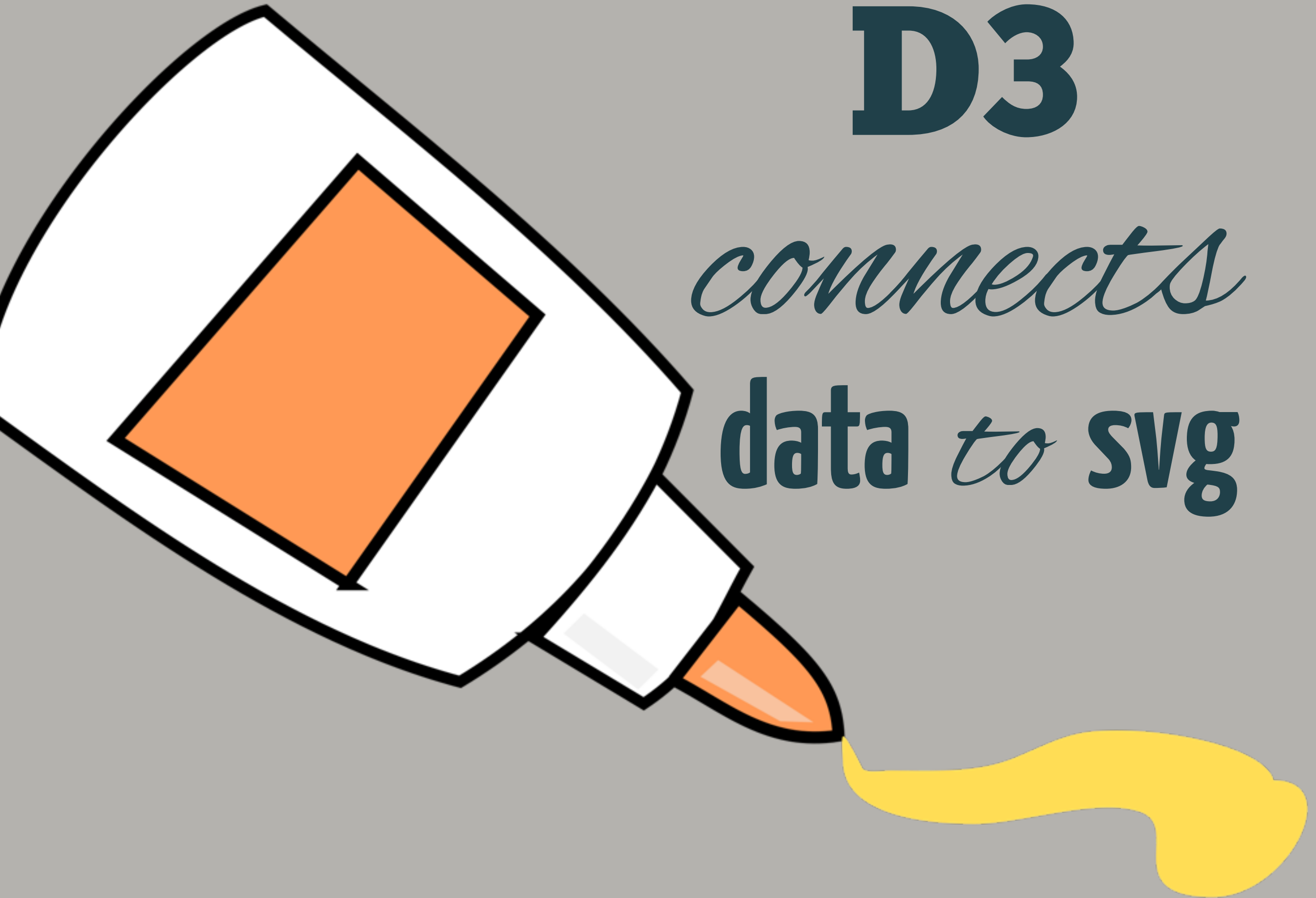


**Data**  
**Driven**  
**Documents**

# First Steps

Hello  
World!





# D3

*connects*  
**data to svg**

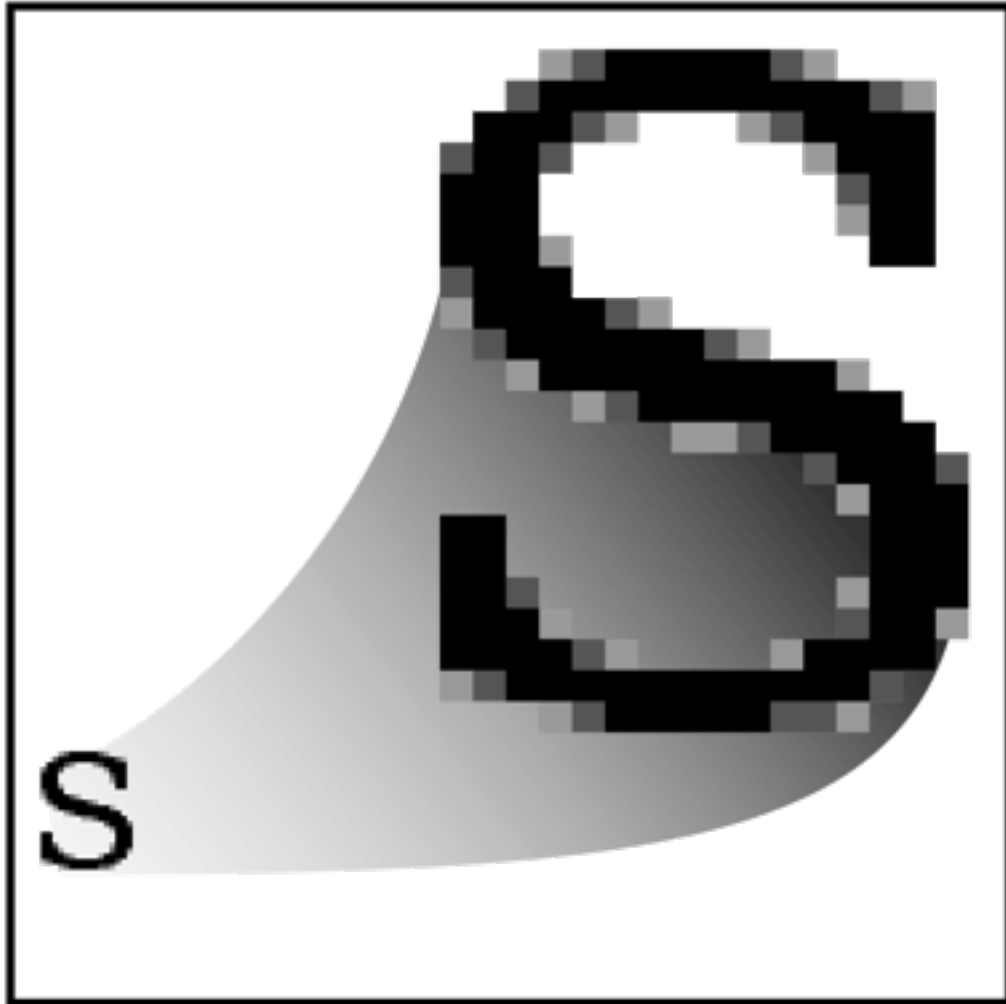


# Building Blocks

**Scalable Vector Graphics (SVG)**

**XML-based vector image format**  
for two-dimensional graphics





# Raster

.jpeg .gif .png



# Vector

.svg

# SVG Basic Elements

svg — container element

circle, rect, line — basic shapes

path — drawing paths

g - used for grouping

text - for text

```
<div id='test'> d3.select('#test')
```

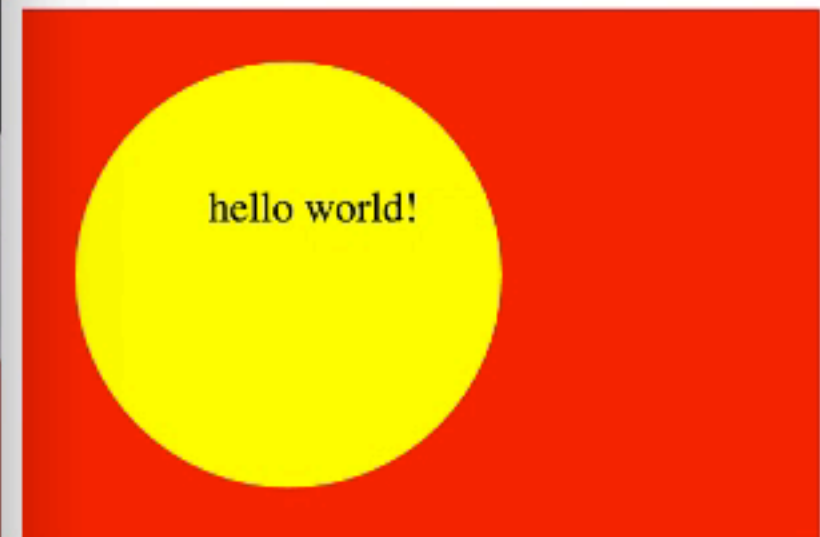
```
<div class='test'> d3.select('.test')
```

# SVG Path

```
<path d = "M 0,300 A 200, 200 0 0, 1, 400, 300"/>
```

- M = move to
- L = line to
- H = horizontal line to
- V = vertical line to
- C = curve to
- S = smooth curvet
- Q = quadratic Bezier curve
- T = smooth quadratic Bezier curve to
- A = elliptical arc
- Z = close path

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4
5  </head>
6  <body>
7  <svg width='600'
   height='600'>
8      <rect width='300'
   height='200' fill='red' />
9      <circle r='80' cx='100'
   cy='100' fill='yellow' />
10     <text x='70' y='80'>hello
   world!</text>
11     <path d = "M 0,300 A 200,
   200 0 0, 1, 400, 300" />
12 </svg>
13
14
15 </body>
16 </html>
```





Ai

Br



No Selection



Stroke:

1 pt

Uniform

3 pt. Round

Opacity:

100%

Style:



Document Setup

Preferences



gen2.ai @ 400% (RGB/Preview)



Transform Align Pathfinder

```
1 <!DOCTYPE html>
2 <html>
3 <head>
4 </head>
5 <body>
6   <svg width='600'
   height='600'>
7     <rect width='300'
   height='200' fill='red' />
8     <circle r='80' cx='100'
   cy='100' fill='yellow' />
9     <text x='70' y='80'>hello
   world!</text>
10    <path d = "M 0,300 A 200,
   200 0 0, 1, 400, 300"
   fill='orange' fill-opacity='0.5'
   stroke='black' stroke-
   width='3' />
11    <path d =
   "M16.843,33.105c0.473,0,0.916,0.
   05,1.313,0.131c1.515-
```



# **Basic SVG Manipulation**

# Getting started with d3 — Codepen

rxYbbN  
A PEN BY CAPTAIN ANONYMOUS

Save

Fork

Settings

Change View

Log In

Sign Up

HTML

<div id="canvas"></div>

Pen Settings

HTML CSS JavaScript Behavior

JavaScript Preprocessor ?  
None

Add External JavaScript ?  
These scripts will run in this order and before the code in the JavaScript editor. You can also link to another Pen here, and it will run the JavaScript from it. Also try typing the name of any popular library.  

https://cdnjs.cloudflare.com/ajax/libs/d3/3.5.6/d3.min.js

http://codepen.io/username/pen/aBcDef

Quick-add: --- + add another resource

Analyze JS via JS Hint

ale(' + scale\_x + ',' +  
le\_y + ')')  
  
current\_id += 4  
if (current\_id >= 1750) {  
  
current\_id = 0  
}  
  
}  
  
function translate(x, y) {  
return 'translate(' + x +  
+ y + ')'  
}

Save & Close

# Happy Recursive Trees





# Gotchas



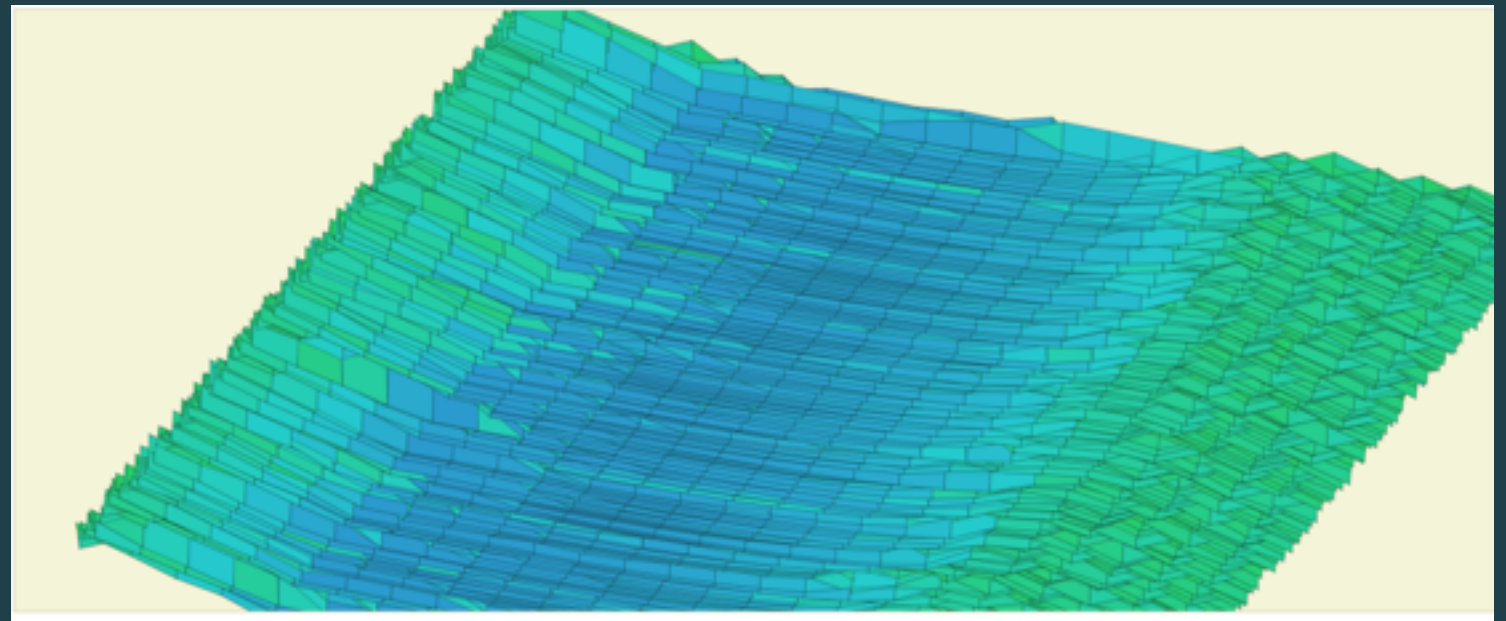


# Visualizing Lots of Data

Making sense out of numbers.

**Monthly Hourly Load Profile Data Tables**  
(kW, See Charts Above)

Hour	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
1	477	470	388	342	305	367	439	412	345	306	347	419
2	471	465	381	337	295	348	424	400	337	300	342	412
3	470	464	381	338	288	336	412	388	333	299	341	412
4	474	467	385	342	288	332	409	383	333	302	345	415
5	479	473	393	346	289	334	413	382	337	307	350	418
6	495	488	411	359	299	352	429	395	349	321	364	432
7	550	545	467	413	350	416	490	452	402	373	419	486
8	658	646	570	513	458	547	615	573	514	474	522	591
9	751	734	655	598	559	673	731	688	618	565	610	681



**Data Viz with dimple**



# Encapsulating Complexity



# Integration with Angular