Detailed Content

Introduction

Review of R data types and structures
Review of common syntax for accessing data in data frames

Importing Data

Importing data in RStudio
Packages and functions to import data into R
Using code to import data
Importing data from text files (csv)
Importing data from Excel

Workflow in R

Creating reusable scripts

Manipulating Data

The *tidyverse*
Summarising data
Ordering data
Working with dates
Convert character to date
Extract years from dates
Extract months from dates
Extract days from dates
Extract days of the week from dates
Add columns to a data frame
Working with strings
Selecting and reordering columns in a data frame
Selecting rows based on values
Grouping data
Summarising data
Identifying blank values and non-number numbers
Working with data that contains missing values and non-number numbers
Removing missing values from a data set
Replacing values
Concatenate strings
Bin continuous variables into categories

Working with Relational Data

Add new variables to a data frame from another
Mutating joins and merge()
Filtering joins
Exporting data to a file

Basic Exploratory Data Analysis

Choosing the right chart for your goal
Choosing the right chart for your data
Univariate analysis of numeric variables
Univariate analysis of categorical variables
Multivariate analysis of numeric variables
Multivariate analysis of numeric and categorical variables
Multivariate analysis of categorical variables

Univariate Analysis

Exploring the data distribution
Central tendency
Spread
Outliers
Shape of the distribution

Visual Representation of Distributions

Histograms
Boxplots
Dot charts / dot plots
Stem and leaf plots
Bar and column charts

Multivariate Analysis

Scatterplots and scatterplot matrix
Correlations
Bar and column charts

Line charts
Customising charts in R
Other graphics options

Basic Modelling

Modelling for prediction
Create a linear model
How good is the model?
Assumptions
Making predictions from the model