

CREATOR: ROSS IHAKA AND ROBERT GENTLEMAN  
YEAR: 1995  
STEADY RELEASE (2020): 3.6.2  
TOP FROM R: DPLYR, GGPLOT2, ESQUISSE, BIO  
CONDUCTOR, SHINY, LUBRDATE, KNITR, TIDYR.

ELEMENTAL LIBRARIES	library( *)
library(dplyr)	> Easy commands
library(ggplot2)	> Generate plots
library(tidyverse)	> Tidy data
library(kableExtra)	> Table visualization
library(knitr)	> Regular exprs.
library(readr)	> Files Reader
library(stringr)	> Strings treatment
install.packages("name")	> Install library
?library	> Documentation

BASIC FUNCTIONS	df and columns
read_csv("file.csv")	> data reader
head(df)	> show first rows
names(df)	> object names
colnames(df)	> columns names
rownames(df)	> rows names
nrow(df)	> number of rows
ncol(df)	> number of cols.
length(df)	> object length
dim(df)	> matrix dimension
summary(df)	> summary by var.
str(df)	> features structure
df\$col	> extracts column
df[1:3, 2:5]	> subdf by index
df[, c(1:3, 5)]	> columns by index
typeof(col)	> column type

MULTI-FILES LOADER	file_01.csv
files <- list.files(pattern = "file_*.csv") %>%	
lapply(files, read_csv) %>%	
bind_rows()	

DATA FRAMES ACTIONS	dplyr & tidyr
DPLYR FUNCTIONS	df %>% function
rename(c_new = c1)	> rename columns
select(col)	> select column
select(-col)	> drop column
filter(c == "value")	> select rows
mutate(col = (c1+2))	> column mutations
transmute(c1=c, c2=c/2)	> drop & built cols
arrange(des(c1))	> order by column
join(df2)	> join 2 data frames
group_by(col)	> silent grouping
summarise(c* = max(c))	> after grouping
TIDYR FUNCTIONS	df %>% function

gather("key", "value", 2:4)	> wide to long df
spread("key", "value")	> long to wide df
unite(col, '-', c1, c2)	> join 2 columns
separate(col, c(c1, c2), 'symbol')	> split col by symbol
full_seq(c(1, 3, 4), step)	> complete sequence
separate_rows(c, sep = '&')	> split values in row
fill(column)	> fill NAs in column
replace_na("var")	> replace NA for var
drop_na()	> drop rows with NA

GGPLOT2	data(aes) + geom + labels
ggplot(data = df, aes(x_col, y_col)) + geom()	
canvas + layer +...+ labs	> general structure
ggplot(data = df)	> canvas level
aes(x_col, y_col)	> aesthetics
geom_point()	> geometry level
AESTHETICS	aes(*)
x_col, y_col	> sets x,y elements
label=labels	> set ticks labels
color	> sets color values
alpha	> sets the opacity
fill = 'color'	> sets the filled color
shape = class	> set groups by class
group = class	> sets plot by class
shape	> geometry shape
size = 4	> sets the size
stroke	> set boundary line
GEOMETRIES	ggplot() + geom
geom_point()	> simple points
geom_bar()	> bars chart
geom_smooth()	> Inserts a function
jitter_geom()	> points no overlap
geom_density()	> continuous funct.
geom_text()	> plot text inside
geom_segment()	> Plots a segment
stat_function()	> inserts function
geom_boxplot()	> box plot
LABELS	ggplot() + labs(*)
title	> main title
subtitle	> subtitle
x	> x label
y	> y label
color	> color
caption	> reference