In this lab, you will use the skills you have learned so far in data visualization to create a piece of data journalism about the U.S. Presidential elections that have happened so far in the 21st century.

# **Scenario**

You are a data journalist for a political magazine, and you have been asked to create a graphic feature for the online version of the magazine. Your editor wants you to look back at the Presidential elections so far in the 21st century and tell a story about them. You have 1.5 days to create the story as it needs to be published in time for the next edition, and you need to present your story at the editorial meeting before it can be published.

# **Deliverables**

Submit a Tableau Packaged Workbook (.twbx) file containing:

* Worksheets with various graphics that help to tell your story
* A Story
* Dashboard(s) to support your Story
* (Optional) Animation(s) to support your Story

You will also present your Story to the editorial meeting (the class :)) for 15 minutes at the end of the Lab.

You will have a day and a half of class period to complete the lab. At the end of class, you will present your findings to the class, and you’ll share your final deliverable with your instructor for review. You can choose to work on the lab individually or with your classmates, and the presentation can involve more than one person, but each person must turn in their own Tableau file.

You are free to go in any direction you would like with it, but if you get stuck for ideas have a look at the **Tips** section below for some inspiration.

# **Data**

You can get the data [here](https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/VOQCHQ). It is from [MIT’s Election Lab](https://electionlab.mit.edu/data).

# **Skills**

This lab will help you try out some key skills we have learned so far in data visualization, including data visualization best practices, how to communicate your data, how to create visuals, dashboards, and stories within Tableau, and how to create animations.

# **Tips**

* Start with ***loading the data*** and getting familiar with what you have (and what you don’t have). For example, what does the column ‘County Fips’ represent? And will you need it for your analysis?
* ***Clean the data*** where you need to. Hints:
  + You can look at the unique values for a column by going to the Data Source and clicking on the drop down by a column’s name, then selecting Describe.
  + You’ll need to clean the ‘Office’ field and at least one other; you can do this using Calculated Fields to create a new, ‘cleaned’ column.
* ***Creating maps***
  + If the map doesn’t show correctly when you start looking at the data, then you probably need to get Tableau to recognize the U.S. states and/or U.S. counties. To do this:
    - Ensure you have Longitude in Columns and Latitude in Rows
    - Drag State or County Name to the Details Marks Card
    - Go to Map -> Edit Locations -> Country/Region -> Fixed and select USA
    - Go to Edit Locations -> State/Province -> From field and select State
    - Don’t worry about Alaska’s districts for the purposes of this analysis
    - You can get more detail [here](https://www.pluralsight.com/guides/tableau-essentials-modifying-location-data-tableau).
  + To see results by County, you’ll need to put both the County Name **and** the State on the Details Marks Card. (Why do you think that is?[[1]](#footnote-0))
* ***Create Calculated Fields*** for fields that don’t exist already in the data.
* Be sure to spend at least **90 minutes** on pulling together your story from the graphics and insights that you produce.

Here are a few questions you may want to investigate:

1. Who has been the most voted for President in the 21st century? (Hint: create a bar chart and color it by year to show votes across years for candidates who were in more than one election.)
2. Can you create a map showing election results so that you can choose which year’s results to show (hint: use a Filter), and when you hover over a county you can see how many votes were cast there?
3. Can you create a map showing election results so that you can choose which year’s results to show (hint: use a Filter), and each county is colored according to what % of Republican or Democrat vote was received there? (Hint: you’ll need to create a calculated field to highlight the % vote share for a party in each county.)
4. Which states are the most loyal to their party? And which counties? (Hint: create a table and sort by ascending/descending and filter by a handful of results.)

***Advanced***

1. Which states have remained loyal to their party throughout all elections? And which counties? Which are the least loyal?
2. Can you create an animation showing results over time per state, and how they have changed?

# **Stretch Goals**

* Find additional data to add to the data set (e.g., results of election primaries) and enrich your story.
* If you have time, look at the other lab, or have a go at creating a Hex Map using [this tutorial](https://www.godatadrive.com/blog/2020/10/27/tutorial-building-a-presidential-election-dashboard-in-tableau) (it will help you to understand polygons more).

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# **Rubric**

Instructors will evaluate student skill based on the following rubric:

|  | **Incomplete** | **Doesn’t Meet Expectations** | **Meets Expectations** |
| --- | --- | --- | --- |
| **Tableau Packaged Workbook (.twbx) file** | Workbook not present or submitted | Workbook submitted but without one of worksheet, Story, and Dashboard | Workbook submitted with all of worksheet(s), Story, and Dashboard(s) |
| **Worksheets** | No Worksheets created | Minimal (up to 3) worksheets created, and it is unclear how they support the story that is being told | Many graphics created in worksheets (3+), which are clearly relevant to the story being told based on their titles and / or commentary within each worksheet. |
| **Dashboard** | No Dashboard created within the Workbook | Dashboard(s) created but it is not clear on why the information included has been included | Dashboard(s) created using relevant information from the worksheets, and the overall story is clear |
| **Storytelling** | No Story created within the Workbook | Story created but does not use the techniques taught in class | Story created using Worksheets and / or Dashboards and / or Animations, using the techniques taught in class |
| **Animation (optional)** | No animation created | Animation created but its relevance to answering the question is unclear | Animation supports answering the question, and adds additional insight and information to the Dashboard(s) |
| **Presentation** | Story not presented to class | Story presented but in an incoherent way | Story presented within time slot allocated, including questions from audience |

You must receive a score of at least **Meets Expectations** in all categories (except the Optional elements) to pass this project.

**Good luck and have fun!**

1. Answer: Because some states have counties with the same names as counties in other states. For example, Beaver is the name of a county in Oklahoma, one in Pennsylvania, and one in Utah. [↑](#footnote-ref-0)