Project A

Loading libraries

```
library(tidyverse)
library(urbnmapr)
library(RColorBrewer)
```

Load in data

```
# Importing data from all states
county_results <- read.csv("countypres_2000-2016.csv")
```

Cleaning data

Filtering for Tennessee

```
# Narrowing to Tennessee only
county_results <- county_results %>%
  filter(state == "Tennessee") %>%
  select(-state_po, -office)
```

Exporting .csv of all TN election data from 2000-2016

I am leaving this commented out so that it does not produce a new .csv very time.

```
# Writing .csv of full Tennessee data (for lab submission only)
# write_csv(county_results, "Tennessee.csv")
```

Selecting necessary columns

I added FIPS so that I can merge the data onto the choropleth map later in the project.

```
county_results <- county_results %>%
  select(year, county, party, candidate, candidatevotes, totalvotes, FIPS)
```

Renaming columns

I am using the Tidy Data format. Selecting one party so there are no NA values?

```
county_results <- county_results %>%
  rename(candidate_votes = candidatevotes) %>%
  rename(total_votes = totalvotes) %>%
  rename(county_fips = FIPS)

# Converting county_fips to characters
county_results$county_fips <- as.character(county_results$county_fips)
```

Filtering to just one election year and political party

2008? Because Obama?

```
county_results_08 <- county_results %>%
  filter(year == 2008) %>%
  filter(party == "democrat")
```

Calculating percent of vote

```
county_results_08 <- county_results_08 %>%
  mutate(percent_vote = 100 * (candidate_votes / total_votes))
```

Exporting .csv of clean data

This .csv file includes data for Barack Obama's 2008 election results for all counties in Tennessee.

```
# Writing .csv (for lab submission only)
# write_csv(county_results_08, "tn-2008-democrats.csv")
```

Data visualization

Talk about different visualization techniques.

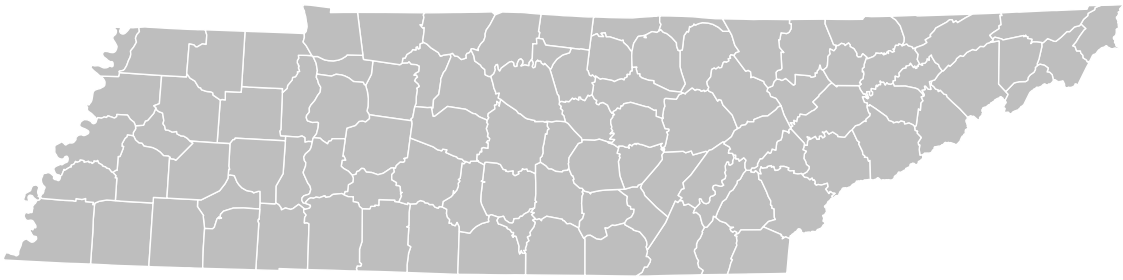
Choropleth Map

I am using the `urbanmapr` package and referencing their vignette which can be accessed *here*.

```
# Filtering counties data set to only Tennessee
tn_counties <- counties %>%
  filter(state_name == "Tennessee")

# Creating map
tn_counties %>%
```

```
  ggplot(aes(long, lat, group = group)) +
  geom_polygon(fill = "grey", color = "#ffffff", size = 0.25) +
  coord_map(projection = "albers", lat0 = 39, lat1 = 45) +
  theme_void()
```



Merging data on to map

Using `left_join()` to combine data frames

```
# Left join
dem_results_08 <- left_join(county_results_08, tn_counties, by = "county_fips")

# Adding election results to map
dem_results_08 <-  dem_results_08 %>%
  ggplot(aes(long, lat, group = group, fill = percent_vote)) +
  geom_polygon(color = "#ffffff", size = 0.25) +
  coord_map(projection = "albers", lat0 = 39, lat1 = 45) +
  theme_void()

# Adding color to map
dem_results_08 <- dem_results_08 +
  scale_fill_gradient(low = "#9ECAE1", high = "#2171B5") +
  theme(legend.position = "right",
        legend.direction = "vertical",
```

```
        legend.title = element_text(face = "bold", size = 11)) +
  labs(fill = "Percent of Votes \nReceived")

# Adding titles
dem_results_08 <- dem_results_08 +
  labs(title = "Percentage of Votes Received in Tennessee \nfor Barack Obama in 2008 Presidential Electi
       subtitle = "Carmen Canedo \n",
       caption = "\nSource: MIT Election Lab | STAT 202, Summer 2020") #+
  #theme(plot.title = element_text())

dem_results_08
```