

Data Visualization in D3

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What is D3?

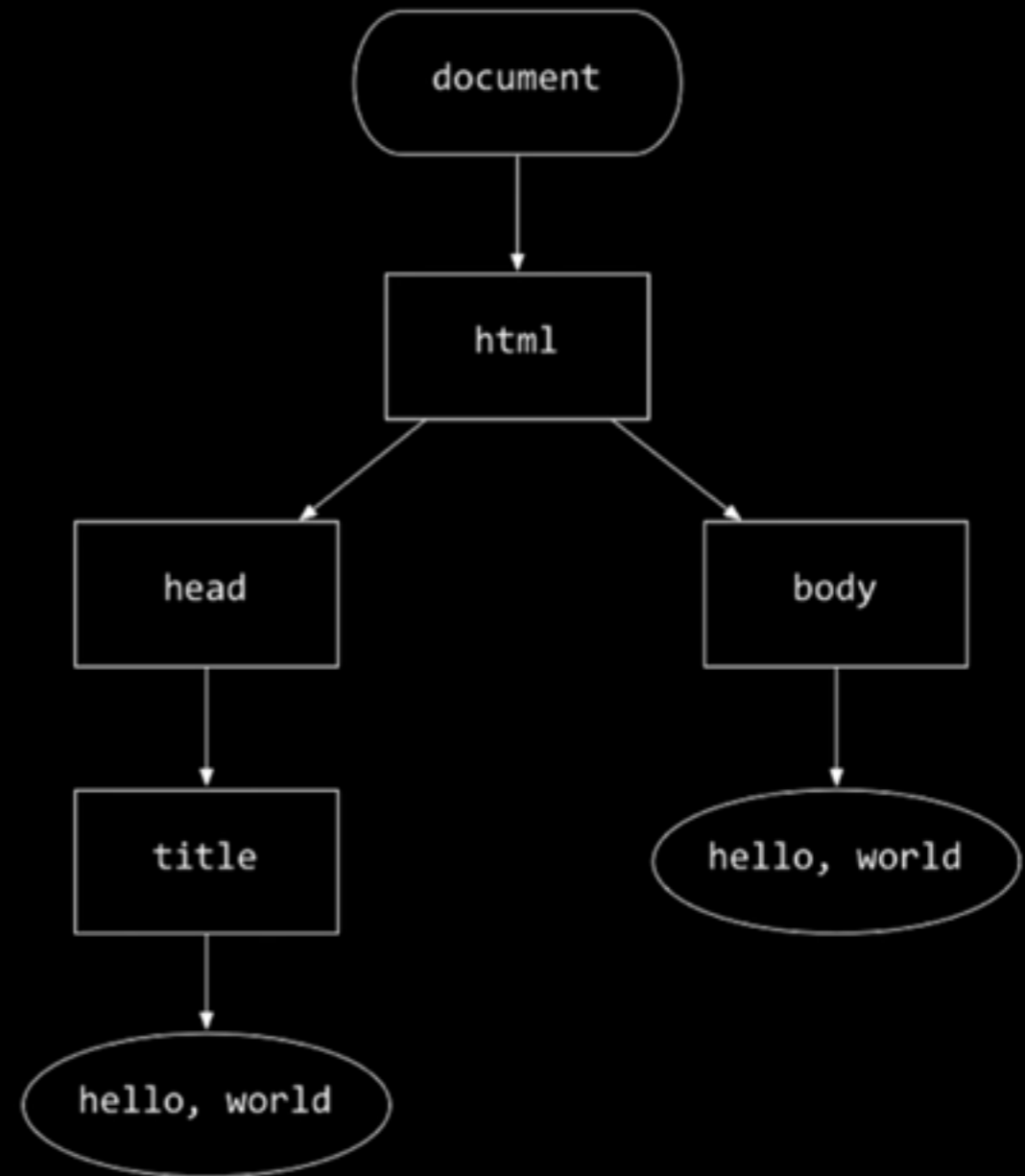
- Data-Driven Documents
- [New York Times](#)

Goals

- Literacy in D3

```
<!DOCTYPE html>

<html>
  <head>
    <title>hello, world</title>
  </head>
  <body>
    hello, world
  </body>
</html>
```



DOM and Javascript

- Remember that Javascript can interact with and change DOM elements

jQuery

- jQuery is a Javascript library that makes “HTML document traversal and manipulation, event handling, animation, and Ajax much simpler”

D3 for Document Traversal

- `d3.select("body") = $("body")`
- `d3.selectAll(".block") = $(".block")`
- `d3.select("#myDiv") = document.getElementById("myDiv");`
- `d3.selectAll(...).filter(...)`

D3 for Document Manipulation

- `var selection = d3.selectAll(...)`
- `selection.attr`
- `selection.style`
- `selection.append`

What About Data?

- `d3.select(...).selectAll(...).data(...).enter()...`

Dataset for Today

- Shots by the New York Knicks in 2013
- `d3.csv("filename.csv", function(data) { ... })`
- `d3.json("filename.json", function(data) { ... })`

Beyond the DOM: SVG

- SVG: Scalable Vector Graphics
- We can draw lines, shapes, and text on SVG's

SVG tips

- `<g transform="translate(100,50)">...</g>`
- `<g transform="translate(100,0) rotate(20)">...</g>`

Interacting

- `.on("some event", function(d) { ... })`

Structuring Data

- `d3.nest`
- `d3.stratify`
- `d3.hierarchy`

d3.stratify

Name	Parent
Eve	
Cain	Eve
Seth	Eve
Enos	Seth

```
var strat = d3.stratify()  
.id(function(d) {return d.name})  
.parentId(function(d) { return d.parent; })
```

```
strat(data);
```

```
{  
  "id": "Eve",  
  "parentId": "",  
  "children": [ ... ]  
}
```

d3.nest

- `.entries(data)`
- `.key(function(d) { ... })`
- `.rollup(function(a) {...})`

Moving Forward

- <https://d3js.org>
- <http://bl.ocks.org/mbostock>
- <https://github.com/fivethirtyeight/d3-pre>