Class 06 Homework

Section 1: Improving analysis code by writing functions

A. Can you improve this analysis code?

```
df <- data.frame(a=1:10, b=seq(200,400,length=10),c=11:20,d=NA)
df$a <- (df$a - min(df$a)) / (max(df$a) - min(df$a))
df$b <- (df$b - min(df$b)) / (max(df$b) - min(df$b))
df$c <- (df$c - min(df$c)) / (max(df$c) - min(df$c))
df$d <- (df$d - min(df$d)) / (max(df$d) - min(df$d))
```

First use x where possible to simplify

`x <- (x - min(x)) / (max(x) - min(x))`

…then add range function (column 1=min, 2=max)

`rng <- range(x) x <- (x - rng[1]) / (rng[2] - rng[1])`

Here is the full rescale function, which will redistribute a data set "x" across a scale from 0 to 1, dropping the lowest value in vector x then dividing by the range.

```
rescale <- function(x) {
  rng <- range(x)
  (x - rng[1]) / (rng[2] - rng[1])
}

rescale(1:10)
```

```
[1] 0.0000000 0.1111111 0.2222222 0.3333333 0.4444444 0.5555556 0.6666667
[8] 0.7777778 0.8888889 1.0000000
```