

# assignment\_03\_BurkhartAustin.R

austi

2023-03-31

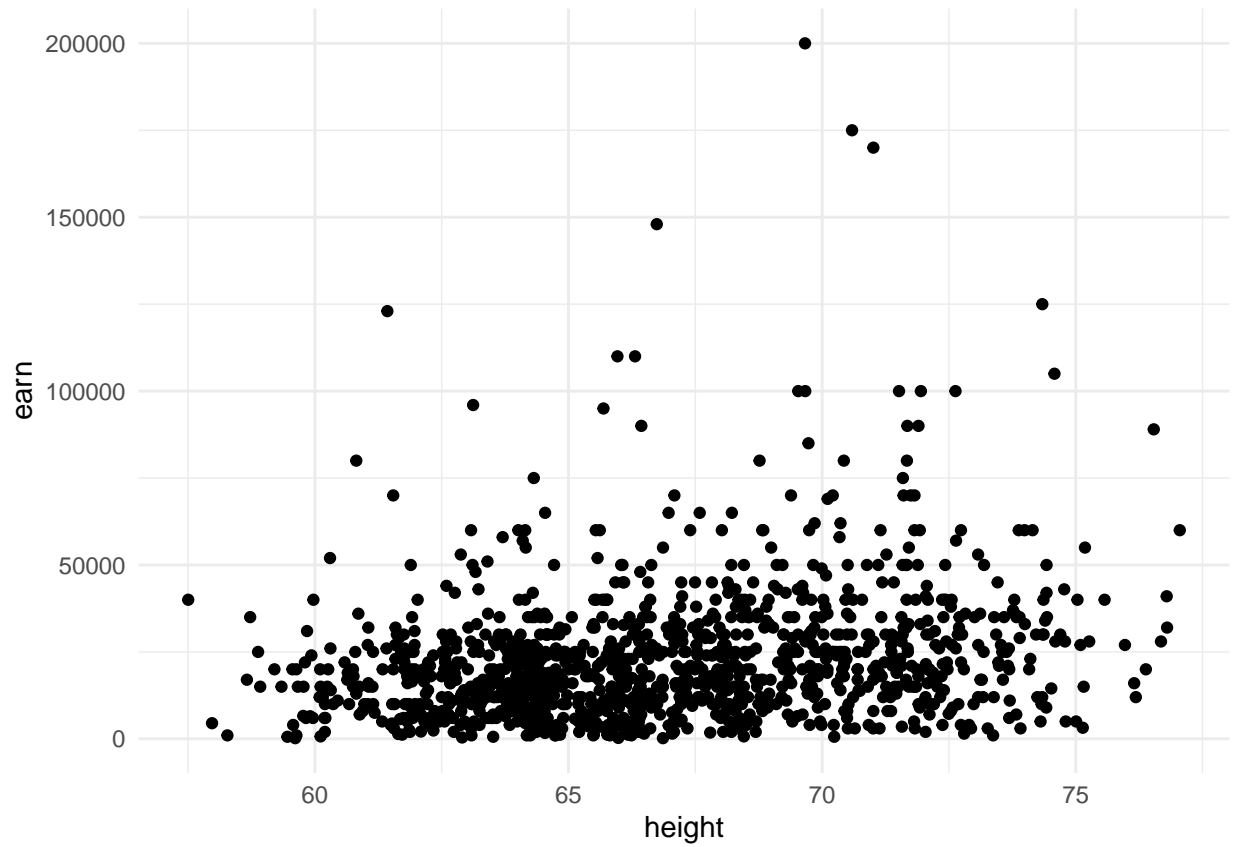
```
# Assignment: ASSIGNMENT 3
# Name: Burkhardt, Austin
# Date: 2023-03-30

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

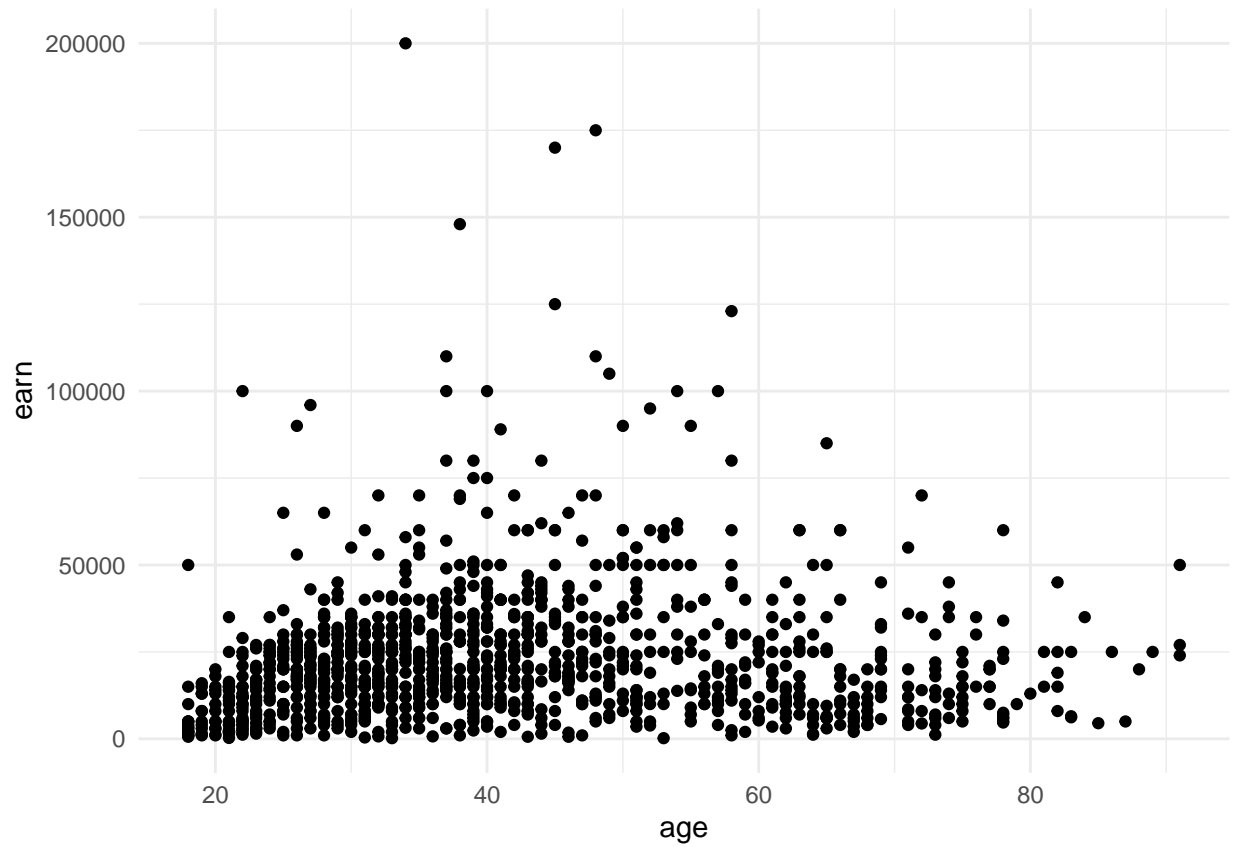
## Set the working directory to the root of your DSC 520 directory
setwd("C:/Users/austi/Documents/DSC520/dsc520")

## Load the `data/r4ds/heights.csv` to
heights_df <- read.csv("data/r4ds/heights.csv")

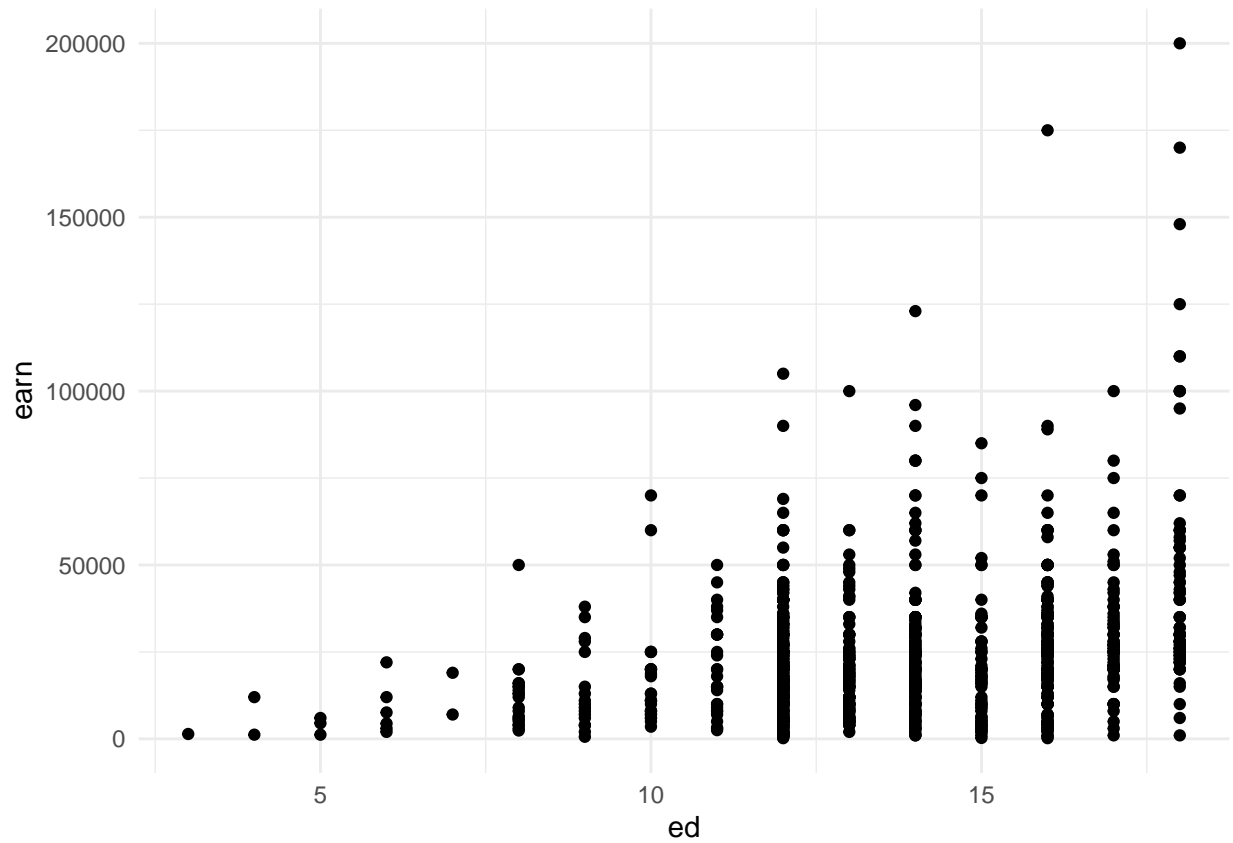
# https://ggplot2.tidyverse.org/reference/geom\_point.html
## Using `geom_point()` create three scatterplots for
## `height` vs. `earn`
ggplot(heights_df, aes(x=height, y=earn)) + geom_point()
```



```
## `age` vs. `earn`  
ggplot(heights_df, aes(x=age, y=earn)) + geom_point()
```

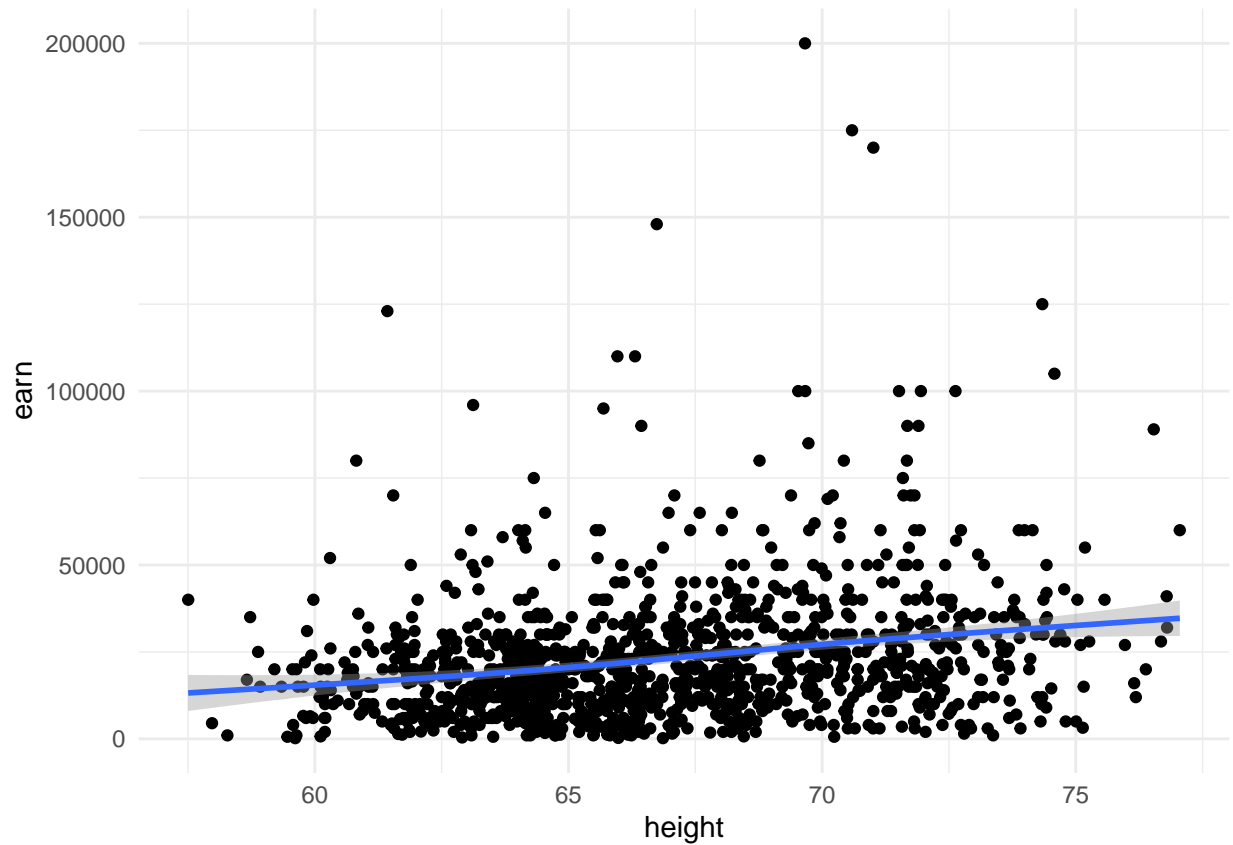


```
## `ed` vs. `earn`  
ggplot(heights_df, aes(x=ed, y=earn)) + geom_point()
```

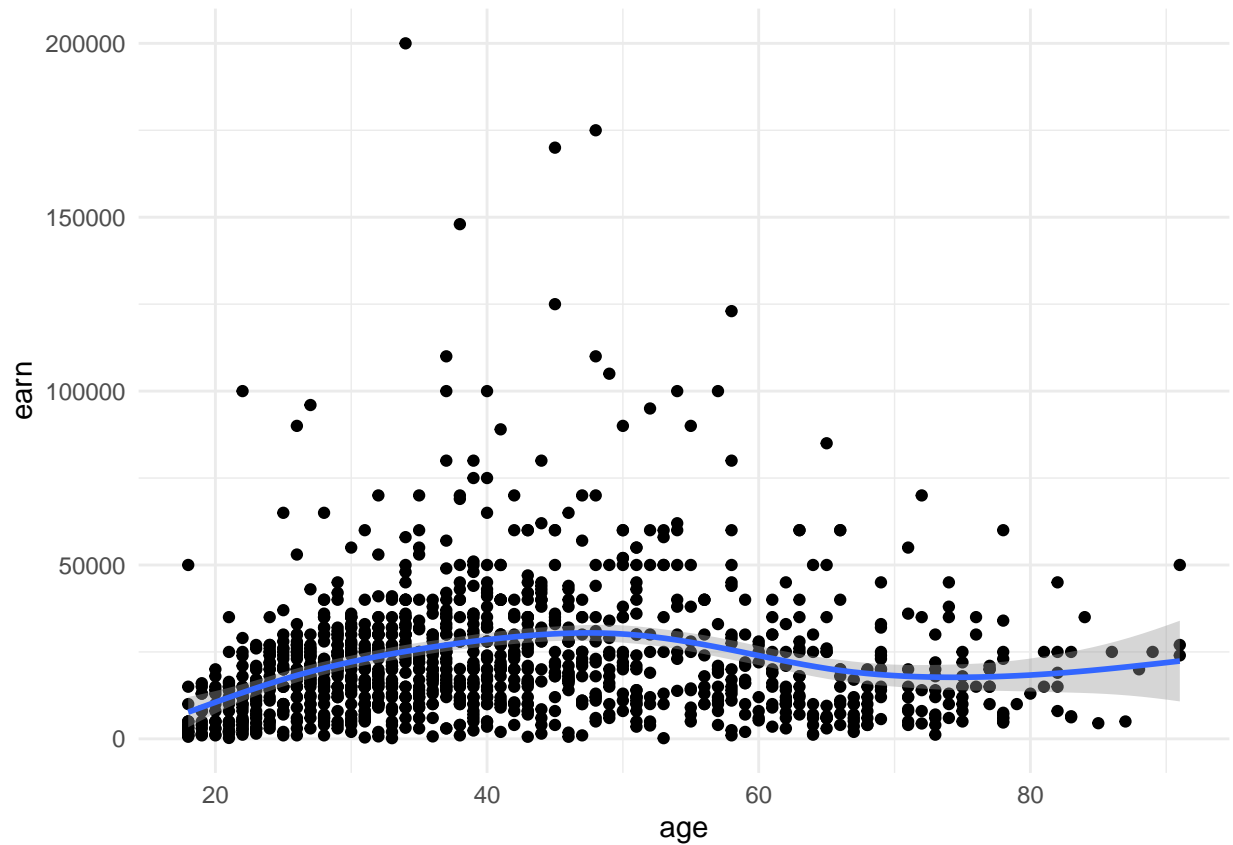


```
## Re-create the three scatterplots and add a regression trend line using
## the `geom_smooth()` function
## `height` vs. `earn`
ggplot(heights_df, aes(x=height, y=earn)) + geom_point() + geom_smooth()

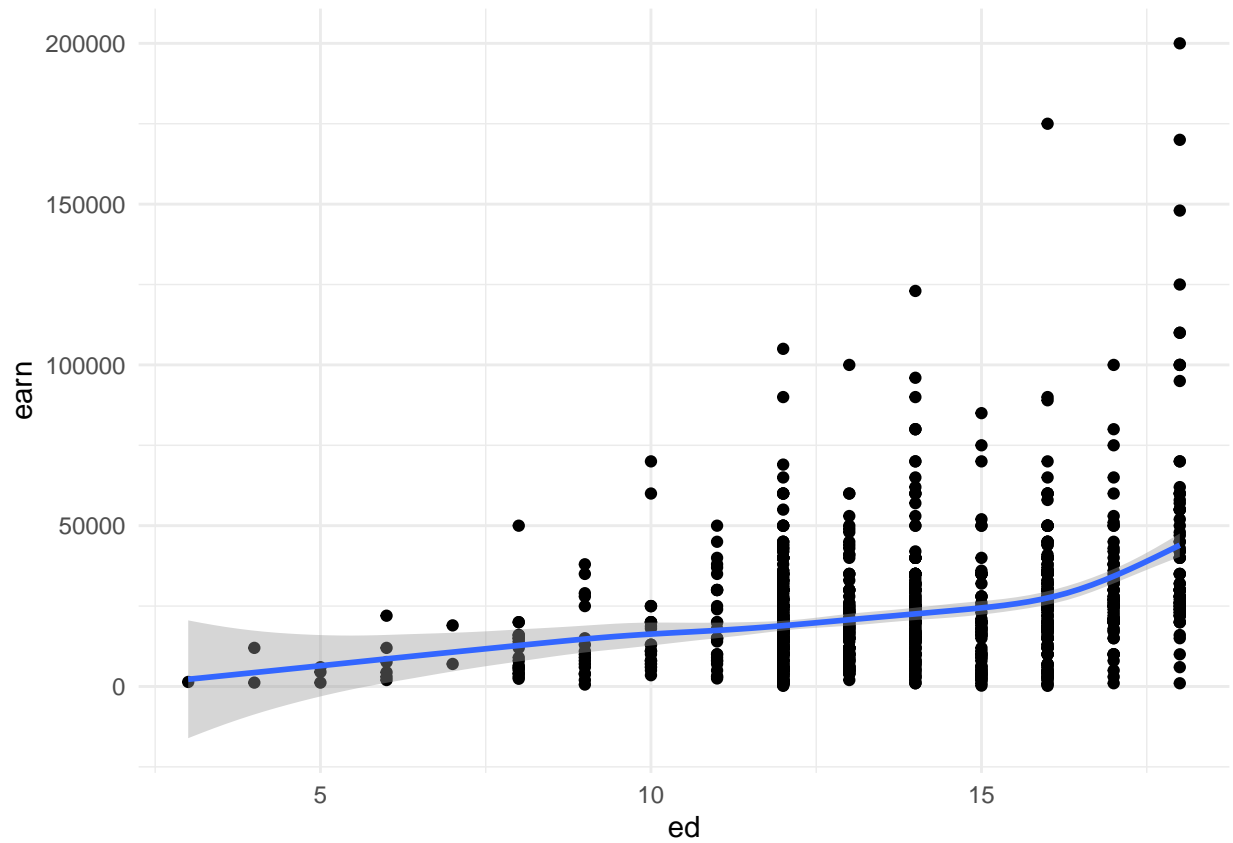
## `geom_smooth()` using method = 'gam' and formula = 'y ~ s(x, bs = "cs")'
```



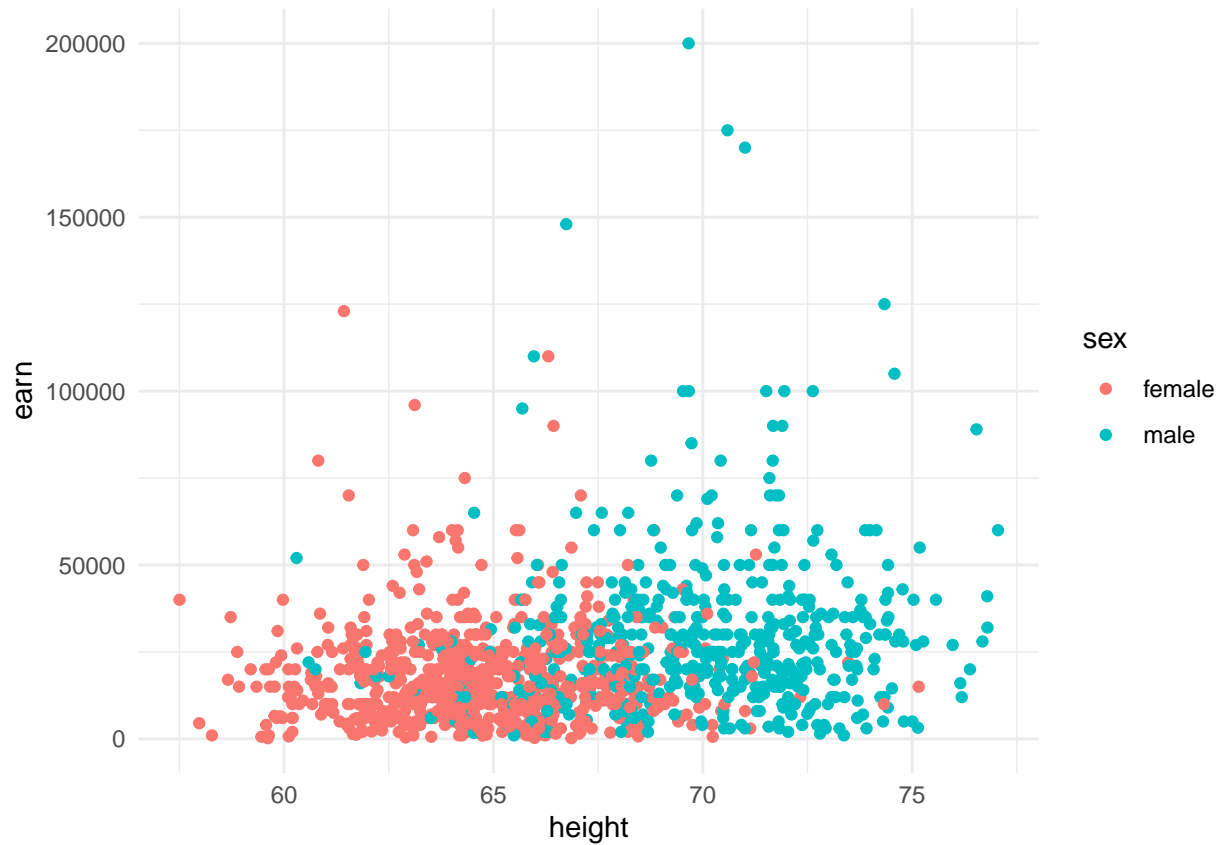
```
## `age` vs. `earn`  
ggplot(heights_df, aes(x=age, y=earn)) + geom_point() + geom_smooth()  
  
## `geom_smooth()` using method = 'gam' and formula = 'y ~ s(x, bs = "cs")'
```



```
## `ed` vs. `earn`  
ggplot(heights_df, aes(x=ed, y=earn)) + geom_point() + geom_smooth()  
  
## `geom_smooth()` using method = 'gam' and formula = 'y ~ s(x, bs = "cs")'
```

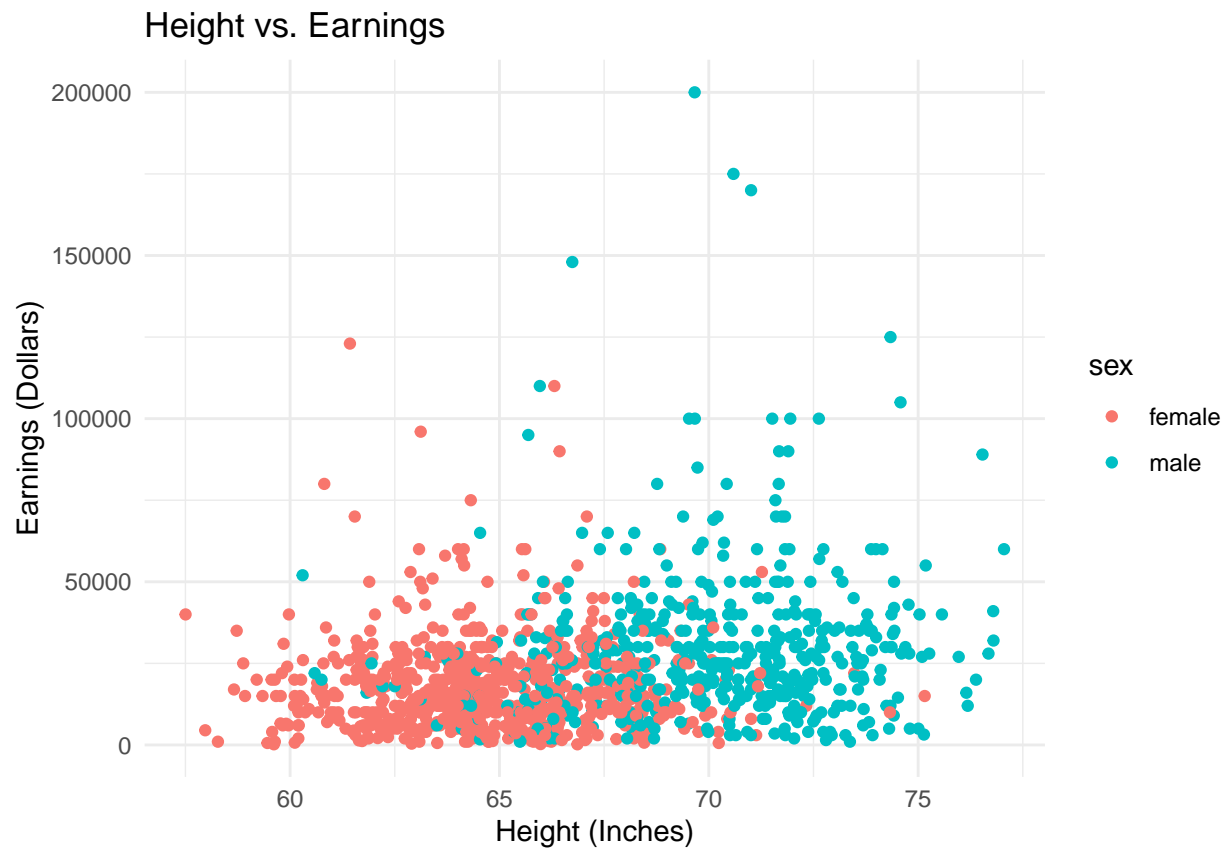


```
## Create a scatterplot of `height` vs. `earn`. Use `sex` as the `col` (color) attribute  
ggplot(heights_df, aes(x=height, y=earn, col=sex)) + geom_point()
```

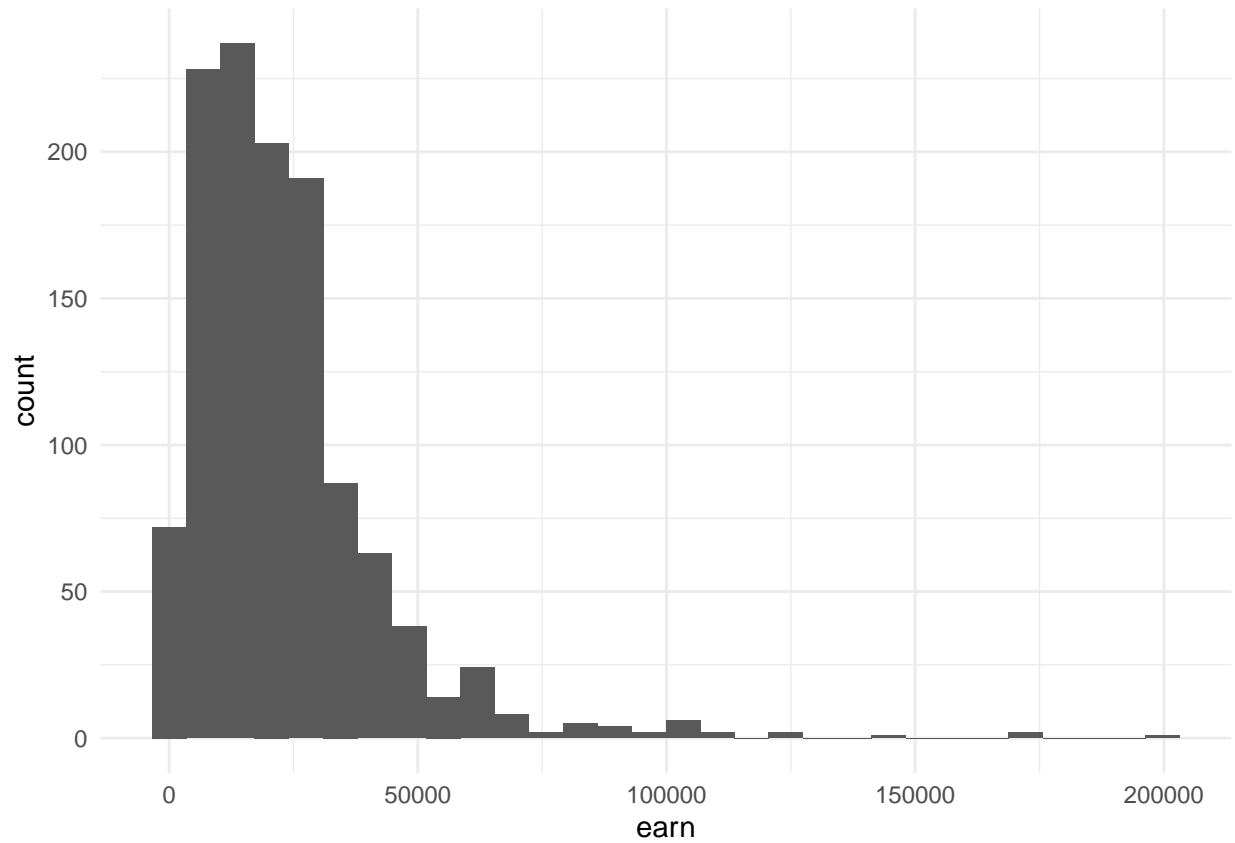


```
## Using `ggtitle()`, `xlab()`, and `ylab()` to add a title, x label, and y label to the previous plot
## Title: Height vs. Earnings
## X label: Height (Inches)
## Y Label: Earnings (Dollars)
ggplot(heights_df, aes(x=height, y=earn, col=sex)) + geom_point() + ggtitle("Height vs. Earnings") + xlab("Height (Inches)") + ylab("Earnings (Dollars)")
```

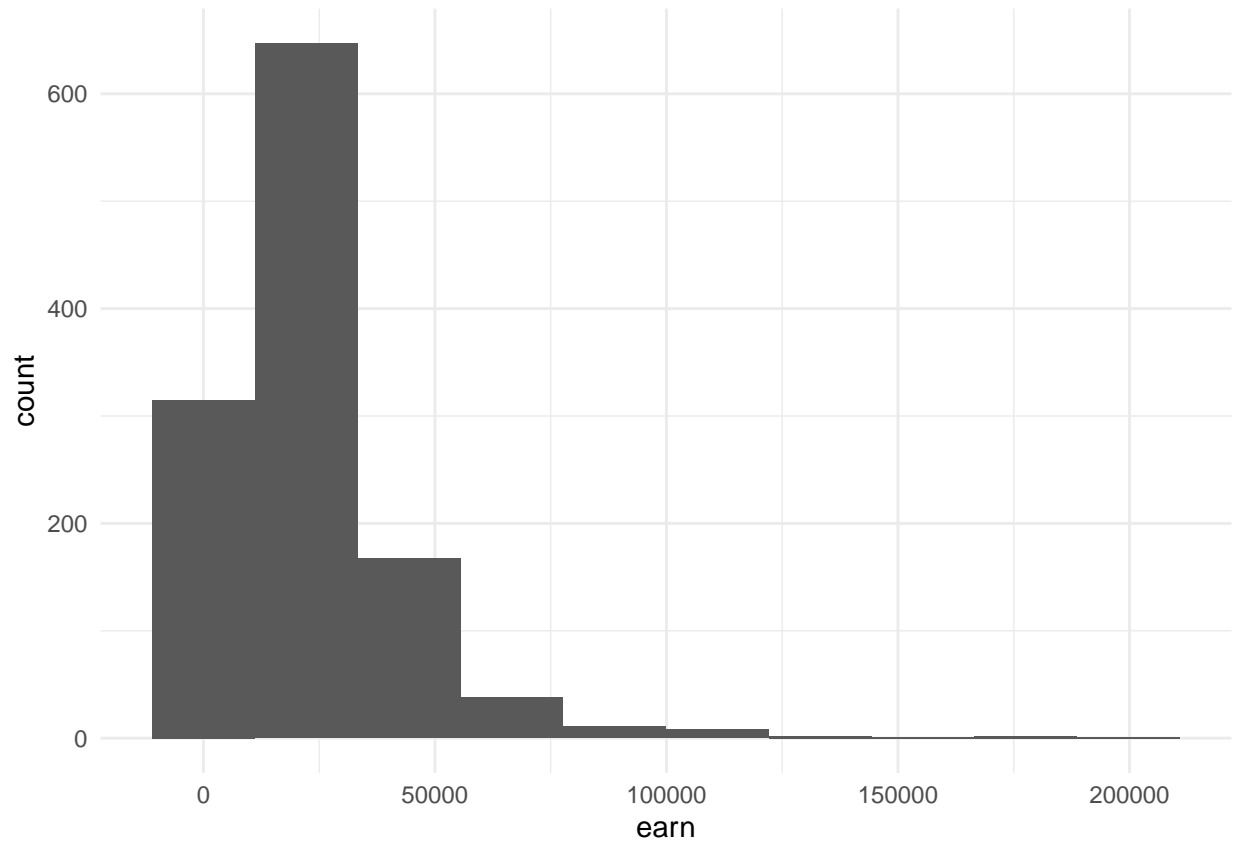




```
# https://ggplot2.tidyverse.org/reference/geom\_histogram.html  
## Create a histogram of the `earn` variable using `geom_histogram()`  
ggplot(heights_df, aes(earn)) + geom_histogram()  
  
## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```



```
## Create a histogram of the `earn` variable using `geom_histogram()`  
## Use 10 bins  
ggplot(heights_df, aes(earn)) + geom_histogram(bins=10)
```



```
# https://ggplot2.tidyverse.org/reference/geom\_density.html  
## Create a kernel density plot of `earn` using `geom_density()`  
ggplot(heights_df, aes(earn)) + geom_density(kernel="gaussian")
```

