Unit 2: R Vectors

Lecture

This week we describe data types and their implementation as vectors in R (the most fundamental data object in R). We'll focus on important concepts like:

- main **data types** ("atomic types" in R): logical, integer, real, and character
- **creation of vectors**
- **implicit coercion** rules: what R does when you combine values of different data types
- **vectorization**: when R applies calculations or operations to all the elements of a vector (element-wise)
- **recycling**: what R does when you perform a calculation with vectors of different length
- **subsetting** (aka subscripting, subindexing, indexing): the use of single/double brackets to subset (i.e. subscript, index) elements of a vector

Reading

Read the chapters that form Part I of "R Coding Basics":

- https://www.gastonsanchez.com/R-coding-basics/vectors1.html
- https://www.gastonsanchez.com/R-coding-basics/vectors2.html
- https://www.gastonsanchez.com/R-coding-basics/vectors3.html
- https://www.gastonsanchez.com/R-coding-basics/vectors4.html

Lab

You'll practice creating vectors in R, and learning about the concepts described above.

Objectives

At the end of this week you will be able to:

- Describe the four common data types in R, and give examples for them
- Explain why R vectors are said to be atomic objects
- Describe and give an example of the implicit coercion rules
- Describe and give an example of vectorized code
- Describe and give an example of the recycling rule
- Describe and give an example of subsetting (indexing) vectors

Activities

HW1 instructions will be released at the end of this week.