



# R Language Course: RStudio, Reporting

## Introduction to the R language

Introduction  
What is R?  
Discover the analytical aspect  
The business intelligence side of R / RStudio  
The areas of use of R  
Discover RStudio

## Getting started with the RStudio environment

Install RStudio  
Configure RStudio  
Use the console  
Install a package  
Use of aids  
Discover the Markdown

## The basics of the R language

The variables  
The functions  
Calculations  
Evaluate flow conditions and controls  
curls  
Create custom features  
Calculate the execution time  
Data structure: matrix  
Data structure: ts  
Data structure: Date and time  
Data structure: factor  
Work environments

## Manipulate data structures

The vectors  
The lists  
Matrices  
DataFrames

## Draw a parallel between R and a spreadsheet

Adapt in R / RStudio spreadsheet operations.  
Adapt the spreadsheet functions to R / RStudio.  
Import and export data (spreadsheet versus R / RStudio)  
Exploit the best of both software.

## Handling data with R

Importing data  
Exporting data  
Selection and grouping of data

## Case Study: Consolidate the Basics of R Language and RStudio Software

Using tidyverse for more efficiency  
Tidyverse modules: dplyr, ggplot2, tibble, readr, tidyr, purrr  
Data preparation  
Import (and export) datasets.  
Understanding the data (Explore and visualize)  
Process missing values  
Process outliers.  
Model: select, filter, sort, modify, add, delete.  
Manipulate categorical data.  
Manipulate time series.  
Produce PDF, HTML, etc. reports

## View data with R

Realization of graphs with R software  
Customize graphs with R software  
Draw maps with R software

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