

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)
```

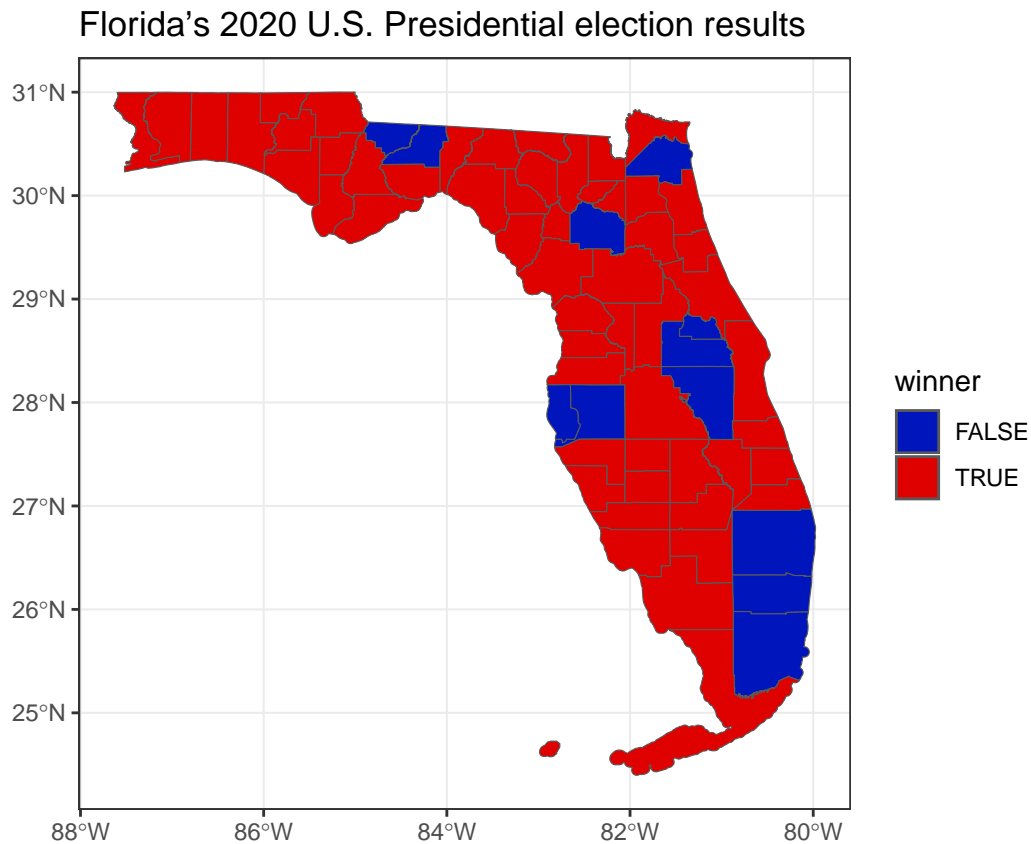
```
## Simple feature collection with 6 features and 5 fields
## Geometry type: MULTIPOLYGON
## Dimension:      XY
## Bounding box:  xmin: -85.99989 ymin: 25.95675 xmax: -80.01528 ymax: 30.58427
## Geodetic CRS:  NAD83
##   county rep16 dem16 rep20 dem20 geometry
## 1 Alachua  46834  75820  50972  89704 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, TRUE, FALSE))
```

Exercise 2

```
ggplot(fl_votes) +
  geom_sf(aes(fill = winner20)) +
  scale_fill_manual(values = c("#0015BC", "#DE0100" )) +
  labs(title = "Florida's 2020 U.S. Presidential election results",
       fill = "winner") +
  theme_bw()
```



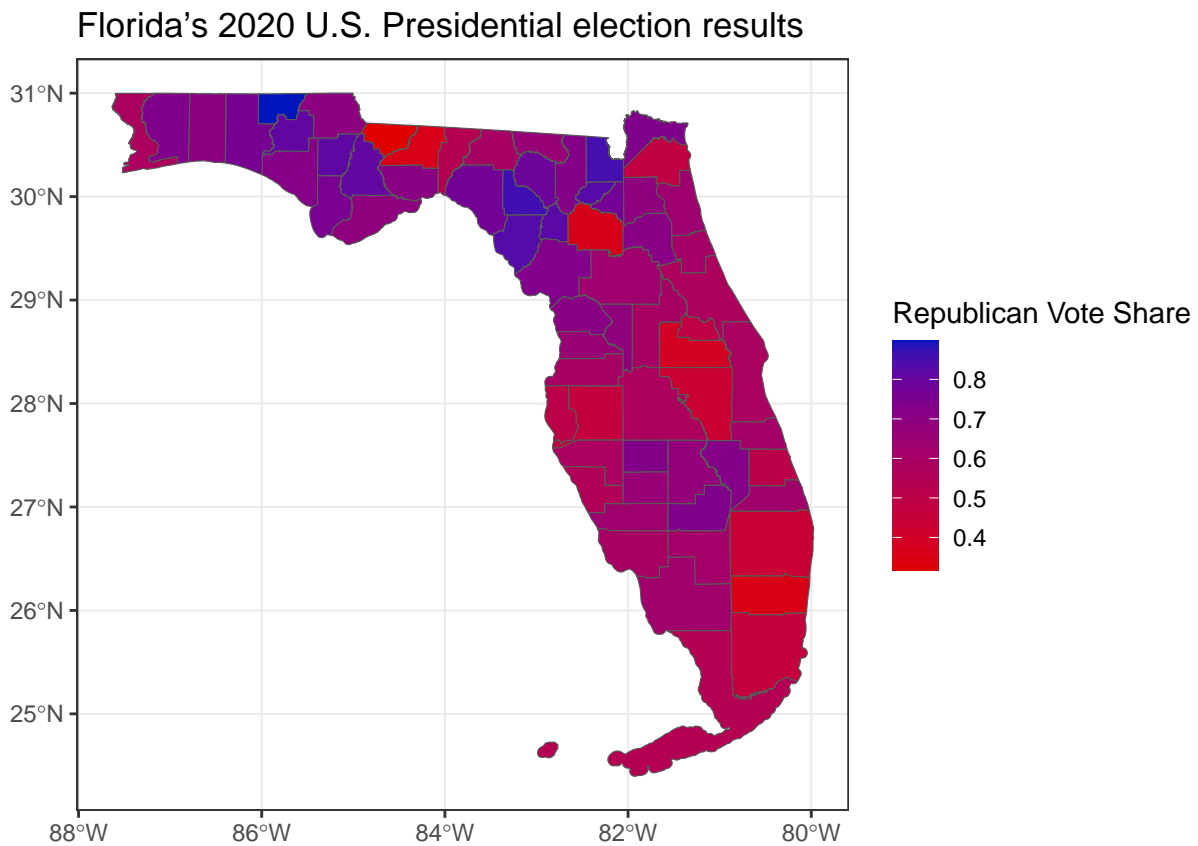
Exercise #3

```
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 = "#DE0100", high = "#0015BC") +
  labs(title = "Florida's 2020 U.S. Presidential election results",
```

```
fill = "Republican Vote Share") +
theme_bw()
```



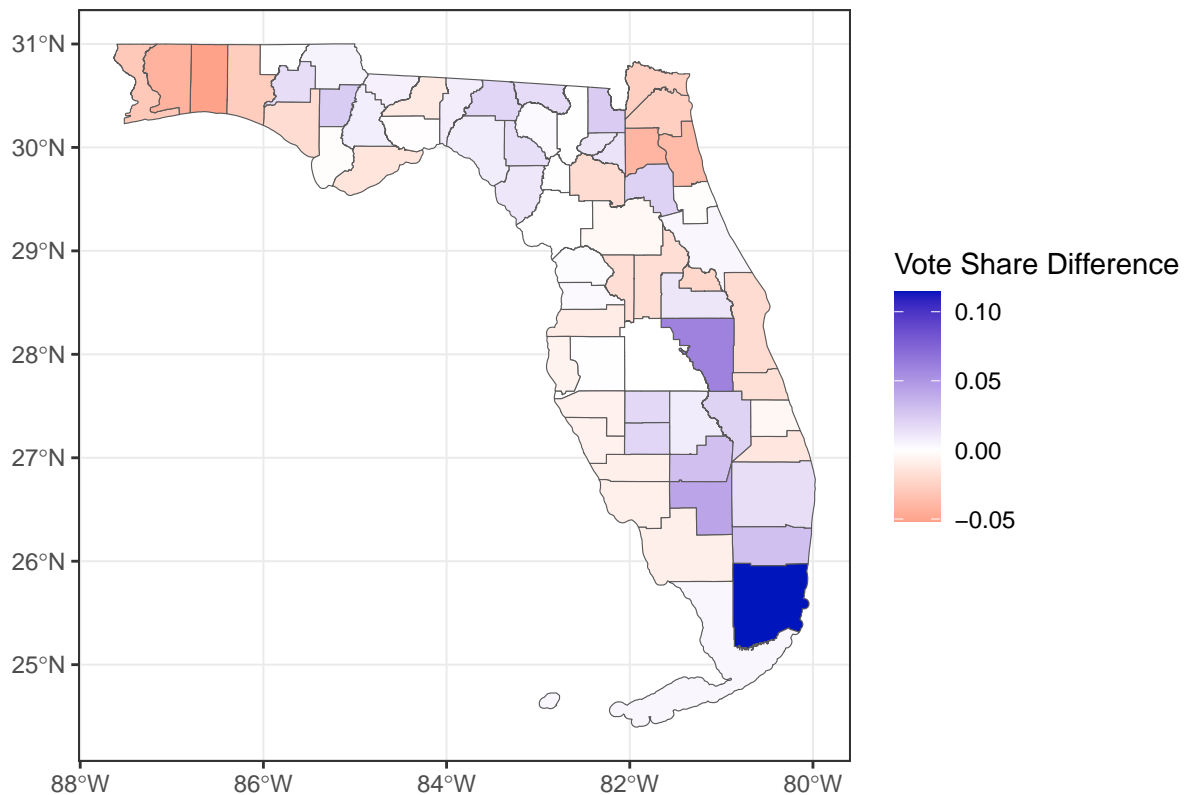
Exercise 5

```
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 = "#DE0100",
                       mid = "white",
                       high = "#0015BC",
                       midpoint = 0) +
  labs(title = "Change in Republican Vote Share (2016-2020)",
       fill = "Vote Share Difference") +
  theme_bw()
```

Change in Republican Vote Share (2016–2020)



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%. Nonetheless, these county still had their vote shores decrease 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 visualisation wasn't representative beacuse it only stated who one in each county without presenting the proportion of the win.