

Introduction to Scientific Computing for Biologists

ISCB20.09 - Introduction to R

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Vector

- ▶ Vector is a basic data structure in R.
- ▶ It contains element of the same type.
- ▶ The data types can be logical, integer, double, character, and complex.
- ▶ A vector's type can be checked with the `typeof()` function.

Matrix

- ▶ Matrix is a two dimensional data structure in R programming.
- ▶ Matrix is similar to **vector** but additionally contains the dimension attributes.
- ▶ All attributes of an object can be checked by `attributes()` function.
- ▶ Dimension can be checked by directly with the `dim()` function.

List

- ▶ List is a data structure having components of mixed data types.
- ▶ A vector having all elements of the same type is called atomic vector but a vector having elements of different type is called list.
- ▶ We can check if it's a list with `typeof()` function and find its length using `length()` function.

Factor

- ▶ Factor is a data structure use for fields that takes only predefined, finite number of values(categorical values)

Data Frame

- ▶ Data frame is a two dimensional data structure in R.
- ▶ It is a special case of a `list` which has each component of equal length.
- ▶ Each component from the column and contents of the component from rows.