



Data Analysis and Visualization Using R

Class 2

Variable, Data Type, Data Structures,
Basic Functions and Descriptive Stats

Type of Variables:

Variable type	Type	Example
integer	Whole numbers	1, 100, -9
numeric	Decimals	0.1, -0.09, 234.567
character	Text	"A", "hello", "welcome"
logical	Booleans	TRUE or FALSE
factor	Categorical	"green", "blue", "red", "purple"

Data Structures:

Structure	Descriptions
vector	1D collection of variables of the same type
List	1D collection of variables of multiple type
matrix	2D collection of variables of the same type
data.frame	2D collection of variables of multiple types
Array	3D collection of variables of the same type
Factors	Characters/string type, groups

Basic Functions and Operators

Operators	Descriptions
Assignment operators	<code><-</code> <code><<-</code> <code>-></code> <code>->></code> <code>= 7x</code>
Addition	<code>+</code>
Subtraction	<code>-</code>
Multiplication	<code>*</code>
Division	<code>/</code>

Basic Functions and Operators

Operators	Descriptions
Equation	$((A + 2 - B) * 3) / 2$
Exponent	\wedge
Logarithm	log
Absolute value	abs
Square Root	sqrt

Data Import/Export

Task	Descriptions
Data Import	<code>D1 <- read.csv(file.choose())</code>
Data Writing	<code>write.csv (D1, file = "Out1.csv")</code>