

Basic R Programming Topics Recap

1. Introduction to R

- What is R?
- Installing R and RStudio
- RStudio interface overview

2. Basic Syntax

- Variables and assignment (`<-`, `=`)
- Comments in R (`#`)
- Data types (numeric, character, logical, etc.)

3. Data Structures

- Vectors
- Lists
- Matrices
- Arrays
- Data Frames
- Factors

4. Operators

- Arithmetic operators (`+`, `-`, `*`, `/`, `^`)
- Relational operators (`<`, `>`, `==`, `!=`, etc.)
- Logical operators (`&`, `|`, `!`)
- Assignment operators (`<-`, `=`, `<<-`)

5. Conditional Statements

- if statement
- if...else
- ifelse() function
- switch() function

6. Loops

- for loop
- while loop
- repeat loop
- break and next statements

7. Functions in R

- Built-in functions (e.g., `sum()`, `mean()`, `length()`)
- Function arguments and return values

8. User-Defined Functions

- Creating functions using `function()`
- Passing arguments
- Return values using `return()`
- Local vs Global scope