Data Sources:
USA GeoJSON: https://eric.clst.org/tech/usgeojson/, the US States 500k option
Congress data:
https://github.com/fivethirtyeight/data/tree/master/congress-demographics

Oct 19, 2023
Going over milestone needs:

- Data
    - Cleaning
        - Python -> Pandas to JSON -> transfer to JSON to JS
    - Decided to just use age to start

To Implement:

- Trend line
- Push button get grid (For current congress)
    - Heatmap (age)
    - Future: switch between age & generation
- Party Scatterplot
- Can select whether house or senate (or maybe both)

Oct 25, 2023 - Peter
Found a GeoJSON file for US states. Used pandas in Python to check the congress age data and make sure there were no missing values. Added two new columns one for party name and one for the full state name. The full state name was needed to match the congressional data to the GeoJSON.

Oct 26, 2023 - Peter
Goals:

- Add a main SVG area with a strip plot for age/term number data and a trendline
- Add drop down menus to select whether to display age or term data, display full Congress or House/Senate individually, select to display all congresses or select an individual session
- Add two smaller SVG elements below to show a US map with average age/term data for Representatives and Senators from that state. These maps can show averages for the entire dataset or for an individual session depending on the user's choice.

What I did:

- Setup a main SVG that shows a scatterplot that has individual points for each member of Congress. The points can represent the member's age or how many terms they have been in Congress in total. Also added a trend line showing the average of the selected metric for each session.

- Setup two smaller SVGs below that display maps. The maps show the average age or number of terms for members of the House (left) or Senators (right) from each state.
- Allowed the user to select whether to show data for all sessions in the dataset or select an individual session. If the user selects an individual session, the main SVG is cleared to make space for a grid. If the user changes their selection back to all sessions, the scatter plot and trend line reappear.

To Do:

- Try to find a better way to show individual data than the scatter plot/strip plot that is currently there
- Add a grid to show data for individual members for individual sessions

Oct 30, 2023 - Seth

Goals:

- Remove “Update Visualizations” button, so that when you select new data for the visualization it updates automatically
- Create some good groupings for later use in the visualization
- Create grid when viewing a single congress instead of trend line

What I managed to do:

- For “Update Visualizations”
    - On trend chart, changed .enter and .exit to .join
        - No more manual cleanup of data
    - Implemented automatic updates of data instead of having to press “update data”
- For groupings:
    - Added a group for x-axis and y-axis in constructor, so that these don’t need to be cleaned up later
- Added Two SVGS for the main vis, one is for the line & circle chart and the other will be for a membership grid
    - Only one is shown at a time
- Membership grid can display different colors depending on whether want to see party data

To Do:

- Make membership physically separate when selecting to organize by party. Possibly need more SVGs?
- I would prefer a sorted on columns instead of rows

Nov 2, 2023 - Peter
Goal:

- Add a console log when the grid or map is clicked. For the grid, this shows information about the individual member. For the maps, this shows the average value for the metric selected.

What I did:

- Added the console log functionality.

To Do:

- Change the console log to a tooltip that will show up in the SVG

Nov 3, 2023
Project milestone due
Future needs and ideas:

- Add animations to go through each session
- Add an option to show date instead of session number on the trend plot
- Look into replacing the strip plots with violin charts or similar
- Add legends for color scaling
- Add tooltips
- Add animations for smoother transitions between visualizations