Using the uwIntroStats Package

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Preparing `uwIntroStats`

Before we can dive in and run any analyses, we first need to install the package. This is done via

```
install.packages("uwIntroStats")
```

Regardless of the graphical user interface (GUI) that you are using, R will prompt you to select a CRAN mirror. It is essentially asking you where you want to download the package files from. Select the mirror closest to you - for us at the University of Washington it is `WA(1)` or the Fred Hutchinson Cancer Research Center (FHCRC) - and the package will download and say that it has installed. Now each time we open a new R session (whether that is at the command line, a new RGui window, or a new RStudio window) we need to load the package for use.

Five other packages provide a few key functions that the `uwIntroStats` package uses or adds functionality to. We must install these packages like we did above if we have not installed them previously, and then load `uwIntroStats`. While the packages do not need to be loaded every time (in fact, some are only used for specific functions) it is good practice to load them for the R session where you need to use `uwIntroStats`. This makes sure that we can use their other functions while doing analyses.

```
library(Exact)
library(geepack)
library(plyr)
library(sandwich)
library(survival)
library(uwIntroStats)
```

```
##
## Attaching package: 'uwIntroStats'
##
## The following object is masked from 'package:base':
##
##     tabulate
```

Don't worry about the warning message for now; that will be covered in section 3.2. Last, we load the data, `mri` that we will be using throughout this document. Information about the dataset can be found at mri.pdf. Since the data is part of the package, we can load it via

```
data(mri)
```

The `uwIntroStats` package should be used for descriptive statistics, basic plotting (like scatterplots and boxplots), and regression analyses. The following sections will go through examples of these tasks, in addition to pointing out how our package differs from base R and other existing packages. We will assume familiarity with basic data manipulation and statistical tasks (for a refresher, see "An Introduction to R".