Introduction to the R Statistical Computing Environment
Data in R: Exercises

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1. Read data from various sources into R data frames:

- Directly from the keyboard.
- Using the data editor `fix()`.
- From a text file in which the data values are delimited by white space.
- From a SAS, SPSS, or Stata data file, using the `Import()` function in the **car** package.
- * From an Excel spreadsheet using the `Import()` function in the **car** package. (The file `Prestige.xlsx` is supplied on the website for the lectures.)

2. Explore the properties of various kinds of objects:

- Create a character vector, a numeric vector, a logical vector, a character matrix, a numeric matrix, a factor, a data frame, a list, and a function.
- Apply each of the following functions to these objects: `length()`, `class()`, `mode()`, `typeof()`, and `attributes()`.
- Look at the help files for each of these functions – e.g., `?length`.
- What did you learn?

3. R has a number of "coercion" functions, prefixed with `as.`, and a number of "predicate" functions, prefixed with `is.`: for example, `as.matrix` and `is.matrix`.

- Get a complete list of these functions via the commands `apropos("^as\\.")` and `apropos("^is\\.")`. *Note*: The quoted arguments to `apropos()` are "regular expressions" — a powerful notation for searching text that will be familiar to Unix users; see `?regex` and section 2.4 of the *R Companion* for how regular expressions are used in R.
- Using the objects created in the previous exercise, experiment with (for example) the coercion functions `as.matrix` , `as.vector`, and `as.character`, and with the predicates `is.vector` and `is.character`. What did you learn?