ASSIGNMENT 4

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Part 1

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

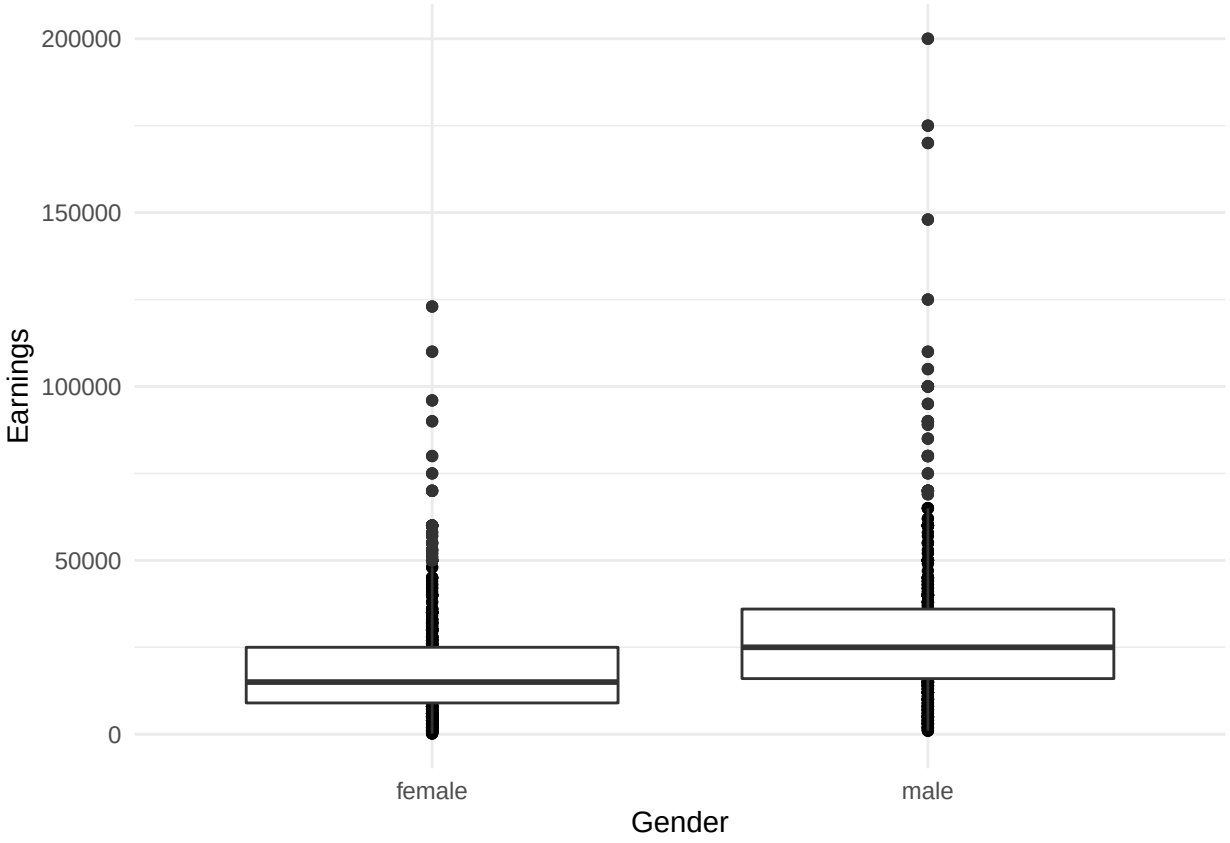
Load the `data/r4ds/heights.csv` to

```
##    earn   height    sex ed age  race
## 1 50000 74.42444   male 16  45 white
## 2 60000 65.53754 female 16  58 white
## 3 30000 63.62920 female 16  29 white
## 4 50000 63.10856 female 16  91 other
## 5 51000 63.40248 female 17  39 white
## 6  9000 64.39951 female 15  26 white
```

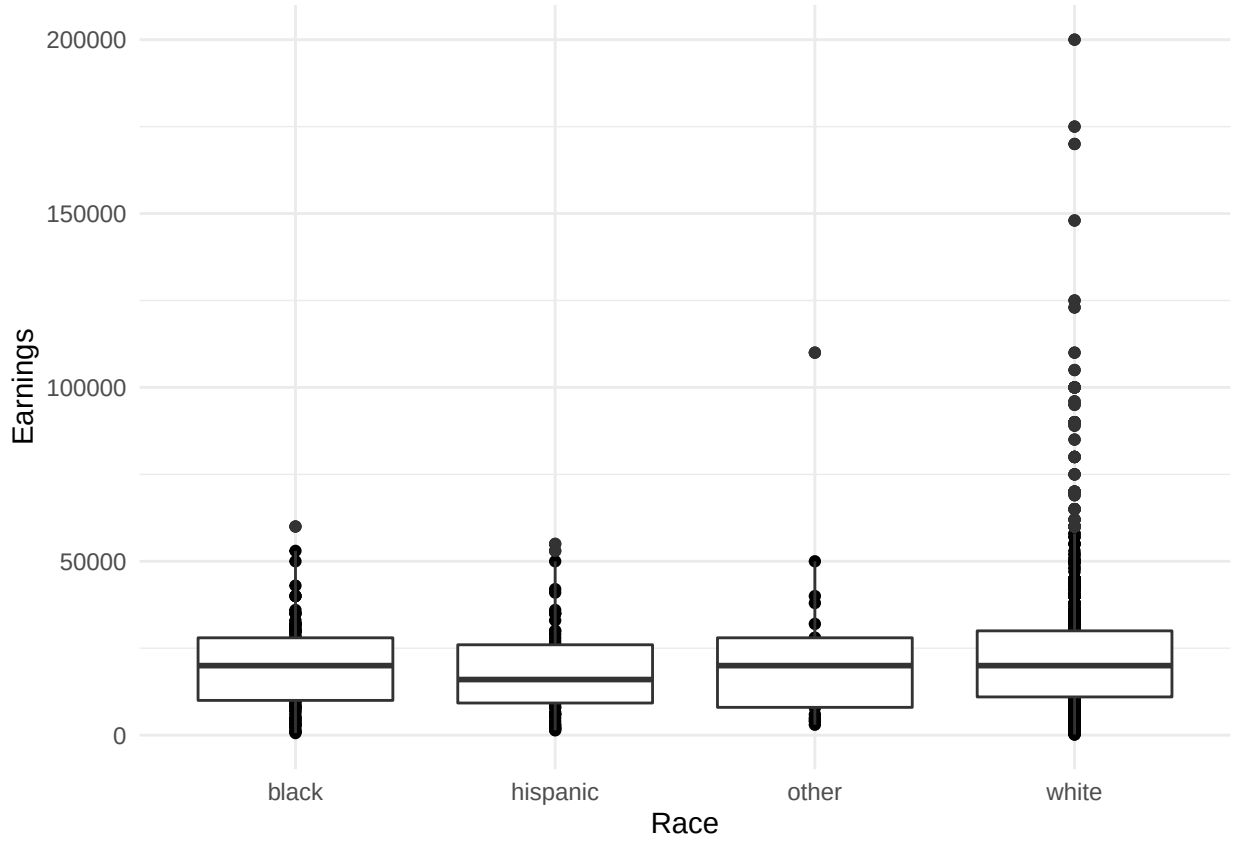
https://ggplot2.tidyverse.org/reference/geom_boxplot.html

Create boxplots of sex vs. earn and race vs. earn using `geom_point()` and `geom_boxplot()`

sex vs. earn

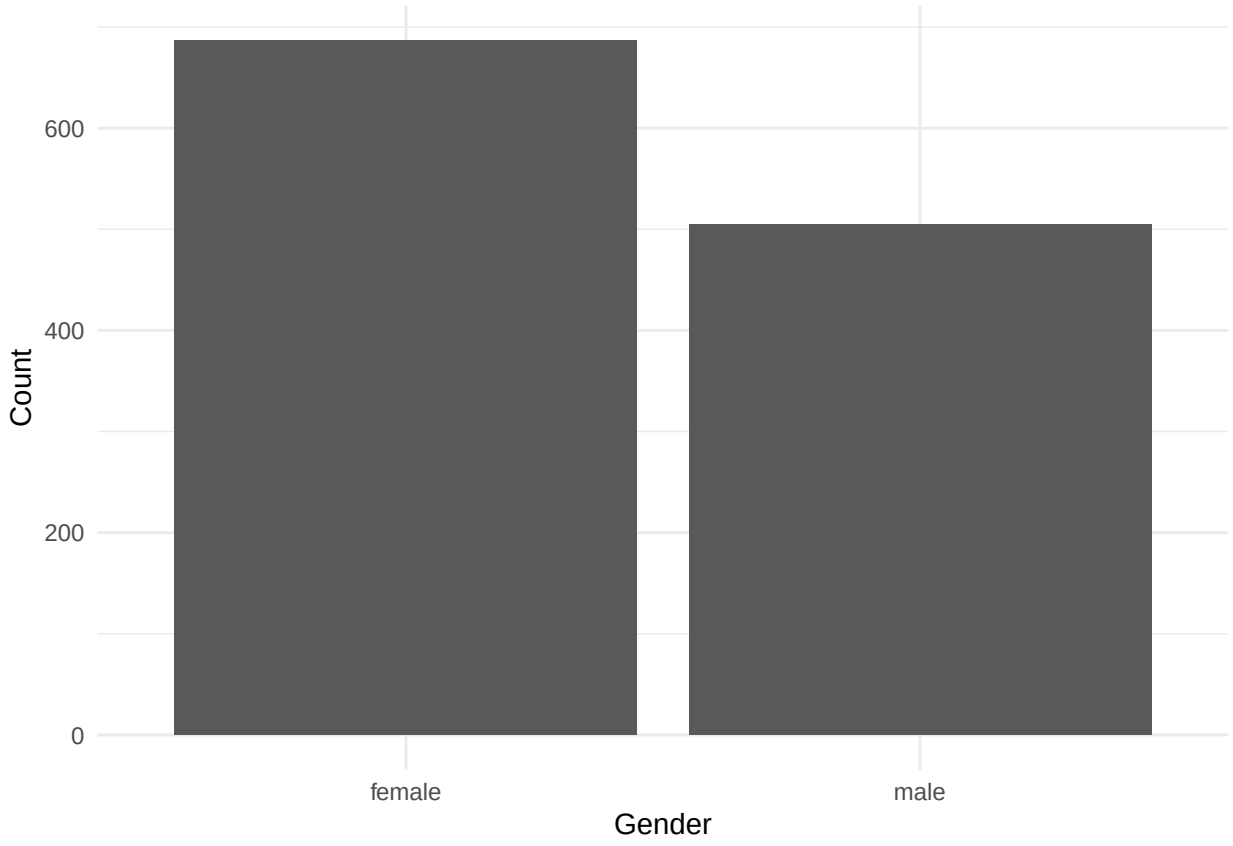


race vs. earn

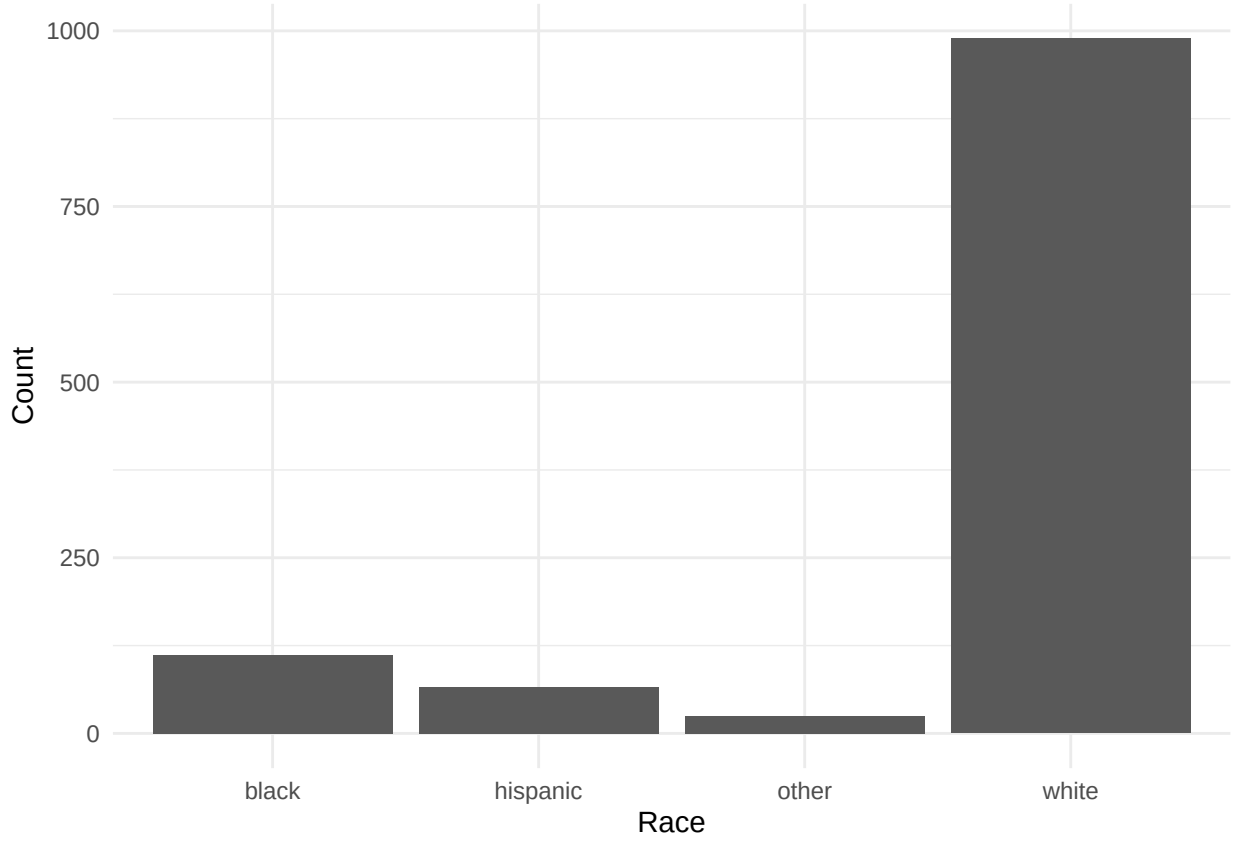

200000
150000
100000
50000
0
Earnings
black
hispanic
other
white
Race

https://ggplot2.tidyverse.org/reference/geom_bar.html

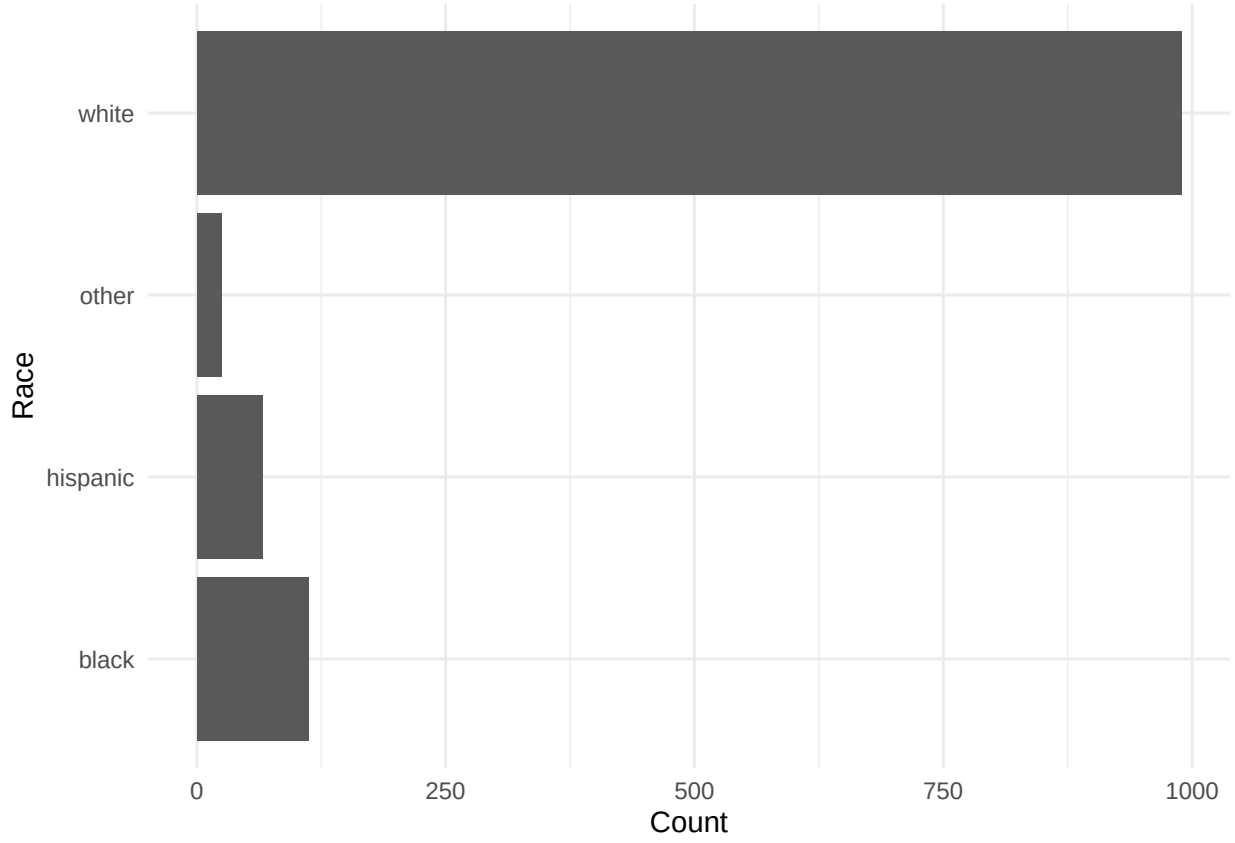
Using `geom_bar()` plot a bar chart of the number of records for each `sex`



Using `geom_bar()` plot a bar chart of the number of records for each race



Create a horizontal bar chart by adding `coord_flip()` to the previous plot



https://www.rdocumentation.org/packages/ggplot2/versions/3.3.0/topics/geom_path

Load the file `"data/nytimes/covid-19-data/us-states.csv"` and

assign it to the `covid_df` dataframe

```
##         date      state fips cases deaths
## 1 2020-01-21 Washington   53     1      0
## 2 2020-01-22 Washington   53     1      0
## 3 2020-01-23 Washington   53     1      0
## 4 2020-01-24   Illinois   17     1      0
## 5 2020-01-24 Washington   53     1      0
## 6 2020-01-25 California    6     1      0
```

Parse the date column using `as.Date()`

```
##         date      state fips cases deaths
## 1 2020-01-21 Washington   53     1      0
## 2 2020-01-22 Washington   53     1      0
```

```
## 3 2020-01-23 Washington   53     1      0
## 4 2020-01-24   Illinois   17     1      0
## 5 2020-01-24 Washington   53     1      0
## 6 2020-01-25 California    6     1      0
```

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

California

```
##          date      state fips cases deaths
## 6  2020-01-25 California    6     1      0
## 10 2020-01-26 California    6     2      0
## 14 2020-01-27 California    6     2      0
## 18 2020-01-28 California    6     2      0
## 22 2020-01-29 California    6     2      0
## 26 2020-01-30 California    6     2      0
```

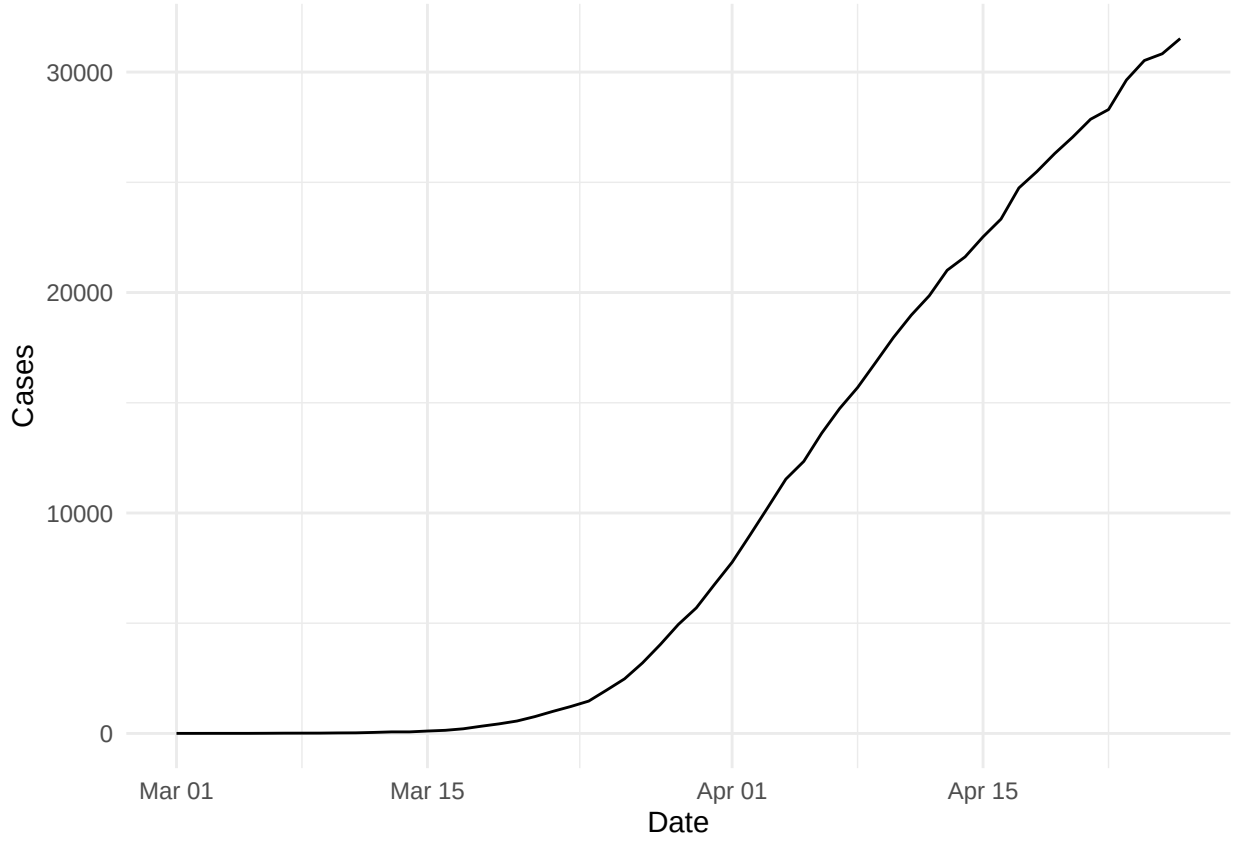
New York

```
##           date    state fips cases deaths
## 247 2020-03-01 New York   36     1      0
## 262 2020-03-02 New York   36     1      0
## 277 2020-03-03 New York   36     2      0
## 294 2020-03-04 New York   36    11      0
## 314 2020-03-05 New York   36    22      0
## 339 2020-03-06 New York   36    44      0
```

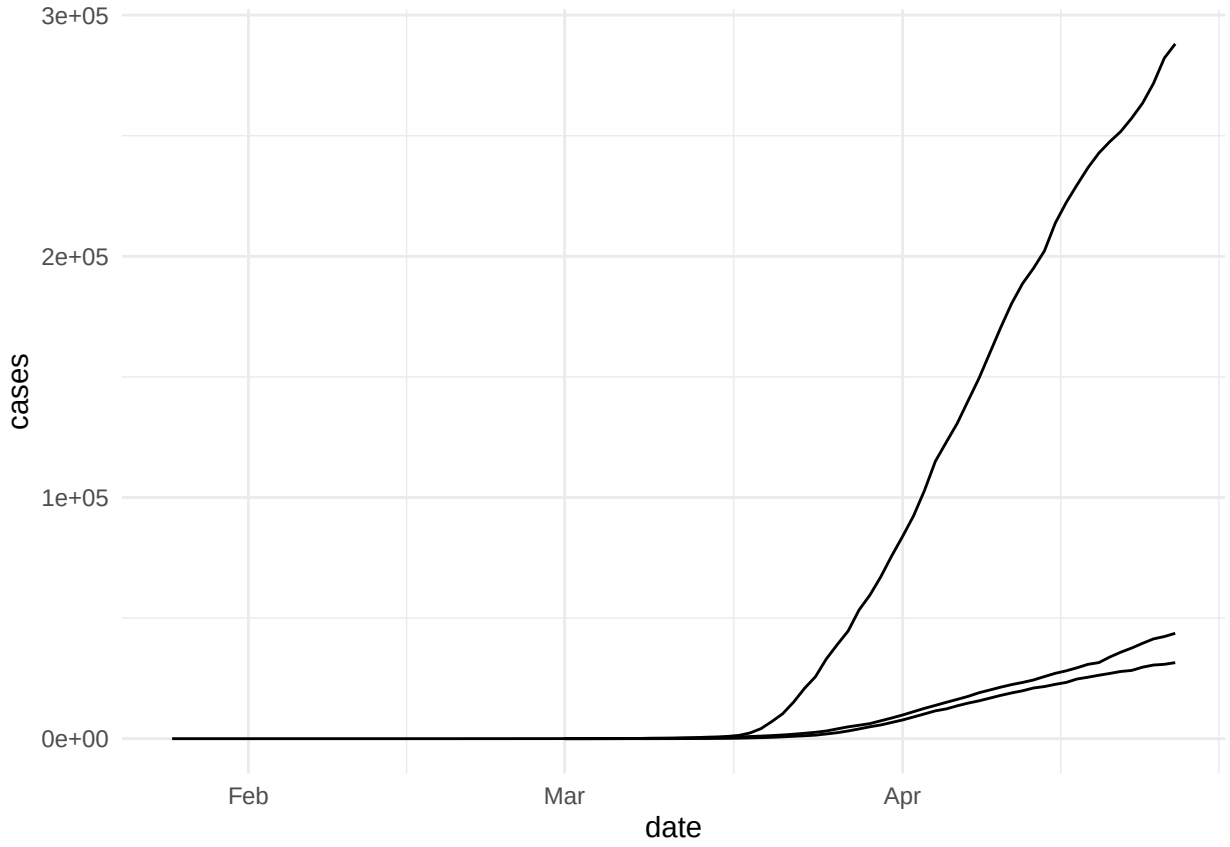
Florida

```
##           date   state fips cases deaths
## 243 2020-03-01 Florida   12     2      0
## 256 2020-03-02 Florida   12     2      0
## 271 2020-03-03 Florida   12     3      0
## 287 2020-03-04 Florida   12     3      0
## 305 2020-03-05 Florida   12     4      0
## 326 2020-03-06 Florida   12     7      2
```

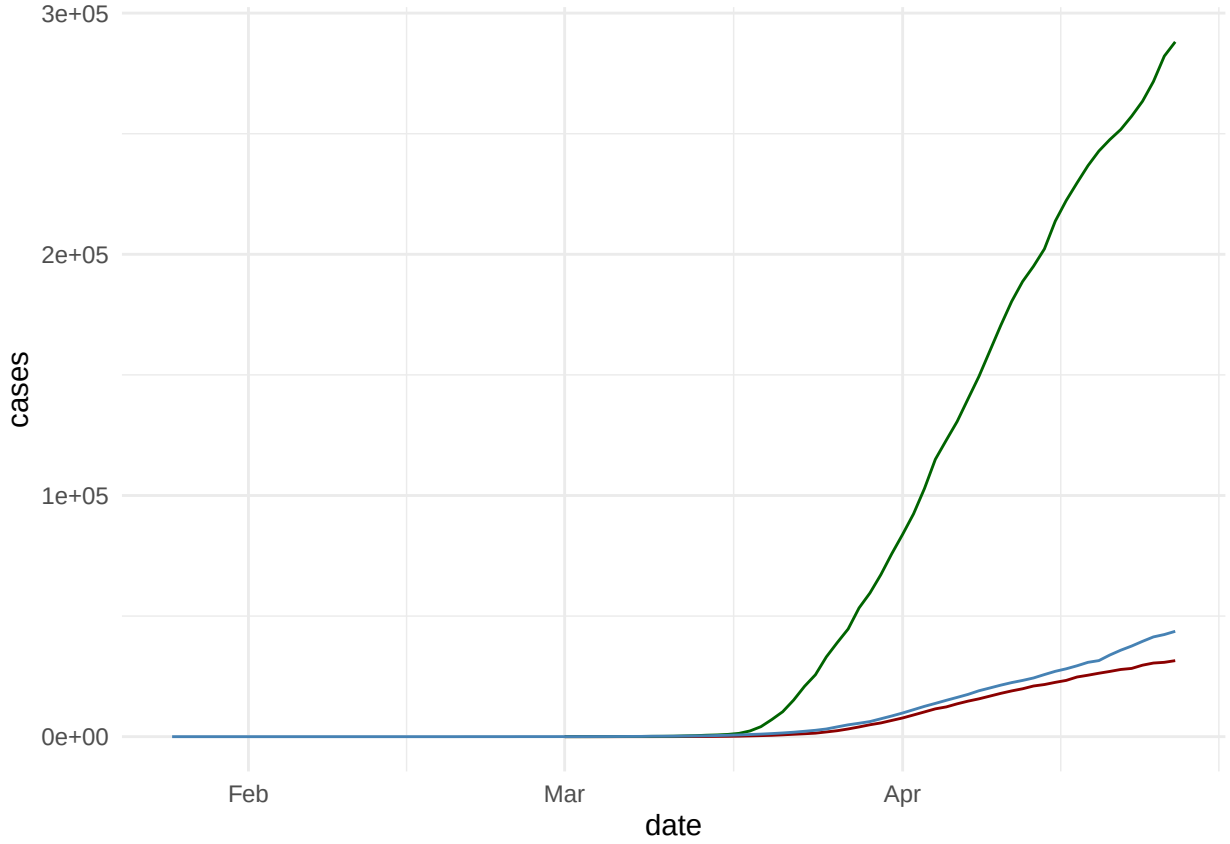
Plot the number of cases in Florida using `geom_line()`



Add lines for New York and California to the plot

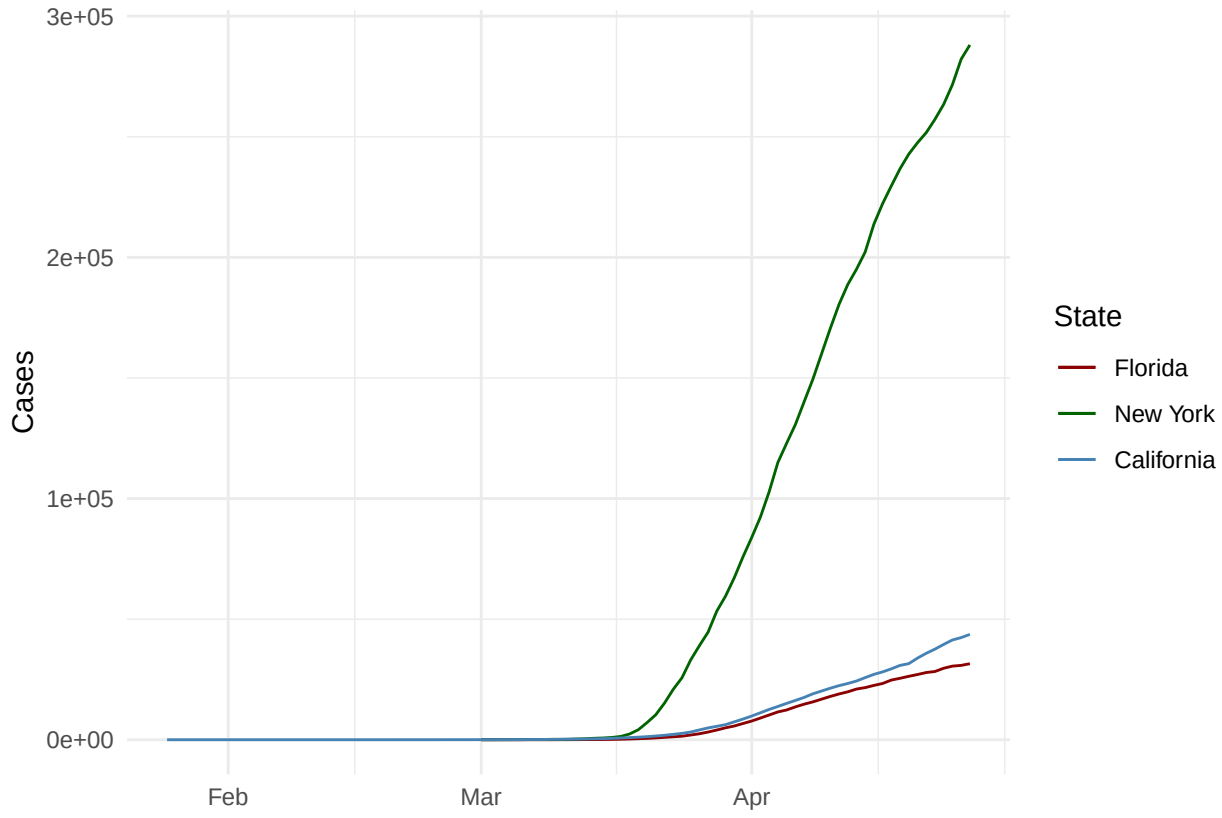


Use the colors “darkred”, “darkgreen”, and “steelblue” for Florida, New York, and California

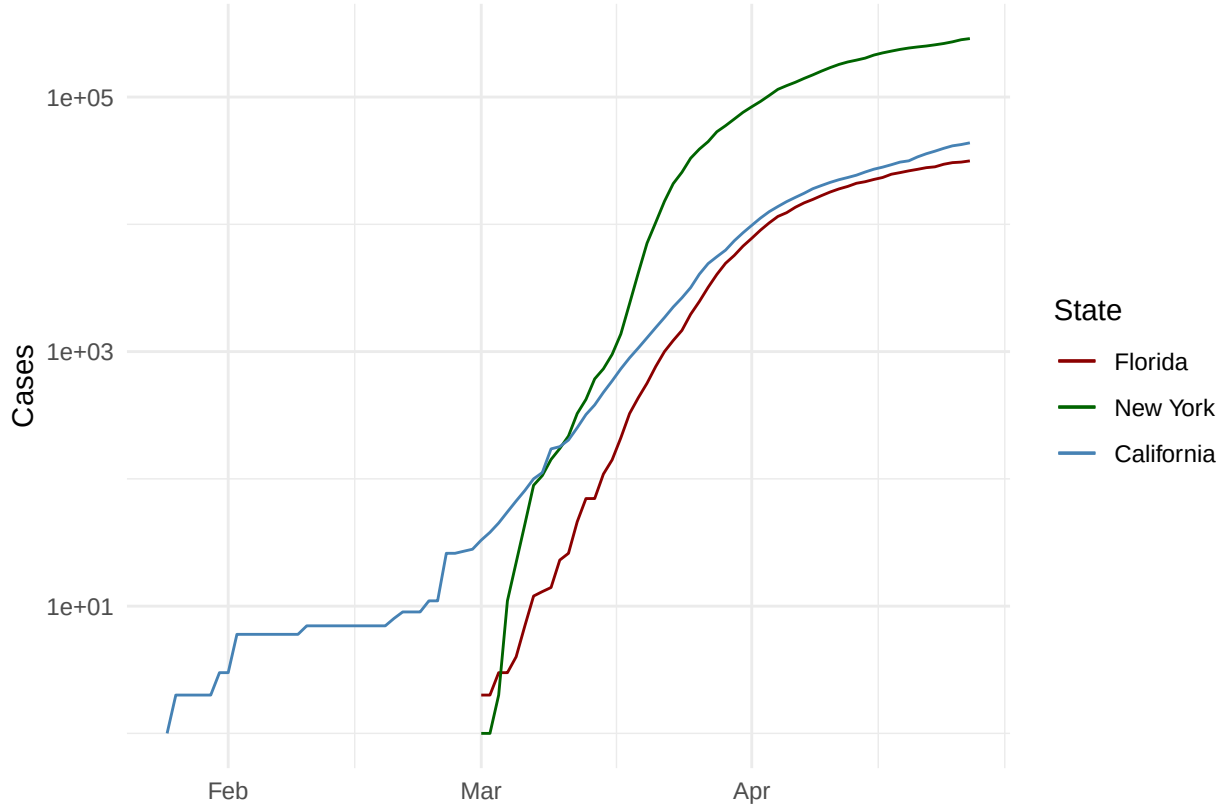


Add a legend to the plot using `scale_colour_manual`

Add a blank (" ") label to the x-axis and the label"Cases" to the y axis



Scale the y axis using `scale_y_log10()`



Part 2

Markdown Basics

Favorite Foods

1. Chocolate
2. King Crab
3. Maria's Cookies

Images

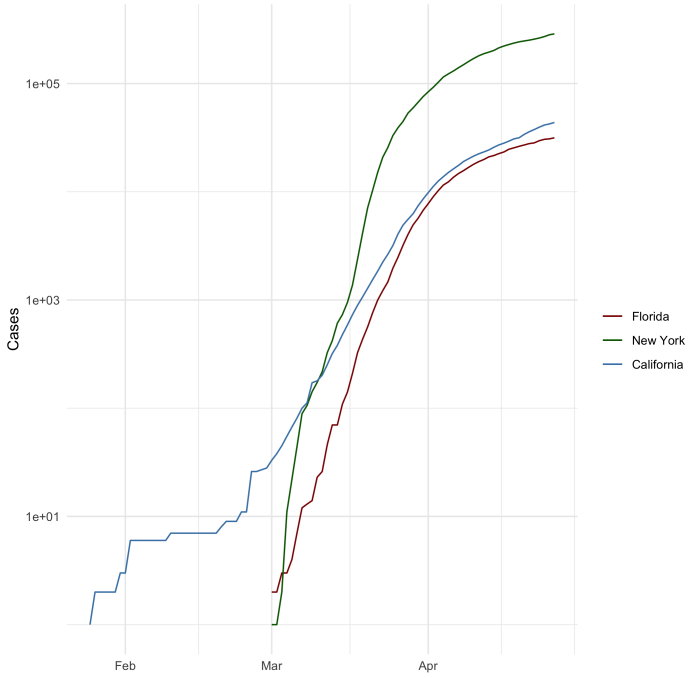


Figure 1: All Cases (Log Plot)

Add a Quote

> *"Practically perfect in every way"*

Add an Equation

$$CDF(x) = 1 - (\frac{x}{x_m})^{-}\alpha$$

Add a Footnote

This is a footnote[1]

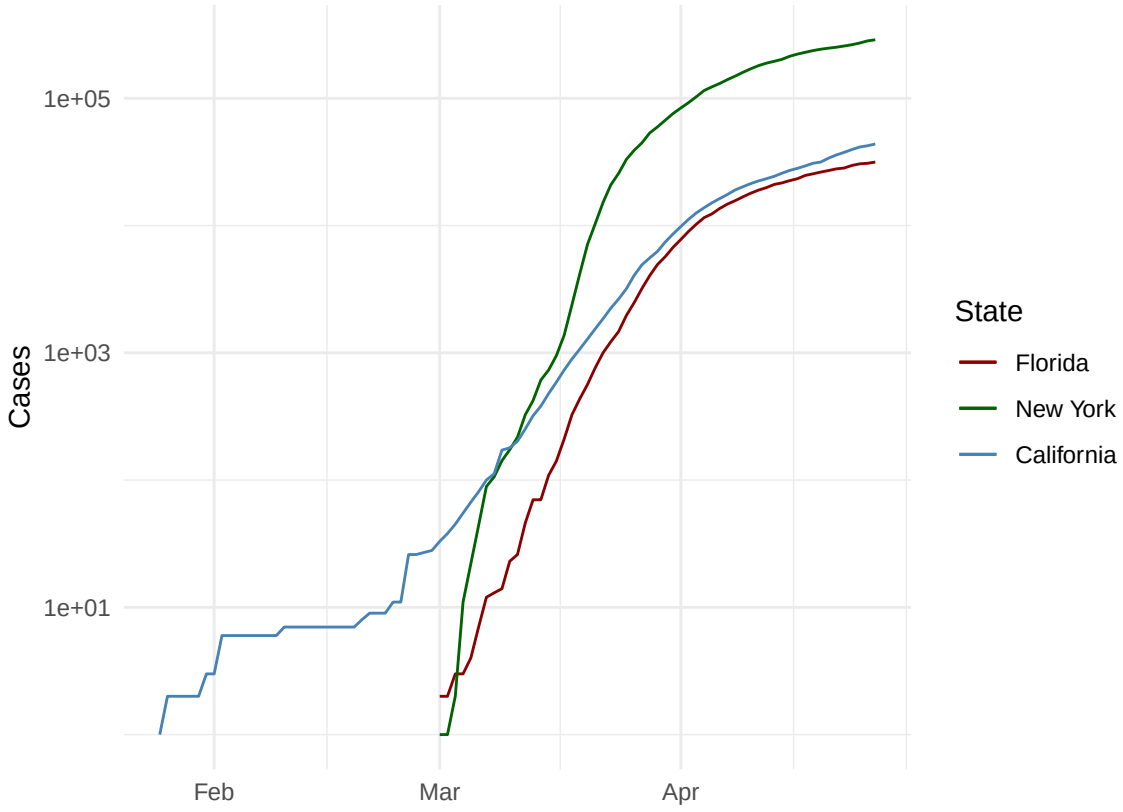
[1]This is the explanation to the footnote

Add Citations

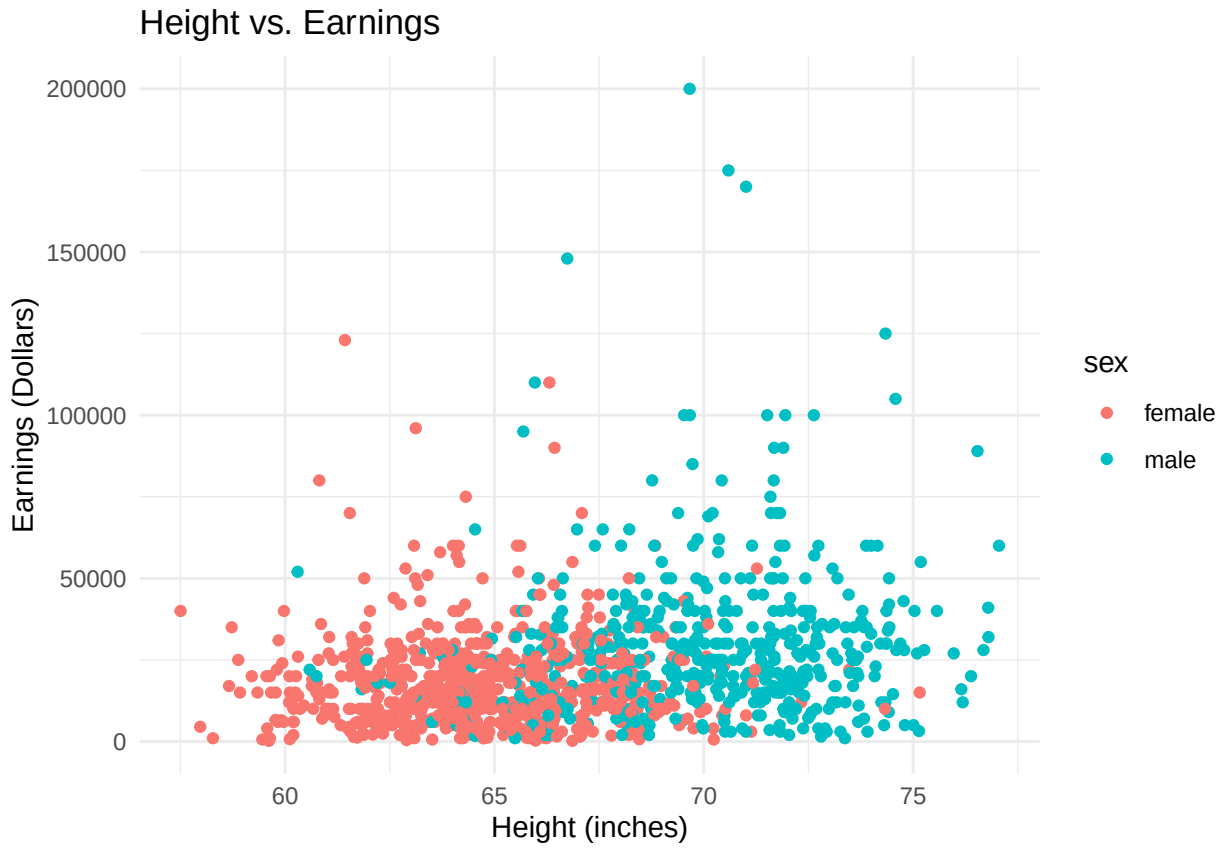
- R for Everyone (Lander 2014)
- Discovering Statistics Using R (Field, Miles, and Field 2012)

Inline Code

NY Times COVID-19 Data



R4DS Height vs Earnings



Tables

Knitr Table with Kable

Table 1: One Ring to Rule Them All

name	race	in_fellowship	ring_bearer	age
Aragon	Men	TRUE	FALSE	88
Bilbo	Hobbit	FALSE	TRUE	129
Frodo	Hobbit	TRUE	TRUE	51
Galadriel	Elf	FALSE	FALSE	7000
Sam	Hobbit	TRUE	TRUE	36
Gandalf	Maia	TRUE	TRUE	2019
Legolas	Elf	TRUE	FALSE	2931
Sauron	Maia	FALSE	TRUE	7052
Gollum	Hobbit	FALSE	TRUE	589

Pandoc Table

name	race	in_fellowship	ring_bearer	age
Aragon	Men	TRUE	FALSE	88
Bilbo	Hobbit	FALSE	TRUE	129
Frodo	Hobbit	TRUE	TRUE	51
Galadriel	Elf	FALSE	FALSE	7000
Sam	Hobbit	TRUE	TRUE	36
Gandalf	Maia	TRUE	TRUE	2019
Legolas	Elf	TRUE	FALSE	2931
Sauron	Maia	FALSE	TRUE	7052
Gollum	Hobbit	FALSE	TRUE	589

References

Field, A., J. Miles, and Z. Field. 2012. *Discovering Statistics Using r*. SAGE Publications. https://books.google.com/books?id=wd2K2zC3swIC.

Lander, J. P. 2014. *R for Everyone: Advanced Analytics and Graphics*. Addison-Wesley Data and Analytics Series. Addison-Wesley. https://books.google.com/books?id=3eBVAgAAQBAJ.