

Learning Goals

- Distinguish between the basic data types in R, including doubles, characters, and logical values.
- Create, manipulate, and coerce vectors while understanding how R recycles shorter vectors.
- Use built-in statistical functions and know how to the basics of index selection.
- Define and work with factors and ordered factors to represent categorical and ordinal data, including setting and renaming levels.

Key Terms and Concepts

1. What is a vector in R?
2. What does R do when you mix data types in a vector?
3. What are categorical variables called in R?
4. What is the difference between a nominal and an ordinal factor?
5. Write the code to create a vector with the values 5, 7, 9, 8
6. Write the code to display the second and forth element for the vector above

For each of the following functions below write down a brief definition of what it does and a basic example

- `c()`
- `class()`
- `typeof()`
- `factor()`
- `levels()`
- `sample()`
- `mean()`
- `sd()`
- `range()`
- `sort()`