May 1, 2022

The results below are generated from an R script.

```
# Assignment: ASSIGNMENT 5
# Name: Par, Janine
# Date: 2022-04-30


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

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

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

## [1] 0.2418481

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

## [1] 0.08100297

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

## [1] 0.3399765

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

cor(x=tech_spending,y=suicides,use="all.obs", method = "pearson")
```

```
## [1] 0.9920817

cor(x=tech_spending,y=suicides,use="all.obs", method = "spearman")

## [1] 0.9727273

cor(x=tech_spending,y=suicides,use="all.obs", method = "kendall")

## [1] 0.9272727
```

The R session information (including the OS info, R version and all packages used):

```
sessionInfo()

## R version 4.1.3 (2022-03-10)
## Platform: x86_64-w64-mingw32/x64 (64-bit)
## Running under: Windows 10 x64 (build 19043)
##
## Matrix products: default
##
## locale:
## [1] LC_COLLATE=English_United States.1252  LC_CTYPE=English_United States.1252
## [3] LC_MONETARY=English_United States.1252 LC_NUMERIC=C
## [5] LC_TIME=English_United States.1252
##
## attached base packages:
## [1] stats     graphics  grDevices utils     datasets  methods   base
##
## other attached packages:
## [1] ppcor_1.1   MASS_7.3-55
##
## loaded via a namespace (and not attached):
##  [1] digest_0.6.29   magrittr_2.0.2  evaluate_0.15   highr_0.9       rlang_1.0.2
##  [6] stringi_1.7.6   cli_3.2.0       rmarkdown_2.13  tools_4.1.3     stringr_1.4.0
## [11] tinytex_0.38    xfun_0.30       yaml_2.3.5      fastmap_1.1.0   compiler_4.1.3
## [16] htmltools_0.5.2 knitr_1.38

Sys.time()

## [1] "2022-05-01 14:47:43 CDT"
```