001-Basics

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1 TP 01 - R Basics - 1/4

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- Based on https://www.w3schools.com/r/default.asp

1.1 About

- R is a programming language for statistical computing and data visualization. It has been adopted in the fields of data mining, bioinformatics, and data analysis.

- The core R language is augmented by a large number of extension packages, containing reusable code, documentation, and sample data.

- R software is open-source and free software. It is licensed by the GNU Project and available under the GNU General Public License.It is written primarily in C, Fortran, and R itself. Precompiled executables are provided for various operating systems.

- As an interpreted language, R has a native command line interface. Moreover, multiple third-party graphical user interfaces are available, such as RStudio—an integrated development environment—and Jupyter—a notebook interface.

1.2 Hello, World!

```r
# Your 1st line
print("Hello World!")
```

```r
# Using a variable
txt < -"Hello World!"
print(txt)
```

```r
# '<-' is the same than '='
txt = "Hello World!"
print(txt)
```

```r
# Concatenate 2 strings
text1 < -"R is"
# or text1 = "R is"
text2 < -"awesome"
paste(text1, text2)
```

1.3 Simple Maths operations

```
3+3 # Addition
3-3 # Subtraction
3*3 # Multiplication
3/3 # Division
3^3 # Exponentiation
3%%3 # Modulus / remainder
3%/%3 # Integer division
```

```
# A very basic error
num < -5
num = 5
text < -"Some text"
num + text
# Not possible to cat text and num
```

1.4 Variable names

```
# Legal variable names:
myvar <- "John"
my_var <- "John"
myVar <- "John"
MYVAR <- "John"
myvar2 <- "John"
.myvar <- "John"
```

```
# Illegal variable names:
# 2myvar <- "John"
# my-var <- "John"
# my var <- "John"
# _my_var <- "John"
# my_v@ar <- "John"
# TRUE <- "John"
```