Rmd Assignment Raw Code
HTML link: https://rpubs.com/theoKoby/759525

file:///Users/Robyn/Documents/Bellevue%20University%20Classes/DSC520/assignments/assignment04/assignment_04_Koby-HercskyTheodore.html

````
---
title: "ASSIGNMENT 4"
author: "Theodore Koby-Hercsky"
date: '2021-04-20'
output:
  html_document: default
  word_document: default
  pdf_document: default
bibliography: bibliography.bib
---

# Markdown Basics

```{r setup, include=FALSE}
#load packages needed
pkgs <- c("moments", "ggplot2", "dplyr", "tidyr", "tidyverse")
install.packages(pkgs, repos = "http://cran.us.r-project.org")
install.packages("lmtest", repos = "http://cran.us.r-project.org")
install.packages("weatherData",repos = "http://cran.us.r-project.org")
options(repos = c(CRAN = "http://cran.rstudio.com"))
library(rmarkdown)
library(readr)
# installed pander and created a pandoc grid table
install.packages("pander")
library(pander)
#chunk options
knitr::opts_chunk$set(
	error = TRUE,
	fig.align = "center",
	message = FALSE,
	warning = FALSE,
	out.width = "90%",
	size = "small",
	tidy = FALSE
)
```
````

Favorite Foods
1. pasta
2. pizza
3. chicken

Images
![`All Cases (Log Plot)`](plots/10-all-cases-log.png)

Add a Quote
> "Effort and courage are not enough without purpose and direction."
>

> --- JFK

Add an Equation

$$\frac{4z^3}{16}$$
Add a Footnote

^[This is my footnote.]

Add Citations

* R for Everyone

Ordered lists start each line with a number (any number or letter) and a period. Lists can be nested by indenting certain item in the list @lander2014r

* Discovering Statistics Using R

The ggplot2 function has some built-in functions called 'stats' that can be used a geom to get the necessary values to plot, or used directly to create visual elements on a layer of a plot @field2012r

Inline Code
```{r Covid, include=FALSE}
#load the ggplot2 from the library
library(ggplot2)
heights_df <- read_csv("data/r4ds/heights.csv")
covid_df <- read_csv("data/nytimes/covid-19-data/us-states.csv")
california_df<- covid_df[ which( covid_df$state == "California"), ]
ny_df <- covid_df[ which( covid_df$state == "New York"), ]
florida_df <- covid_df[ which( covid_df$state == "Florida"), ]
```

```

## NY Times COVID-19 Data
```{r log scale, echo=FALSE}
#generate the log scale plot from the NY time covid-19 data
ggplot(data=florida_df, aes(x=date, group=1)) + geom_line(aes(y = cases, colour = "Florida")) +
geom_line(data=ny_df, aes(y = cases,colour="New York")) + geom_line(data=california_df,
aes(y = cases, colour="California")) + scale_colour_manual("", breaks = c("10,000", "20,000",
"30,000"), values = c("Florida"="darkred", "New York"="darkgreen", "California"="steelblue")) +
xlab(" ") + ylab("Cases") + scale_y_log10()
```

R4DS Height vs Earnings
```{r height, echo=FALSE}

ggplot(heights_df, aes(x=height, y=earn, col=sex)) + geom_point(aes(alpha=age)) +
ggtitle("Height vs. Earnings") + xlab("Height (Inches)") + ylab("Earnings (Dollars)")
```


Tables
```{r rings, include=FALSE}
#creating the character data frame from data from a previous exercise
age <- c(88, 129, 51, 7000, 36, 2019, 2931, 7052, 589)
name <- c("Aragon", "Bilbo", "Frodo", "Galadriel", "Sam", "Gandalf", "Legolas", "Sauron",
"Gollum")
race <- c("Men", "Hobbit", "Hobbit", "Elf", "Hobbit", "Maia", "Elf", "Maia", "Hobbit")
in_fellowship <- c(TRUE, FALSE, TRUE, FALSE, TRUE, TRUE, TRUE, FALSE, FALSE)
ring_bearer <- c(FALSE, TRUE, TRUE, FALSE, TRUE, TRUE, FALSE, TRUE, TRUE)
#created a data frame from the values above
characters_df <- data.frame(name, race, in_fellowship, ring_bearer, age)
#installing package webshot and phantomjs that is needed for knitr Table
install.packages("webshot")
webshot::install_phantomjs
#Used knitr with kable to create a table of the Lord of the Rings characters from the character
data frame
```

Knitr Table with Kable
```{r one, echo=FALSE}
knitr::kable(head(characters_df), caption = "One Ring to Rule Them All")
```
```

Pandoc Table
```{r character, echo=FALSE}
pandoc.table(characters_df, style = "rmarkdown")
```

References
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bibliography:C:Documents/Bellevue University Classes/Statistics for Data Science/dsc520/assignments/assignment04/bibliography.bib

@book{lander2014r,
  title={R for Everyone: Advanced Analytics and Graphics},
  author={Lander, J.P.},
  isbn={9780321888037},
  lccn={2013027407},
  series={Addison-Wesley data and analytics series},
  url={https://books.google.com/books?id=3eBVAgAAQBAJ},
  year={2014},
  publisher={Addison-Wesley}}

@book{field2012r,
  title={Discovering Statistics Using R},
  author={Field, A.; Miles, J.; Field, Z.},
  isbn={9781446258460},
  lccn={1446258467},
  series={},
  url={https://books.google.com/books?id=wd2K2zC3swIC.},
  year={2012},
  publisher={SAGE Publications}}
