Assignment_06_Karthikeyan Chellamuthu

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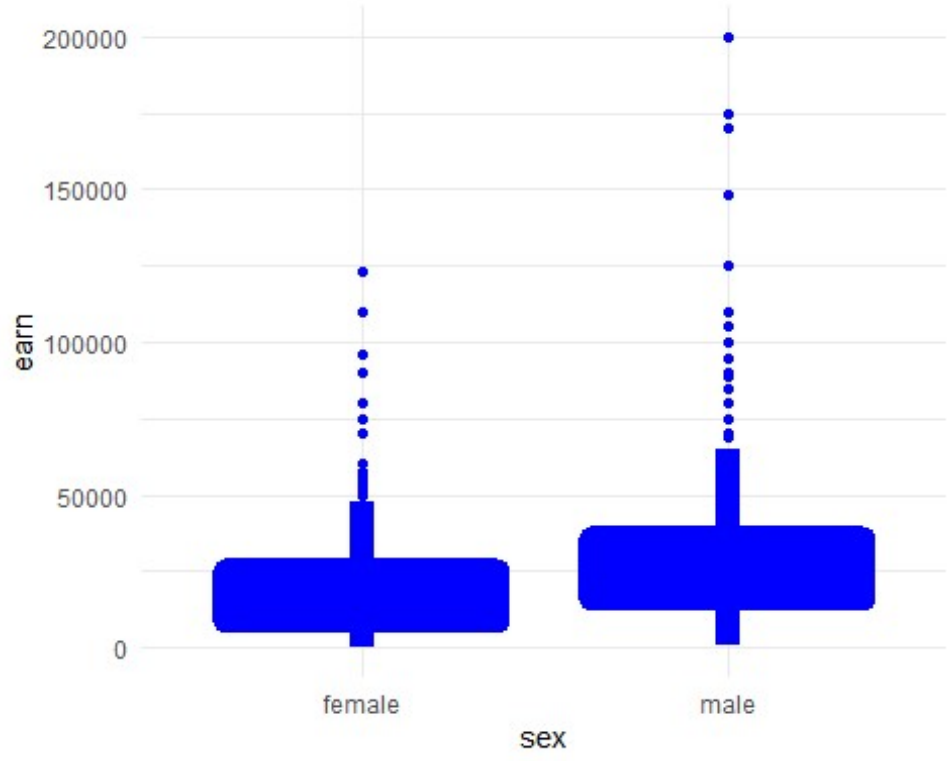
23/01/2022

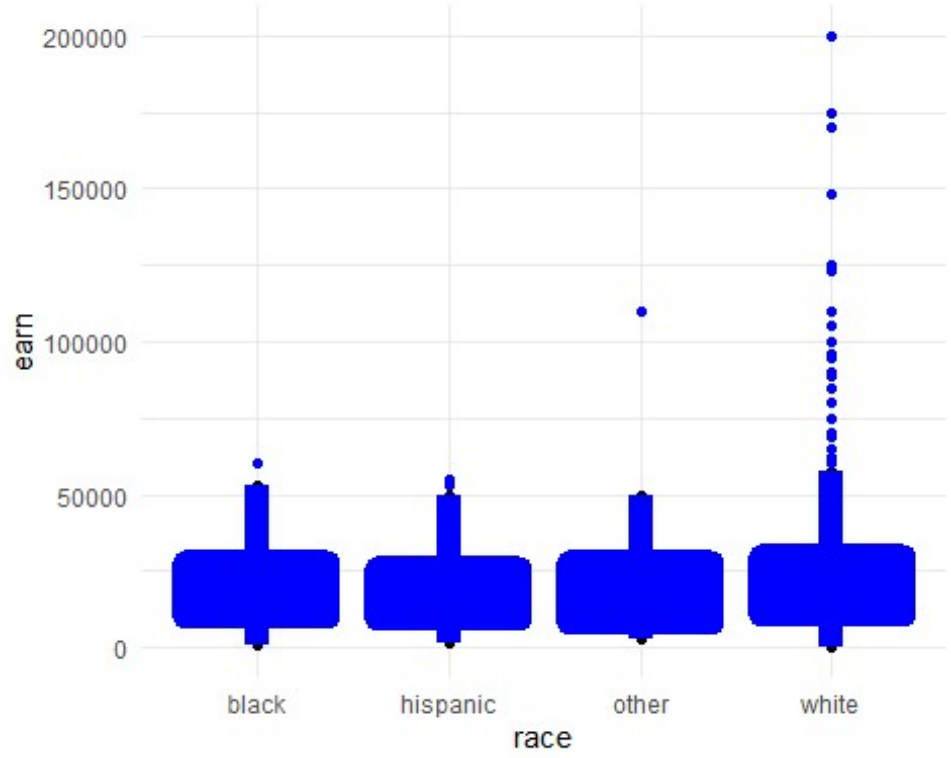
```
## Load the ggplot2 package
library(ggplot2)
theme_set(theme_minimal())

## Set the working directory to the root of your DSC 520 directory

setwd("C:/Users/LENOVO/Desktop/BU/DSC 520 T302-2221 winter 2021-22/GIT-Hub/dsc520-master/data")
heights_df <- read.csv("r4ds/heights.csv")
str(heights_df)
```

```
## 'data.frame':    1192 obs. of  6 variables:
##  $ earn  : num  50000 60000 30000 50000 51000 9000 29000 32000 2000 27000 ...
##  $ height: num  74.4 65.5 63.6 63.1 63.4 ...
##  $ sex   : chr  "male" "female" "female" "female" ...
##  $ ed    : int  16 16 16 16 17 15 12 17 15 12 ...
##  $ age   : int  45 58 29 91 39 26 49 46 21 26 ...
##  $ race  : chr  "white" "white" "white" "other" ...
```

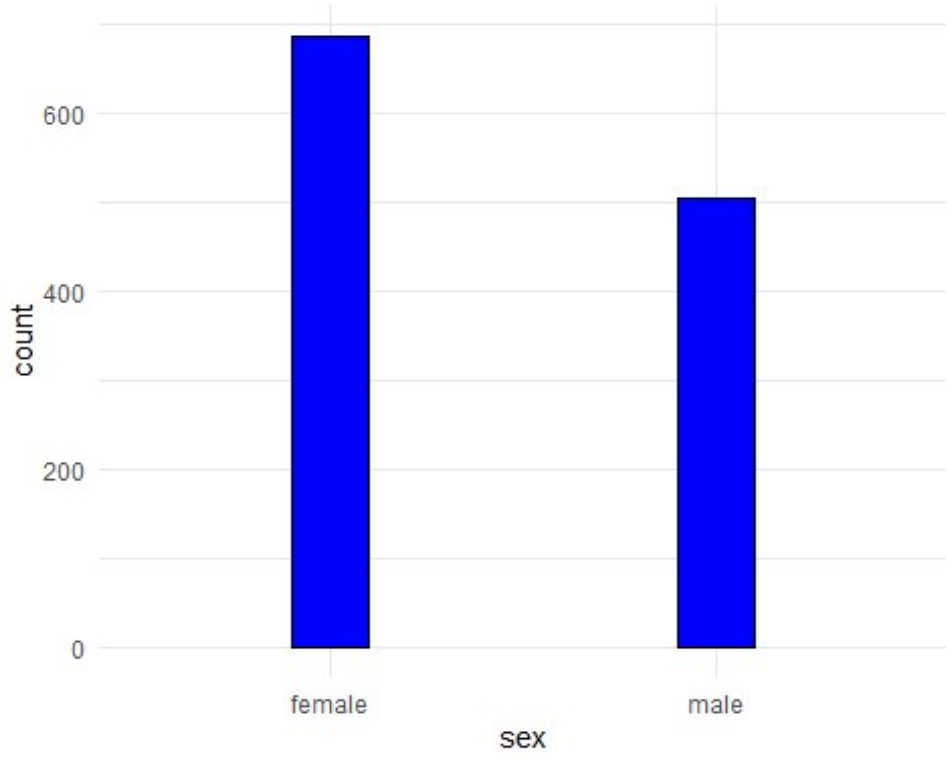
```
# https://ggplot2.tidyverse.org/reference/geom_boxplot.html
## Create boxplots of sex vs. earn and race vs. earn using `geom_point()` and `geom_boxplot()`
## sex vs. earn

ggplot(heights_df, aes(sex, earn))+geom_boxplot(colour = "blue", size = 4.5)
```



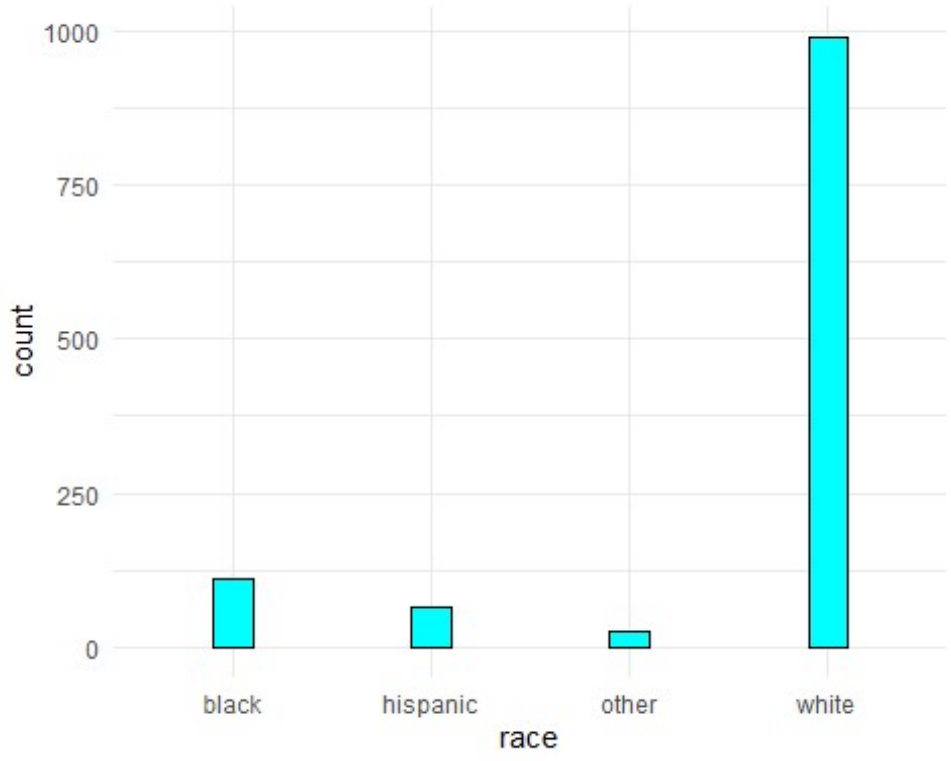

```
ggplot(heights_df, aes(race, earn))+geom_point()+geom_boxplot(colour =
"blue", size = 4.5)
```



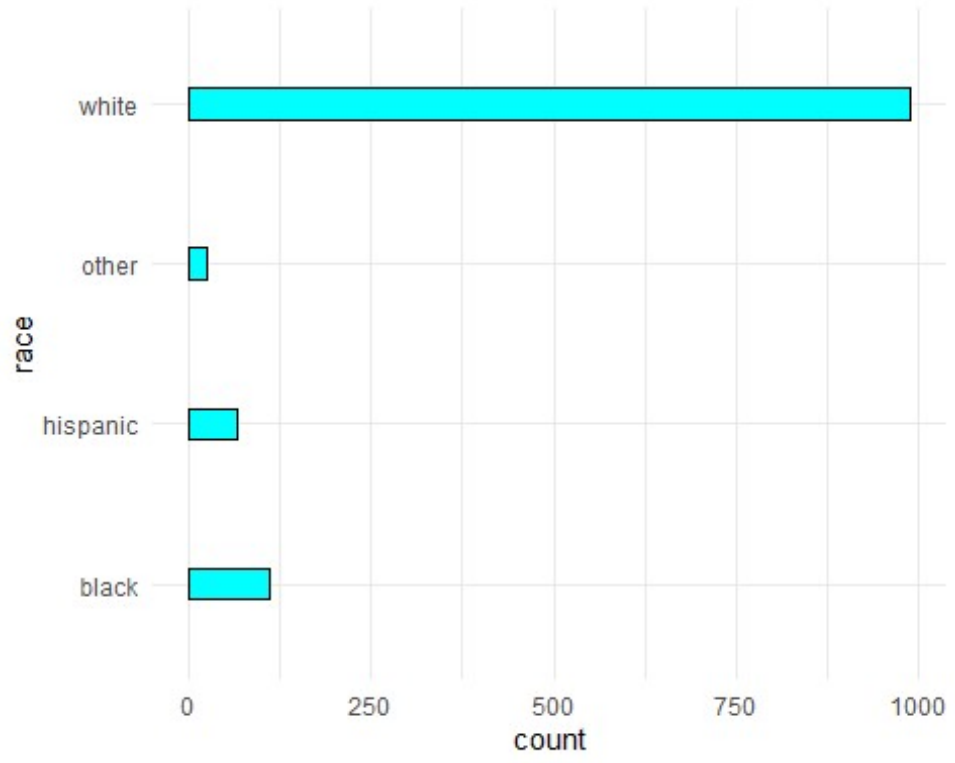
```r
# https://ggplot2.tidyverse.org/reference/geom_bar.html
## Using `geom_bar()` plot a bar chart of the number of records for each
`sex`
ggplot(heights_df, aes(sex)) + geom_bar(colour = "black",fill="blue", width =
0.2)
```




```r
## Using `geom_bar()` plot a bar chart of the number of records for each race
ggplot(heights_df, aes(race)) + geom_bar(colour = "black",fill="cyan", width
= 0.2)
```




```
## Create a horizontal bar chart by adding `coord_flip()` to the previous plot
ggplot(heights_df, aes(race)) + geom_bar(colour = "black",fill="cyan", width = 0.2)+ coord_flip()
```



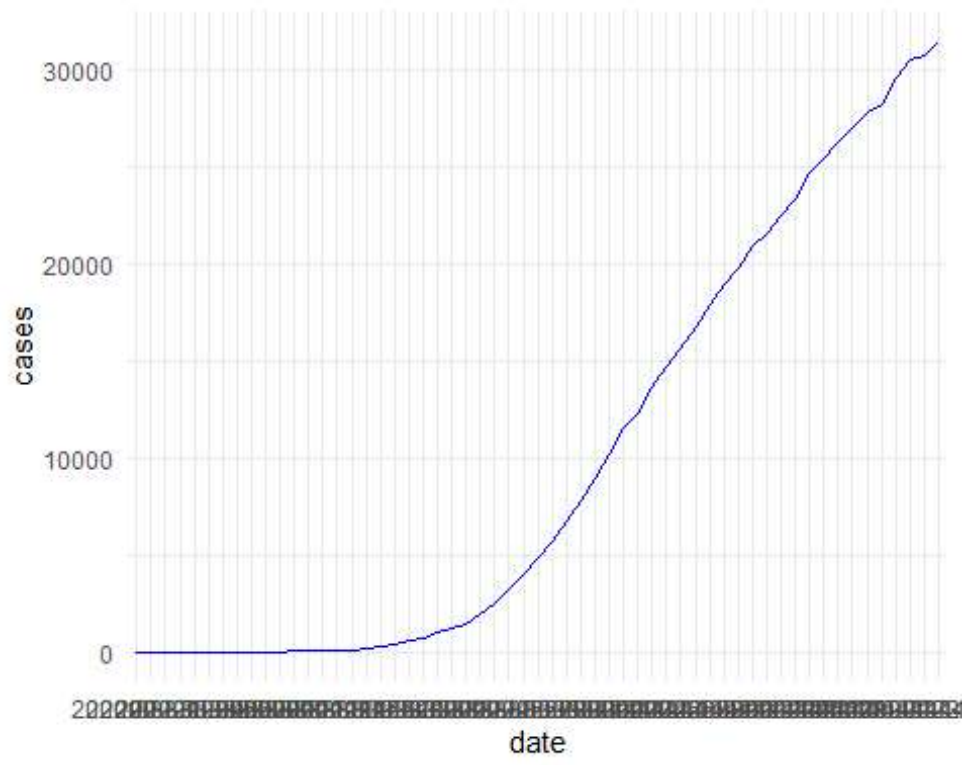

```
#
https://www.rdocumentation.org/packages/ggplot2/versions/3.3.0/topics/geom_path
## Load the file `"nytimes/covid-19-data/us-states.csv"` and
## assign it to the `covid_df` dataframe
setwd("C:/Users/LENOVO/Desktop/BU/DSC 520 T302-2221 winter 2021-22/GIT-Hub/dsc520-master/data")
covid_df <- read.csv("nytimes/covid-19-data/us-states.csv")

str(covid_df)

## 'data.frame':    3039 obs. of  5 variables:
##  $ date  : chr  "2020-01-21" "2020-01-22" "2020-01-23" "2020-01-24" ...
##  $ state : chr  "Washington" "Washington" "Washington" "Illinois" ...
##  $ fips  : int  53 53 53 17 53 6 17 53 4 6 ...
##  $ cases : int  1 1 1 1 1 1 1 1 2 ...
##  $ deaths: int  0 0 0 0 0 0 0 0 0 0 ...

## Parse the date column using `as.Date()``
covid_df_dt <- as.Date(covid_df$date)

head(covid_df_dt)

## [1] "2020-01-21" "2020-01-22" "2020-01-23" "2020-01-24" "2020-01-24"
## [6] "2020-01-25"
```

```r
## Create three dataframes named `california_df`, `ny_df`, and `florida_df`
## containing the data from California, New York, and Florida

california_df <- covid_df[ which( covid_df$state == "California"), ]
ny_df <- covid_df[ which( covid_df$state == "New York"), ]
florida_df <- covid_df[ which( covid_df$state == "Florida"), ]

## Unique values to obtain the values New York and Florida
unique(covid_df[c("state")])
```

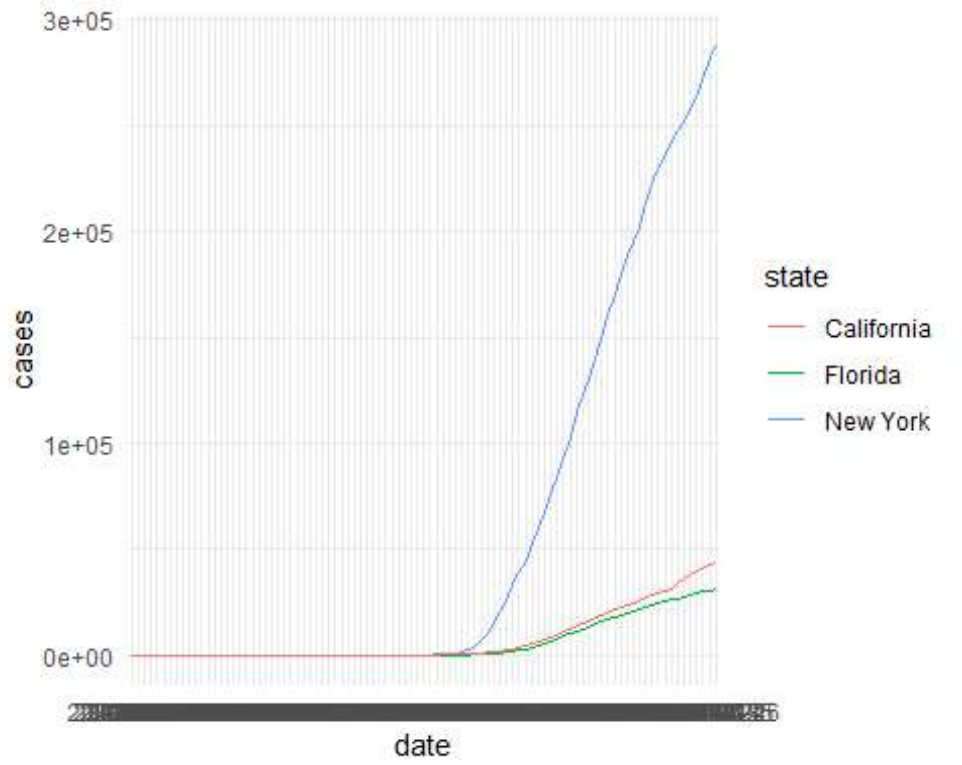
```
##                         state
## 1                  Washington
## 4                    Illinois
## 6                  California
## 9                     Arizona
## 36              Massachusetts
## 58                  Wisconsin
## 99                      Texas
## 134                  Nebraska
## 200                      Utah
## 226                    Oregon
## 243                   Florida
## 247                  New York
## 249              Rhode Island
## 257                   Georgia
## 261             New Hampshire
## 278            North Carolina
## 293                New Jersey
## 304                  Colorado
## 308                  Maryland
## 311                    Nevada
## 318                 Tennessee
## 328                    Hawaii
## 330                   Indiana
## 331                  Kentucky
## 334                 Minnesota
## 341                  Oklahoma
## 343              Pennsylvania
## 345            South Carolina
## 354      District of Columbia
## 360                    Kansas
## 365                  Missouri
## 380                   Vermont
## 381                  Virginia
## 387               Connecticut
## 394                      Iowa
## 432                 Louisiana
## 443                      Ohio
## 472                  Michigan
## 487              South Dakota
```

```
## 496                  Arkansas
## 500                  Delaware
## 515               Mississippi
## 521                New Mexico
## 524              North Dakota
## 539                   Wyoming
## 540                    Alaska
## 557                     Maine
## 587                   Alabama
## 599                     Idaho
## 613                   Montana
## 626               Puerto Rico
## 685            Virgin Islands
## 701                      Guam
## 847             West Virginia
## 1426 Northern Mariana Islands
```

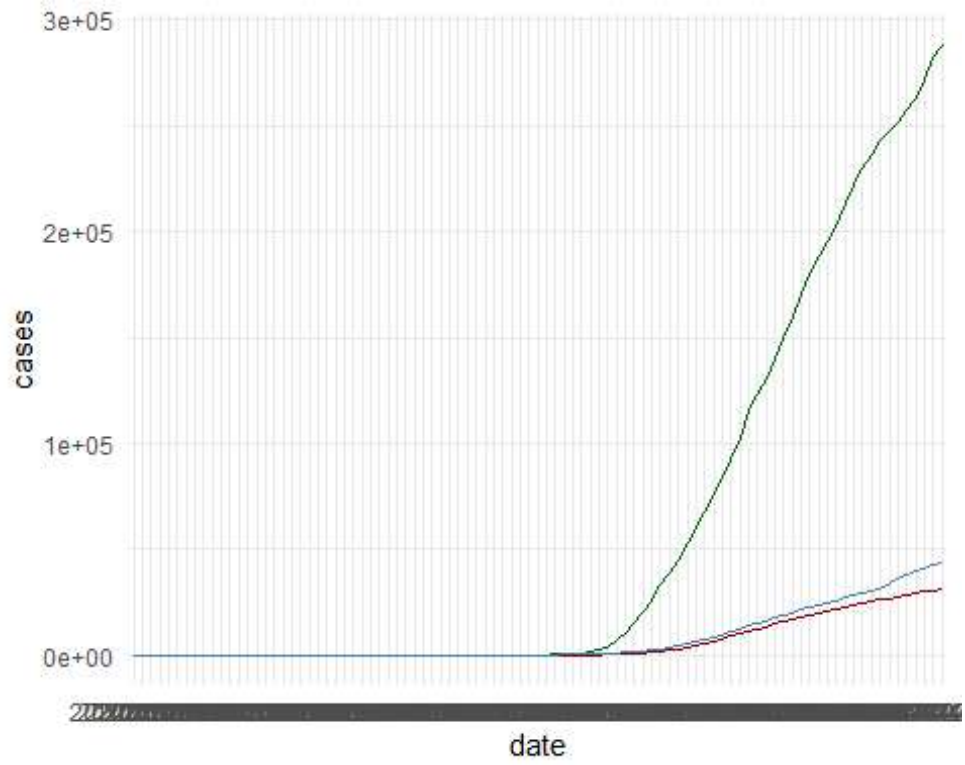
```
## Plot the number of cases in Florida using `geom_line()`
ggplot(data=florida_df, aes(x=date, y=cases, group=2)) +
geom_line(color='blue')
```



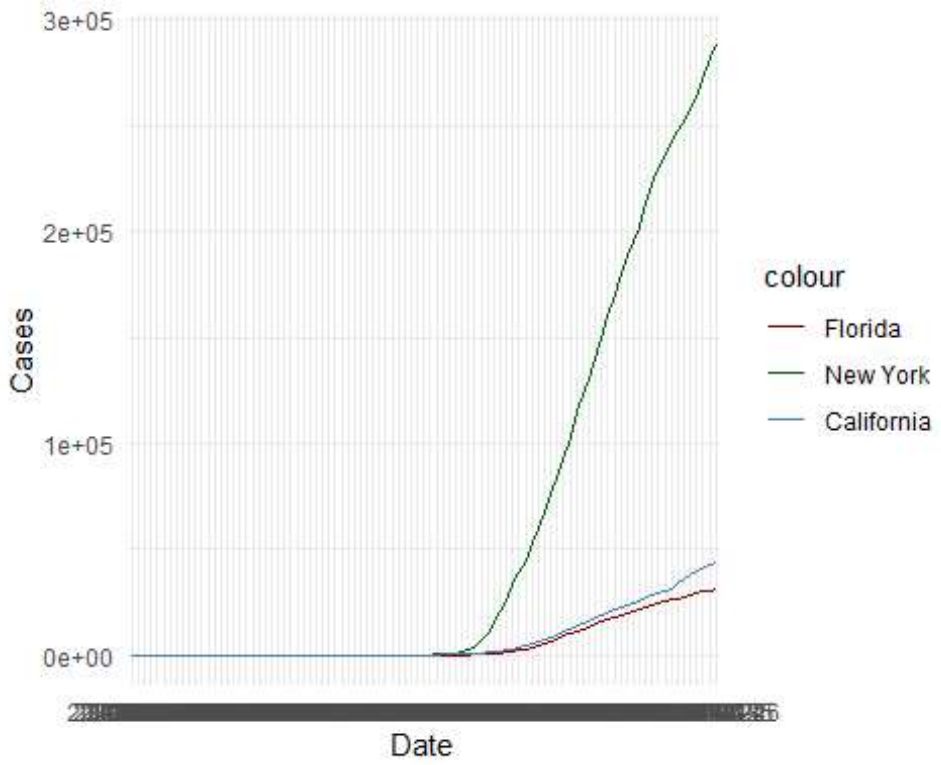

```
## Add lines for New York and California to the plot

ggplot(data=florida_df, aes(x=date, group=1)) +
  geom_line(aes(y = cases, col=state)) +
  geom_line(data=ny_df, aes(y = cases, col=state)) +
  geom_line(data=california_df, aes(y =cases,  col=state))
```



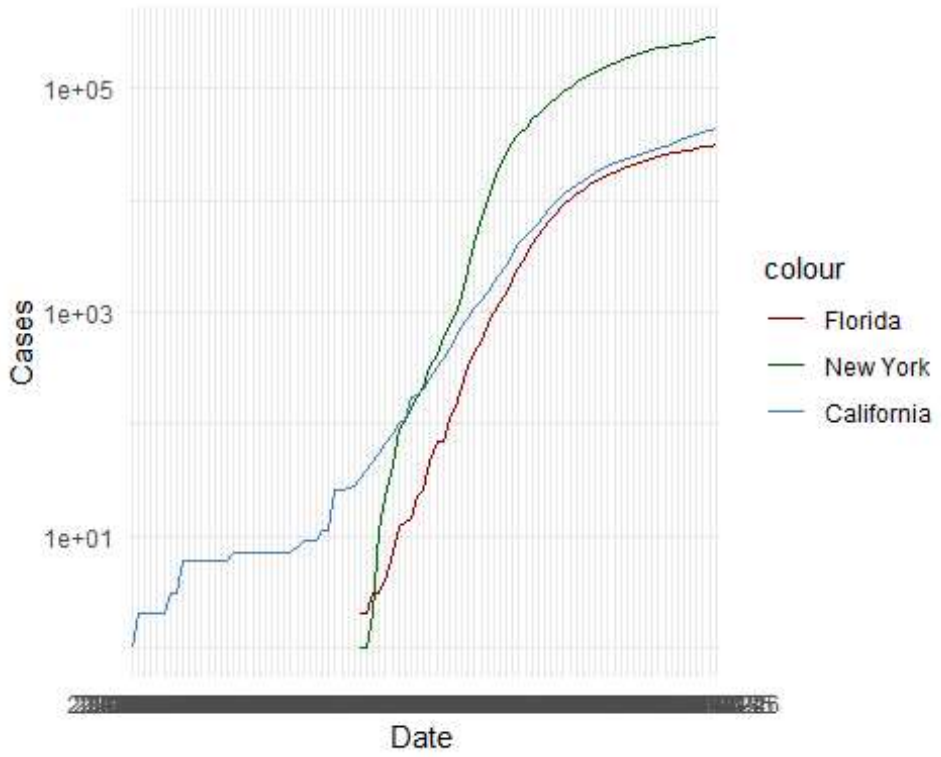

```
## Use the colors "darkred", "darkgreen", and "steelblue" for Florida, New
York, and California
ggplot(data=florida_df, aes(x=date, group=1)) +
  geom_line(aes(y =cases), color = 'darkred') +
  geom_line(data=ny_df, aes(y = cases), color='darkgreen') +
  geom_line(data=california_df, aes(y = cases), color='steelblue')
```




```
## Add a legend to the plot using `scale_colour_manual`
## Add a blank (" ") label to the x-axis and the label "Cases" to the y axis
ggplot(data=florida_df, aes(x=date, group=1)) +
  geom_line(aes(y = cases, col="Florida")) +
  geom_line(data=ny_df, aes(y = cases, col="New York")) +
  geom_line(data=california_df, aes(y =cases,col="California")) +
  scale_colour_manual(values= c('Florida'='darkred',
                                'New York'='darkgreen',
                                'California'='steelblue' ))+
  xlab("Date") + ylab("Cases")
```




```
## Scale the y axis using `scale_y_log10()`

ggplot(data=florida_df, aes(x=date, group=1)) +
  geom_line(aes(y = cases, col="Florida")) +
  geom_line(data=ny_df, aes(y = cases, col="New York")) +
  geom_line(data=california_df, aes(y =cases,col="California")) +
  scale_colour_manual(values= c('Florida'='darkred',
                                'New York'='darkgreen',
                                'California'='steelblue' ))+
  xlab("Date") + ylab("Cases")+scale_y_log10()
```


1e+05
1e+03
1e+01
Cases
Date
colour
Florida
New York
California