



Details

Calling all future data scientists! Join the Student Alumni Associates (SAA) for Meet the Boss: Data Science, an evening of FREE food and networking! This quarter, we're exploring the field of data science and how it has found its way into the careers of UC San Diego alumni. Our alumni panelists will represent a variety of industries and are excited to share how they found their paths within the field!

This event will feature a moderated Q&A, and after, we will break out into a night of networking. Free food and refreshments will be served.

GRAB A TICKET/RSPV HERE: bit.ly/ucsdmtb

APR
29 Meet the Boss: Data Science
Public · Hosted by UCSD Student Alumni Associates

Interested

Invite

Monday, April 29, 2019 at 6:00 PM – 8:00 PM PDT
Next Week · 14–18°C Rain Showers

The Loft @ UCSD
9500 Gilman Dr, La Jolla, California 92093

Show Map

Find Tickets

Free
[bit.ly](https://bit.ly/ucsdmtb)

Our panelists:

Orysya Stus '18: Currently a data scientist at Seismic Software. She obtained both a Bachelor's in Bioengineering and a Master's in Data Science and Engineering at UC San Diego!

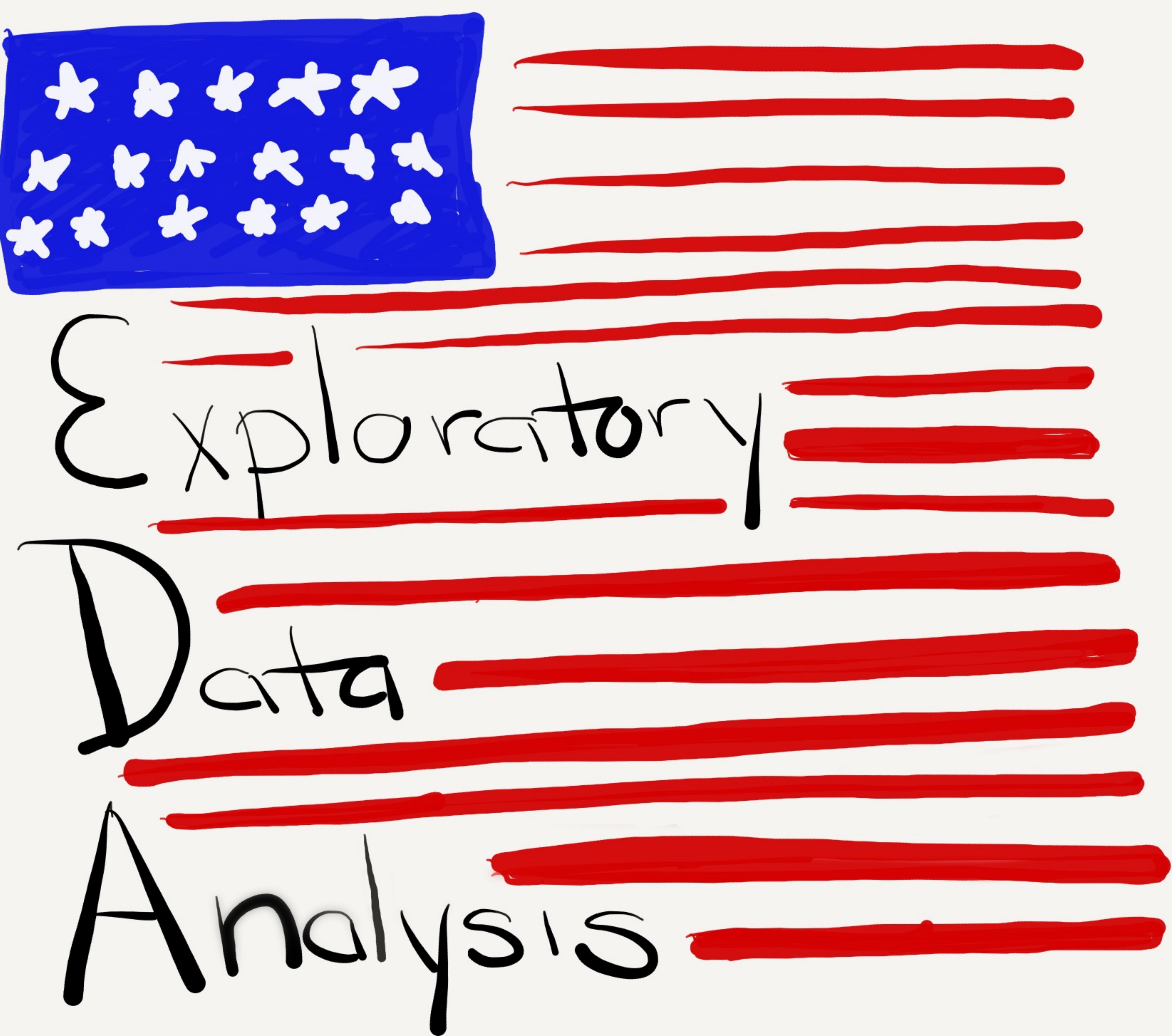
Talina Konotchick, PhD: Talina is a data analyst at Illumina with a background in Bioinformatics and Oceanography!

More speakers will be announced soon!

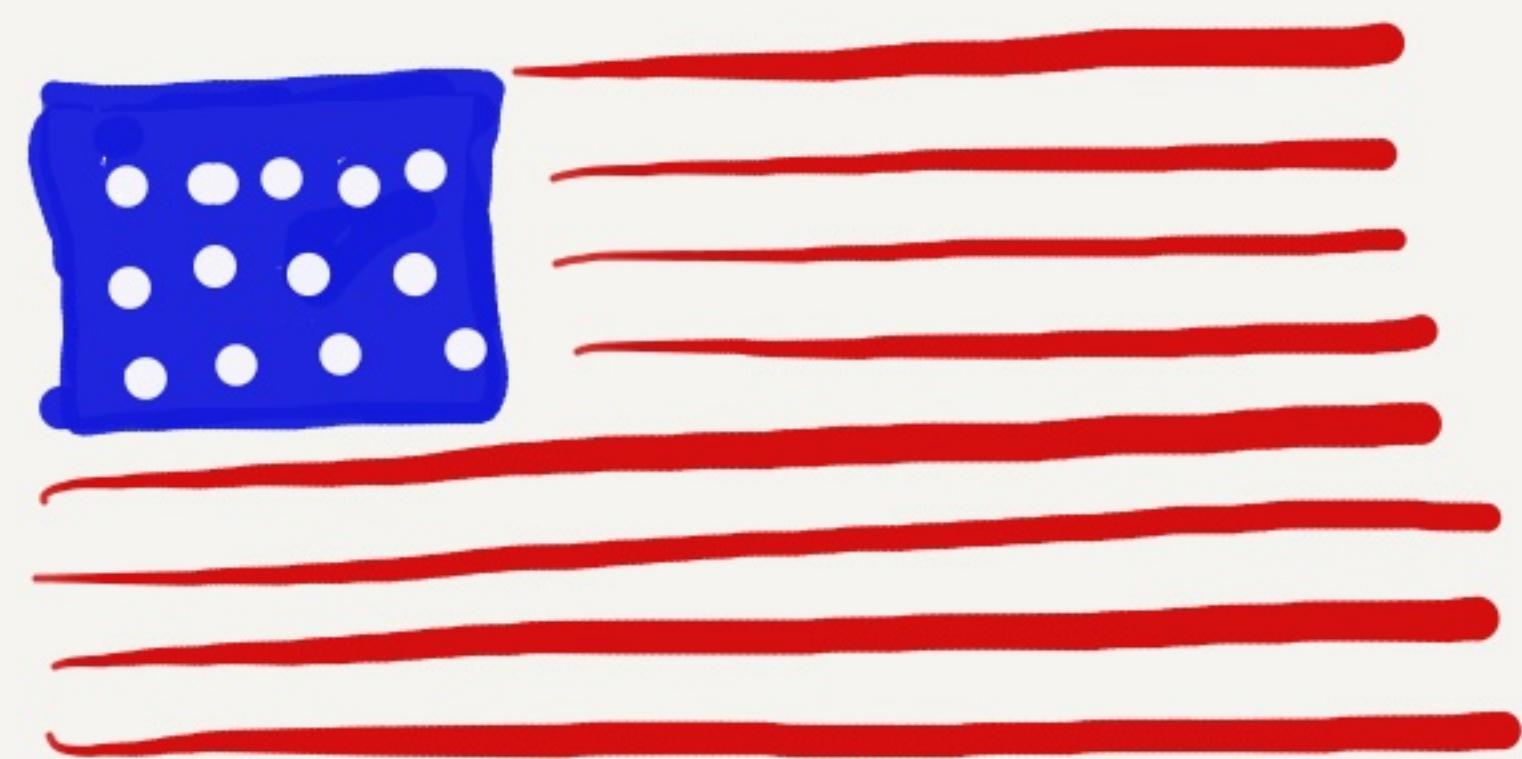
This event is for UC San Diego students only.
Questions? Email saa@ucsd.edu

Facebook: <https://www.facebook.com/events/652097685248663/>

Eventbrite: <https://www.eventbrite.com/e/meet-the-boss-data-science-tickets-60390412349>



- Brainstorm + Question
- Discuss Analytical Approach
- Communicate



Question

Data Science
Question?

- \rightarrow age \uparrow medical conditions
 - govern
 - participate
 - decision making
 - more difficult

- age
congress
members

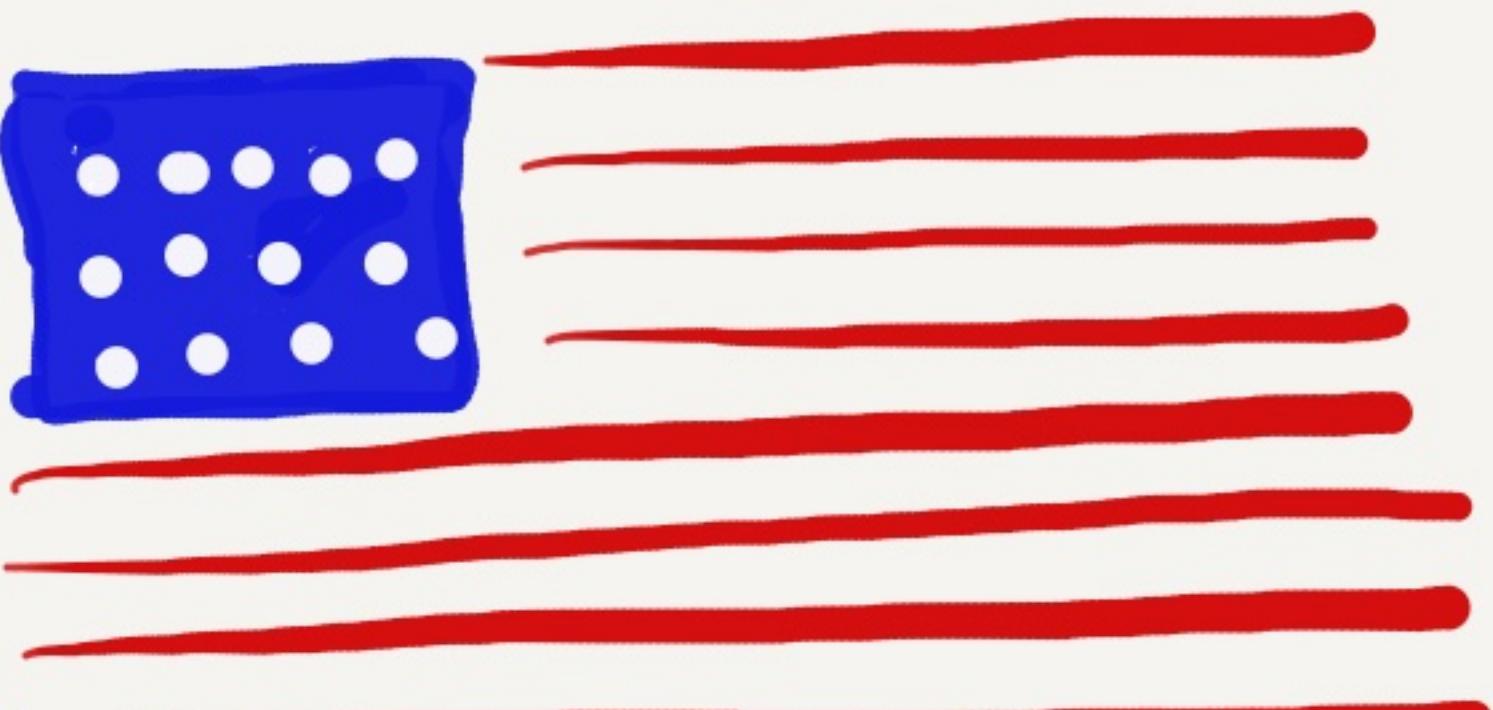
Does Congress Have An Age Problem?

- representational
 - older don't understand younger + vice versa
 - lack of ability to empathize

- older people = \uparrow experienced

- representational:
 - approval ratings
 - \rightarrow % approves by age
 - demographics of US

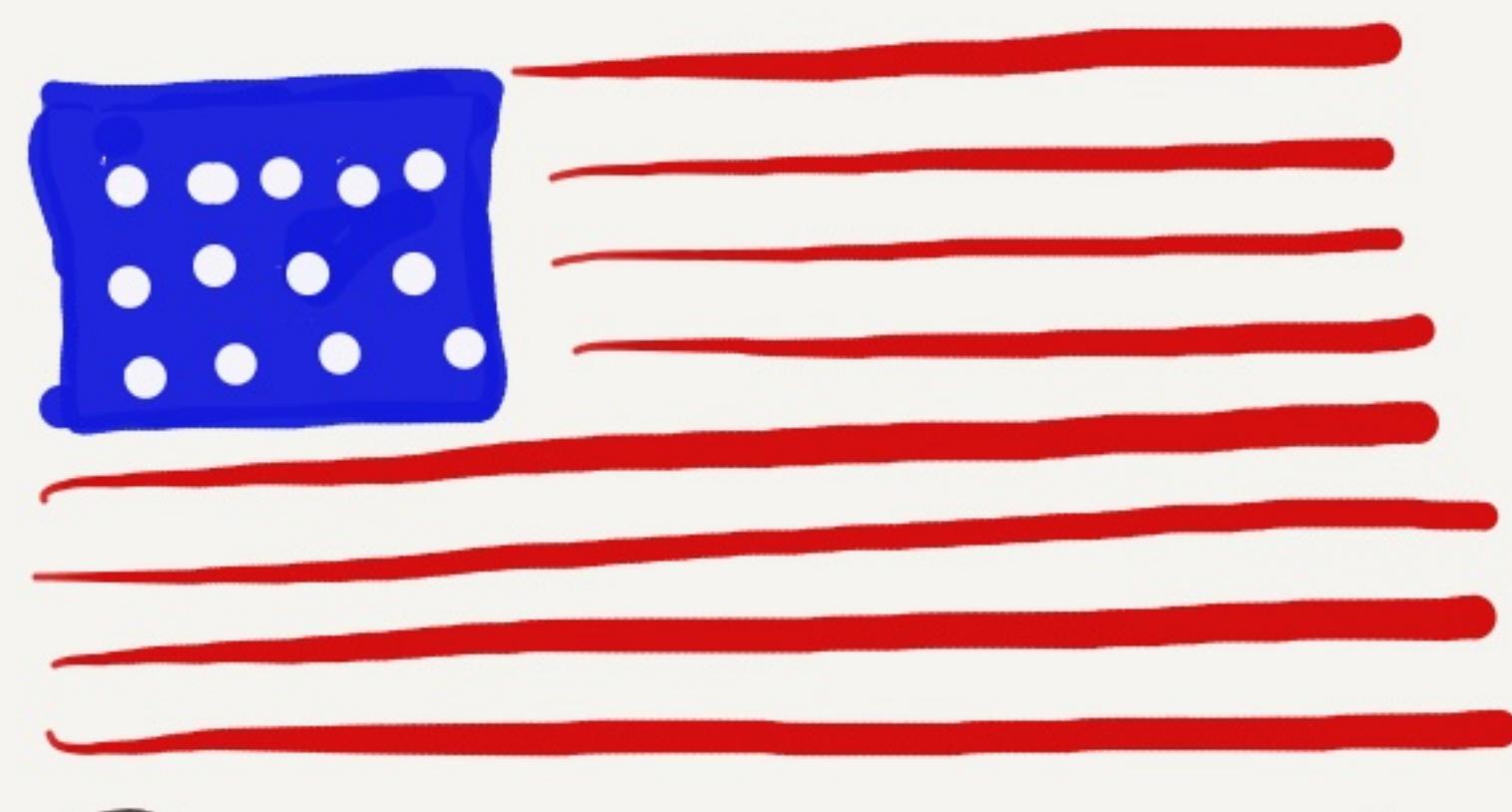
- experience
 - yrs of service
 - in congress
 - + other related exp
 - # of bills passed ; rate of bills



Data Science Question

Question

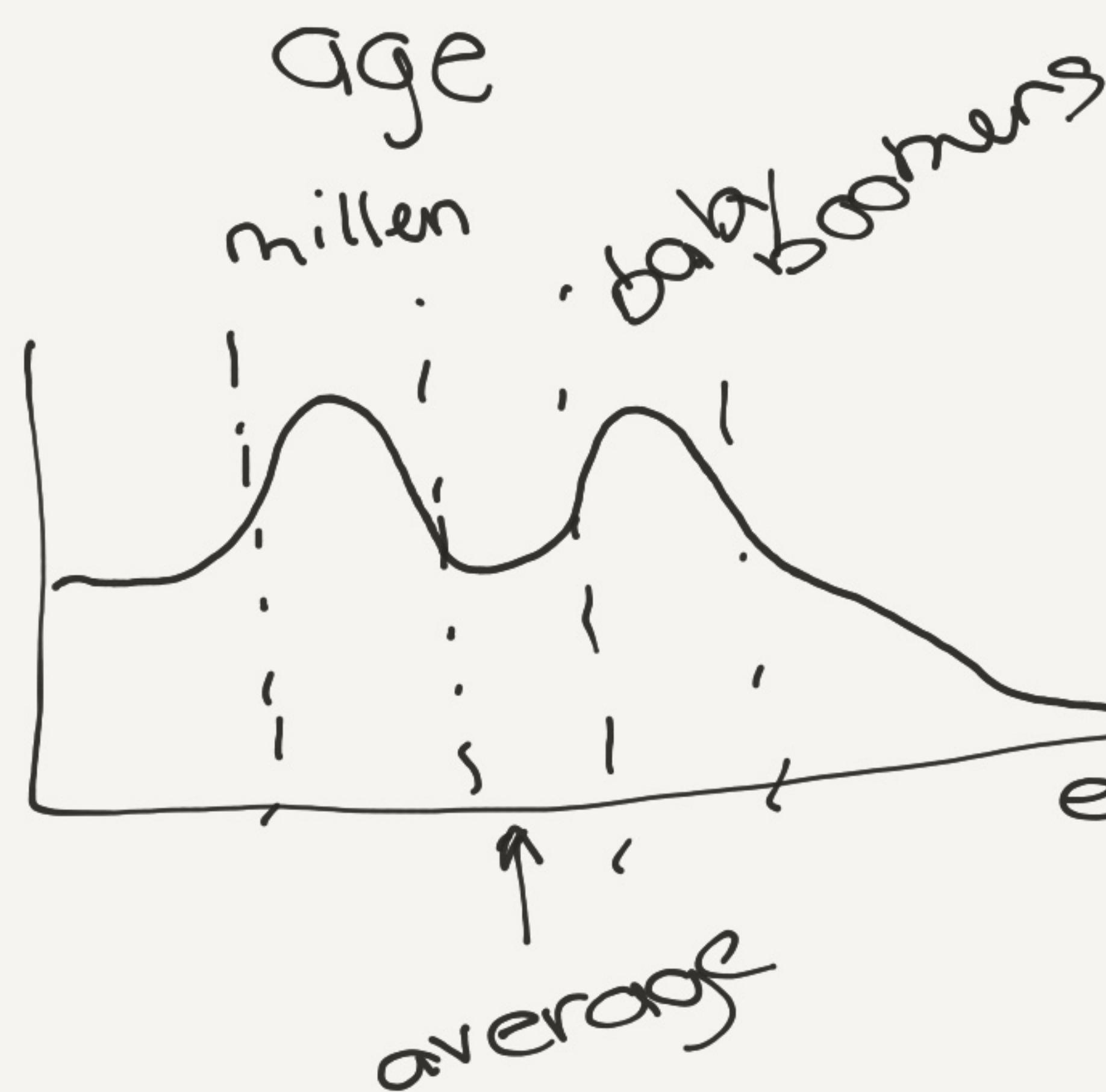
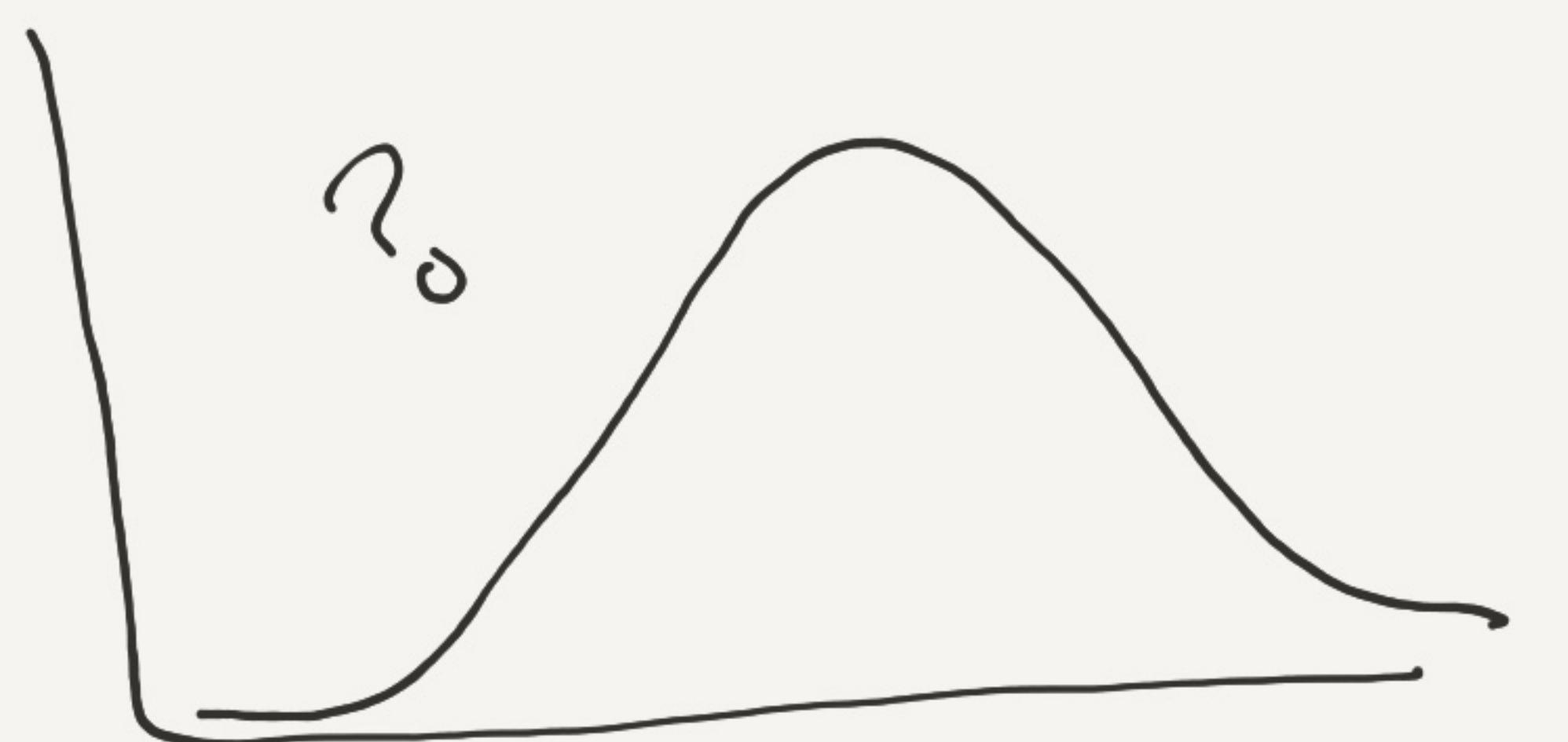
- ① Has the average age of Congress changed over time?
- ② Is the average age reflective of the US population?



What do we already know about this topic?

Background

Avg age in US?



min-age (House) = 25y ; 2 years ; no term limits
min-age (Senate) = 30y ; 6 years

△ 2 chambers

"dominated by old
Straight, white men"

\$ to run
for office

- baby boomers
- more older than history

elderly babies later in life

Senate = 100 ppl
(2/state)

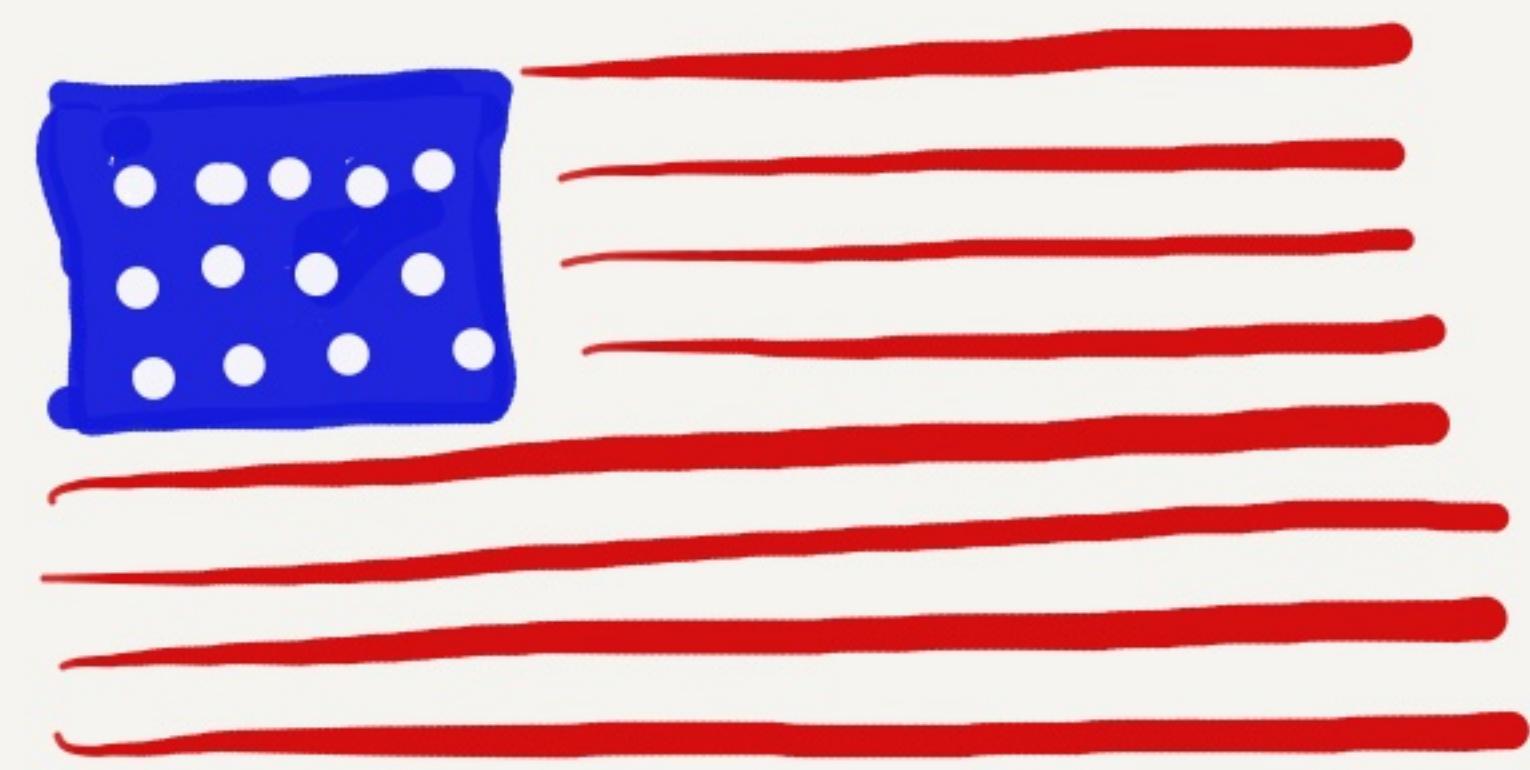
House = 435
Party Affil (by pop)
Dems
Repubs
Other parties



Hypothesis

What would you think the answer to these questions is?

- age increases over time due to increased life expectancy
- recently: more young people
- avg age older than population
 - ↳ want younger avg to be more in-touch
 - ↳ approval rating
 - college loans; energy sources; climate change; tech / tech law; social security
- Senate:
 - higher average age
 - (age & range & 6 year terms) than House



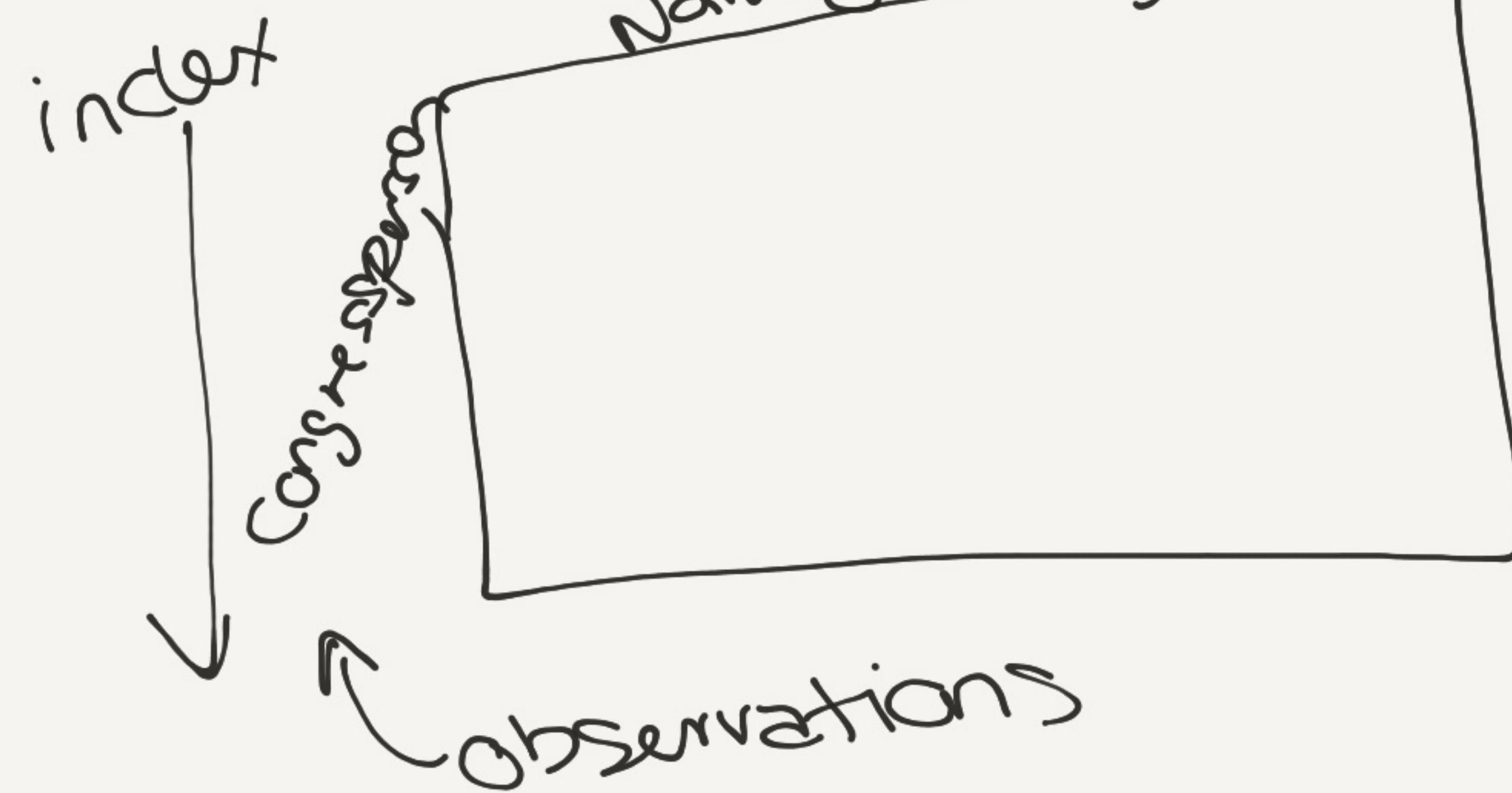
What data/information would we need to answer this question?

Data

What years?
through all
of history
US

- Age of congress people
- Party affiliation for each member
 - " " for US
 - by age range
- for each congress, breakdown by party
- when did they get there?
- life expectancy

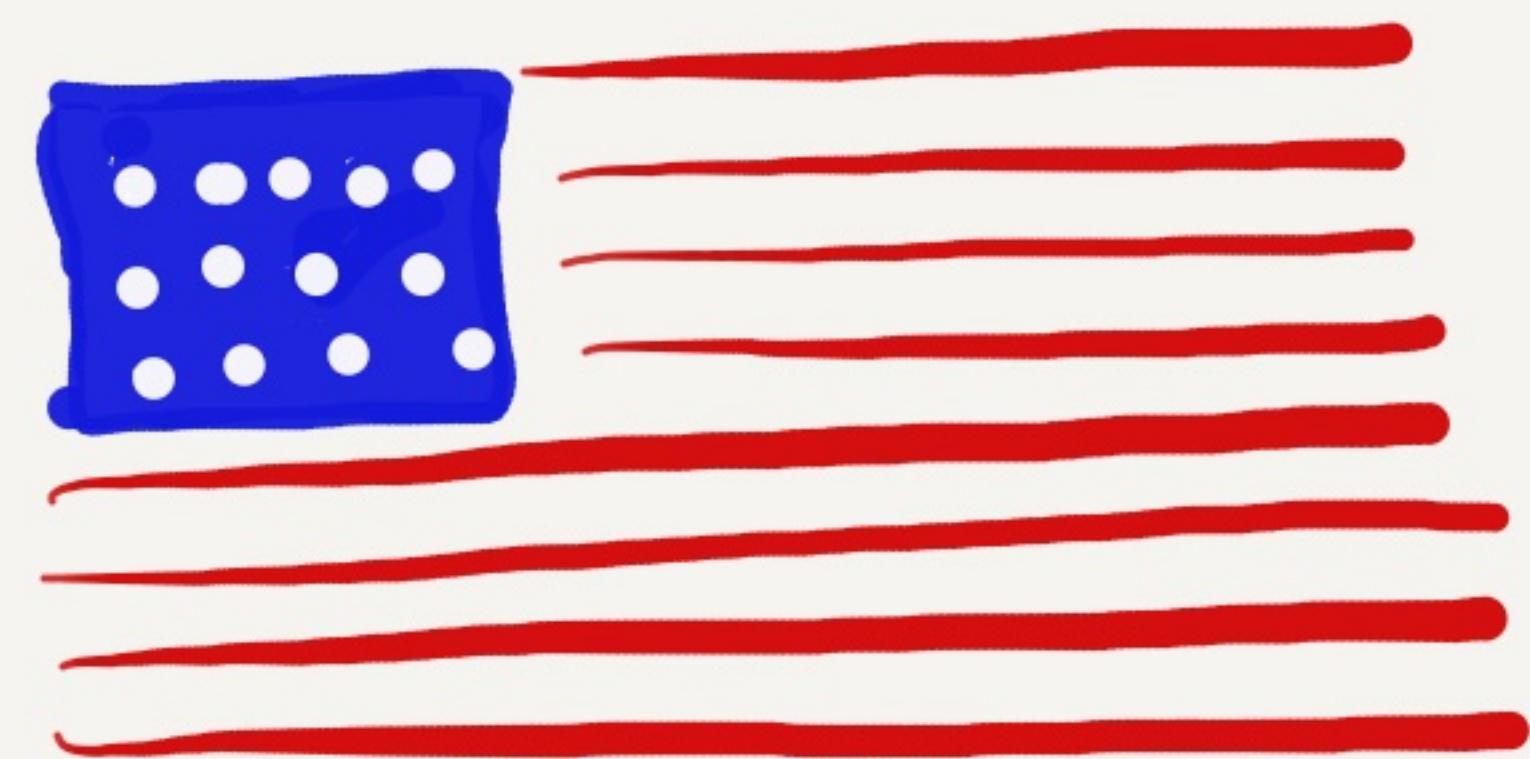
- current events + what problems congress



Name, gender, age, party, affiliation, congress, incumbency, chamber, state as tackling

variables

+ ID
→ same name
"tidy data"
→ duplicates



Setup

What Python tools would we use?

Pandas + numpy → working w/
→ read dataframe arrays

matplotlib +/or sns
(seaborn)
→ dataviz

beautifulsoup
→ web scraping

sklearn
→ machine learning

→ API
(newsources)

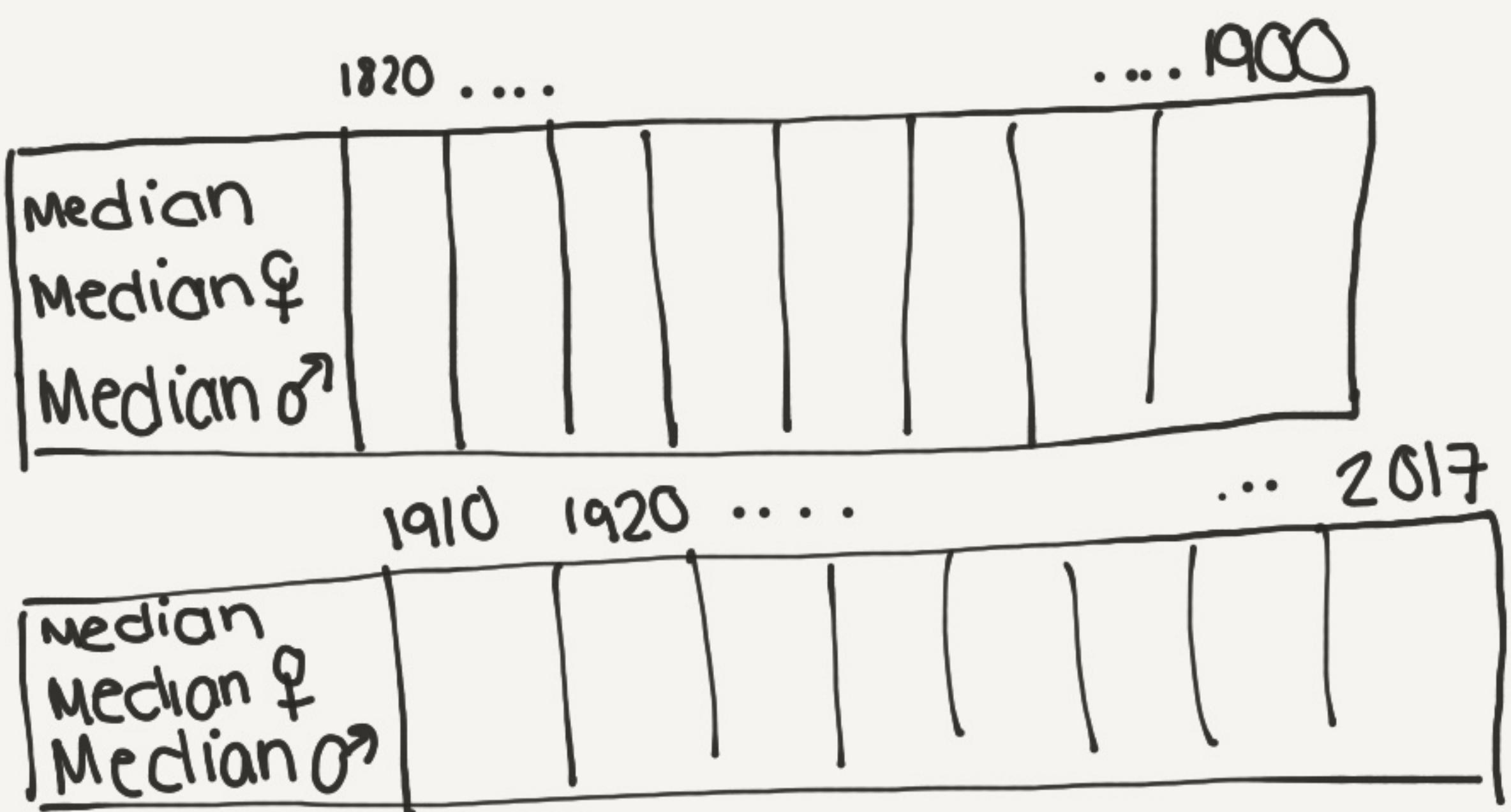


REVIEW: DAY2

Tools:

matplotlib/seaborn
pandas,
sklearn?
beautifulsoup?
numpy

Median US Age (from Wikipedia)



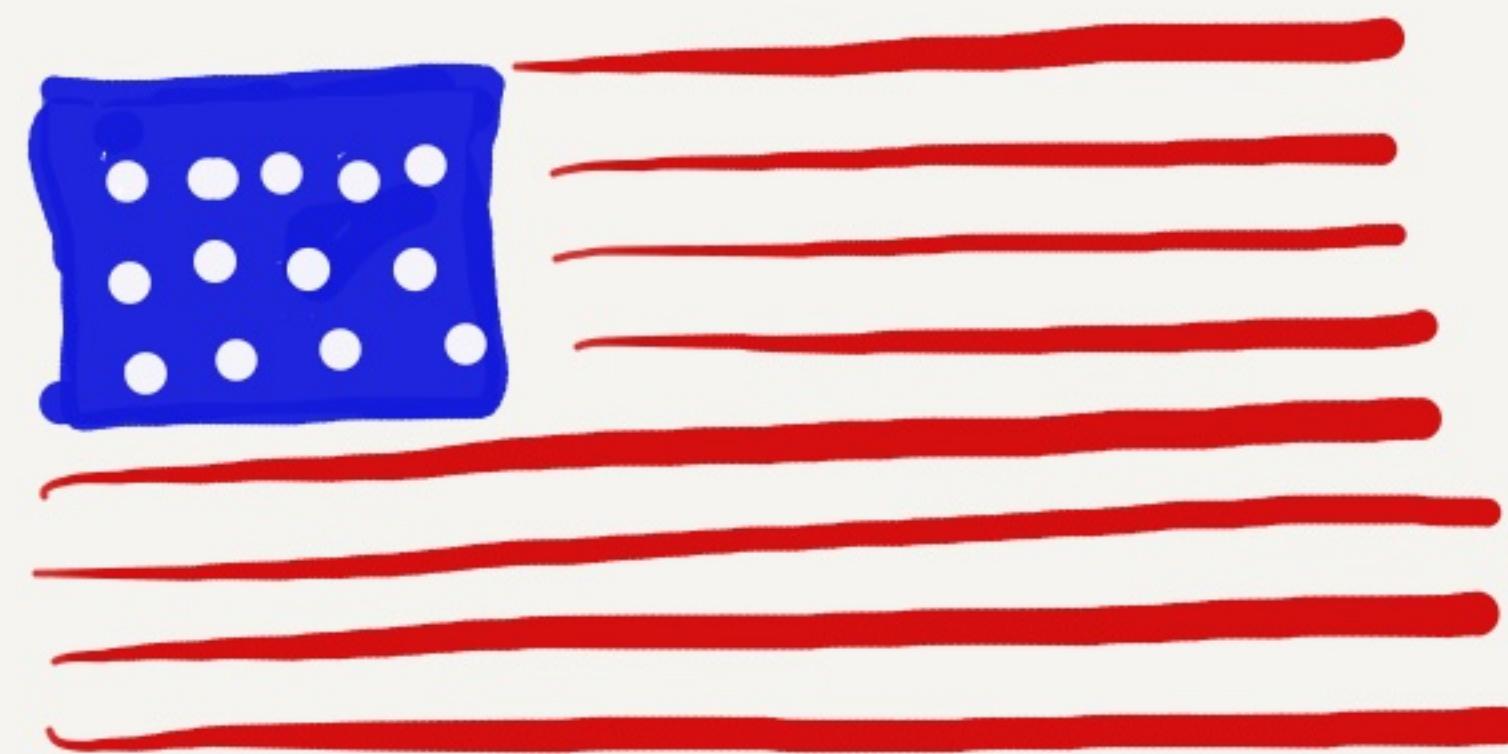
General Question: Does Congress have an age problem?

Data Science : (1) Does the average age of Congress reflect the average age of the US ?

- (2) What has this trend looked like historically?
 - differ by chamber? (House v. senate)
 - differ by party? (D vs R)

Congress Data Set

Congress [80 - 113]	chamber (house ; senate)	first name	last name	birthday (YYYY-MM-DD)	state (two letter)	Party (D; R; AL; L; I; ID)	incumbent (Yes; No)	term start (YYYY-MM-DD)	age (years); i.e. 85.9)
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Descriptive Analysis

What would you do to summarize these data?

names states?

how many terms?

US pop (BeautifulSoup, webscrape)
↳ groupby (name)
summarizing
- incumbent
- termstart

21 years
3 variables

$$\frac{\text{US Pop}}{\text{Med}_{2017}} = 384$$

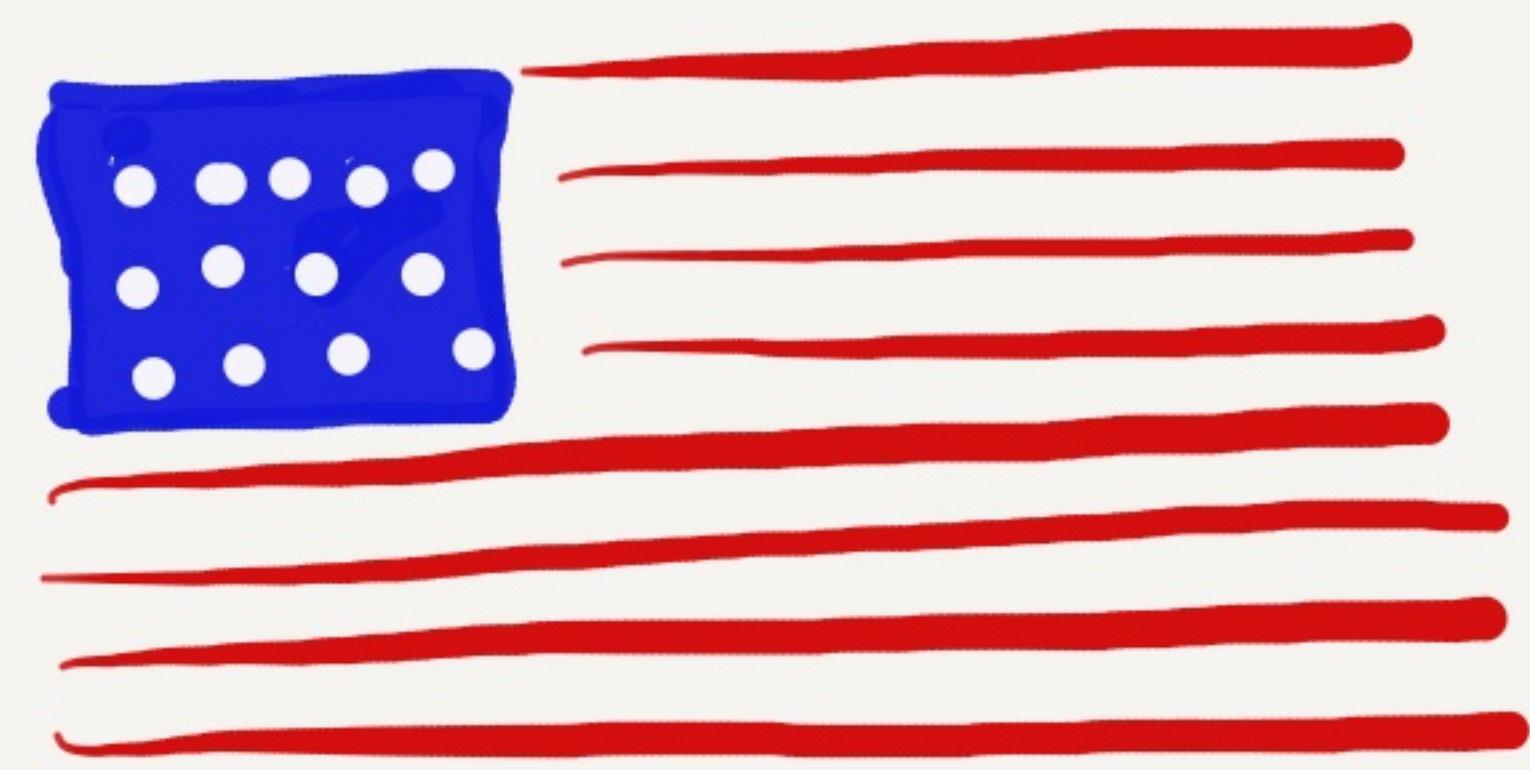
Birthdate YYYY-MM-DD
what is age?
termstart?
termend?

size

Congress
48,635 rows
(3 variables)

breakdown
→ party D: 10,290 Congress
↳ plot R: 8,274 - Median: 53y
overall

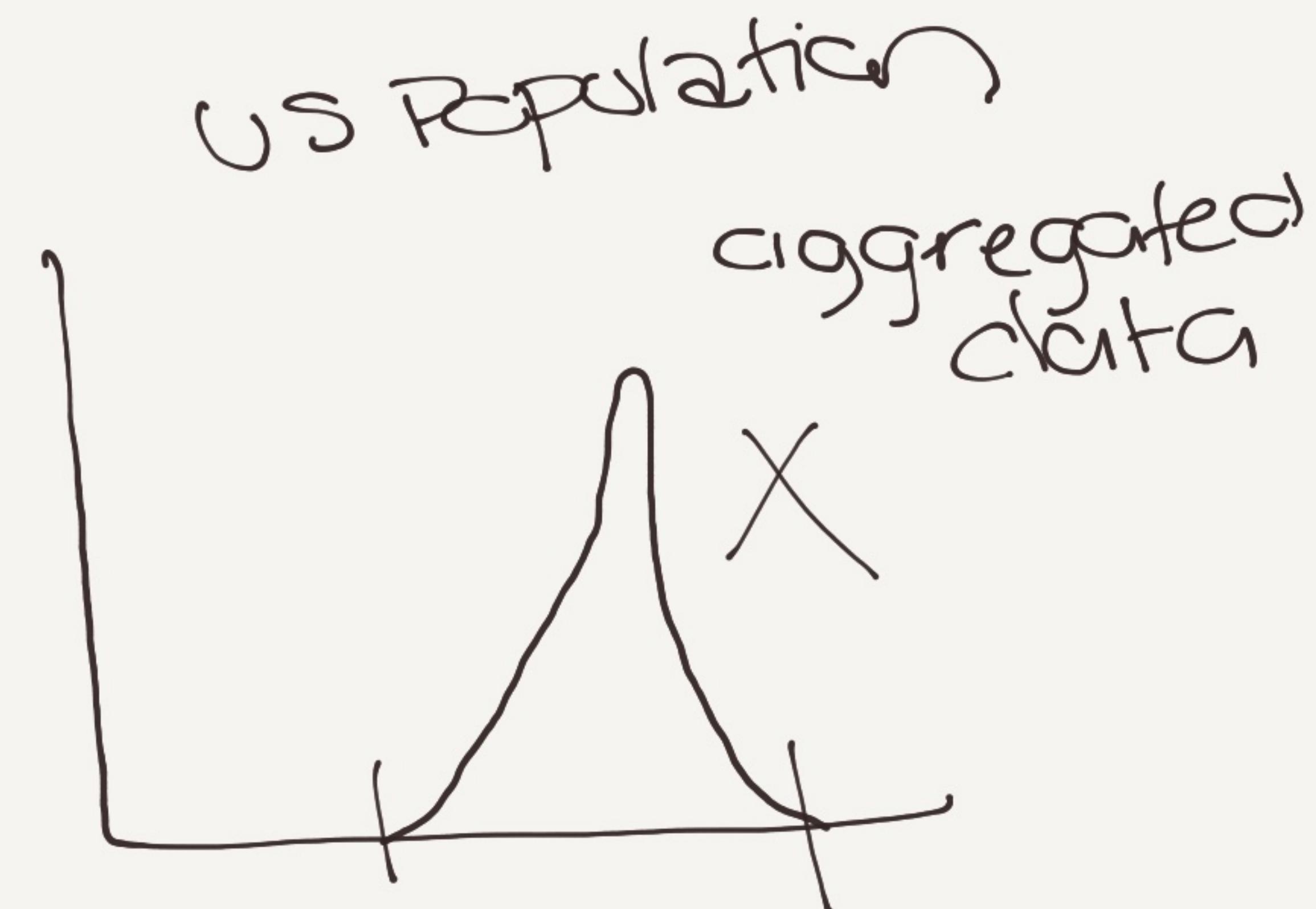
→ chamber
H: 15,083
S: 3,552 Categorical
↳ - Median/Year:
 & Same Int.
 - Mode Age
 Age range



How would you explore
the data?

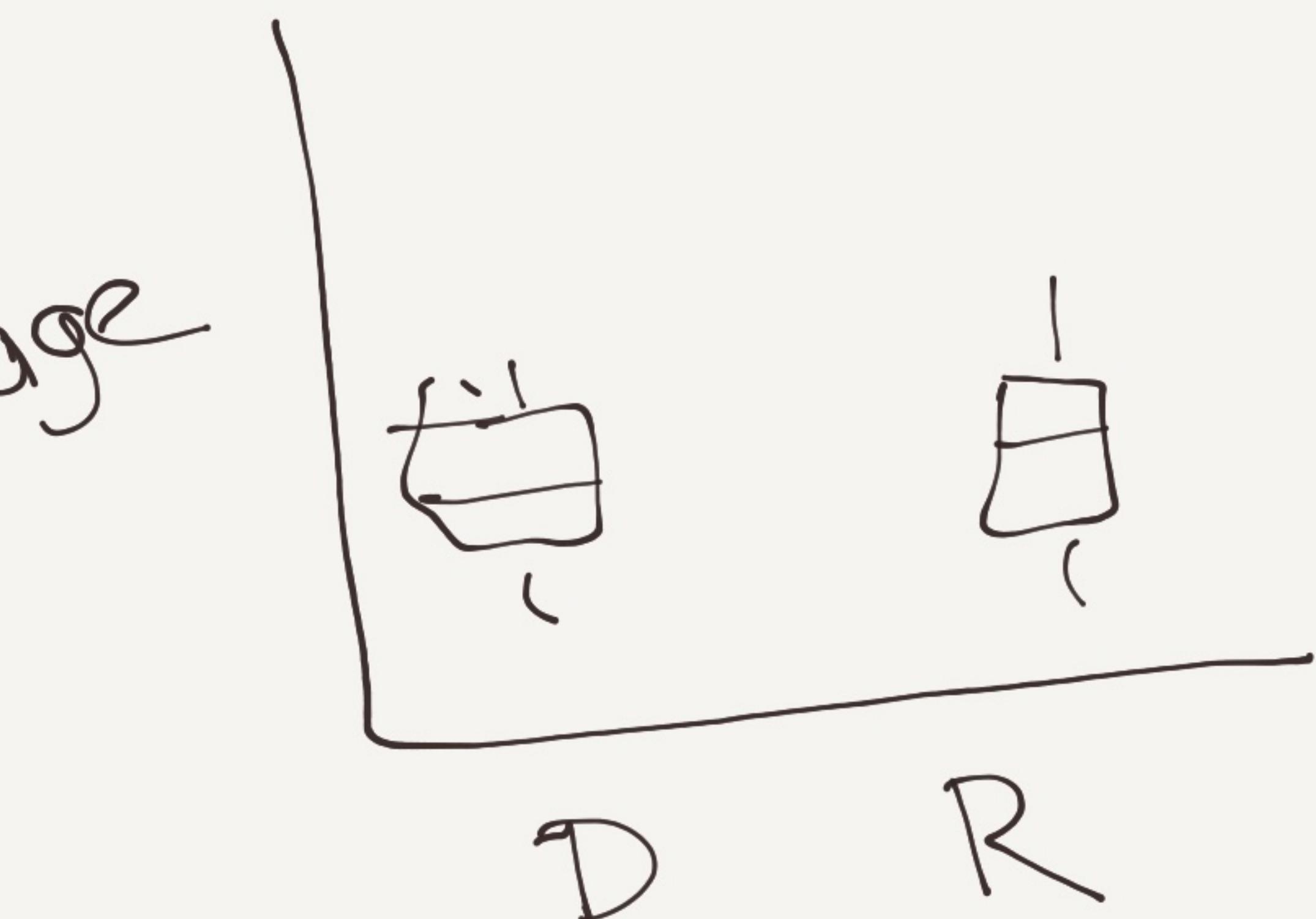
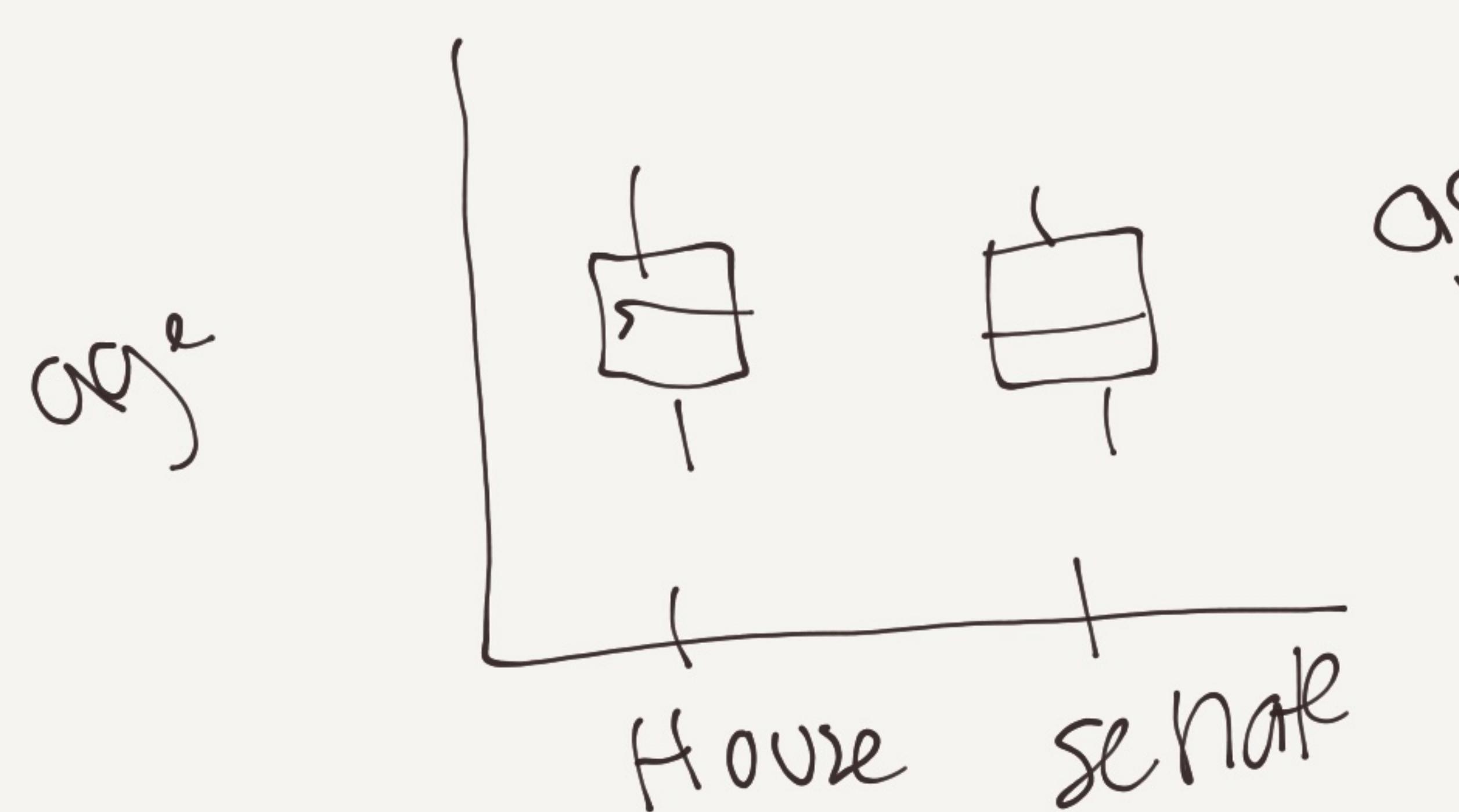
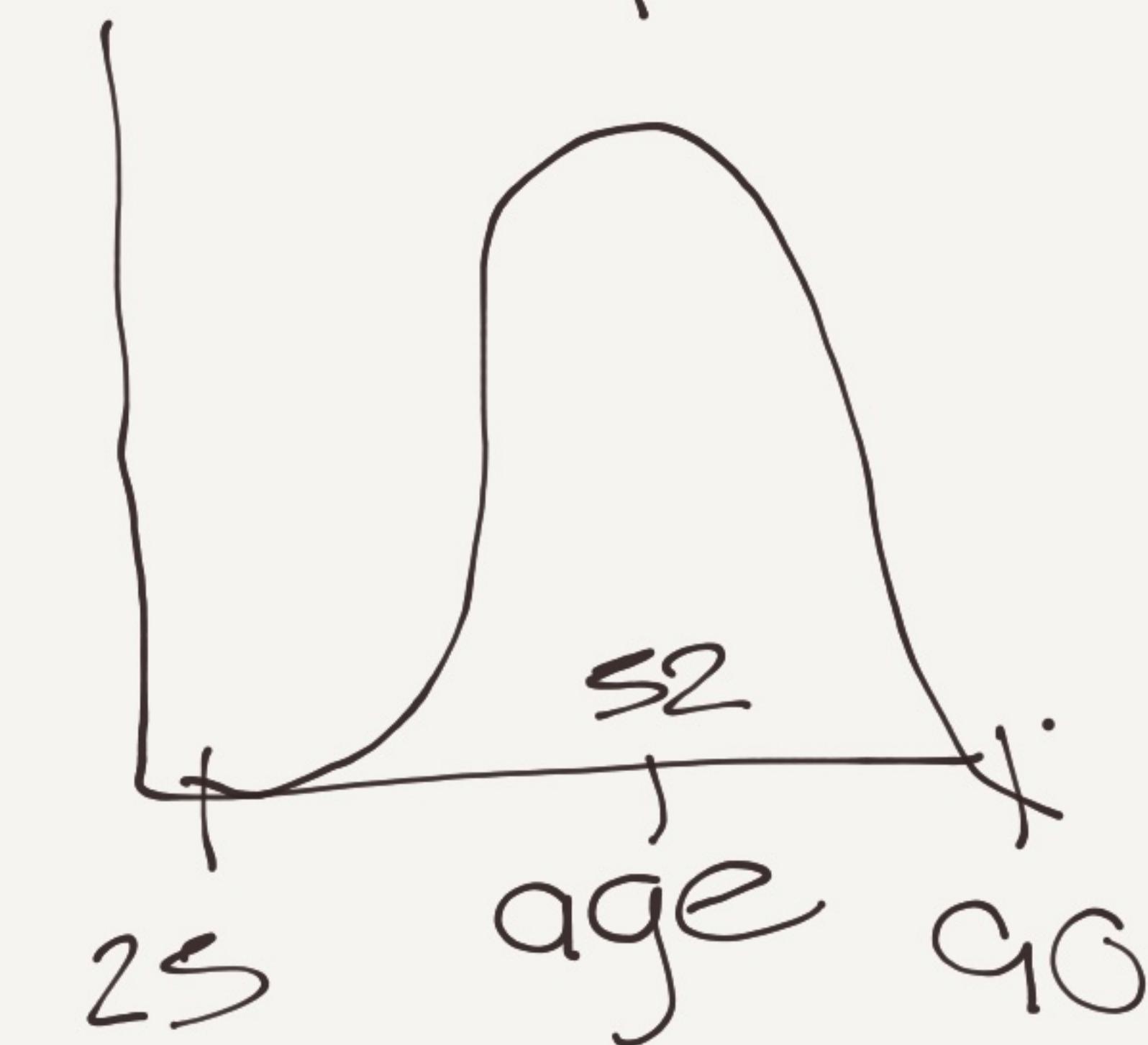
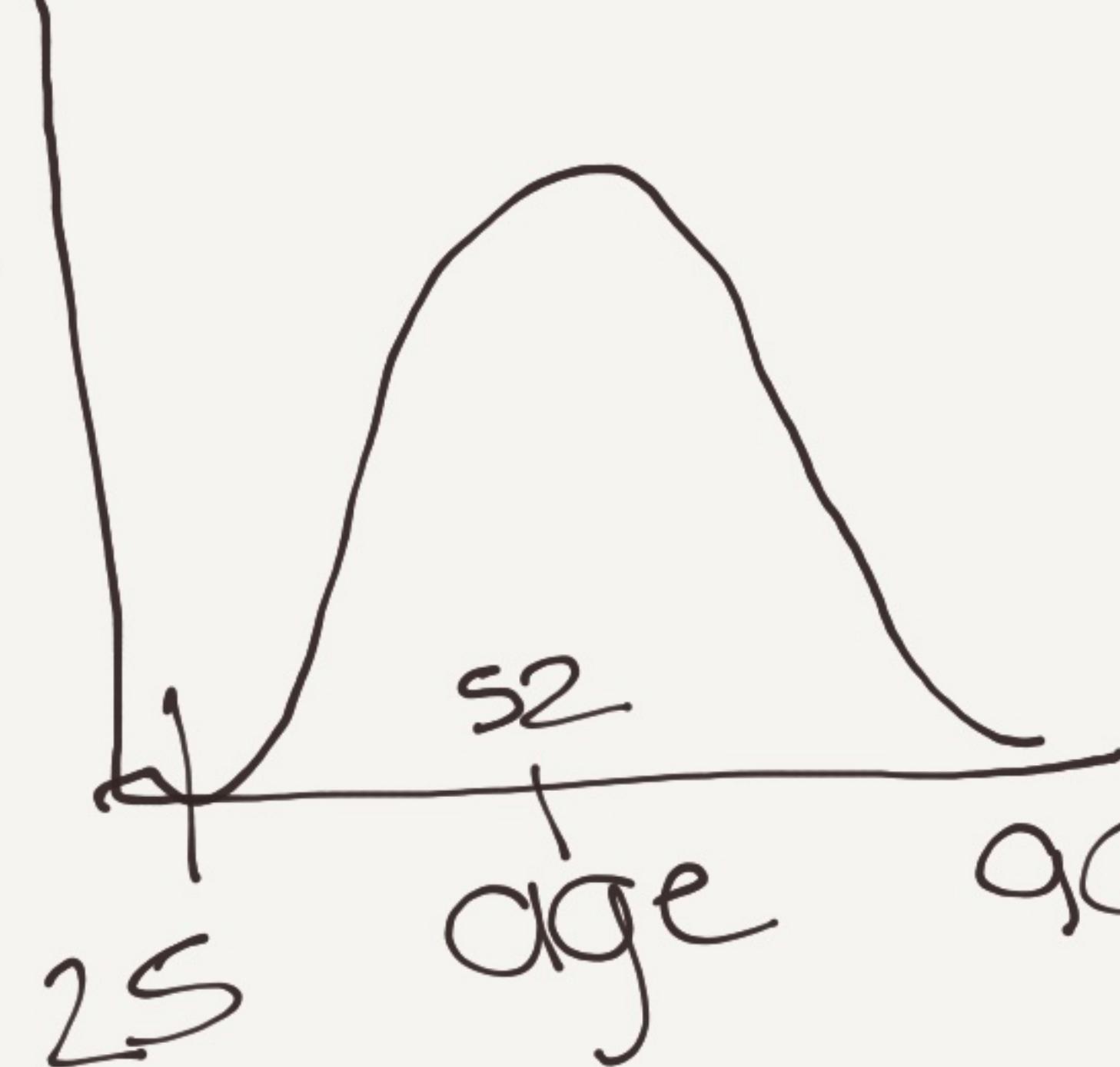
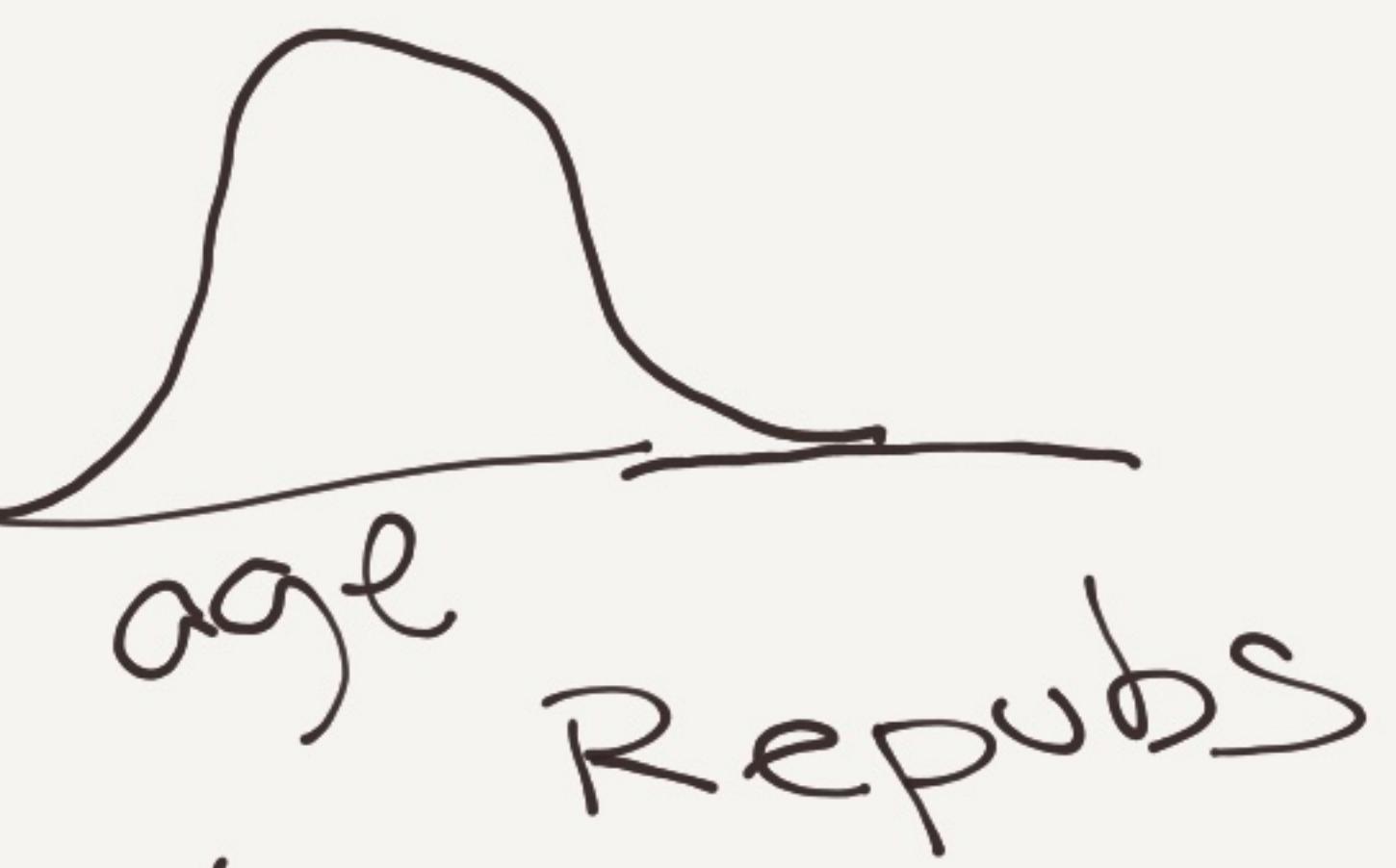
EDA

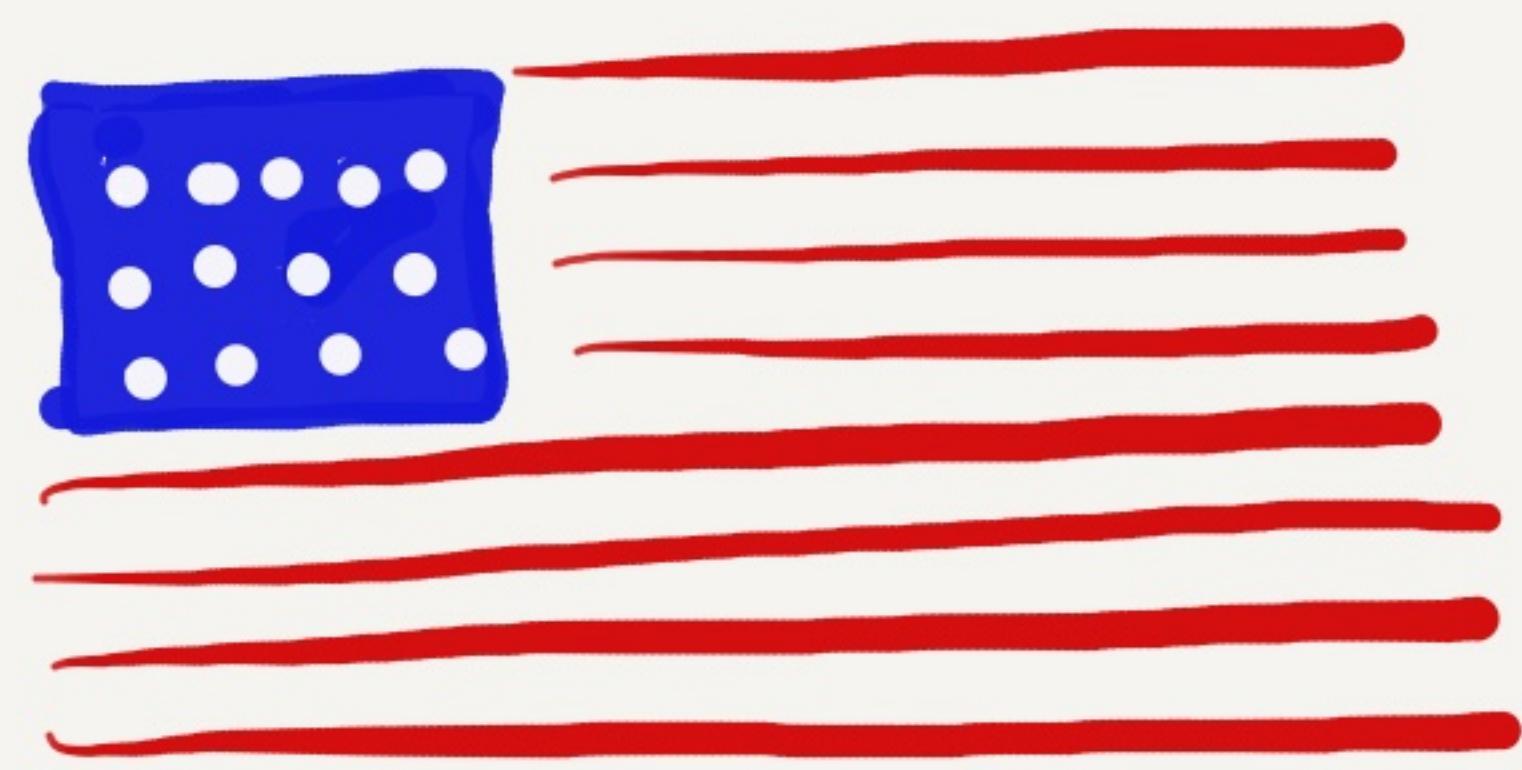
brainstorm
a list ...



- histogram

Dems



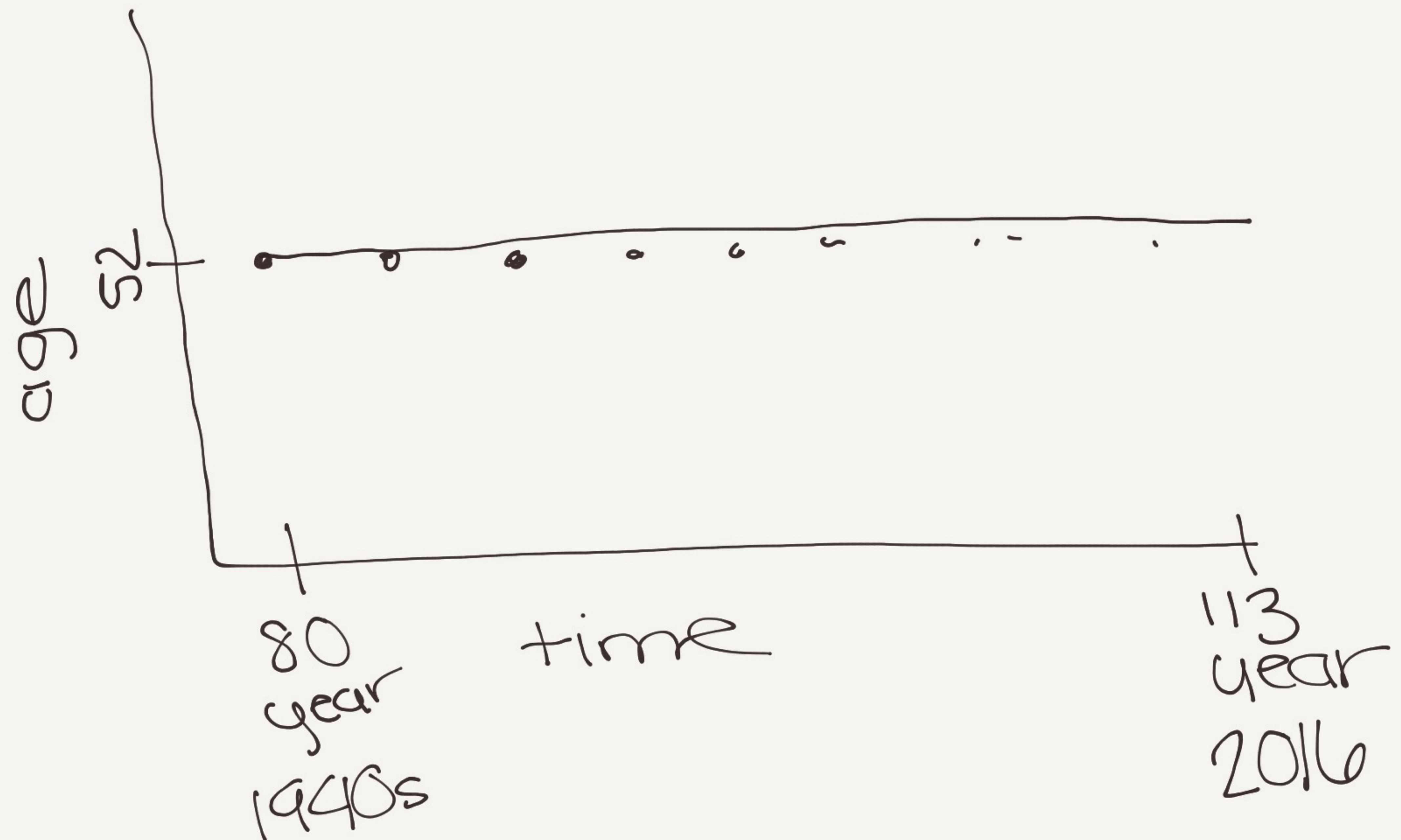


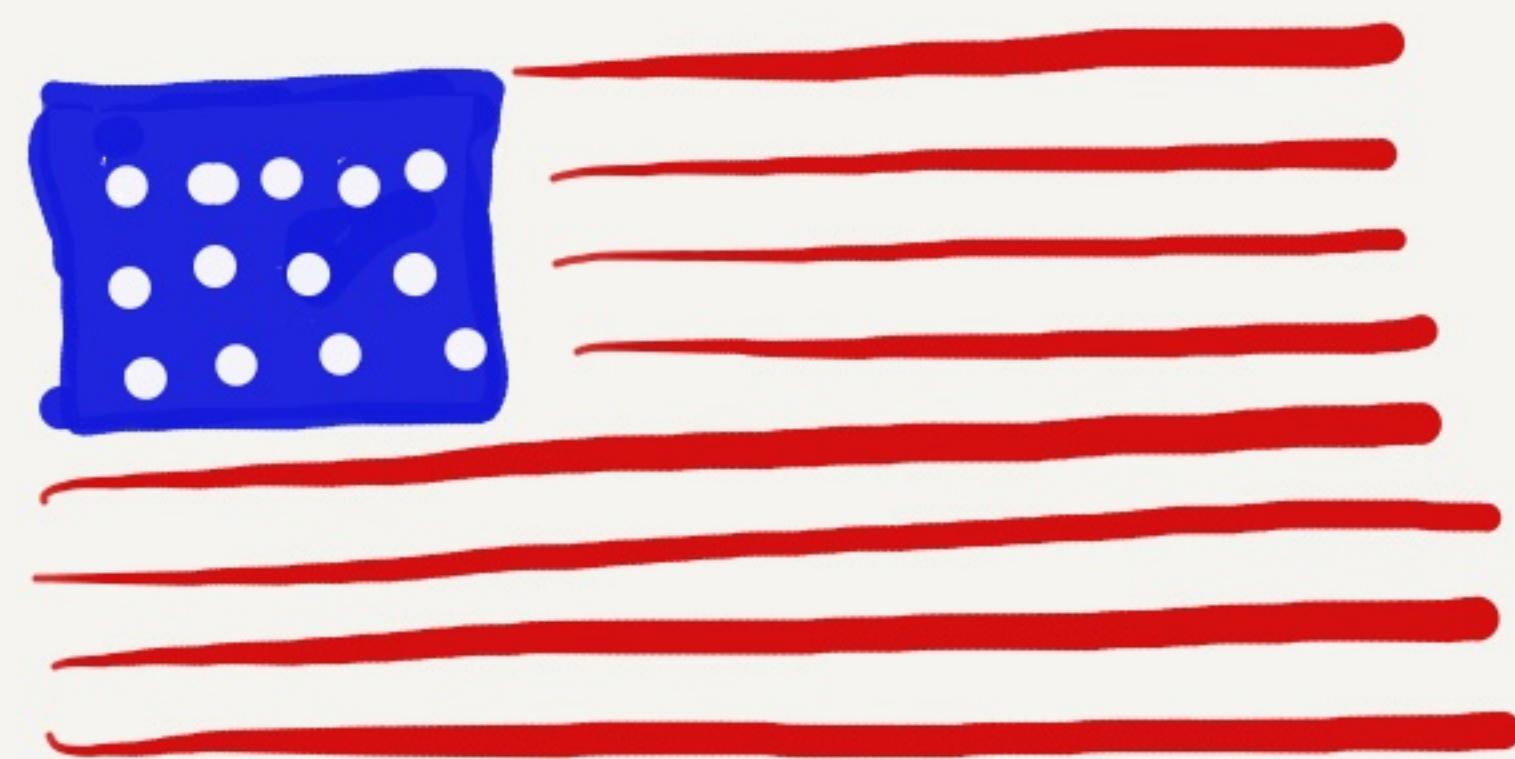
EDA

Data Intuition
- some fluctuation

What exploratory visualizations would you generate?

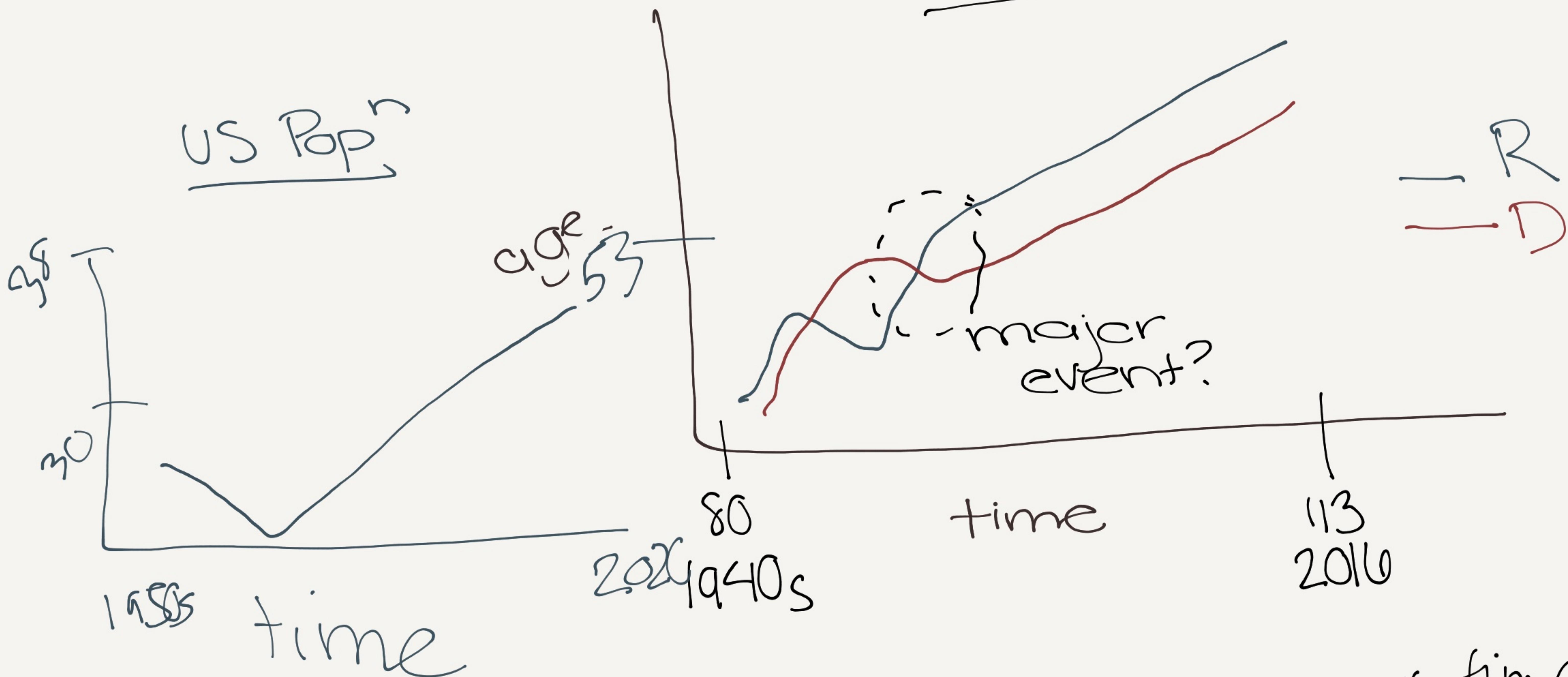
"we goofed"





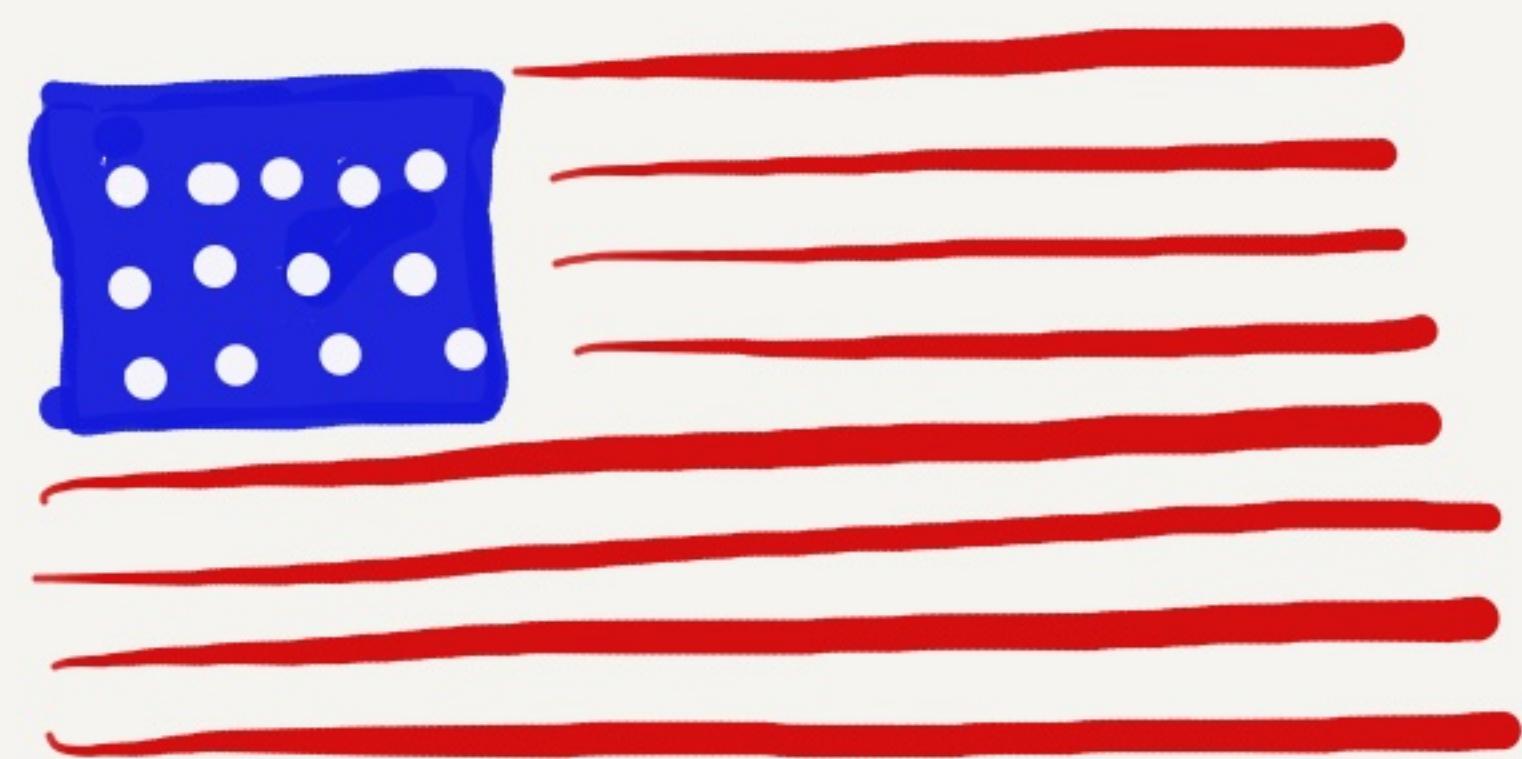
What exploratory visualizations would you generate?

EDA



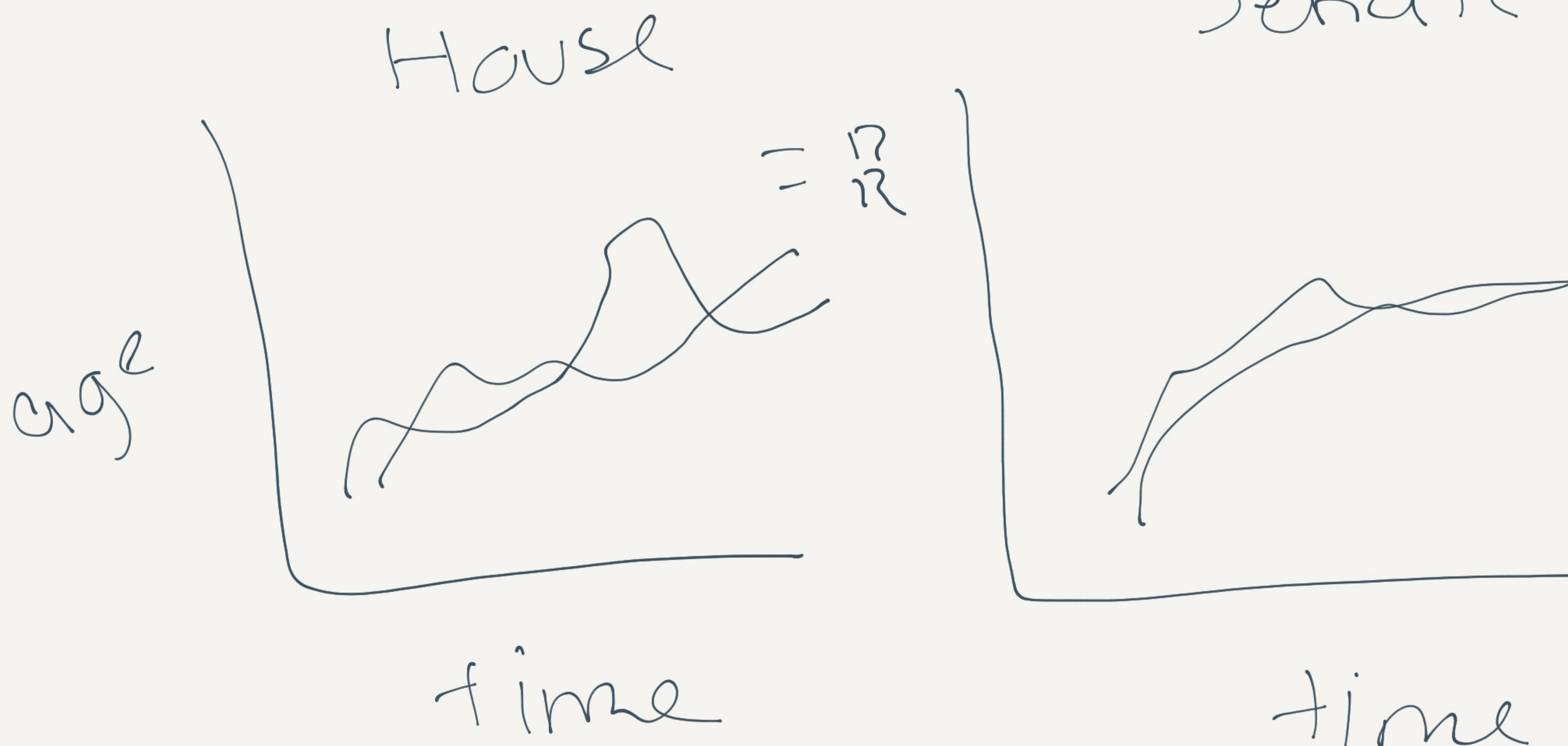
↓ Birth Rate
↑ Life Exp.

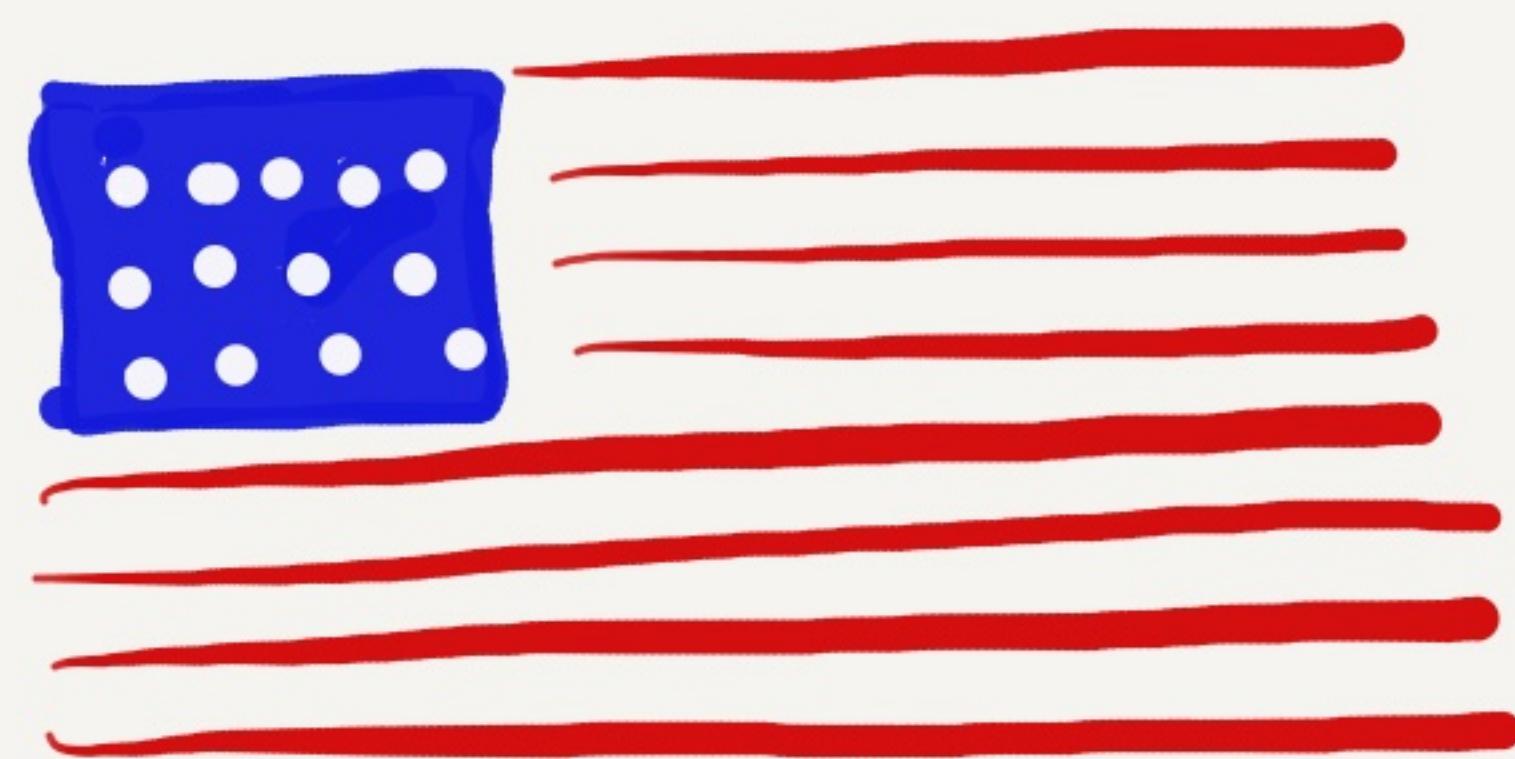
- avg age over time
- each line = party



EDA

What exploratory visualizations would you generate?





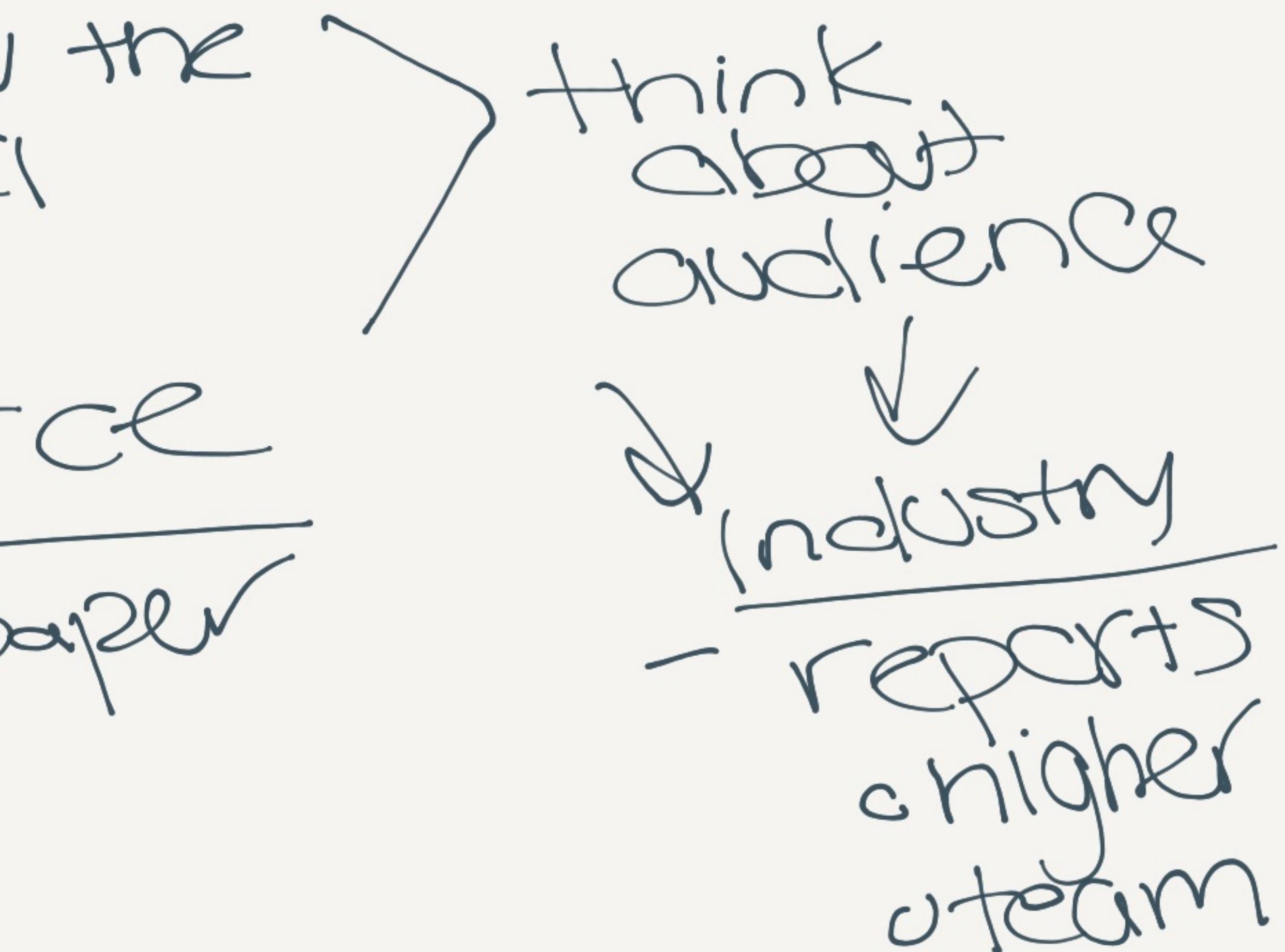
How would/could you share your results?

Communication

Medium

- Present the data
- ASK a question
- Summarize
 - + show the data!

Newsource
- newspaper



(blogpost) - Instagram

- Truthful, interesting
title

- GradeScope

- publication?
- nitty gritty