Tools for Reproducible Research
Homework, 13 March 2015

Using the principles from today's lecture, Writing clear code, write an R function or two that doesn't something you consider interesting or useful.

For example, you might do one of the following:

- Pull out a bit of R code from a current project and re-write it as a more generally useful function.
- Write a function that simulates data from some model, and a function to plot the data.
- Write a function that simulates one-dimensional Brownian motion, and another function to plot the results.

  $x_0, x_1, x_2, \ldots x_n$ with $x_0 \sim \mathrm{N}(0, 1)$ and $x_i = x_{i-1} + \epsilon_i$, with $\epsilon_i \sim$ iid $\mathrm{N}(0, \sigma^2)$, independent of x_0.

  Or maybe two-dimensional Brownian motion would be more interesting.

I have in mind that you will use this code in subsequent homeworks: turning it into an R package, writing a couple of tests, and writing a vignette. (Ultimately, I'll want you to put it in a GitHub repository and give me read access; ideally, you'll start that now.)