



Course Overview

Introduction to R

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Highlights



- Know the basics of all the parts of R
- Know how to import and export data
- Know how to go through an entire mini project to test your new skills



Skills

- R programming
- Data analysis
- Data visualization



Topics



The image shows the RStudio interface with a script editor on the left, a console at the bottom, and an environment pane on the right. The script editor contains a simple R script. The console shows the R startup message. The environment pane lists various objects in the global environment, including data frames and lists.

```
1 ls <- list(3,45,62)
2
3 for (i in ls){
4   print(i)
5 }
```

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Type 'license()' or 'licence()' for distribution details.

Natural language support but running in an English locale

R is a collaborative project with many contributors.
Type 'contributors()' for more information and
'citation()' on how to cite R or R packages in publications.

Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.

[workspace loaded from ~/.RData]

R version 4.0.3 (2020-10-10) -- "Bunny-unnies Freak out"
Copyright (C) 2020 The R Foundation for Statistical Computing
Platform: x86_64-w64-mingw32/x64 (64-bit)

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Environment History Connections Tutorial

Global Environment

Data

- anova_latlong List of 13
- anova_location_year List of 13
- comat num [1:15, 1:15] 1 0.2 0.18 0.36 0.22 -0.13 0.15 0.16 0.15 -0.15 ...
- ctrl List of 14
- data 52 obs. of 25 variables
- data_copy 52 obs. of 26 variables
- first_anova List of 12
- fit_glm List of 30
- fit_rf Large randomForest.formula (18 elements, 693.7 kB)
- ggheatmap List of 9
- imp 28 obs. of 1 variable
- lm List of 12
- lm_agriculture_factors List of 23

Files Plots Packages Help Viewer

R: Data Frames

data.frame (base)

Data Frames

Description

The function `data.frame()` creates data frames, tightly coupled collections of variables which share many of the same attributes and are used as the fundamental data structure by most of R's modeling software.

Usage

```
data.frame(..., row.names = NULL, check.rows = FALSE,
            check.names = TRUE, fix.empty.names = TRUE,
            stringsAsFactors = default.stringsAsFactors())
```

`default.stringsAsFactors()` # << this is deprecated !

Arguments

...

these arguments are of either the form `value` or `tag = value`. Component names are created based on the tag (if present) or the deparsed argument itself.

row.names

NULL or a single integer or character string specifying a column to be used as row names, or a character or integer vector giving the row names for the data frame.

check.rows

If TRUE then the rows are checked for consistency of length and names.

check.names

logical. If TRUE then the names of the variables in the data frame are checked to ensure that they are syntactically valid variable names and are not duplicated. If necessary they are adjusted (by `make.names()`) so that they are.



Structure



- Divided into 13 Sections
- Each section will have
 - Short videos each explaining 1 concept
 - a practical exercise
 - A few Multiple Choice questions