**What's a matrix?**

In R, a matrix is a collection of elements of the same data type (numeric, character, or logical) arranged into a fixed number of rows and columns. Since you are only working with rows and columns, a matrix is called two-dimensional.

You can construct a matrix in R with the [matrix()](http://www.rdocumentation.org/packages/base/functions/matrix) function. Consider the following example:

matrix(1:9, byrow = TRUE, nrow = 3)

In the [matrix()](http://www.rdocumentation.org/packages/base/functions/matrix) function:

* The first argument is the collection of elements that R will arrange into the rows and columns of the matrix. Here, we use 1:9 which is a shortcut for c(1, 2, 3, 4, 5, 6, 7, 8, 9).
* The argument byrow indicates that the matrix is filled by the rows. If we want the matrix to be filled by the columns, we just place byrow = FALSE.
* The third argument nrow indicates that the matrix should have three rows.