Computational Fundamentals: D3

Week 7: Drawing Data 3

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Check in.

What we’ll cover

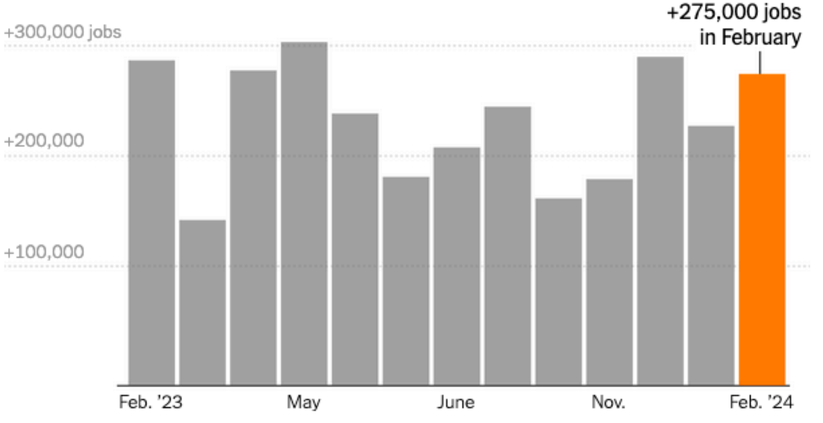
- CSS Basics
- Symbols
- Lines
- Time Series
- HW Assignment

U.S. Employers Add 275,000 Jobs in Another Strong Month

Economists are trying to gauge whether forecasts of a slowing labor market were mistaken or just premature. For now, gains are consistent and strong.

Share full article

Monthly change in jobs



Note: Data is seasonally adjusted. • Source: Bureau of Labor Statistics • By Ella Koeze

Image Src: https://www.nytimes.com/2024/03/08/business/economy/jobs-report-february-2024.html

CSS

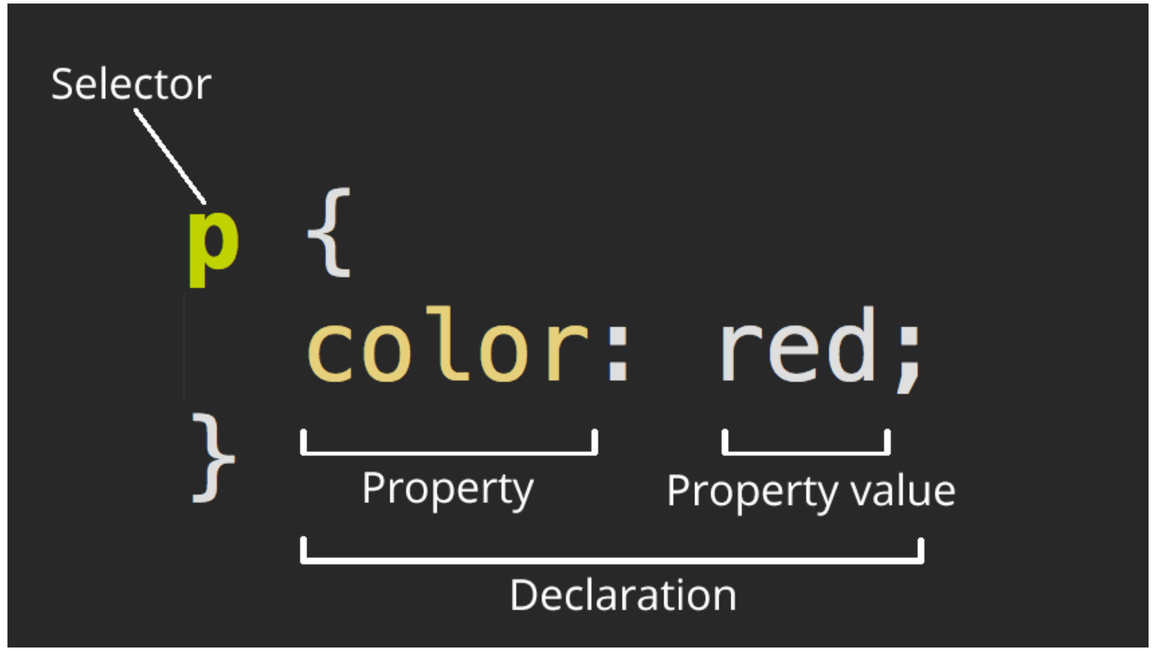


Image Src: MDN CSS Guide

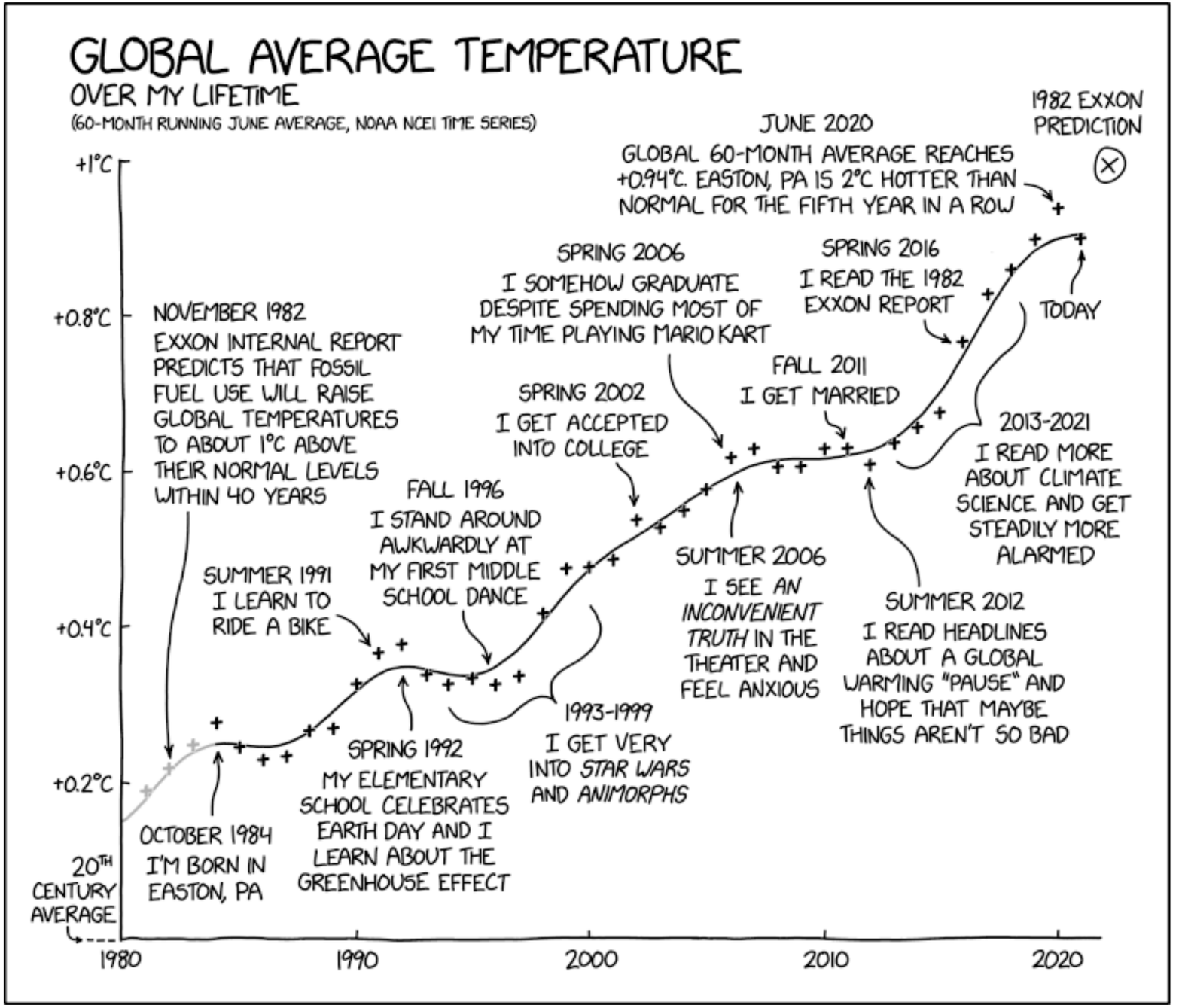
.attr(“class”)

D3 Symbols

d3.symbol( )

Line Charts

d3.line( )



Img Src: https://xkcd.com/2500/

Working with Time

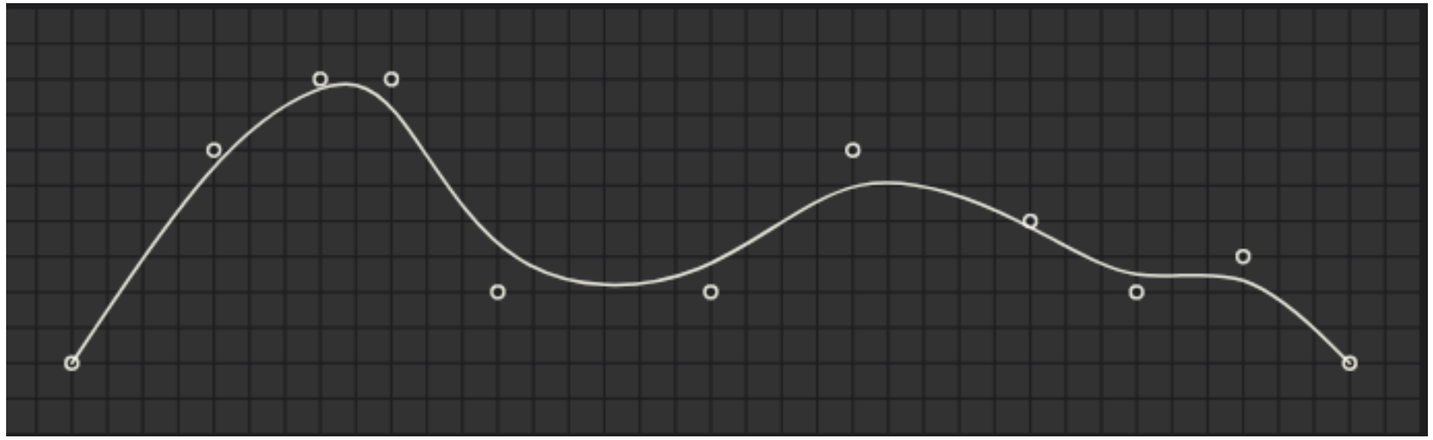
d3.timeParse( )
d3.scaleTime( )
d3.timeFormat( )

D3 Time Series Data

- Some time formatters (for a full list see “d3.timeFormat( )” link on resources slide).
- %a - abbreviated weekday name, such as Mon
- %A - full weekday name, such as Monday
- %b - abbreviated month name, such as Feb
- %B - full month name, such as February
- %d - day of the month, such as 11
- %m - month as a decimal number, such as 02
- %x - date, %m/%d/%Y
- %y - year without century as a decimal number, such as 21
- %Y - year with the century, such as 2021

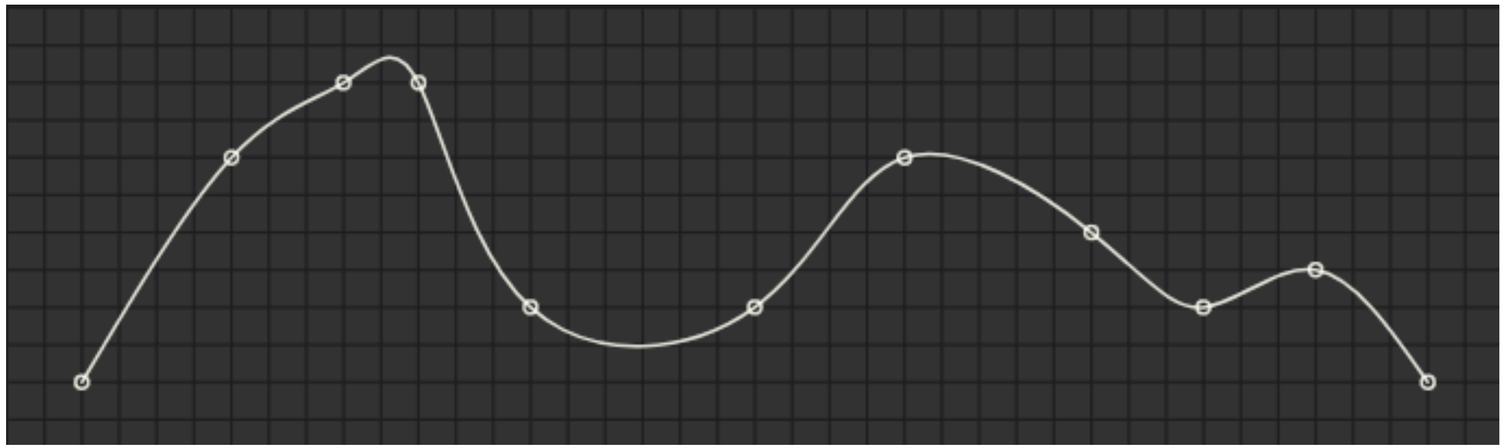
Curves

curveBasis



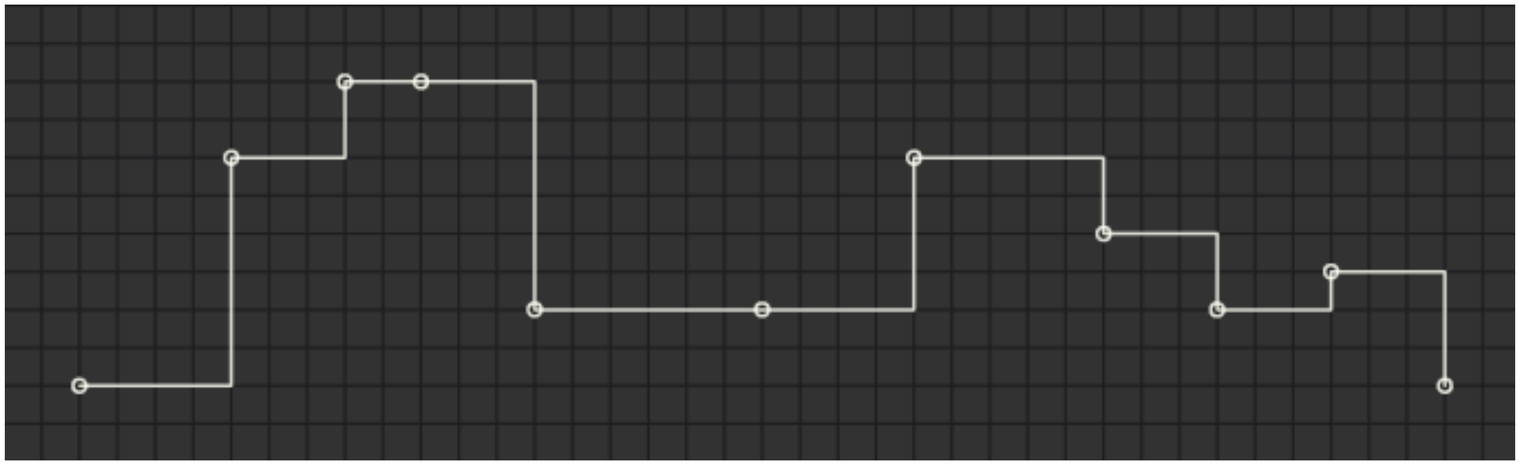
Img Source: https://d3js.org/d3-shape/curve

curveNatural



Img Source: https://d3js.org/d3-shape/curve

curveStepAfter



Img Source: https://d3js.org/d3-shape/curve

A Moment to Consider Planning and Implementing Vis Projects

<u>Something to Keep in the Back of Our Minds, a Balance Between:</u>

- Technical ability
- Ideas of what we understand as “good visualization” or “good design” techniques — as well as being in conversation with/against those notions as understood in the field more broadly
- The narrative or function of the visualization
- Maintaining a critical, ethical, inclusive, thoughtful lens

** How do these considerations intersect? How do we leverage them?**

Homework and Resources

Assignment

Make a line or SVG path focused visualization of your choice where you try to implement CSS. Choose an option, below:

Line Chart Option

- Create a multi-line chart using d3.line( ), time series data, and CSS. BONUS: add line labels

SVG Path Option

- Create a visualization by first creating a *bespoke* shape with SVG path and using it to visualize data with D3. NOTE: this can be a simple visualization—the point is to experiment. Consider how things like the shape, size, color, stroke width, & etc. might be used for your narrative.

- NOTE: you are welcome to work from examples/templates from class, but your code must be yours. You do need to adjust the code and comments to be yours and tailored to the assignment, your data, as necessary, and the needs of your plot.

- All in one folder, upload your code, data, and Readme with visual and brief descriptive documentation, and relevant citations to GitHub per the course guidelines.

Relevant Resources

- CSS Reference https://cssreference.io/
- D3 “curves” https://d3js.org/d3-shape/curve
- D3 “symbol” https://d3js.org/d3-shape/symbol#symbol
- D3 “d3.timeFormat( )” and “d3.timeParse( )”https://d3js.org/d3-time-format
- D3 “d3.scaleTime( )” https://d3js.org/d3-scale/time
- D3 “Time” (includes “Time Ticks”) https://d3js.org/d3-time
- MDN “SVG Attribute Reference” https://developer.mozilla.org/en-US/docs/Web/SVG/Attribute
- W3 Schools “CSS Introduction” https://www.w3schools.com/css/css_intro.asp