assignment_05_ChattapadhyayKausik.R

kausik

2022-10-10

```r
# Assignment: ASSIGNMENT 5
# Name: Chattapadhyay, Kausik
# Date: 2022-10-11

## Set the working directory to the root of your DSC 520 directory
setwd("/Users/kausik/desktop/MS Data Science/DSC 520/dsc520-stats-r-assignments")

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

```r
## Using `cor()` compute correlation coefficients for
## height vs. earn
cor(heights_df$height, heights_df$earn)
```

```
## [1] 0.2418481
```

```r
### age vs. earn
cor(heights_df$age, heights_df$earn)
```

```
## [1] 0.08100297
```

```r
### ed vs. earn
cor(heights_df$ed, heights_df$earn)
```

```
## [1] 0.3399765
```

```r
## Spurious correlation
## The following is data on US spending on science, space, and technology in millions of today's dollar
## and Suicides by hanging strangulation and suffocation for the years 1999 to 2009
## Compute the correlation between these variables
```

```r
tech_spending <- c(18079, 18594, 19753, 20734, 20831, 23029, 23597, 23584, 25525, 27731, 29449)
suicides <- c(5427, 5688, 6198, 6462, 6635, 7336, 7248, 7491, 8161, 8578, 9000)

spending_df <- data.frame(tech_spending=tech_spending, suicides=suicides)
cor(spending_df$tech_spending, spending_df$suicides)
```

```
## [1] 0.9920817
```