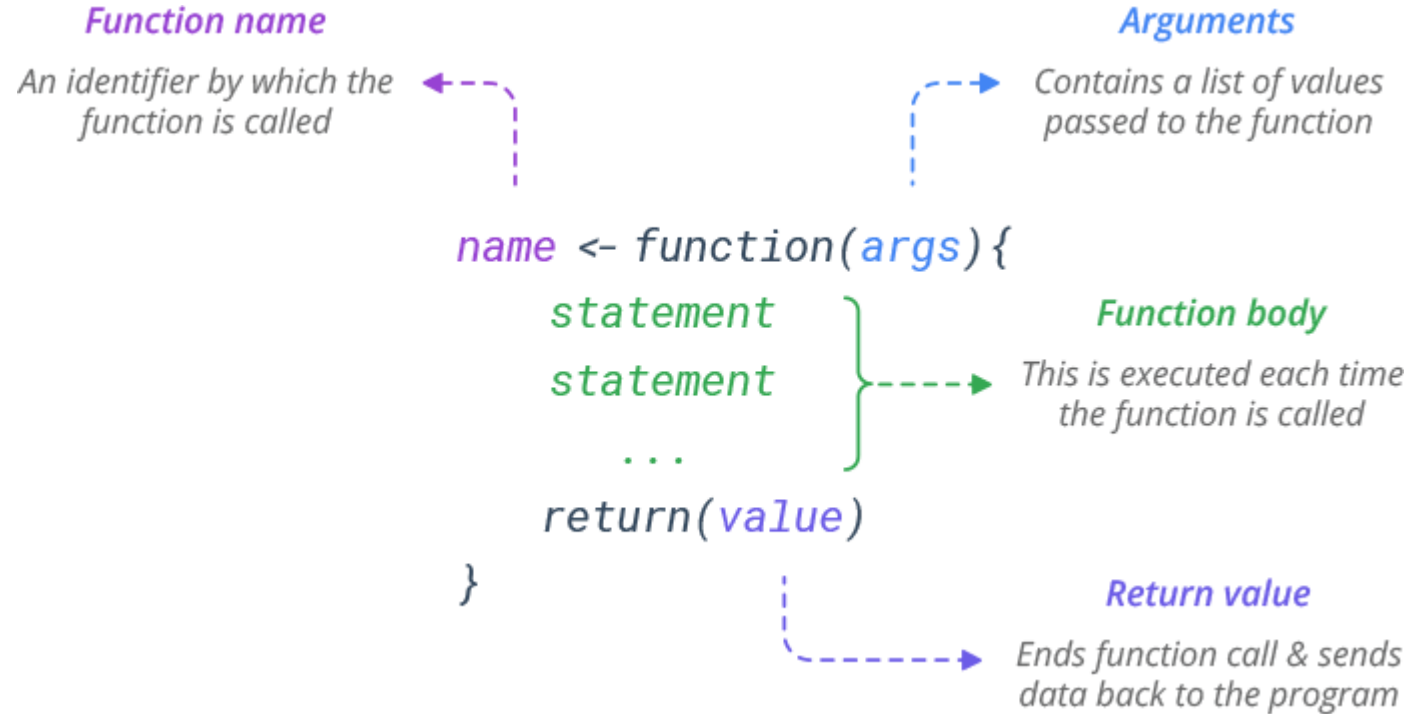# Applied Statistics for Data Scientists with R

Class 05: Functions & Introduction to Packages

Learning Objective

1. Create your own functions

2. Install and use openly available packages

Function

Function name

An identifier by which the function is called

Arguments

Contains a list of values passed to the function

```
name <- function(args){
        statement
        statement
        ...
    return(value)
}
```

Function body

This is executed each time the function is called

Return value

Ends function call & sends data back to the program

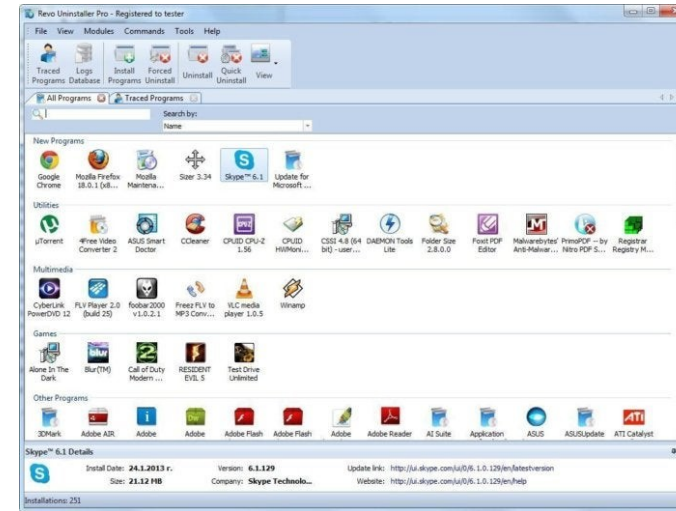# Functions – Different features to use

- Set default values

- Return single and multiple outputs

- Invisible return

- Ellipsis

- Function as argument

- Many more

Packages: Why do you need it?

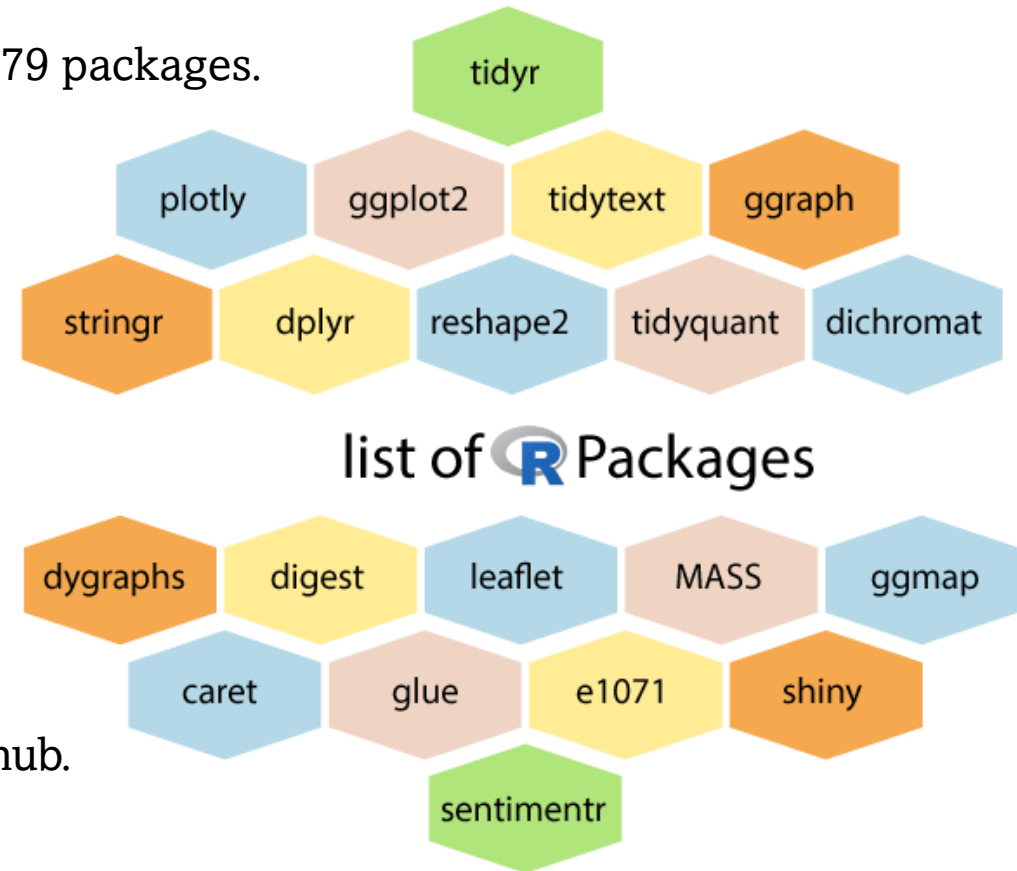You have laptop   You install software

You have R   You install packages

R Packages

As of 12 Dec 2024, the CRAN package repository features 21,779 packages.

See more: https://cran.r-project.org/web/packages/

list of R Packages

```
install.packages()  to install packages from CRAN.
devtools::install_github()  to install packages from Github.
```

R Packages for Data Science

R packages for data science

The tidyverse is an opinionated **collection of R packages** designed for data science. All packages share an underlying design philosophy, grammar, and data structures.

Install the complete tidyverse with:

```
install.packages("tidyverse")
```