

Our overall visualization seeks to map the percentage of public high schools in each state that offer AP and/or IB programs, and also show correlation between said percentages and political leanings (voting percentages in the 2016 presidential election).

Our specific data consisted of several different sources. Data on the number of high schools that offer AP classes came directly from College Board (<https://secure-media.collegeboard.org/digitalServices/pdf/research/2017/School-Report-Exams-2017.xls>)- we deleted non-essential information, and also converted the file to .csv for easier parsing. Similarly, our IB data came straight from the IB website (<http://www.ibo.org/programmes/find-an-ib-school>), but there was no dataset immediately provided. We manually searched for the number of public high schools in each state that offered the IB diploma, and entered such data into the AP information .csv file as a separate column. Finally, we gathered information on the total number of high schools in each state from the Department of Education's online database.

For our political plot, we gathered data from Kaggle (<https://www.kaggle.com/stevepalley/2016uspresidentialvotebycounty/data>). We cleaned the data to only use percentages for each state, even though we were presented with an overwhelming amount by county.

On the mapping side, we used a standard USA json map (same as the one provided in lecture). Since the USA dataset didn't have any direct correlation (fields) that mapped paths to states, we also used an entirely different dataset (<https://github.com/GovLab/opencorporatesd3/blob/master/us-state-names.tsv>) that relates state identification numbers and the state's location on the map.

The overall variables we used are the state identification number, the state name, the number of AP programs, the number of IB programs, the total number of AP and IB programs and the average state income.

For each state, we calculated the percentage of total high schools that offer AP and IB programs. The darker colored states have the higher percentage schools that offer said programs. To create the maps, we used linear scales that transformed the direct percentage of schools to an opacity percentage from 0.00 to 1.00. For the scatterplot, we directly graphed percentages (of schools that offer AP vs people who voted for Trump), and used the d3 library's default functions to create both a legend and the axes.

We expected to see a correlation in our mappings towards coastal states (that are anecdotally wealthier)- this correlation was mostly confirmed. Interestingly enough, IB programs only seem to be emphasized by certain states. On the political side, we expected to see a correlation possibly between higher AP offering and Democratic leaning, but we found no such correlation- it seems like the quality of education in each state is relatively apolitical.