

Do it now exercise!

Find a website in which you can search company stock prices.

D3

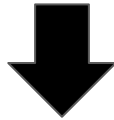
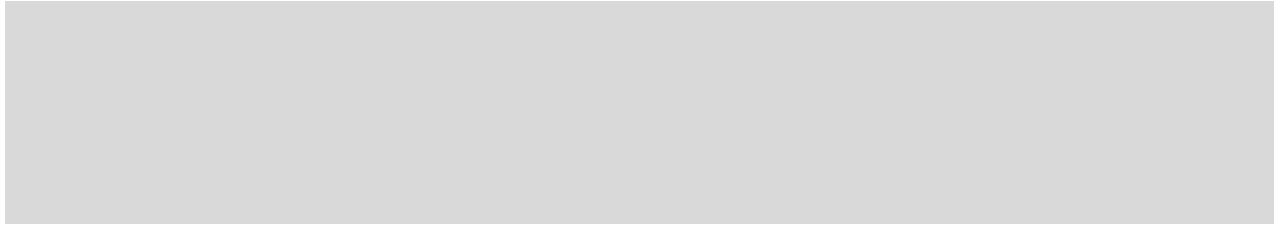
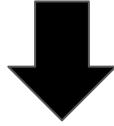
<https://d3js.org>

Data Attributes



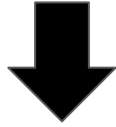
Visual Attributes

Data Attributes

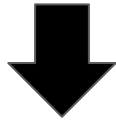


Visual Attributes

Data Attributes



MAPPING



Visual Attributes

Data Attributes



MAPPING
with D3



Visual Attributes

Agenda:

SVG (Scalable Vector Graphics)

Data binding

Build a data visualization

SVG

Scalable Vector Graphics

Append **svg** container to **body**

Set properties of **svg** container

Append **rect** to **svg** container

html

- | - head

- | - body

 - | | - svg

 - | | | - rect

Imperative vs Declarative

Data binding

working on data

Let's find a data set!

Stock Prices

symbol	name	price (\$)
A	Company A	96.01
B	Company B	273.30
C	Company C	196.89
D	Company D	314.31
E	Company E	162.94
F	Company F	459.89
G	Company G	267.43

Types of data?

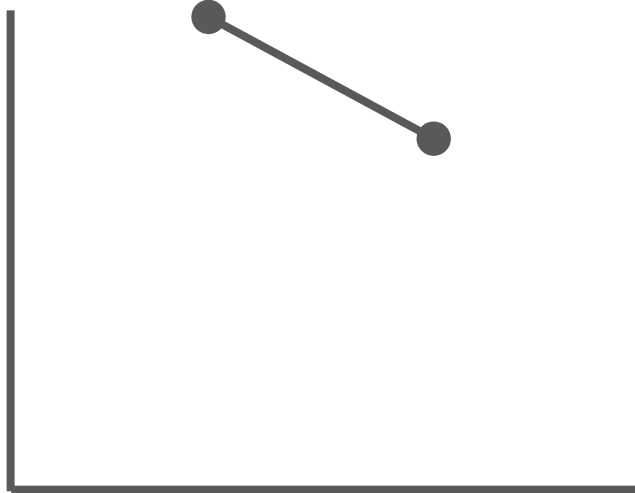
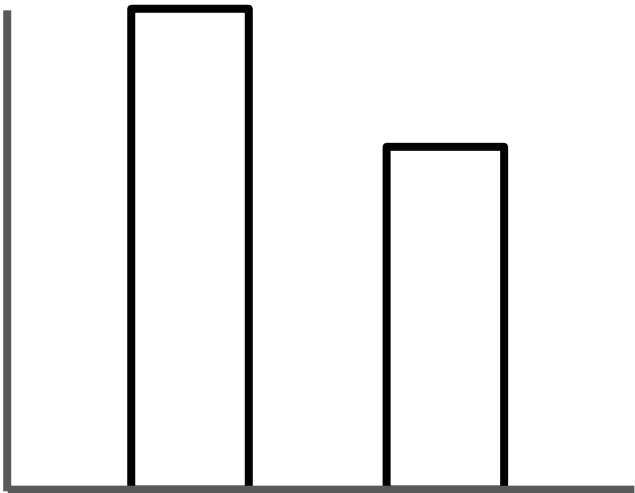
symbol	name	price (\$)
A	Company A	96.01
B	Company B	273.30
C	Company C	196.89
D	Company D	314.31
E	Company E	162.94
F	Company F	459.89
G	Company G	267.43

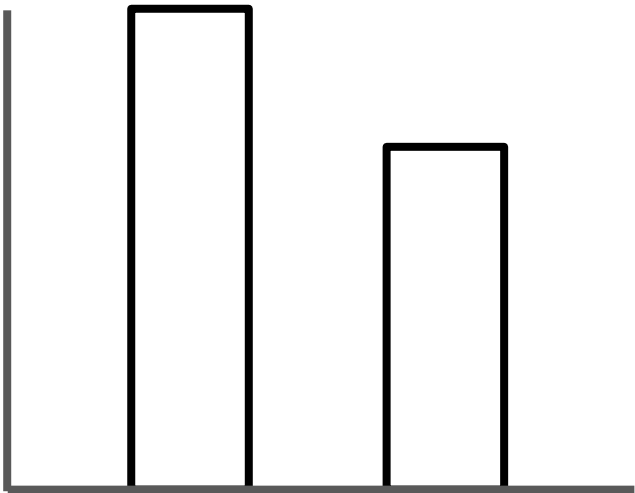
Nominal		
symbol	name	price (\$)
A	Company A	96.01
B	Company B	273.30
C	Company C	196.89
D	Company D	314.31
E	Company E	162.94
F	Company F	459.89
G	Company G	267.43

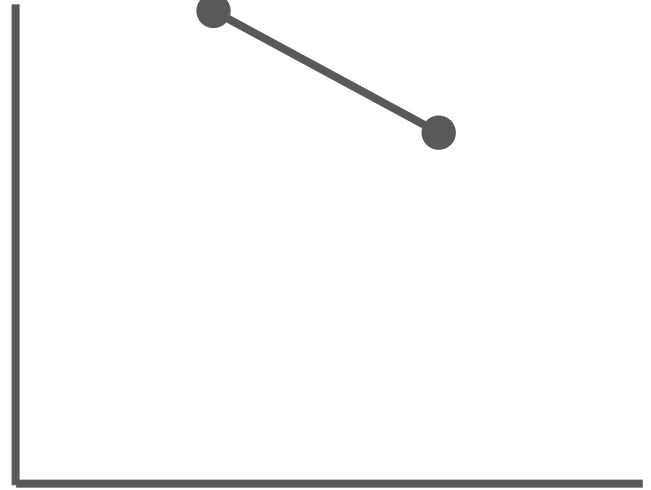
Nominal	Nominal	
symbol	name	price (\$)
A	Company A	96.01
B	Company B	273.30
C	Company C	196.89
D	Company D	314.31
E	Company E	162.94
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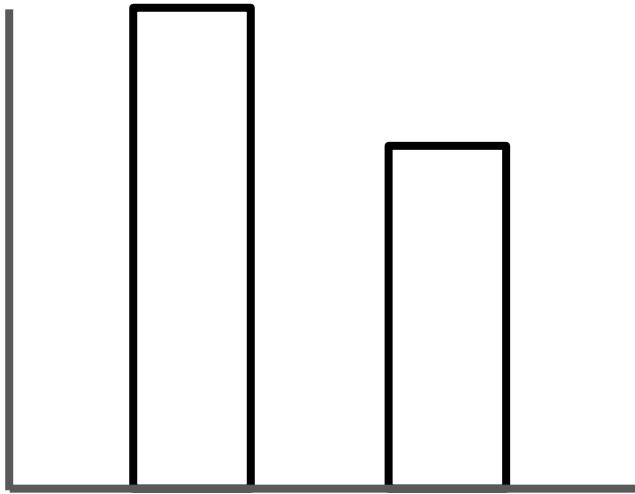
Nominal	Nominal	Quantitative
symbol	name	price (\$)
A	Company A	96.01
B	Company B	273.30
C	Company C	196.89
D	Company D	314.31
E	Company E	162.94
F	Company F	459.89
G	Company G	267.43

Which one suites it better?



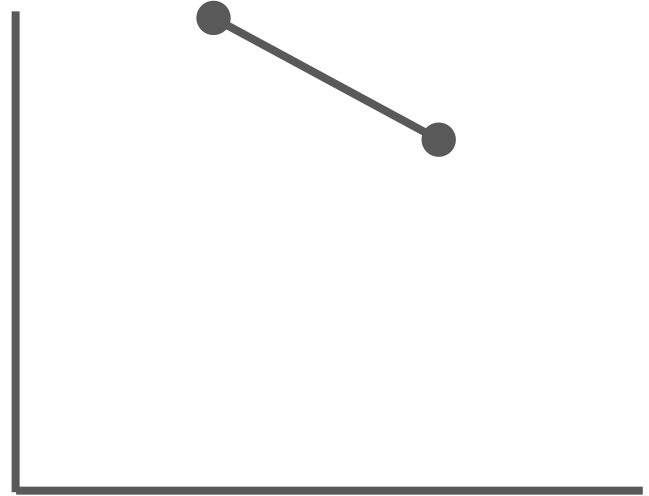






Why?

Why not?



Which columns to use?

Nominal	Nominal	Quantitative
symbol	name	price (\$)
A	Company A	96.01
B	Company B	273.30
C	Company C	196.89
D	Company D	314.31
E	Company E	162.94
F	Company F	459.89
G	Company G	267.43

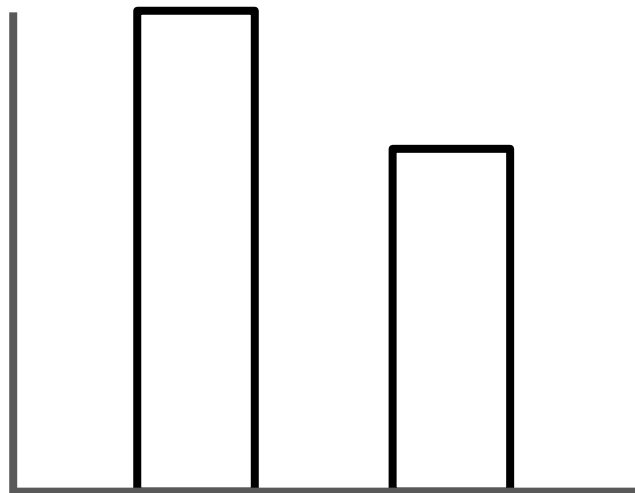
Nominal	Nominal	Quantitative
symbol		price (\$)
A	Company A	96.01
B	Company B	273.30
C	Company C	196.89
D	Company D	314.31
E	Company E	162.94
F	Company F	459.89
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Mapping?

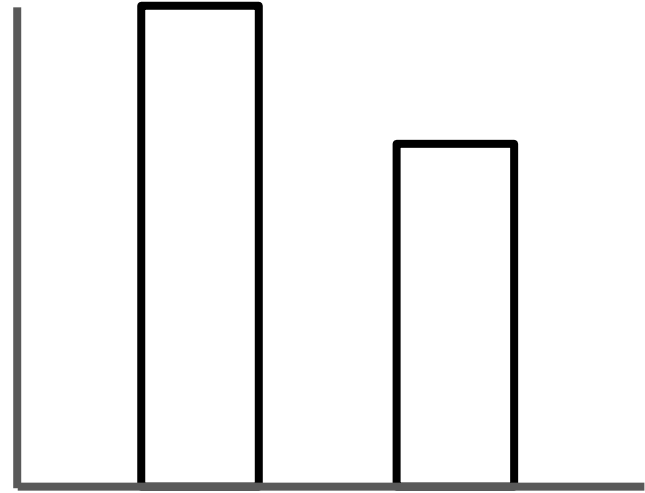
Data

Nominal	Quantitative
symbol	price (\$)
A	96.01
B	273.30
C	196.89
D	314.31
E	162.94
F	459.89
G	267.43

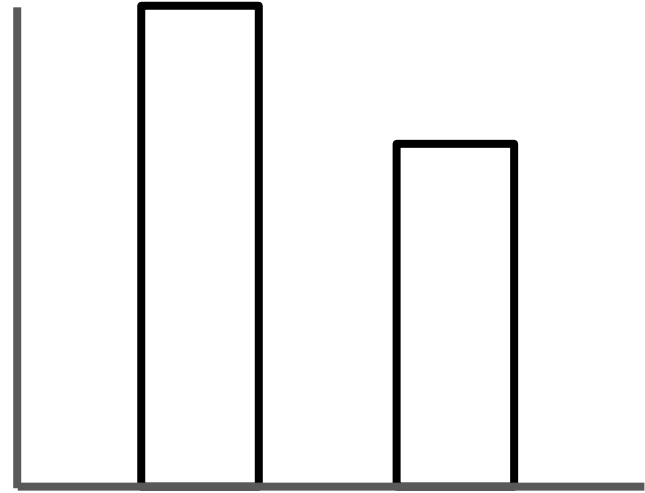
Visual



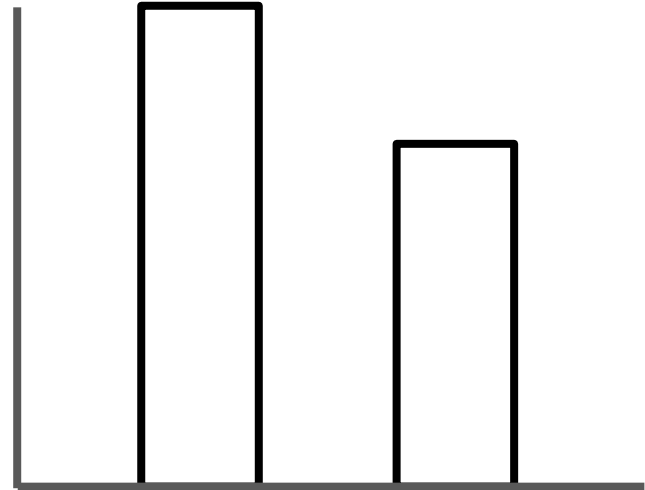
Nominal	Quantitative
symbol	price (\$)
A	96.01
B	273.30
C	196.89
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E	162.94
F	459.89
G	267.43



x	
Nominal	Quantitative
symbol	price (\$)
A	96.01
B	273.30
C	196.89
D	314.31
E	162.94
F	459.89
G	267.43



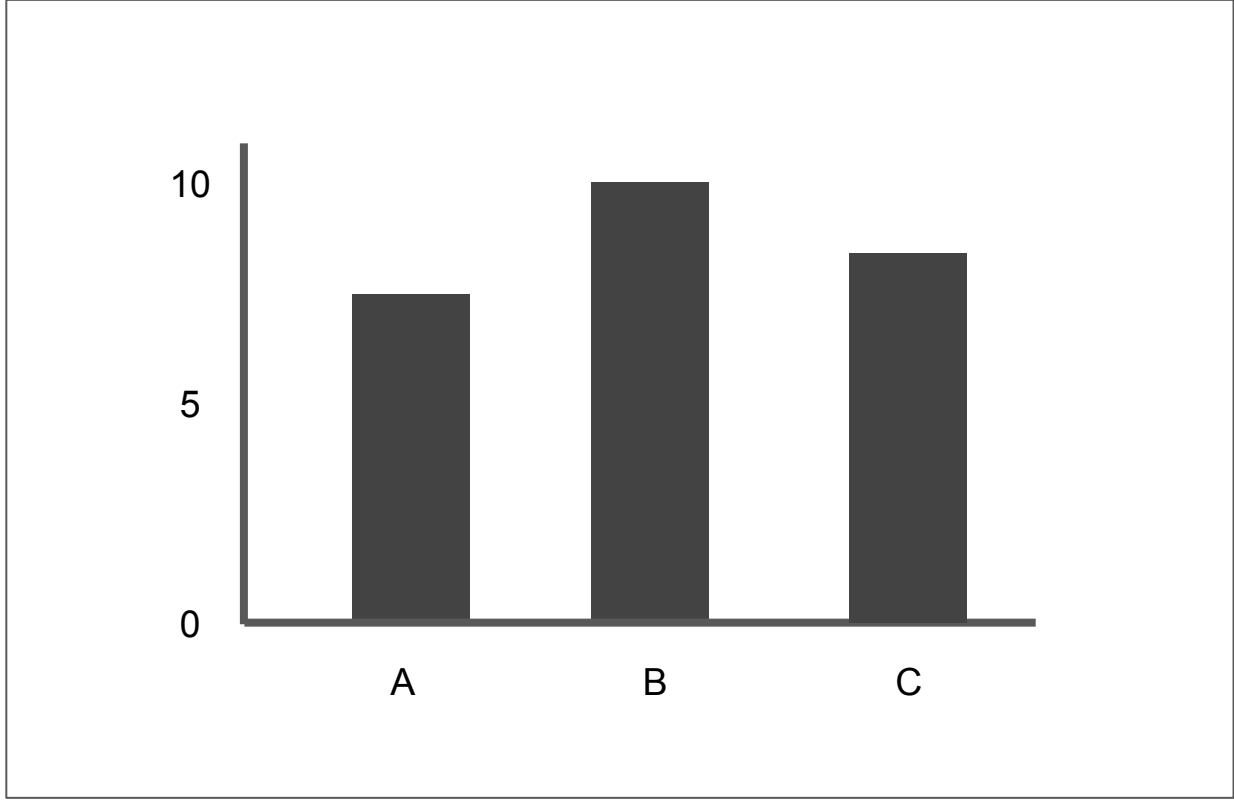
x	height
Nominal	Quantitative
symbol	price (\$)
A	96.01
B	273.30
C	196.89
D	314.31
E	162.94
F	459.89
G	267.43



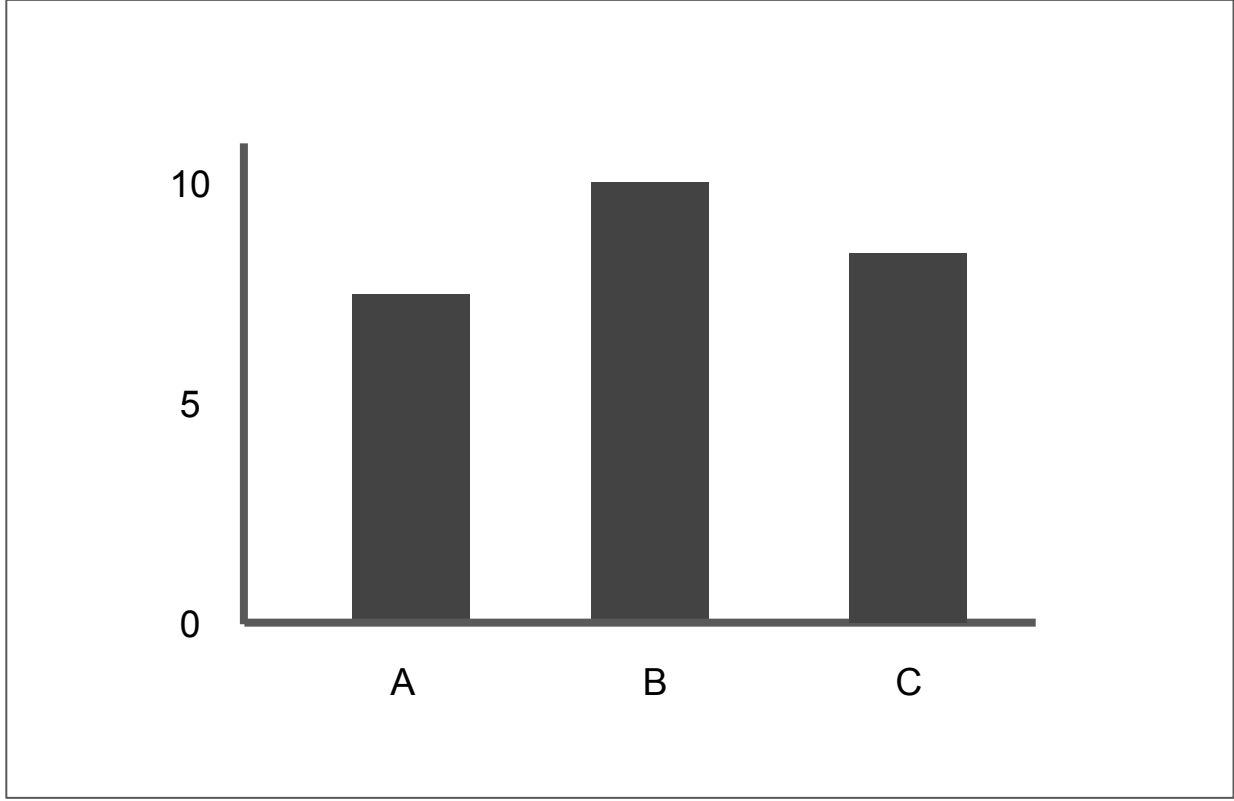
Build your first **data visualization!**

live coding and in-class activity

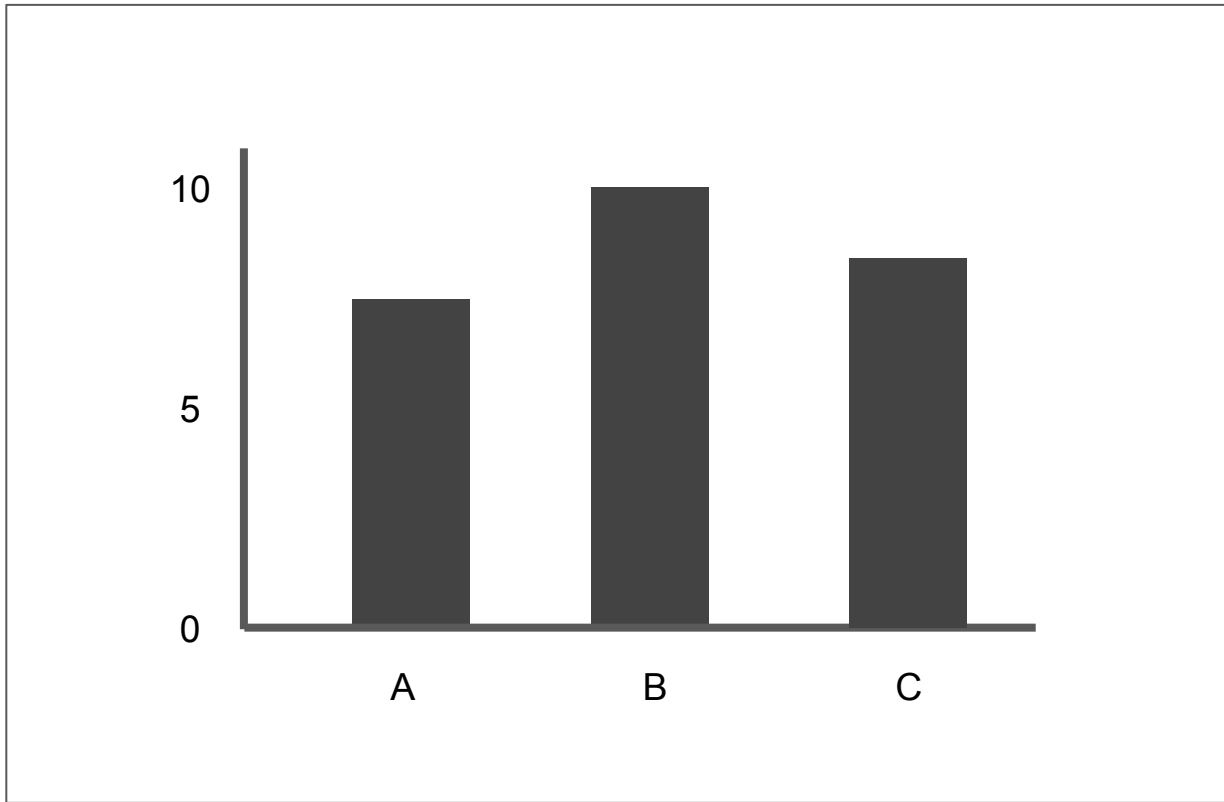
Open demo_d3.html
demo_d3.js



Strategy

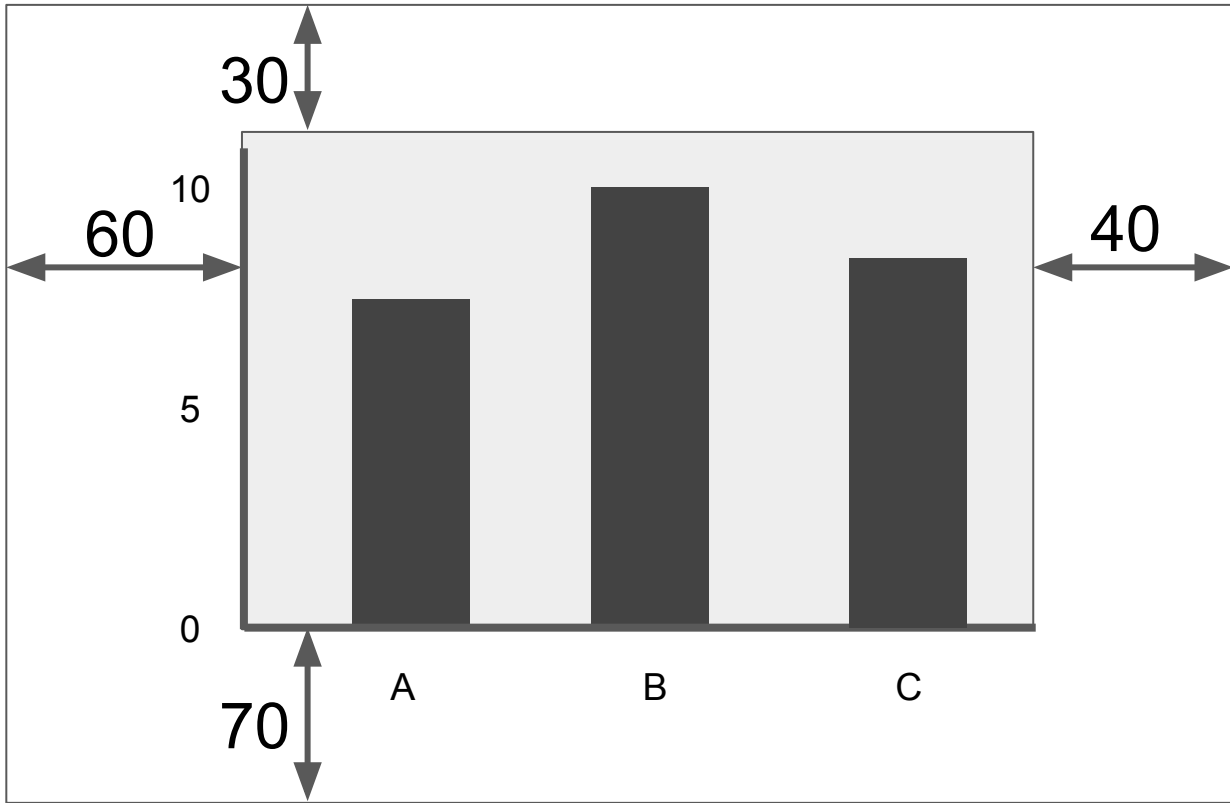


500



500

500



30

60

40

10

5

0

500

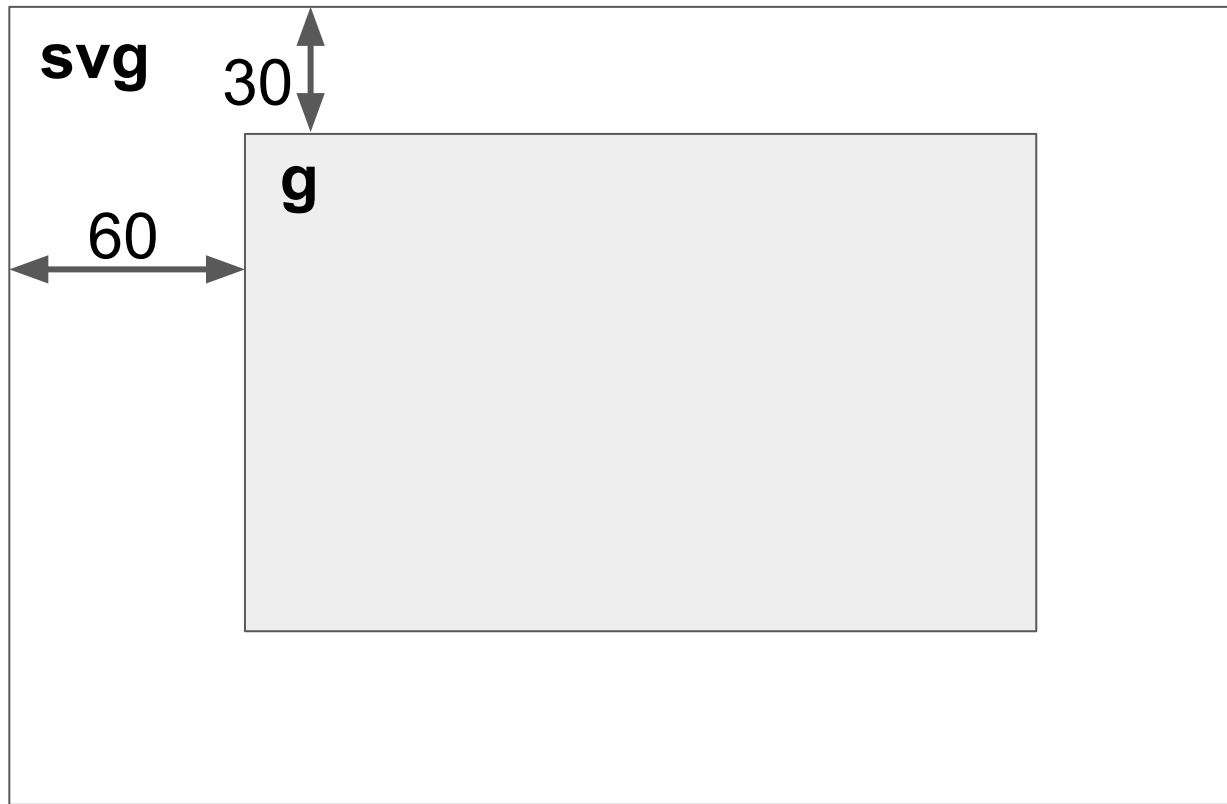
A

B

C

70

500



svg

30

g

60

500

Questions?

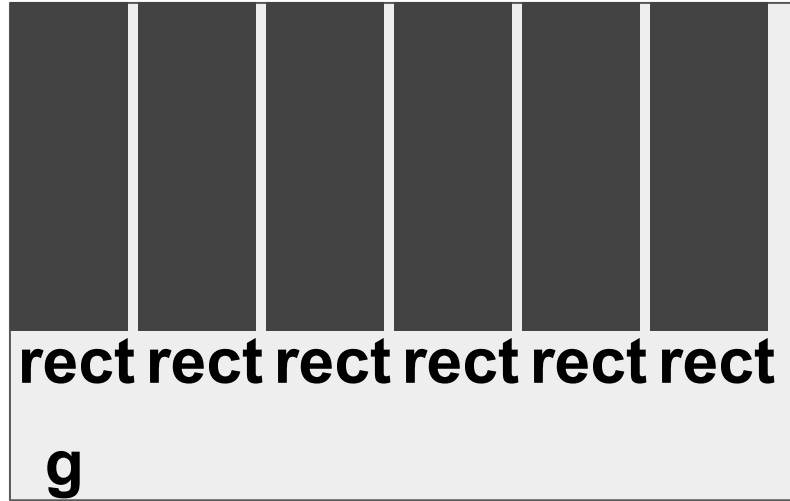
svg

g

rect rect rect rect rect rect

A diagram illustrating an SVG structure. It consists of a large outer rectangle labeled 'svg' in the top-left corner. Inside this rectangle is a smaller, shaded gray rectangle labeled 'g' in its top-left corner. Below the 'g' label, the text 'rect rect rect rect rect rect' is written in a bold, black font. Underneath this text, there are six dark gray vertical rectangles arranged horizontally, separated by thin white vertical lines. The right edge of the 'g' rectangle is a light gray vertical bar.

svg



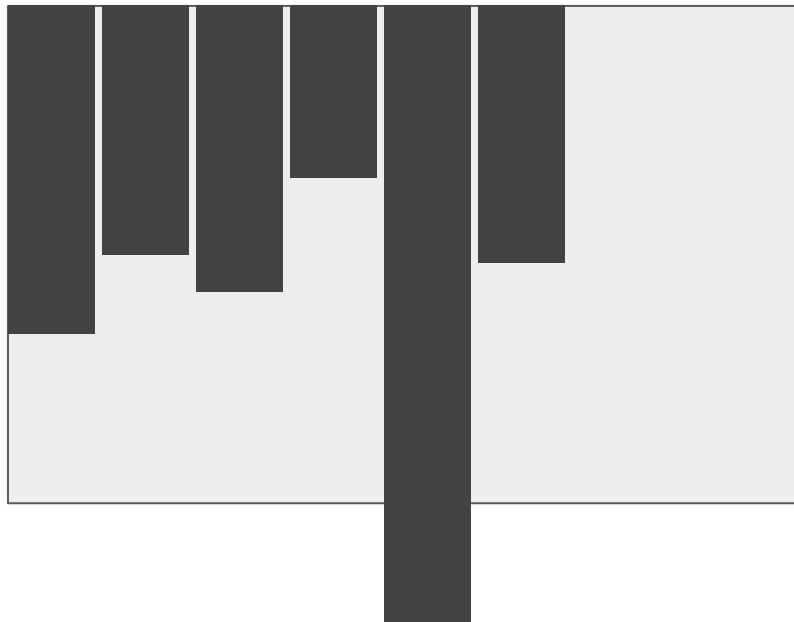
Binding data

data() and enter()

<https://d3js.org/#enter-exit>

<https://bost.ocks.org/mike/join/>

svg



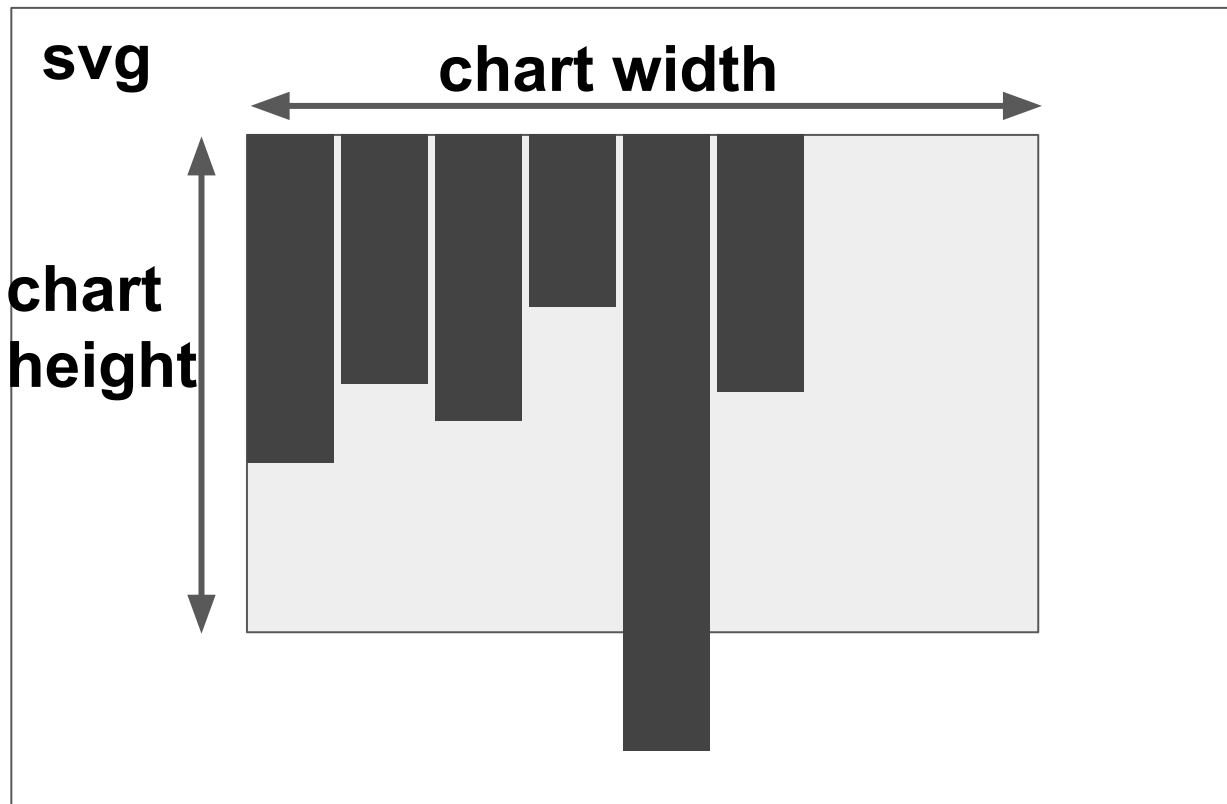
Scaling

scaleBand() and scaleLinear()

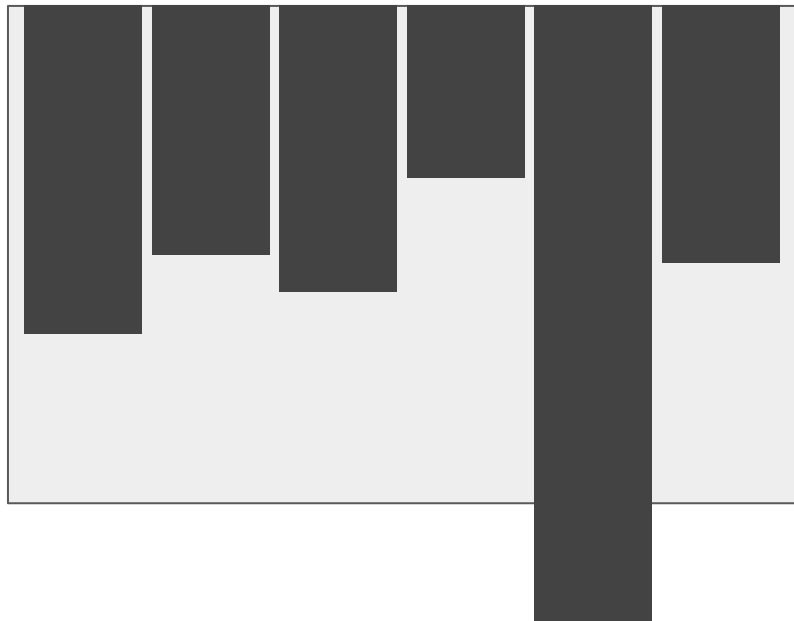
<https://github.com/d3/d3-scale>

<https://github.com/d3/d3-scale#band-scales>

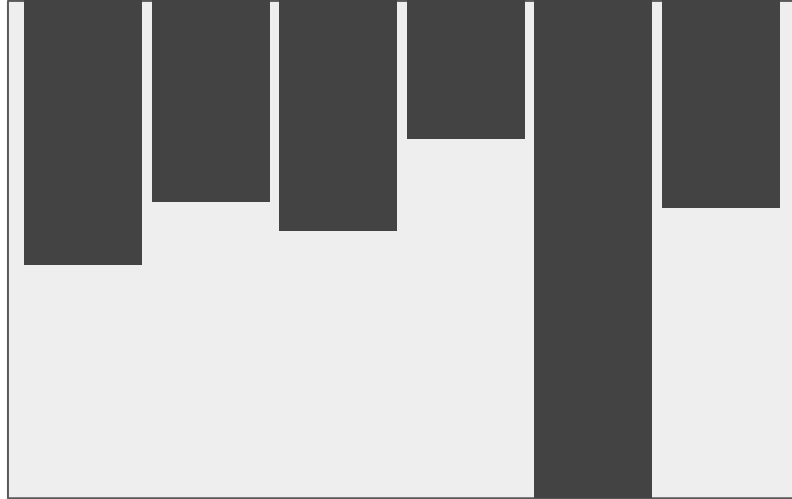
<https://github.com/d3/d3-scale#linear-scales>



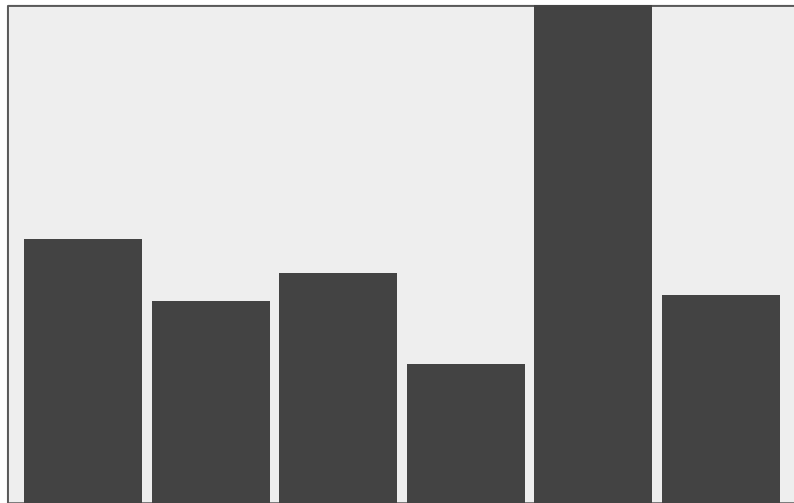
svg



svg

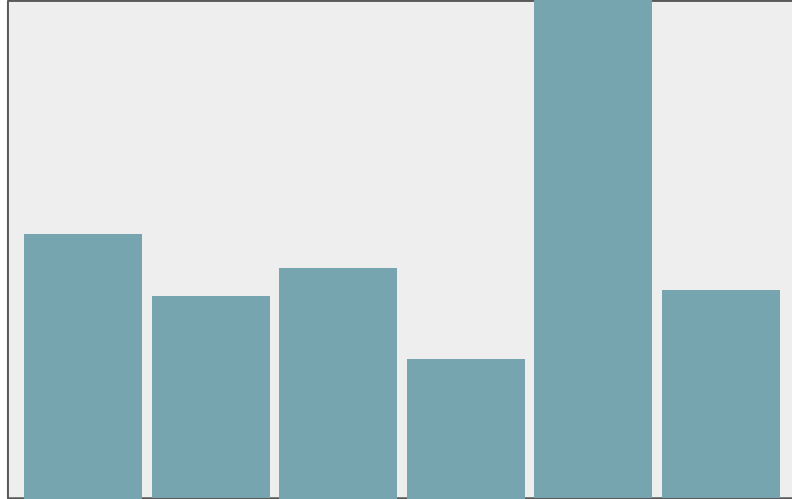


svg



Coloring

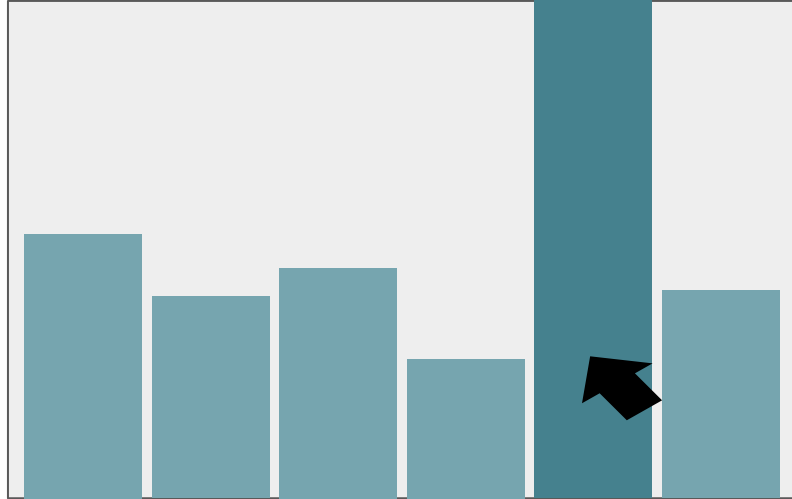
svg



Interactions

mouseover and mouseleave

svg

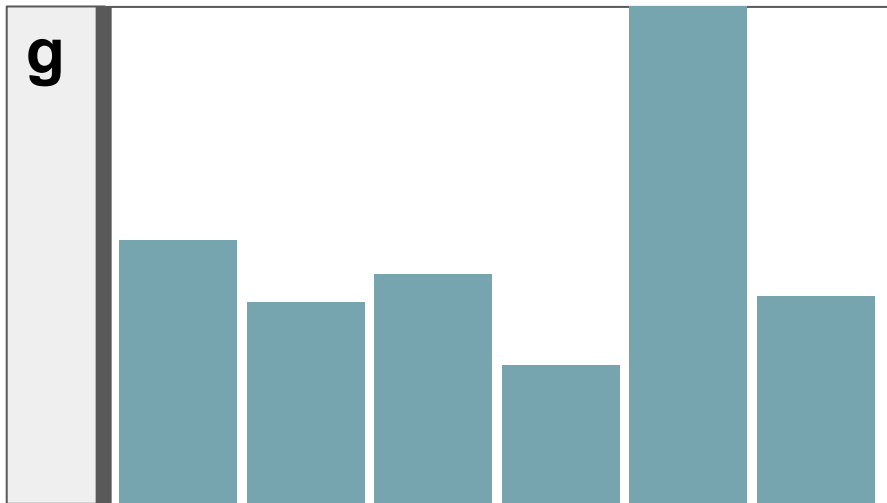


Axis

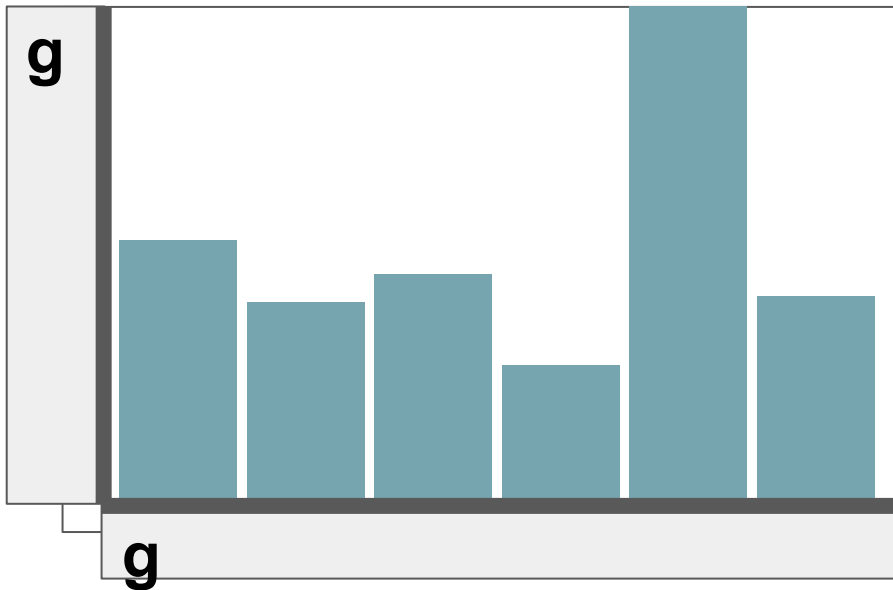
axisBottom() and axisLeft()

<https://github.com/d3/d3-axis>

svg



svg



Questions?

Try something more:

- Plug in the real stock price data you found.
- Add axis labels.
- Give a different color based on its price value.

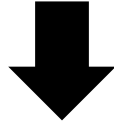
- (Optional) Have a different size of dataset, and introduce a feature that swaps the current and new dataset by a mouse click.

Learned SVG (Scalable Vector Graphics)

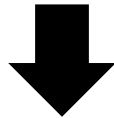
Learned data binding

Built a data visualization

Data Attributes



MAPPING



Visual Attributes