Lab 03

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Packages

```
library(tidyverse)
library(sf)
```

Data

```
fl_votes <- st_read("data/fl_votes.shp", quiet = TRUE)
fl_votes %>%
  slice(1:6)
```

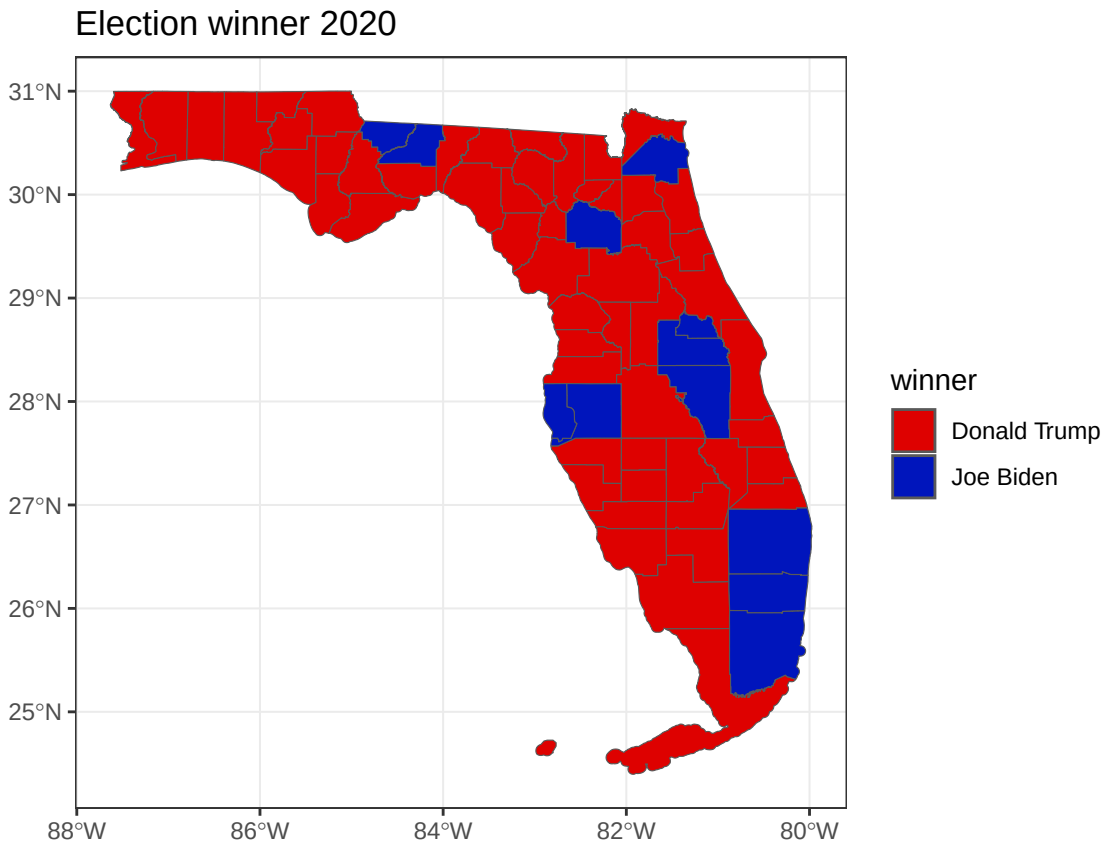
```
## Simple feature collection with 6 features and 5 fields
## Geometry type: MULTIPOLYGON
## Dimension:     XY
## Bounding box:  xmin: -85.99989 ymin: 25.95675 xmax: -80.01528 ymax: 30.58427
## Geodetic CRS:  NAD83
##     county  rep16  dem16  rep20  dem20                       geometry
## 1  Alachua  46834  75820  50972  89704 MULTIPOLYGON (((-82.37389 2...
## 2    Baker  10294   2112  11911   2037 MULTIPOLYGON (((-82.10107 3...
## 3      Bay  62194  21797  66097  25614 MULTIPOLYGON (((-85.65968 3...
## 4 Bradford   8913   2924  10334   3160 MULTIPOLYGON (((-82.274 29....
## 5  Brevard 181848 119679 207883 148549 MULTIPOLYGON (((-80.49977 2...
## 6  Broward 260951 553320 333409 618752 MULTIPOLYGON (((-80.29693 2...
```

Exercise 1

```
fl_votes <- fl_votes %>%
  mutate(winner20 = if_else(rep20 > dem20, "Donald Trump", "Joe Biden"))
```

Exercise 2

```
ggplot(fl_votes) +
  geom_sf(aes(fill = winner20)) +
  scale_fill_manual(values = c("#DE0100", "#0015BC")) +
  labs(title = "Election winner 2020",
       fill = "winner") +
  theme_bw()
```



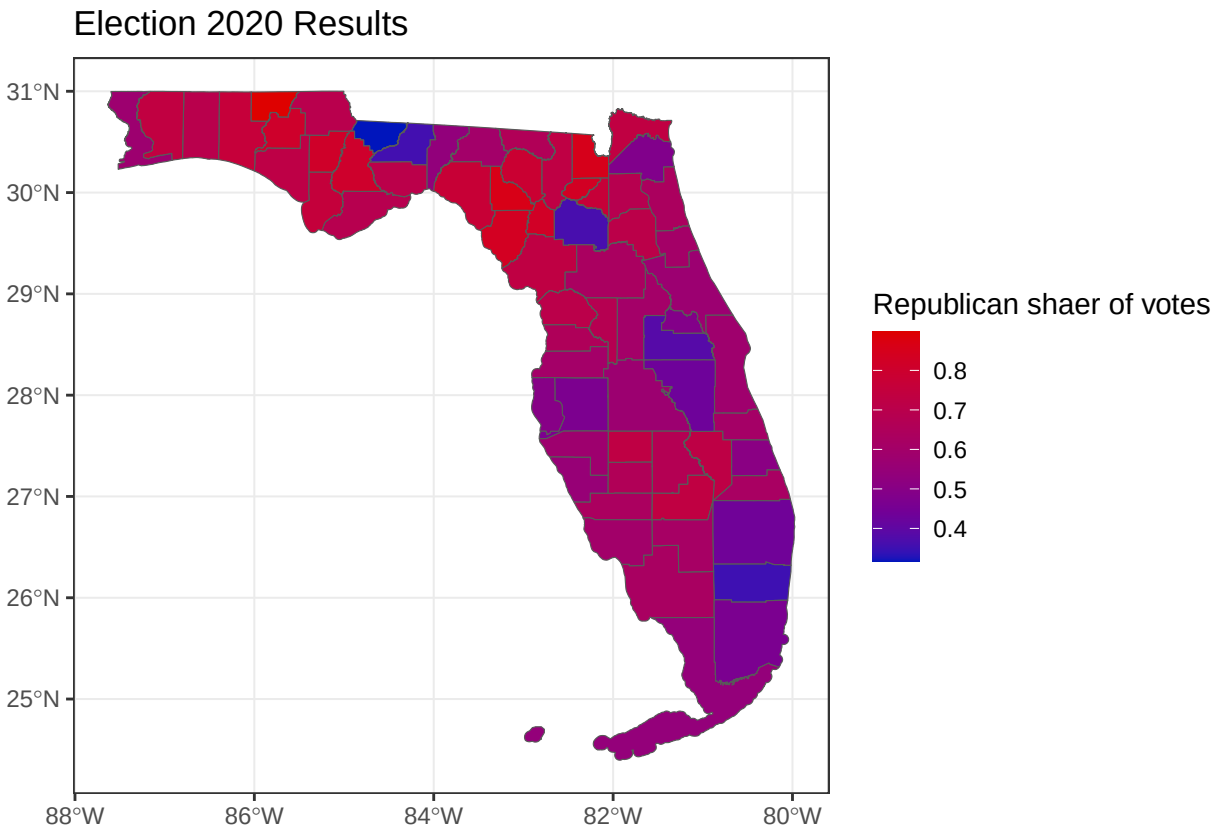
Exercise #3

```
fl_votes <- fl_votes %>%
  mutate(prop_rep16 = rep16/(rep16 + dem16),
         prop_rep20 = rep20/(rep20 + dem20))
```

Exercise 4

```
ggplot(fl_votes) +
  geom_sf(aes(fill = prop_rep20),) +
  scale_fill_gradient(low = "#0015BC", high = "#DE0100") +
  labs(title = "Election 2020 Results",
```

```
       fill = "Republican shaer of votes") +
  theme_bw()
```

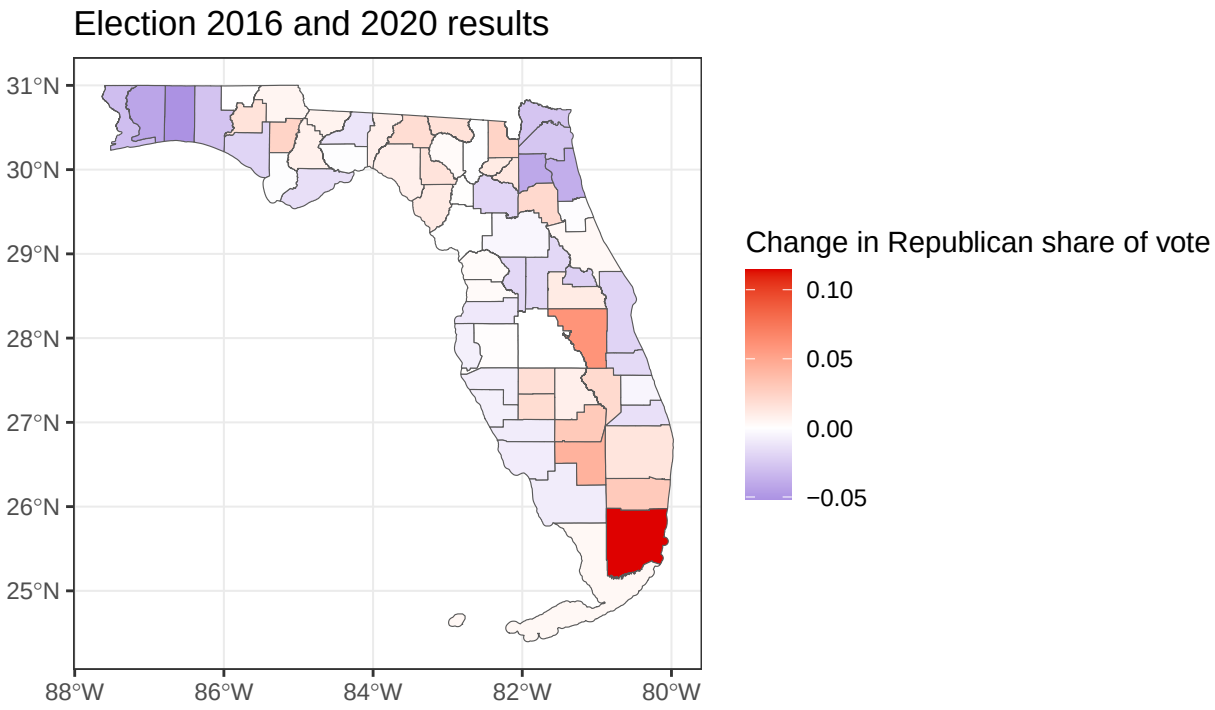


Exercise 5

```
fl_votes <- fl_votes %>%
  mutate(diff_rep = prop_rep20 - prop_rep16)
```

Exercise 6

```
ggplot(fl_votes) +
  geom_sf(aes(fill = diff_rep)) +
  scale_fill_gradient2(low = "#0015BC",
                       high = "#DE0100") +
  labs(title = "Election 2016 and 2020 results",
       fill = "Change in Republican share of vote") +
  theme_bw()
```



Exercise 7

7. What do the visualizations you developed tell you about the 2016 and 2020 Presidential election in Florida? What are limitations of these visualizations?

The northern country of Florida have a higher number of republicans, as per the second map. The central counties votes were very close to each other the republican share was close to 50%. The northern counties vote share decreased from 2016 to 2020 based on the third map. Some counties of the south had a significant increase of their vote shares of republican. The first visualization wasn't representative because it only stated who won in each county without presenting the proportion of the win.