I use the 2016 & 2020 presidential elections as my start dataset, First of all, in my last week's assignment, I have defined three goals and the first goal is to define which states are the swing state.

Hence, I got the data from Federal Election Commission :   
[https://www.fec.gov/introduction-campaign-finance/election-and-voting-information/Links to an external site.](https://www.fec.gov/introduction-campaign-finance/election-and-voting-information/)

The dataset is defined into two CSV files.

[2016\_Pre\_election.csv](https://my.uclaextension.edu/users/189080/files/6405427?wrap=1&verifier=qYdaUojsH4HoxYDmbcXWlzErUmAdCmKCdU9u0HKV)[Download 2016\_Pre\_election.csv](https://my.uclaextension.edu/users/189080/files/6405427/download?verifier=qYdaUojsH4HoxYDmbcXWlzErUmAdCmKCdU9u0HKV&download_frd=1)

[2020\_Pre\_election.csv](https://my.uclaextension.edu/users/189080/files/6405428?wrap=1&verifier=Eiw3sseUvWlmddB4N2jeCrwHnHf24I44LotzVZSV)[Download 2020\_Pre\_election.csv](https://my.uclaextension.edu/users/189080/files/6405428/download?verifier=Eiw3sseUvWlmddB4N2jeCrwHnHf24I44LotzVZSV&download_frd=1)

Both include:  
**State:** All-State in the USA  
**TOTAL\_VOTES:**All votes in this specified State  
**DEM:** Democrat votes  
**DEM\_PER:** How much percent in this state the Democrat got  
**DEM\_EV:**How many electoral votes in this state do Democrats get  
**GOP:**Republican votes  
**GOP\_PER:**How much percent in this state do the Republicans get  
**GOP\_EV:**How many electoral votes in this state do the Democrats get

So, I create a column called offset\_2016 and calculate the offset (DEM - GOP), and in 2020 presidential data, I also create a new one called offset\_2020.

Then, I try to draw a bar plot by two offset datasets,  and the result is as below:

Each bar means one state, and the red means the state in which the Democrats win, the blue means the state in which the Republican win, the dark color means the data is from the 2016 file, and so on.

In the picture, we can apparently find that there are five states which change color from red to blue. As a result, these five-state, Georgia, Arizona, Pennsylvania, Wisconsin, and Michigan are defined as swing states.

Chart

Description automatically generated

There is something interesting in the swing states. In the first bar plot, because it is an offset chart, I can not find a hint from the total votes shift from 2016 to 2020. So, in the second bar plot, Using the total votes from different parties, I can figure out that in these five swing states, not only Democrats increased their votes, but also Republicans. It tells us in 2020, there have obviously increased the votes of both parties, not some people have changed their decision to vote for another party.

Chart, bar chart

Description automatically generated

So, in the following week, I will use another dataset (a post-election questionnaire) from ANES (American National Election Stuy) to analyze more. ( maybe why neutral voters change their voting behavior or which groups of people vote for the Republicans more?)

[https://electionstudies.org/data-center/2020-time-series-study/Links to an external site.](https://electionstudies.org/data-center/2020-time-series-study/)