Building Blocks of D3

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Overview

Building blocks of D3

- Scales
- Domain and range
- Axes

Scales

Scales

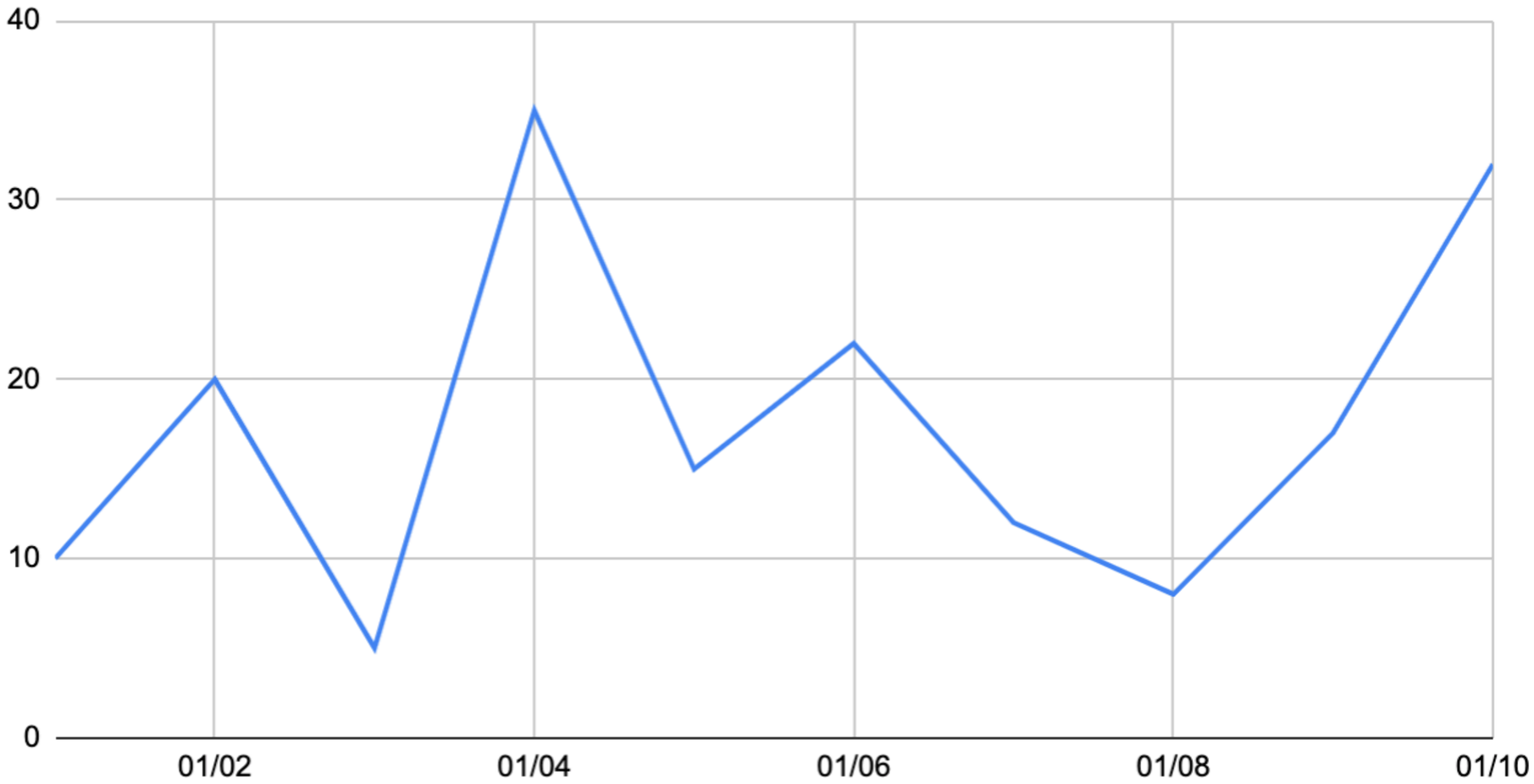
“mapping a dimension of abstract data to a visual representation”

D3 Scales Generators

Linear scale

`.scaleLinear()`

Linear Scale



D3 Scales Generators

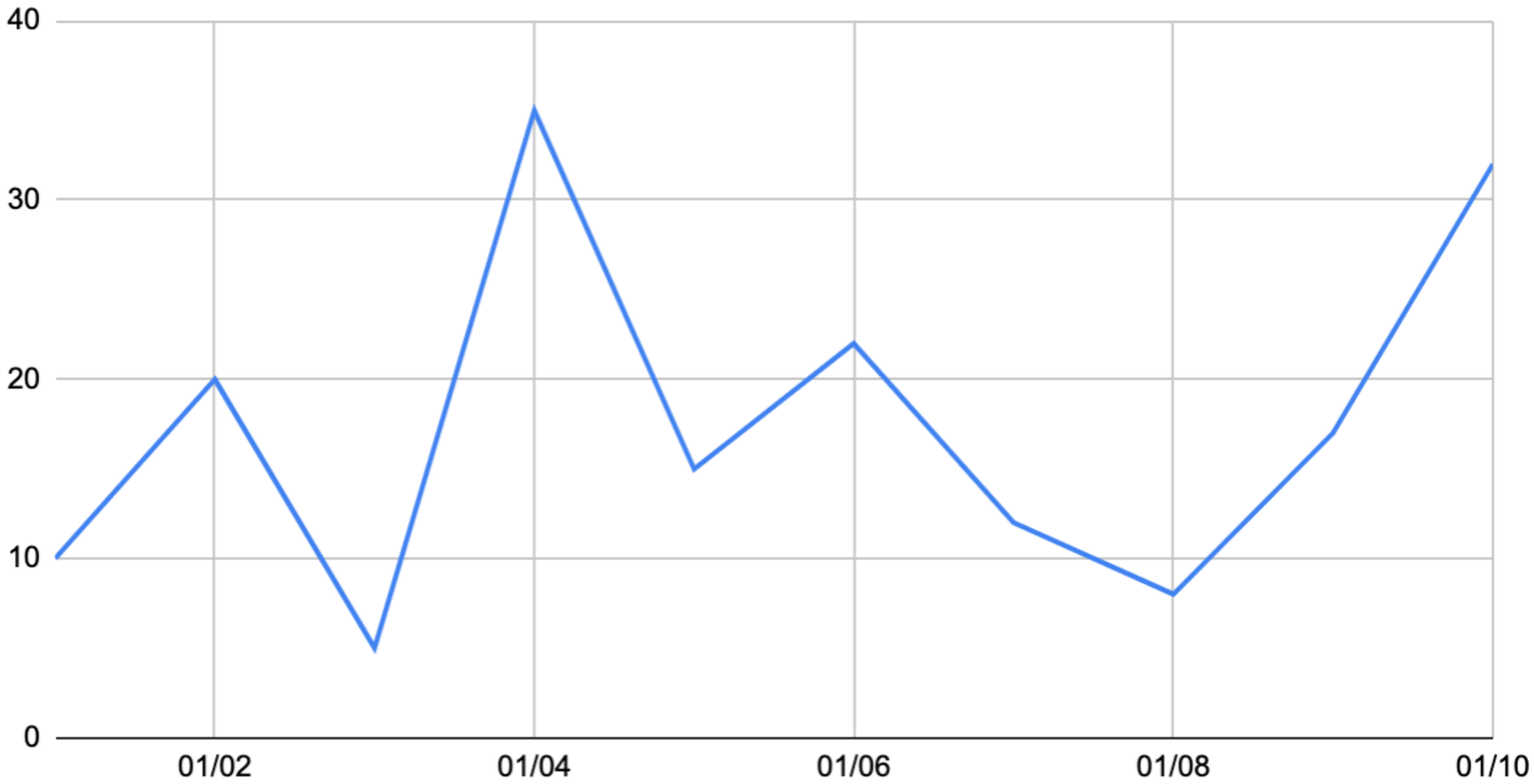
Linear scale

`.scaleLinear()`

Time scale

`.scaleTime()`

Time Scale



D3 Scales Generators

Linear scale

`.scaleLinear()`

Time scale

`.scaleTime()`

Power/Sqrt/Log scale

`.scalePow()`

`.scaleSqrt()`

`.scaleLog()`

.scaleSqrt()

D3 Scales Generators

Linear scale

`.scaleLinear()`

Time scale

`.scaleTime()`

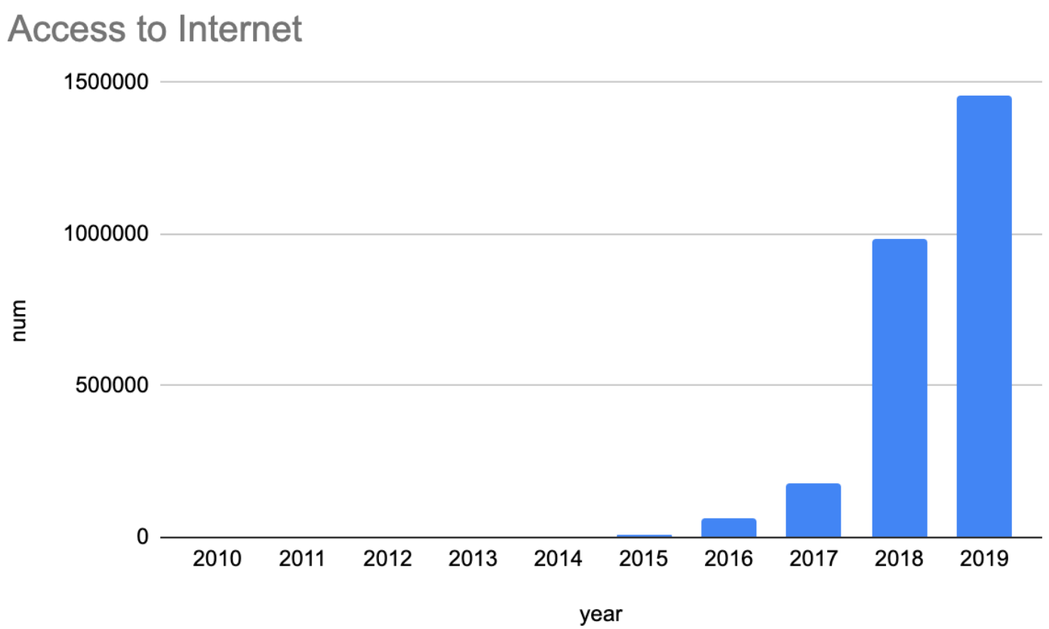
Power/Sqrt/Log scale

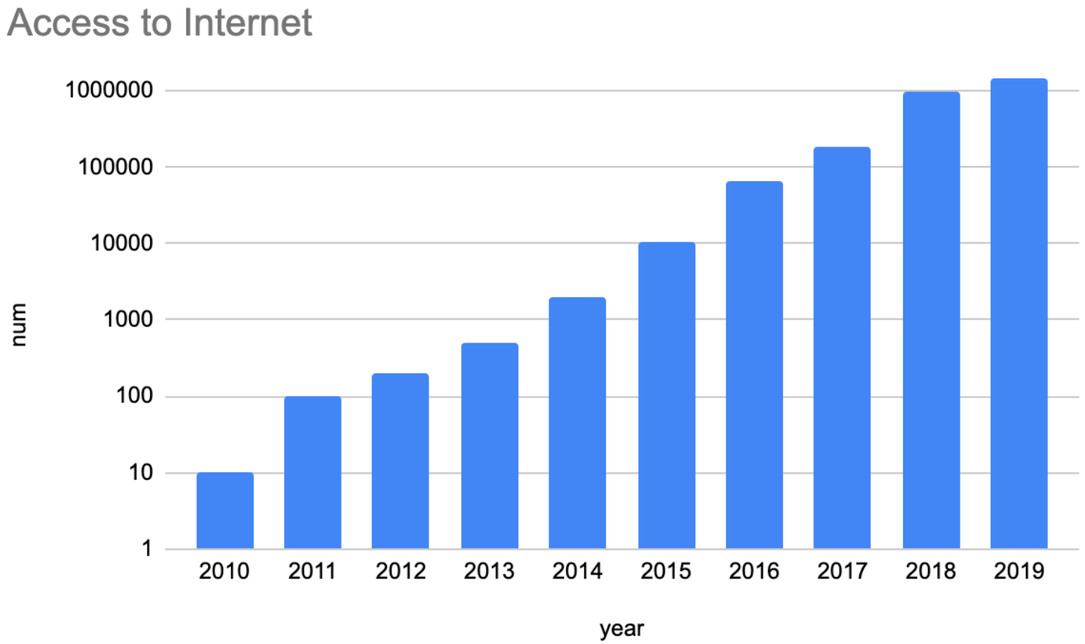
`.scalePow()`

`.scaleSqrt()`

`.scaleLog()`

Linear Scale vs Log Scale





D3 Scales Generators

Linear scale

`.scaleLinear()`

Time scale

`.scaleTime()`

Power/Sqrt/Log scale

`.scalePow()`

`.scaleSqrt()`

`.scaleLog()`

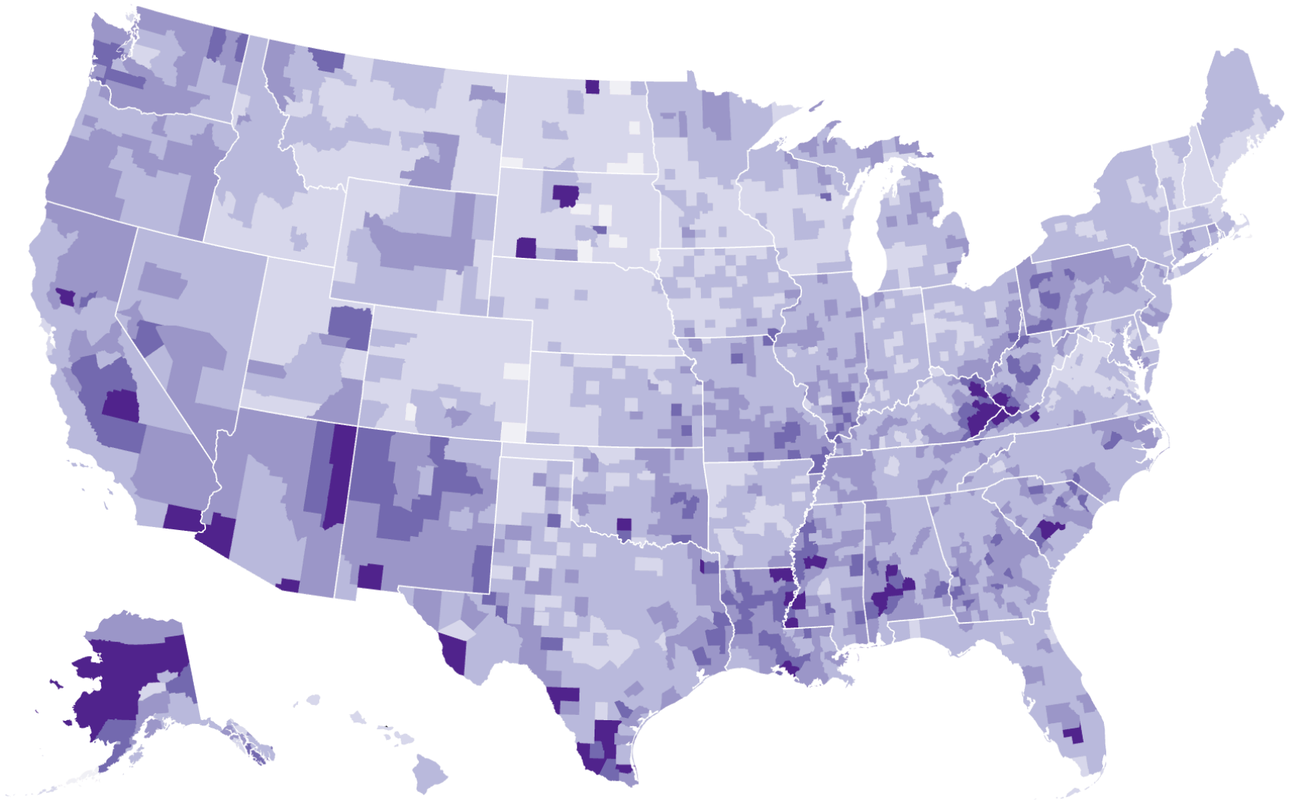
Quantize/Quantile/ Threshold scale

`.scaleQuantize()`

`.scaleQuantile()`

`.scaleThreshold()`

Threshold



D3 Scales Generators

Linear scale

`.scaleLinear()`

Time scale

`.scaleTime()`

Power/Sqrt/Log scale

`.scalePow()`

`.scaleSqrt()`

`.scaleLog()`

Quantize/Quantile/ Threshold scale

`.scaleQuantize()`

`.scaleQuantile()`

`.scaleThreshold()`

Sequential/Diverging scale

`.scaleSequential()`

`.scaleDiverging()`

Sequential

```
d3.scaleSequential(d3.interpolateRainbow)
```

D3 Scales Generators

Linear scale
`.scaleLinear()`

Time scale
`.scaleTime()`

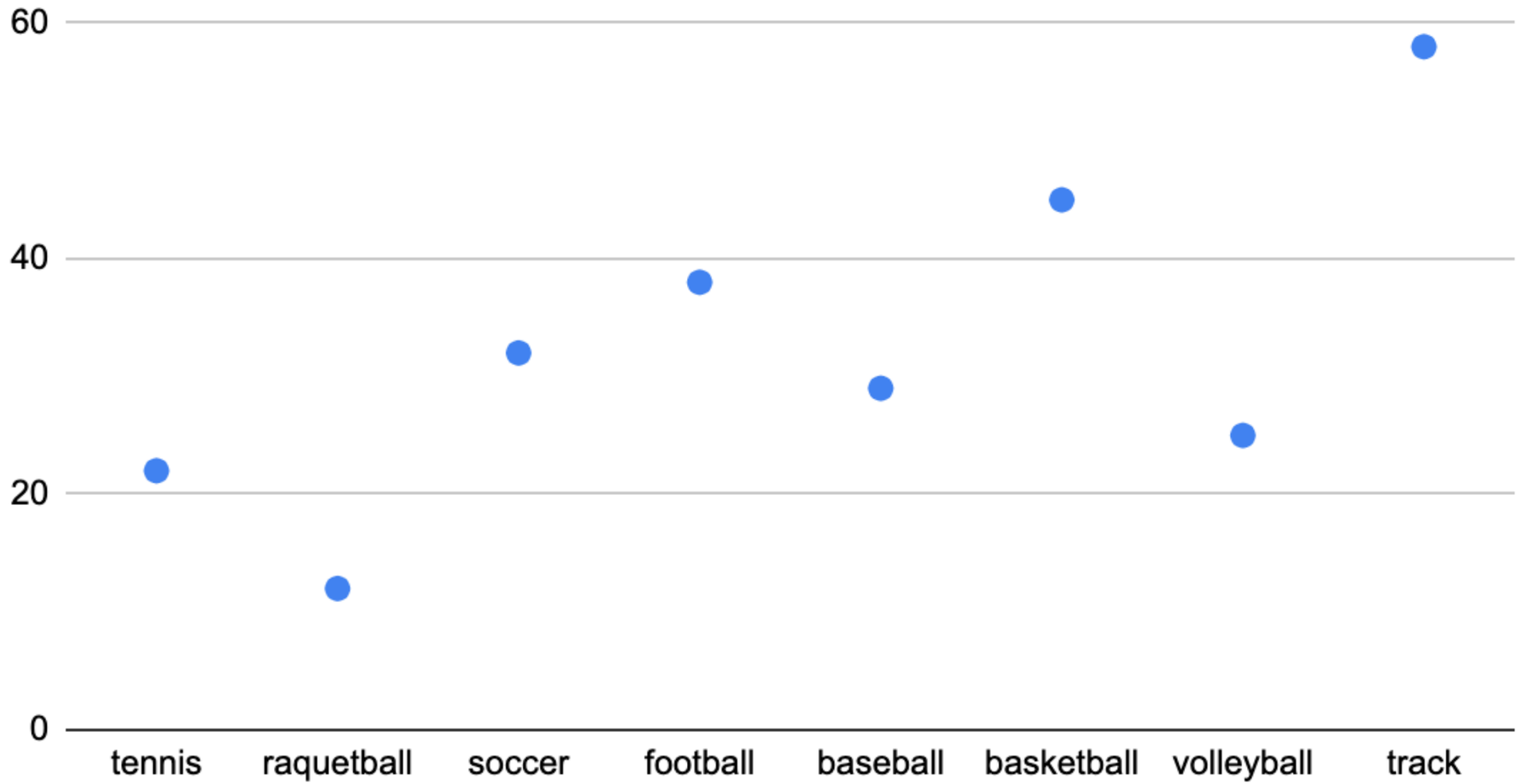
Power/Sqrt/Log scale
`.scalePow()`
`.scaleSqrt()`
`.scaleLog()`

Quantize/Quantile/ Threshold scale
`.scaleQuantize()`
`.scaleQuantile()`
`.scaleThreshold()`

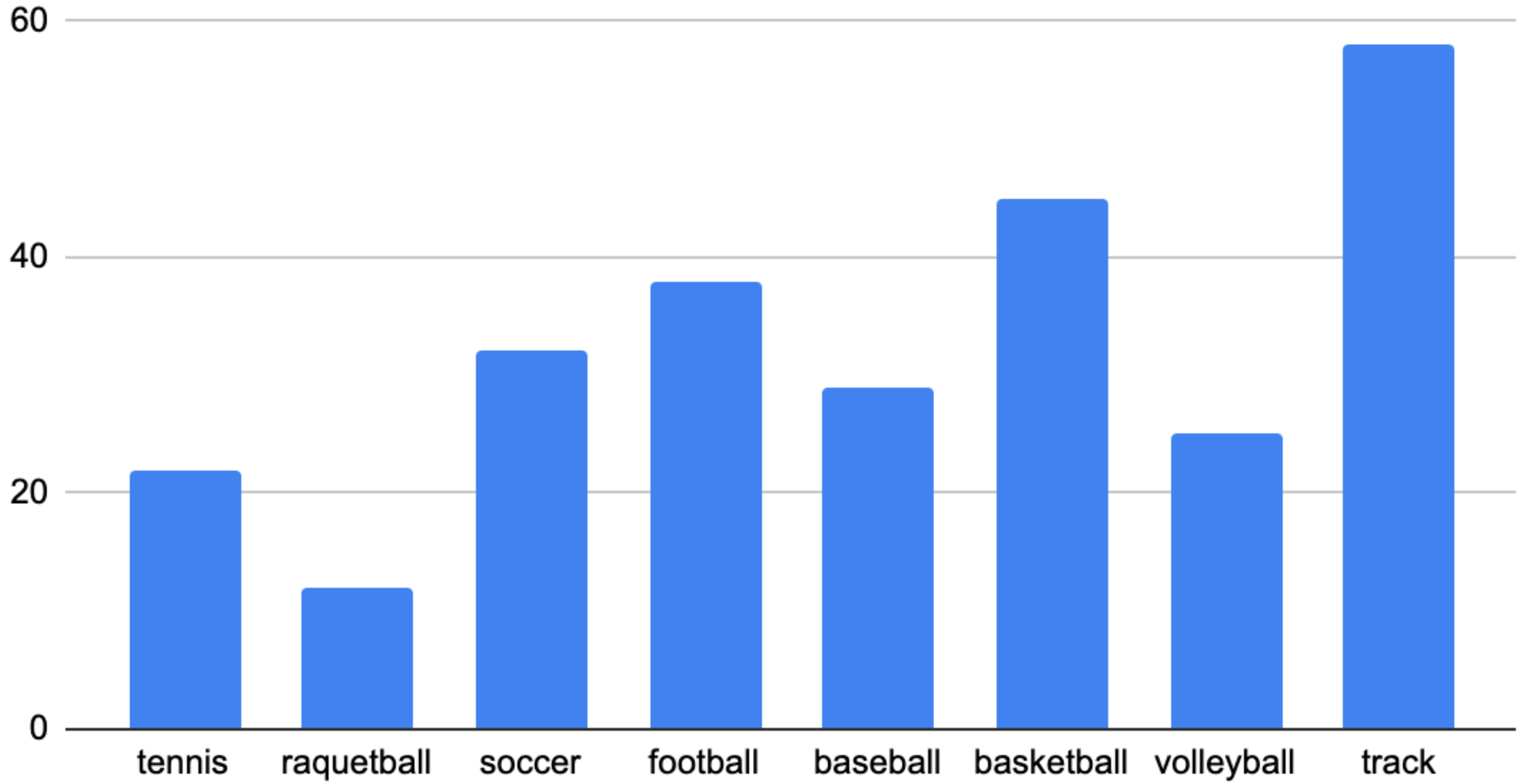
Sequential/Diverging scale
`.scaleSequential()`
`.scaleDiverging()`

Ordinal/Band scale
`.scaleOrdinal()`
`.scaleBand()`

Ordinal


60
40
20
0
tennis
raquetball
soccer
football
baseball
basketball
volleyball
track

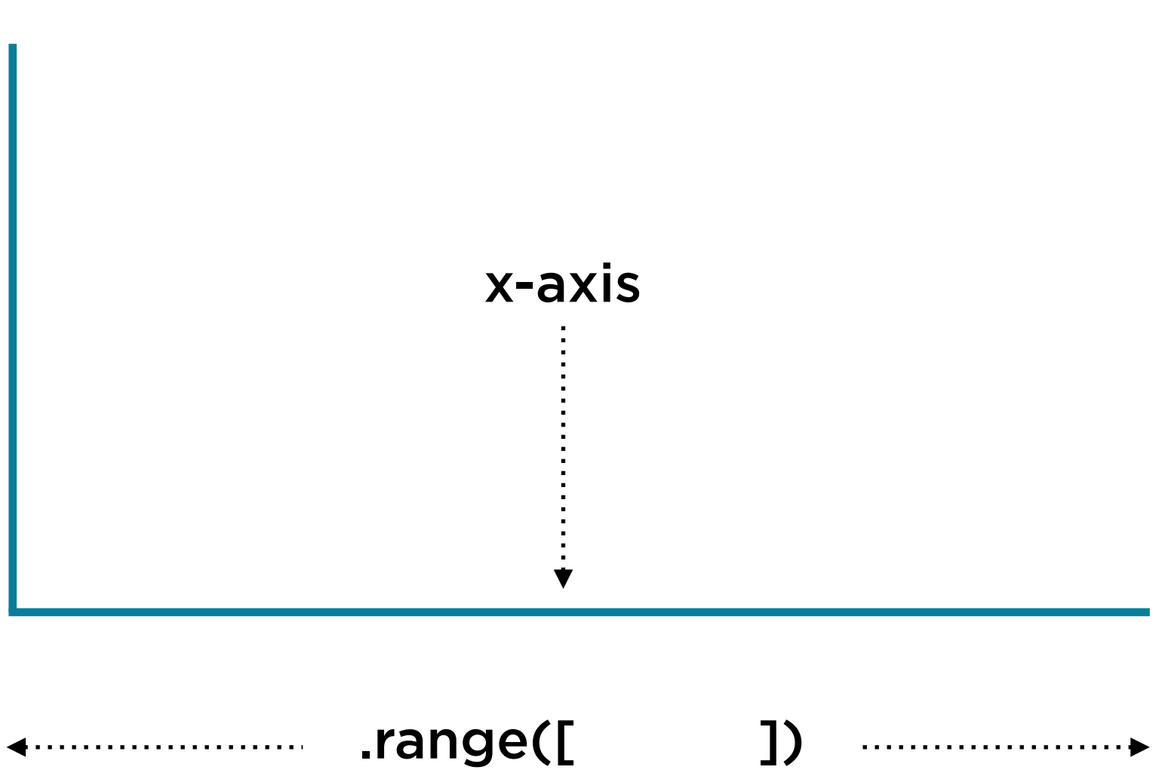
Band Scale

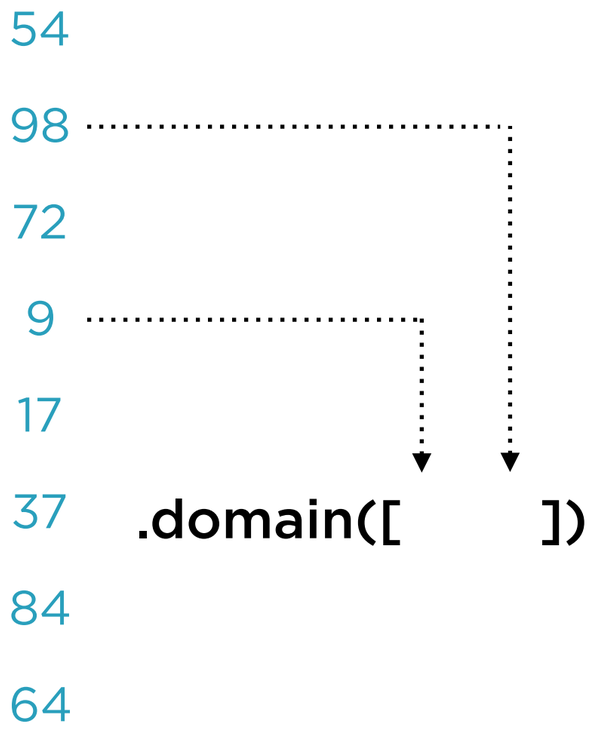

60
40
20
0
tennis
raquetball
soccer
football
baseball
basketball
volleyball
track

Domain and Range

Domain and Range

Linear Scales





Domain and Range

Domain (Input)

data values

.domain([380, 49922])

Range (Output)

desired width of visualization

`.range([0,width])`

D3 Scales Generators

Linear scale
Continuous input
Continuous output

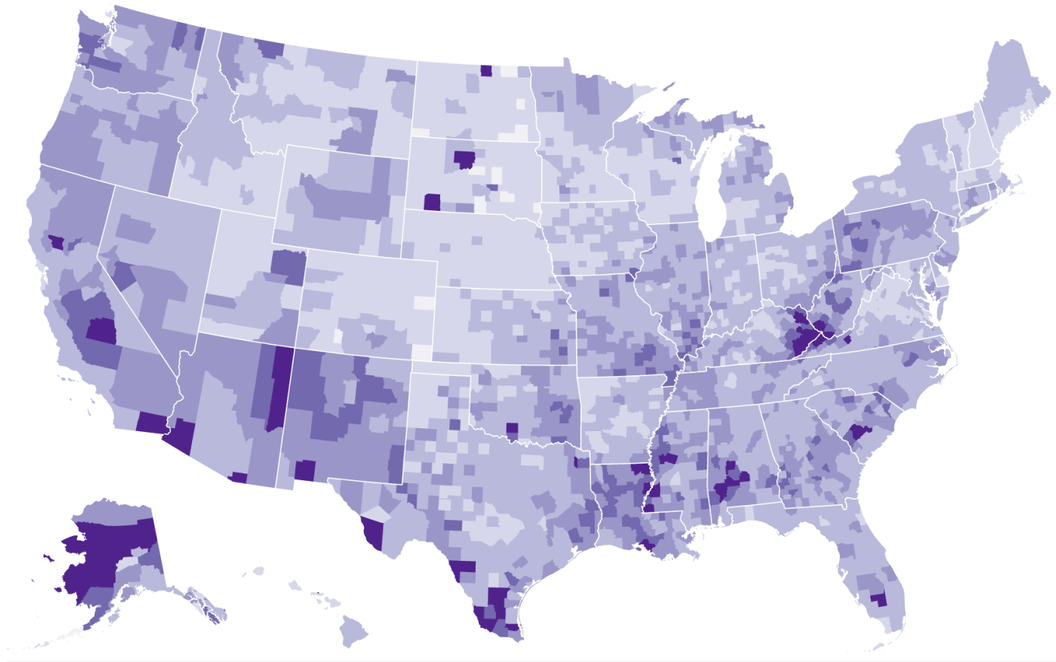
Time scale
Continuous input
Continuous output

Power/Sqrt/Log scale
Continuous input
Continuous output

Quantize/Quantile/ Threshold scale
Continuous input
Discrete output

Sequential/Diverging scale
Continuous input
Continuous output

Threshold Scale



.range([ ])

1.5K

58.7K

19.2K

1.2K

17.3K

7.6K

51.6K

12.4K

.domain([ ])

D3 Scales Generators

Linear scale
Continuous input
Continuous output

Time scale
Continuous input
Continuous output

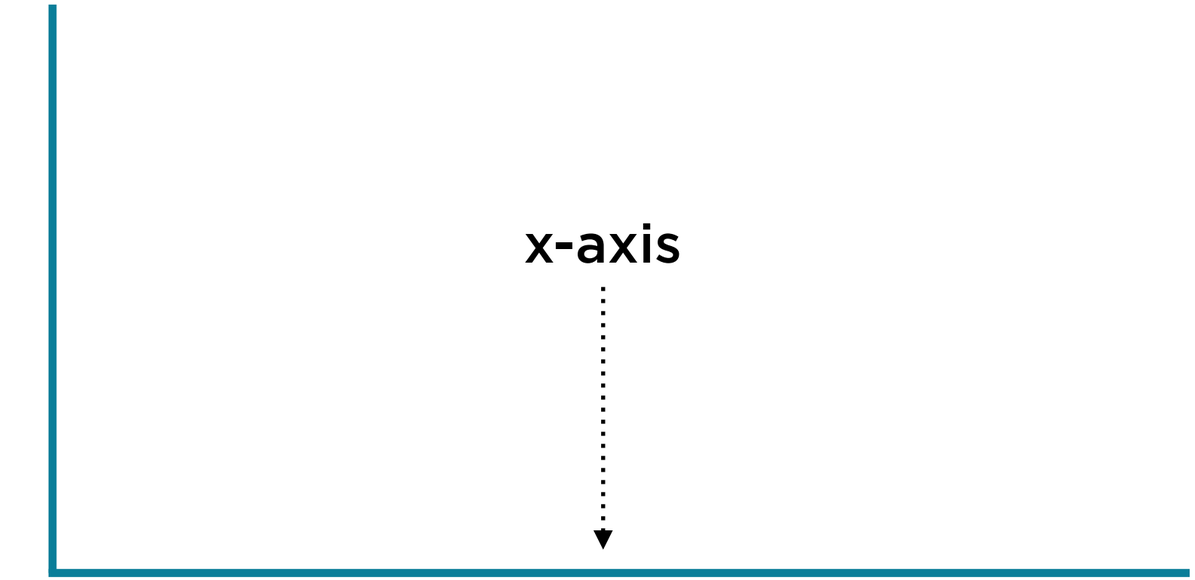
Power/Sqrt/Log scale
Continuous input
Continuous output

Quantize/Quantile/ Threshold scale
Continuous input
Discrete output

Sequential/Diverging scale
Continuous input
Continuous output

Ordinal/Band scale
Discrete input
Discrete output

Band Scale



tennis

soccer

football

track

baseball

.range([ ])

.domain([‘tennis’, ‘soccer’, ...])

Domain and Range

Domain([])

Complete set of values
ex: [0,492]
or
[‘tennis’,‘basketball’,‘raquetball’]

Range([])

Returns interval of data placement from start point
ex: [0,width]
or
[‘red’,’blue’]

Axes

Summary

Building blocks of D3

- Scales
- Domain and range
- Axes