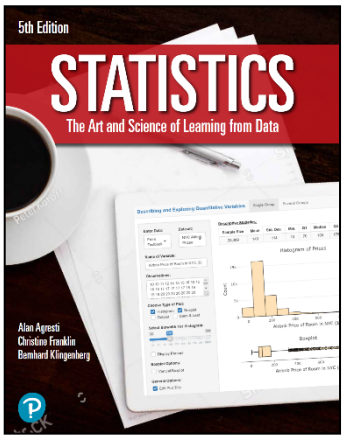

R Code for Examples in the book
"Statistics: The Art and Science of Learning from Data"
by Agresti, Franklin and Klingenberg, 5th edition

Chapter 15

Example 3: Driving Reaction Times – Wilcoxon Test: Finding Ranks

Reading in data:

```
reactionTimes <-
read.csv(file='https://raw.githubusercontent.com/artofstat/data/master/Chapter15/reaction_time_long.csv')
head(reactionTimes)
```

```
##   Student   group response
## 1       1 control      557
## 2       1   phone      636
## 3       2 control      572
## 4       2   phone      623
## 5       3 control      457
## 6       3   phone      615
```

To assign ranks to the values

```
reactionTimes$Rank <- rank(reactionTimes $response)
```

To subset the data

```
phoneRanks <- subset(reactionTimes, group == 'phone')$Rank
controlRanks <- subset(reactionTimes, group == 'control')$Rank
```

To perform a Wilcoxon test

```
wilcox.test(phoneRanks, controlRanks)
```

```
##
##  Wilcoxon rank sum test with continuity correction
##
## data:  phoneRanks and controlRanks
## W = 688, p-value = 0.01844
## alternative hypothesis: true location shift is not equal to 0
```