Objects

R has five basic or "atomic" classes of objects:

- · character
- numeric (real numbers)
- · integer
- · complex
- logical (True/False)

The most basic object is a vector

- · A vector can only contain objects of the same class
- BUT: The one exception is a *list*, which is represented as a vector but can contain objects of different classes (indeed, that's usually why we use them)

Empty vectors can be created with the vector() function.

Numbers

- Numbers in R a generally treated as numeric objects (i.e. double precision real numbers)
- · If you explicitly want an integer, you need to specify the L suffix
- Ex: Entering 1 gives you a numeric object; entering 1L explicitly gives you an integer.
- There is also a special number Inf which represents infinity; e.g. 1 / 0; Inf can be used in ordinary calculations; e.g. 1 / Inf is 0
- The value Nan represents an undefined value ("not a number"); e.g. 0 / 0; Nan can also be thought of as a missing value (more on that later)

Attributes

R objects can have attributes

- · names, dimnames
- · dimensions (e.g. matrices, arrays)
- · class
- · length
- · other user-defined attributes/metadata

Attributes of an object can be accessed using the attributes() function.