Design Studio:
4.032 / 4.033 **Information and Visualization**

PROGRAMMING PART

HTML Concepts

HTML uses tags to hierarchize documents

```
<!DOCTYPE html>
<html>
        <head>
        ...
        </head>
        <body>
                <h1>Hello</h1>
                <div>...</div>
        </body>
</html>
```

Tags

Tags can have attributes, class, and/id

```
<a href='http://www.google.com' class='button' id='linkGoogle'>Link to Google</a>
```

Attribute: Defines a key property for an element. href, x, y, etc.

Class: Defines a group of elements with the same styles and/or semantic role

Id: Defines a specific element; there can only be one per document.

Class and Id selectors

HTML

```
<a href='http://www.google.com' class='button' id='linkGoogle'>Link to Google</a>
```

CSS

```
.button {
        color: red;
}



#linkGoogle {
        background-color: #f7f7f7
}
```
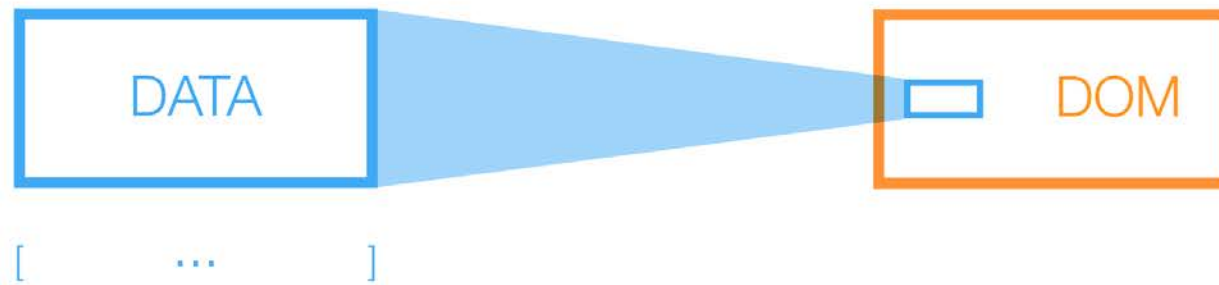
D3.js

D3 uses **DOM Elements** to represent data

To do it, we can use SVGs or Canvas objects.
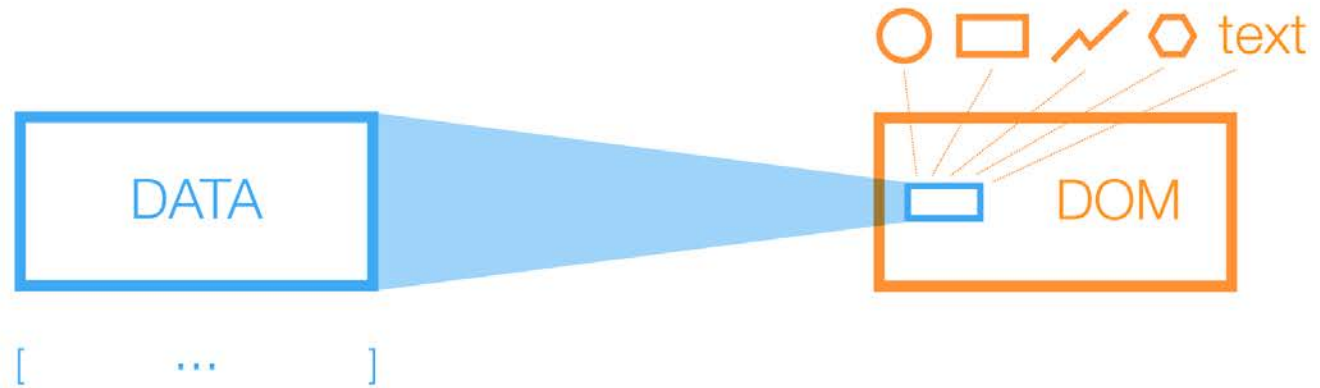
DATA

DOM

[...   ]

Explanation from Siqi Zhu

1 - Join data to DOM

Explanation from Siqi Zhu

2 – Represent data with visual properties

1 - Join data to DOM

Explanation from Siqi Zhu

D3

```
d3.select(".container")
      .append("svg")
      .attr("class","myPlot")
      .style("width","200px");
```

D3

```
d3.select(".container")
        .append("svg")
        .attr("class","myPlot")
        .style("width","200px");
```

d3.select() turns any DOM element into a selection

If it's a class **d3.select(".normalText")** you will select all the elements with that class.

If you select an id, **d3.select("#thisPlot")**, you'll select only that element.

D3

```
d3.select(".container")
        .append("svg")
        .attr("class","myPlot")
        .style("width","200px");
```

By appending elements we 'put' them in the html.

By adding attributes and styles we modify the element through the JavaScript file.

By adding a class, we can modify the element using CSS styles.

In class exercise – 1

Building a bar-chart and a line graph

Introduction to Assignment 2

Creating a Weather APP