

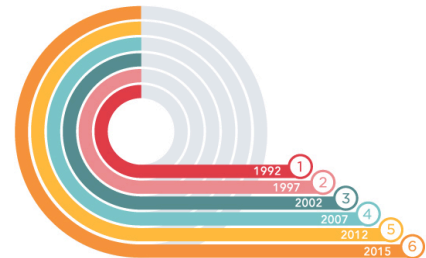
Welcome to Data Structures Honors: A Data-centric Dive into Data Science

Course Website: <https://courses.engr.illinois.edu/cs225/sp2019/pages/honors/>
 ...or from the CS 225 Website -> "Course Info" -> "Honors Section"

Edward Tufte's Thoughts on Color

- "Above all, do no harm"
- "Make it right in black and white"

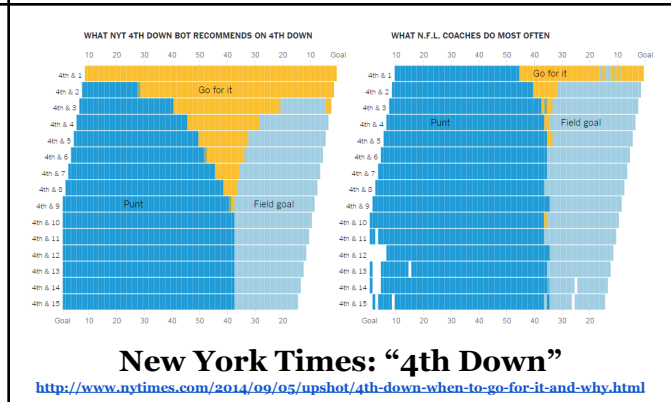
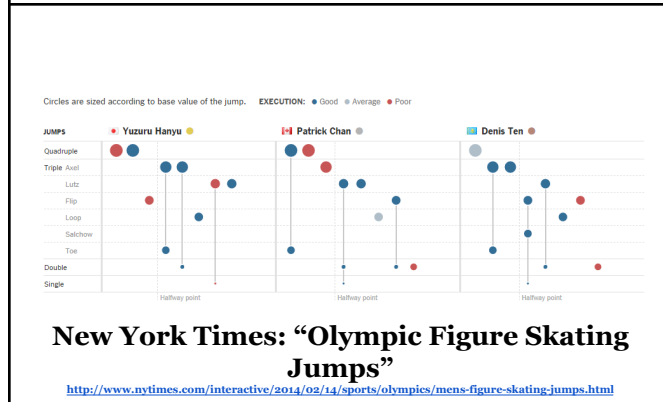
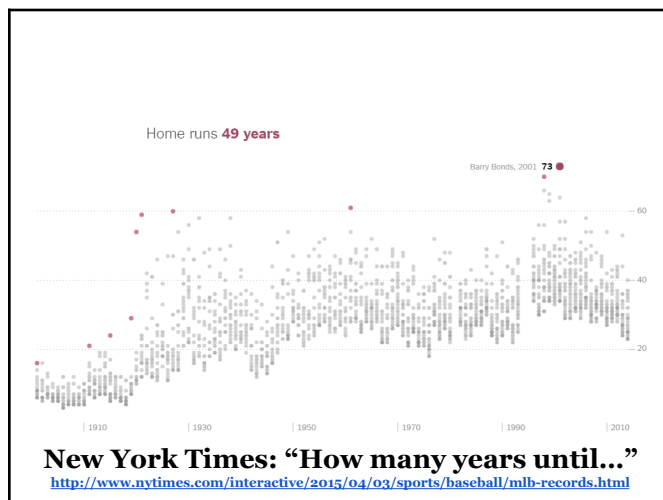
Q: How was the use of color in collegeillinois.org graphic?



Visualization: Examples

As we view each of them, consider:

- What visual encodings are used?
- What pre-attentive features are used?
- Was it "made right in black and white?"



Exploratory Data Analysis (EDA)

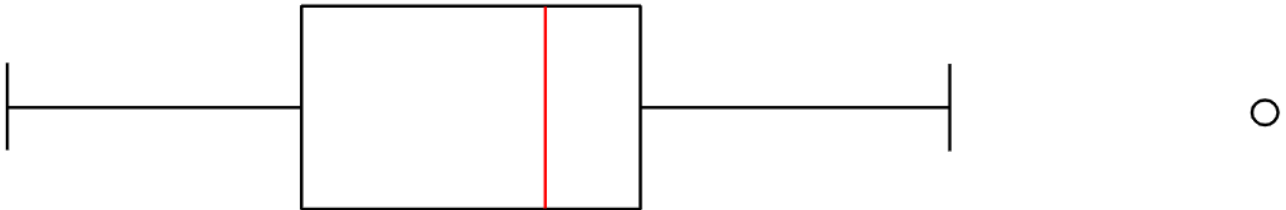
Idea: Explore the data quickly to find a story to tell.

- Visualizations are a great tool for EDA!
 - **Box plots** are one of my (new) personal favorites for doing this work!
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Box Plots:

Box plots provide extremely detailed summary information in an easy-to-read visualization:

- Every detail of a box plot has a **very precise** technical meaning.
- Importantly, box plots can be created quickly with Python (**one-liner!**)



Q1:

Q2:

Q3:

IQR:

Outliers:

Illinois Dataset: Academic and Administrative Appointments (Gray Book)

As a publicly-supported (tax-payer) institution, faculty at The University of Illinois are State of Illinois employees. The University publishes an annual “graybook” that provides the base salaries paid to every State of Illinois employee: https://www.bot.uillinois.edu/resources/gray_book

Tina Abrahan and Wade Fagen-Ulmschneider scraped and cleaned this dataset, which you will explore as part of Homework #3:

Employee Name	Acedemic Title	Previous Salary	Salary	...
...
Jones, Robert J	PROF	\$649,000.00	\$661,980.00	...
...

