Lab 3 Challenge - How I made the viral map

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```
#install.packages(c('dplyr', 'ggplot2', 'ggthemes', 'patchwork'))
library(dplyr)
```

```
##
## Attaching package: 'dplyr'
```

```
## The following objects are masked from 'package:stats':
##
##     filter, lag
```

```
## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

```
library(ggplot2)
```

```
## Warning: package 'ggplot2' was built under R version 4.2.2
```

```
library(ggthemes)
```

```
## Warning: package 'ggthemes' was built under R version 4.2.2
```

```
library(patchwork)
```

```
## Warning: package 'patchwork' was built under R version 4.2.2
```

```
library(extrafont)
```

```
## Warning: package 'extrafont' was built under R version 4.2.2
```

```
## Registering fonts with R
```

```
setwd('C:/GES_486/Rworks/Lab3/Projects/Election/')
```

```
#change data.csv to the filepath where your info is saved
data <- read.csv('data.csv')
```

```
#set the order you want the categories to appear in (top to bottom)
data$plot_order <- factor(data$party, levels=c('did not vote', 'other', 'democrat',  'republica
n'))

#determine the colors you want for each category
colors <- c('democrat' = '#0783c9', 'republican' = '#ff5d38', 'other' = '#EFAB08', 'did not vot
e' = '#dddddd')

#set the first and last years in your data
firstyear <- 1976
lastyear <- 2020

#make a title for your plot. the \n character is a line break
title <- 'How did\nAmerica vote?'
```

```
label_font <- 'Roboto Medium'
title_font <- 'Unna'

#make a special legend plot for AK
#skip this whole chunk if you don't need a legend.
#alternatively, replace 'AK' with the criteria that defines your special legend region
legend <-
  ggplot(subset(data, state == 'AK'), aes(x = year, y = pct, fill = plot_order, group = plot_ord
er)) +
  geom_area() +
  geom_text(aes(x = .75*lastyear, y = .15), label = 'AK', alpha = .03, size = 10, family = label
_font) +
  scale_fill_manual(values = colors) +
  scale_x_continuous(limits = c(firstyear, lastyear), expand = c(0, 0)) +
  scale_y_continuous(limits = c(0, 1.0001),  expand = c(0, 0)) +
  theme(legend.position = 'none',
        aspect.ratio=1,
        panel.background =  element_rect(fill = '#cccccc', color = '#cccccc'),
        axis.title = element_blank(),
        axis.ticks = element_blank(),
        axis.text.y = element_blank(),
        axis.text.x = element_text(size=15, family = label_font, colour = '#707070'),
        plot.margin=grid::unit(c(0,0,0,0), "mm"))
```

```
#create a mini chart for each state except AK
states <- unique(data$state)
states <- states[!grepl('AK', states)]

for (i in 1:length(states)) {
  plot <-
    ggplot(subset(data, state == states[i]), aes(x = year, y = pct, fill = plot_order, group = p
lot_order)) +
    theme_map() +
    geom_area() +
    geom_text(aes(x = .75*lastyear, y = .15), label = states[i],alpha = .03,  size = 6, family =
label_font) +
    scale_fill_manual(values = colors) +
    scale_x_continuous(limits = c(firstyear, lastyear), expand = c(0, 0)) +
    scale_y_continuous(limits = c(0, 1.0001),  expand = c(0, 0)) +
    theme(legend.position = 'none',
          aspect.ratio=1,
          panel.background =  element_rect(fill = '#cccccc', color = '#cccccc'),
          plot.margin=grid::unit(c(0,0,0,0), "mm"))

  assign(states[i], plot)
}
```

```
#make the title a ggplot so we can easily slot it into the final layout
title <-
  ggplot() +
  theme_map() +
  geom_text(aes(x = 0, y = 0), label = title, size = 15, lineheight = .5, family = title_font, f
ontface = 'bold') +
  theme(plot.margin=grid::unit(c(0,0,0,0), "mm"))
```

```
layout<-c(
  area(1,1,2,4),
  area(1,6,2,7),
  area(2,11),
  area(3,10),area(3,11),
  area(4,1),area(4,2),area(4,3),area(4,4),area(4,5),
  area(4,7),area(4,9),area(4,10),area(4,11),
  area(5,1),area(5,2),area(5,3),area(5,4),area(5,5),
  area(5,6),area(5,7),area(5,8),area(5,9),area(5,10),
  area(6,1),area(6,2),area(6,3),area(6,4),area(6,5),
  area(6,6),area(6,7),area(6,8),area(6,9),area(6,10),
  area(7,2),area(7,3),area(7,4),area(7,5),area(7,6),
  area(7,7),area(7,8),area(7,9),area(7,10),
  area(8,3),area(8,4),area(8,5),area(8,6),area(8,7),area(8,8),
  area(9,1),area(9,4),area(9,10)
)
```

```
wrap_plots(title, legend,
  ME, VT, NH, WA, ID, MT, ND, MN, MI, NY, MA, RI,
  OR, UT, WY, SD, IA, WI, OH, PA, NJ, CT,
  CA, NV, CO, NE, IL, IN, WV, VA, MD, DE,
  AZ, NM, KS, MO, KY, TN, SC, NC, DC,
  OK, LA, AR, MS, AL, GA, HI, TX, FL,
  design = layout) &
  plot_annotation(theme = theme(plot.background = element_rect(color  = '#f8f8f8')))
```

```
## Warning: Removed 48 rows containing missing values (`geom_text()`).
```

```
## Warning in grid.Call(C_stringMetric, as.graphicsAnnot(x$label)): font family
## not found in Windows font database
```

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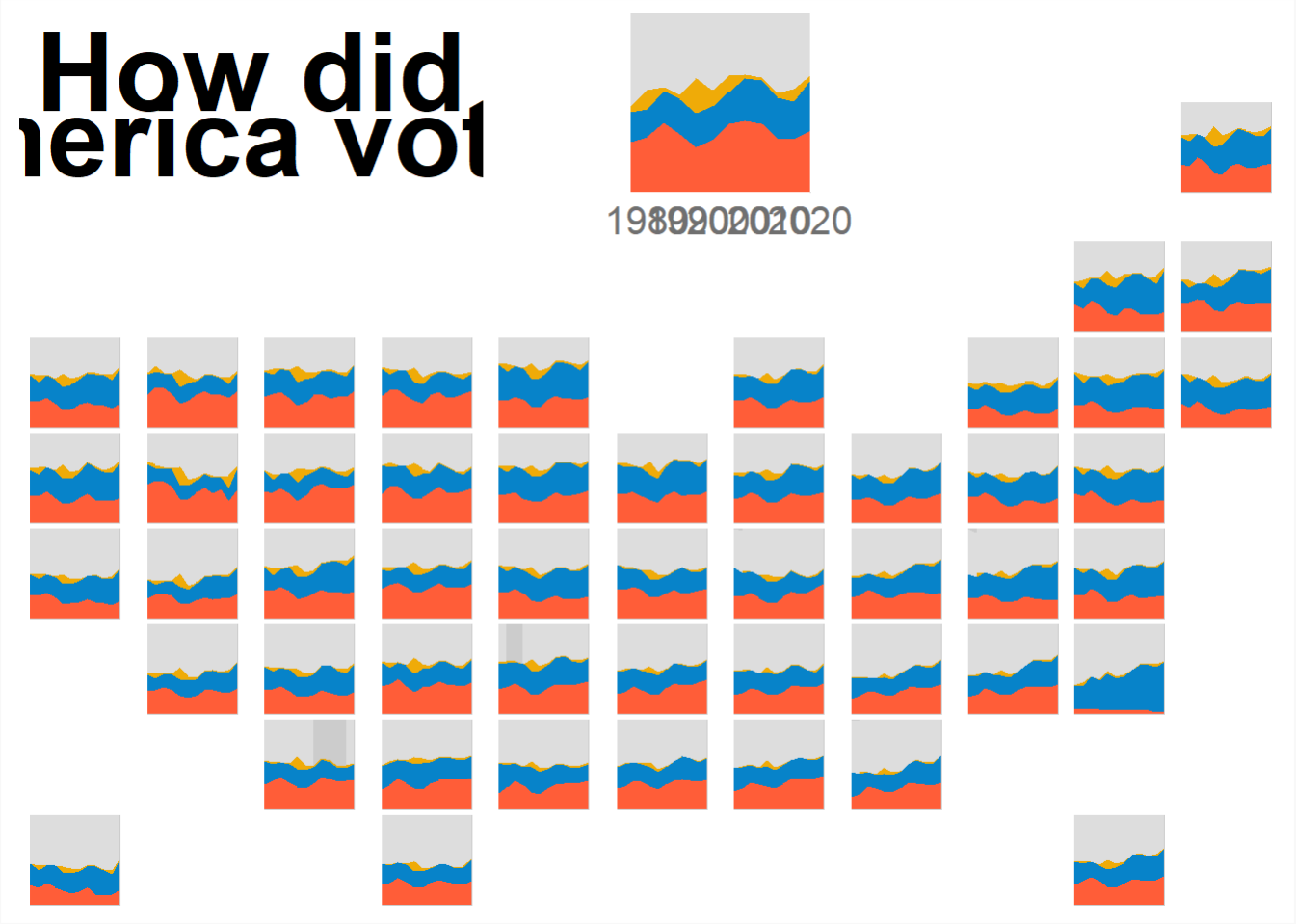


```
#setwd('C:/GES_486/Rworks/Lab3/Projects/Election/bin')
ggsave("plot.png", width =11, height =9, units = "in")
```

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#install.packages('svglite')
ggsave("plot.svg", width =11, height =9, units = "in")
```

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