assignment_03_MukherjeeChitramoy.R

chitro

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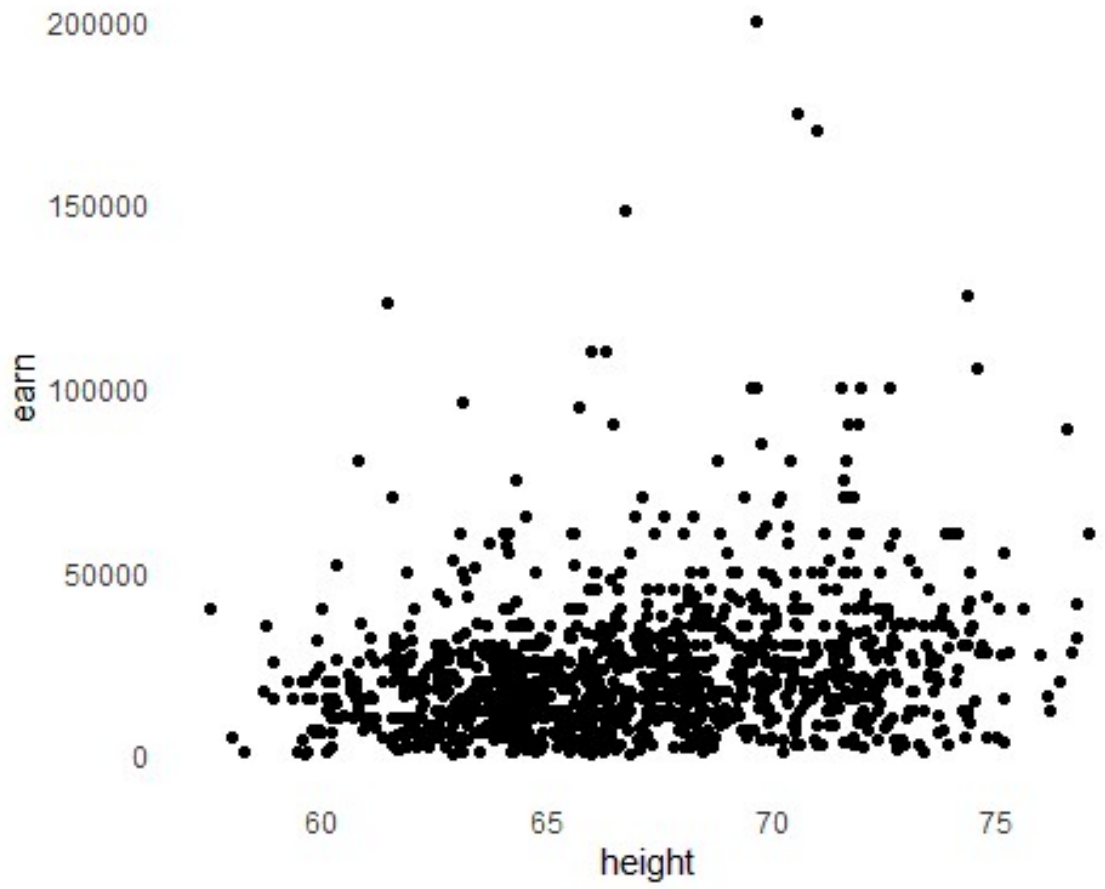
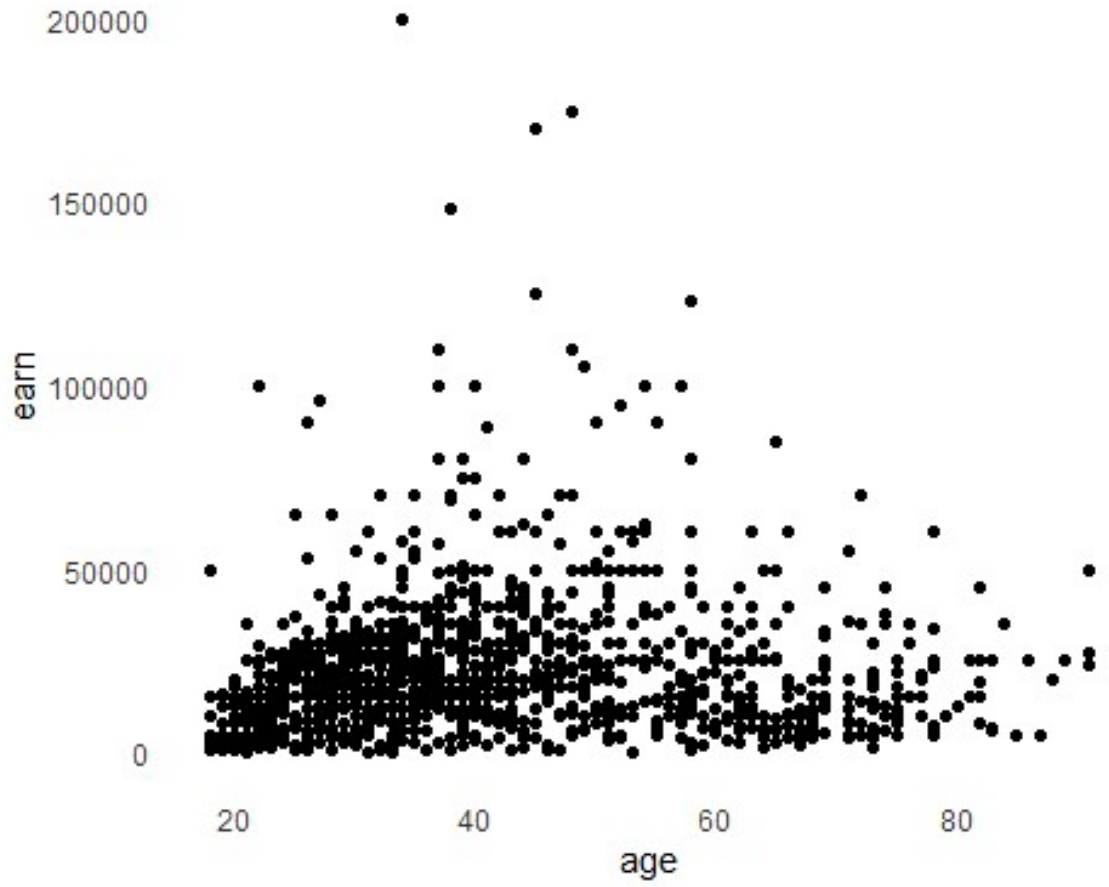
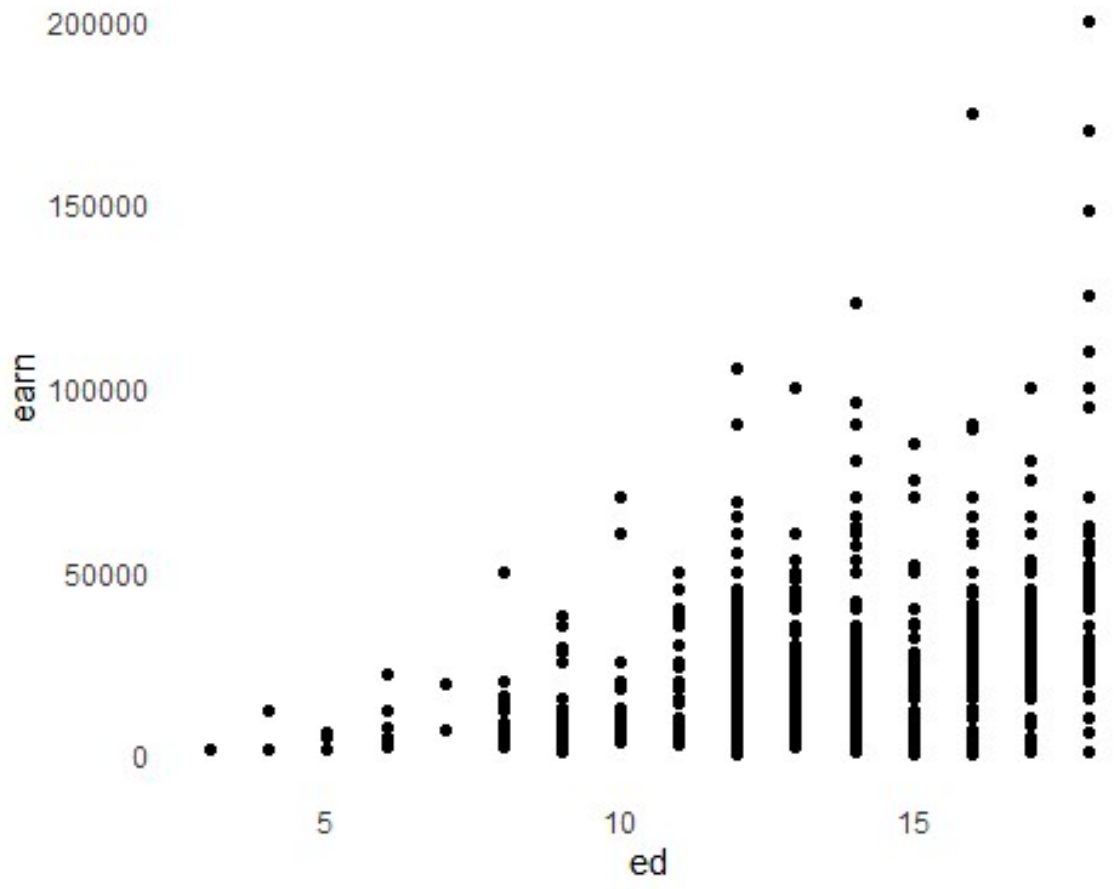
```
# Assignment: ASSIGNMENT 3
# Name: Mukherjee, Chitramoy
# Date: 2022-12-14

## 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/chitro/Desktop/dsc520-fork-chitro")

## Load the `data/r4ds/heights.csv` to
heights_df <- read.csv("C:/Users/chitro/Desktop/dsc520-fork-
chitro/data/r4ds/heights.csv")
head (heights_df)

##    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_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()
```

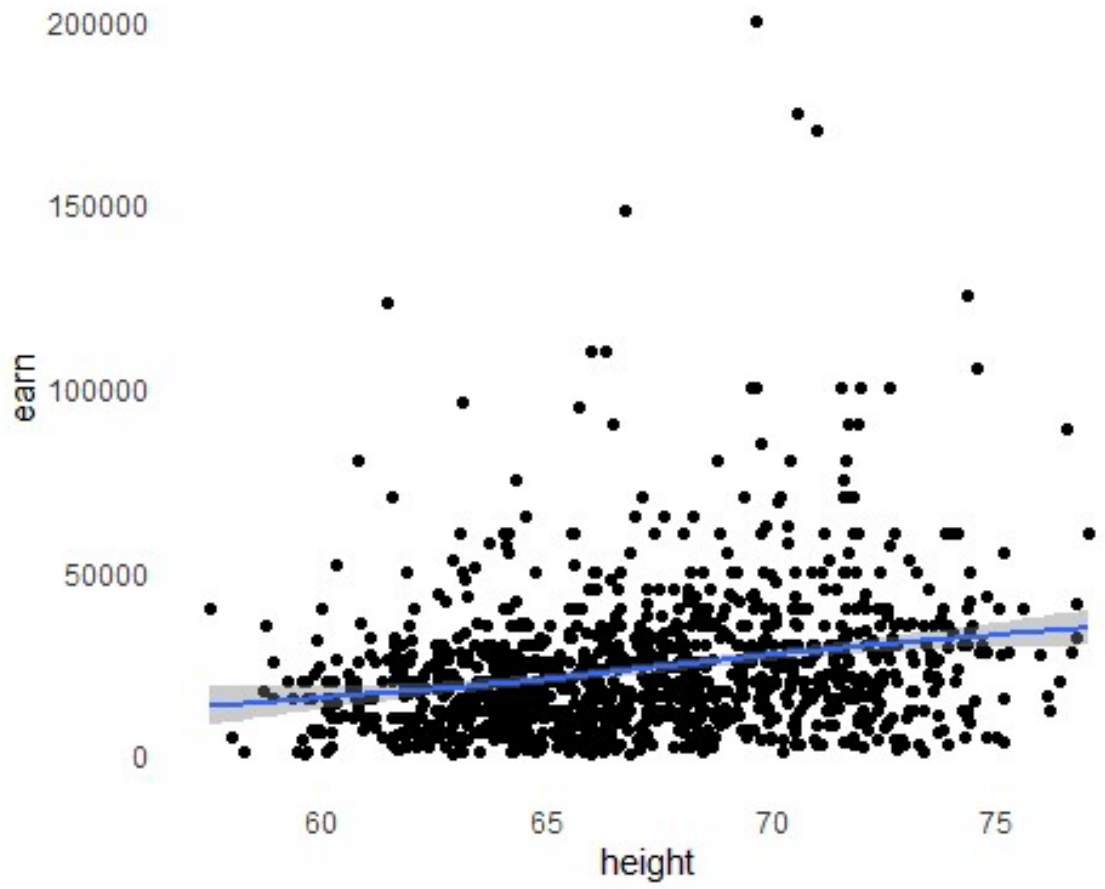



```
## `ed` vs. `earn`
ggplot(heights_df, aes(x=ed, y=earn)) + geom_point()
```

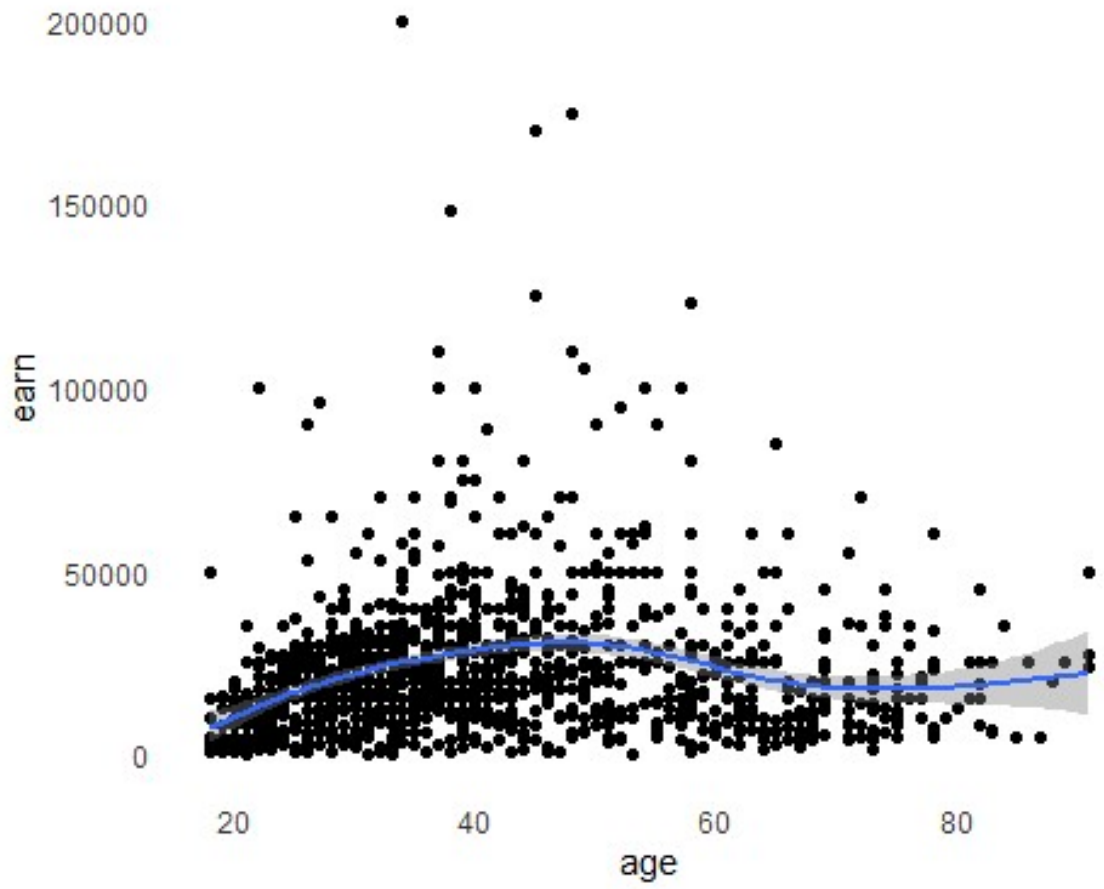



```
## Re-create the three scatterplots and add a regression trend line
using
## the `geom_smooth()` function
## `height` vs. `earn`
ggplot(heights_df, aes(x=height, y=earn)) + geom_point() +
geom_smooth()
```

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

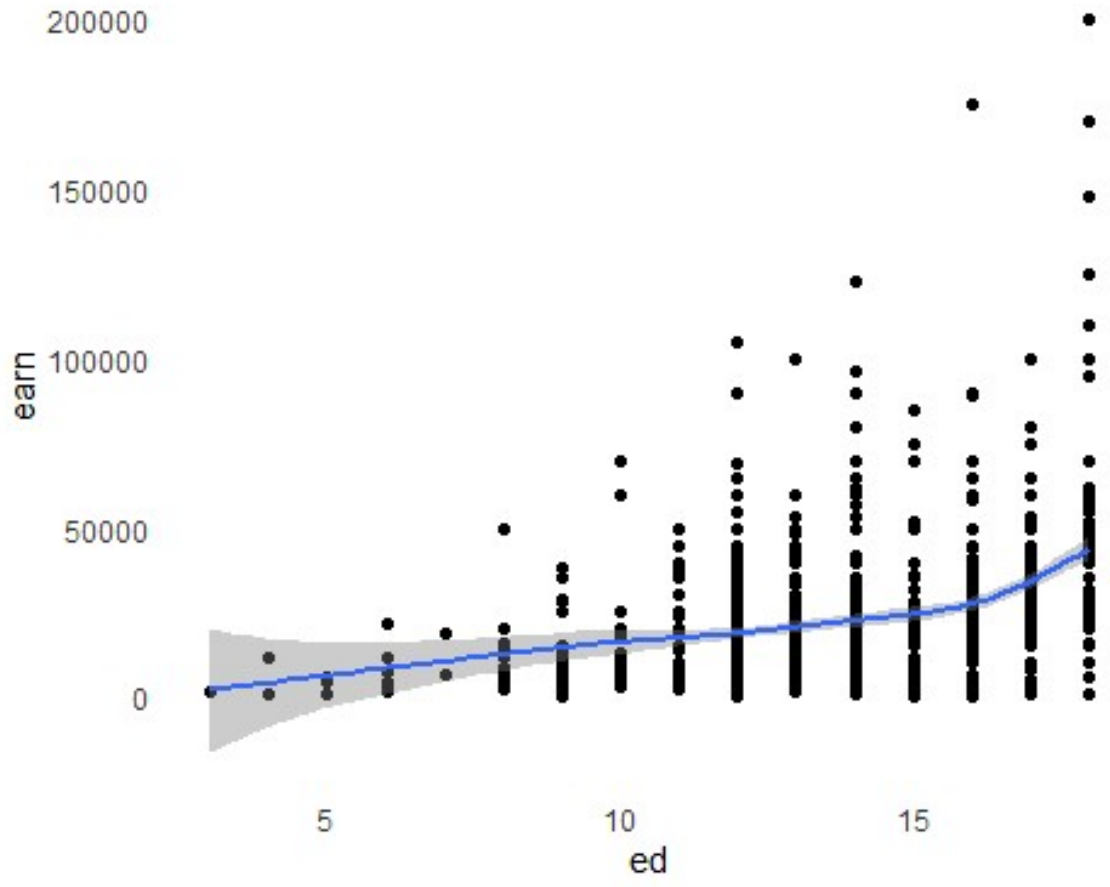



```
## `age` vs. `earn`
ggplot(heights_df, aes(x=age, y=earn)) + geom_point() + geom_smooth()

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

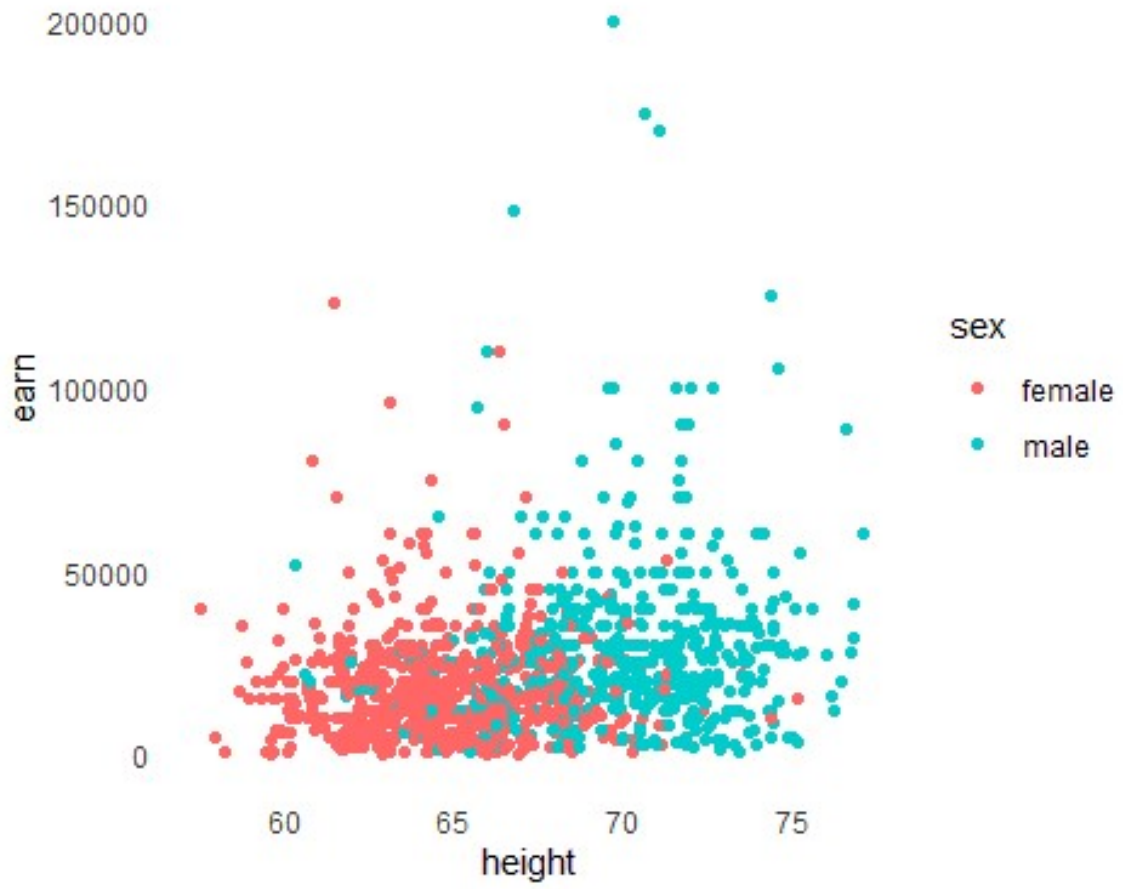



```
## `ed` vs. `earn`
ggplot(heights_df, aes(x=ed, y=earn)) + geom_point() + geom_smooth()
```

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



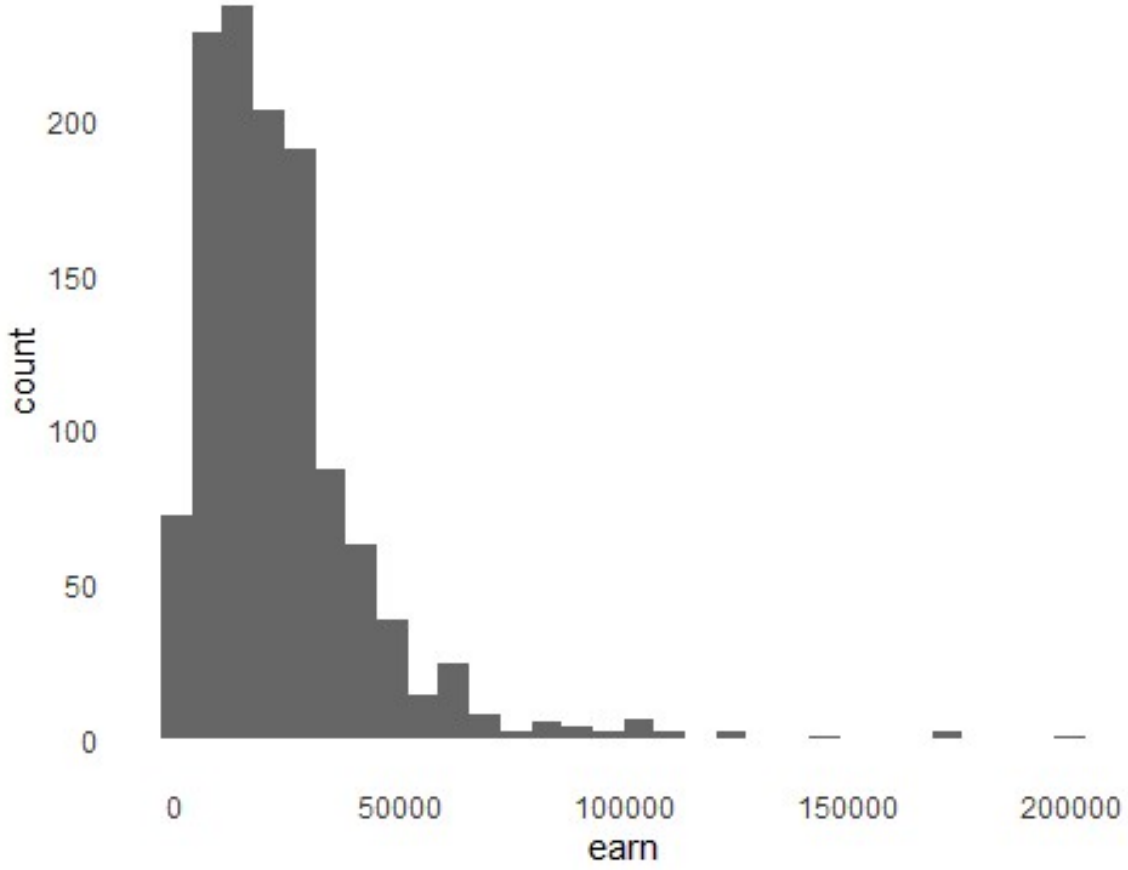

```
## Create a scatterplot of `height`` vs. `earn`.  Use `sex` as the
`col` (color) attribute
ggplot(heights_df, aes(x=height, y=earn, col=sex)) + geom_point()
```



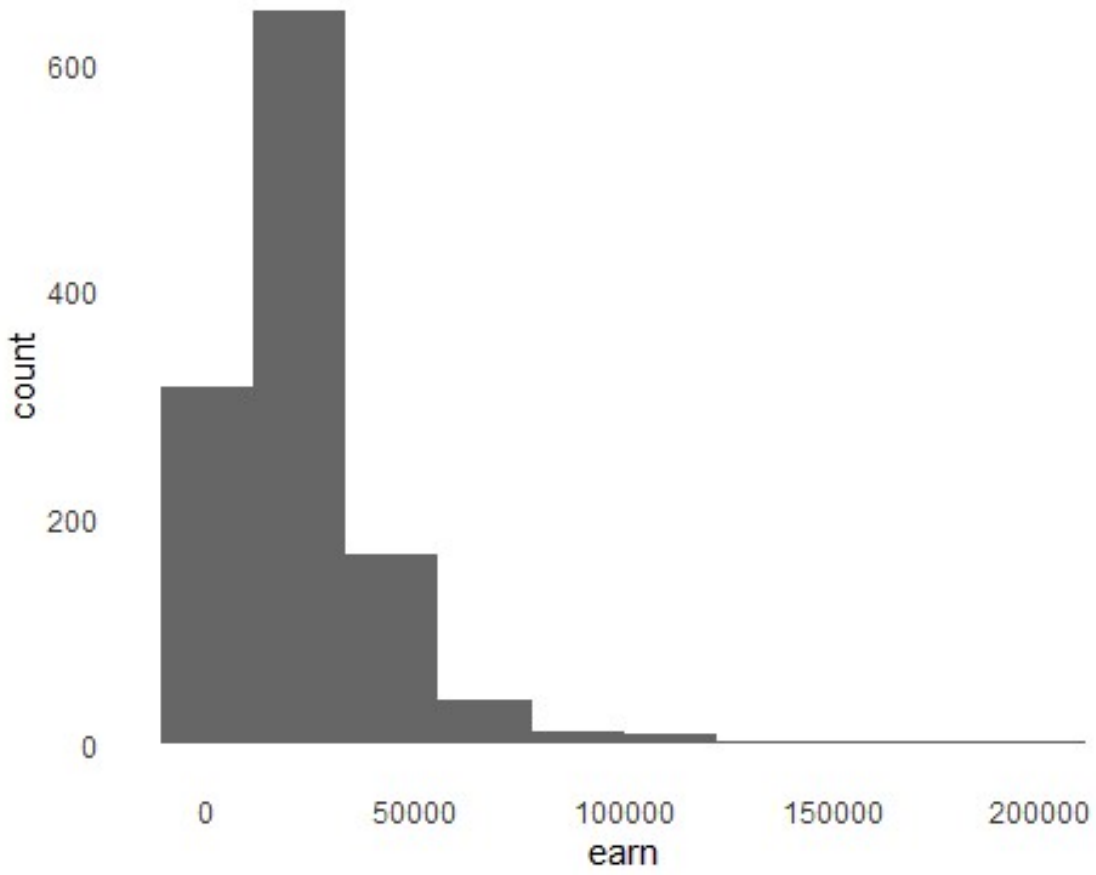

```
## Using `ggtitle()`, `xlab()`, and `ylab()` to add a title, x label,
and y label to the previous plot
## Title: Height vs. Earnings
## X label: Height (Inches)
## Y Label: Earnings (Dollars)
ggplot(heights_df, aes(x=height, y=earn, col=sex)) + geom_point() +
ggtitle("Height vs. Earnings") + xlab("Height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

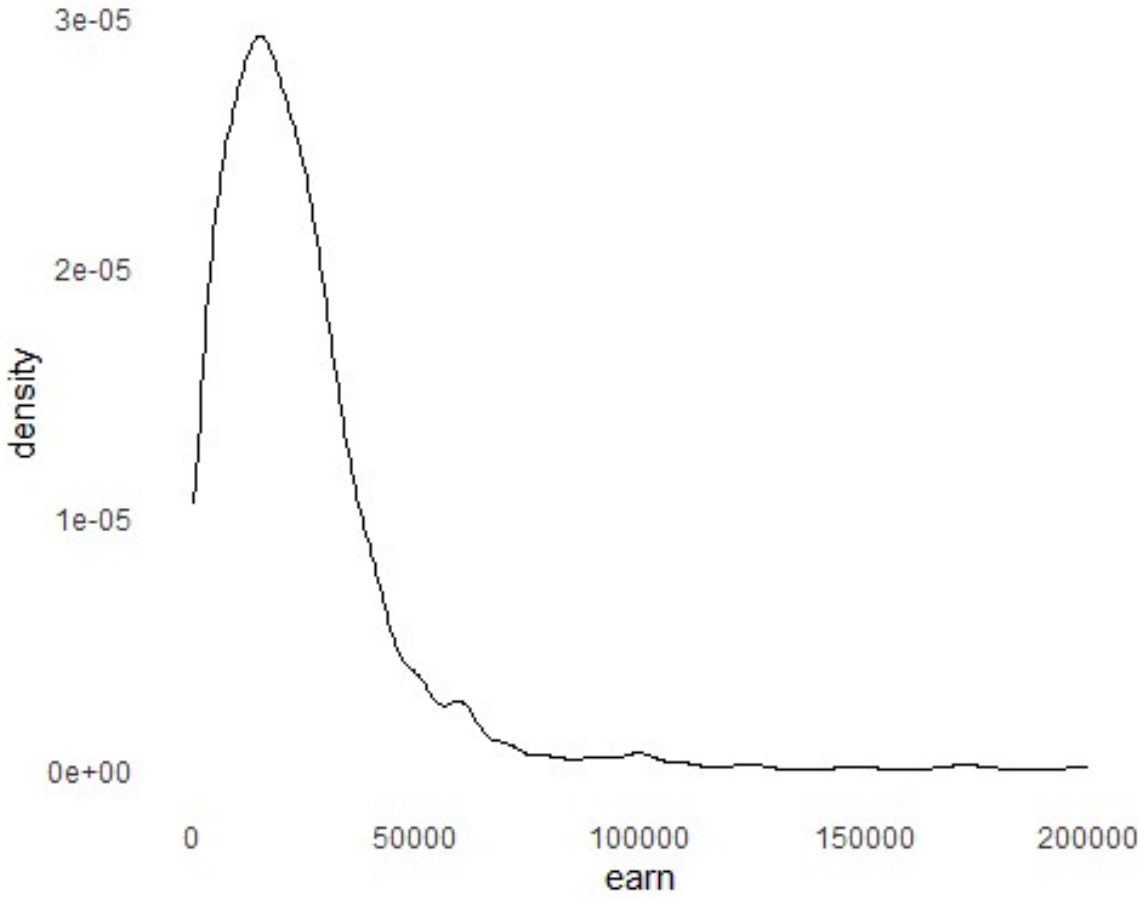
```
## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```




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


3e-05
2e-05
1e-05
0e+00
density
0
50000
100000
150000
200000
earn