Guide-To-R-Book.pdf

Page no.23

**Installing Packages:**

Install.packages(“package\_name”) 🡪 It installs package from CRAN repository.

Library(package\_name) 🡪 call the package.

Once installed a package in one session, then just do

library(package\_name) in other sessions.

First.R #### Tidyverse ####

also installing the dependencies ‘sys’, ‘bit’, ‘ps’, ‘farver’, ‘labeling’, ‘RColorBrewer’, ‘viridisLite’, ‘rematch’, ‘askpass’, ‘bit64’, ‘prettyunits’, ‘processx’, ‘backports’, ‘generics’, ‘blob’, ‘DBI’, ‘tidyselect’, ‘withr’, ‘data.table’, ‘gtable’, ‘isoband’, ‘S7’, ‘scales’, ‘gargle’, ‘uuid’, ‘cellranger’, ‘curl’, ‘ids’, ‘rematch2’, ‘cpp11’, ‘pkgconfig’, ‘openssl’, ‘timechange’, ‘utf8’, ‘systemfonts’, ‘textshaping’, ‘clipr’, ‘crayon’, ‘vroom’, ‘tzdb’, ‘progress’, ‘callr’, ‘selectr’, ‘broom’, ‘conflicted’, ‘dbplyr’, ‘dplyr’, ‘dtplyr’, ‘forcats’, ‘ggplot2’, ‘googledrive’, ‘googlesheets4’, ‘haven’, ‘hms’, ‘httr’, ‘lubridate’, ‘modelr’, ‘pillar’, ‘purrr’, ‘ragg’, ‘readr’, ‘readxl’, ‘reprex’, ‘rstudioapi’, ‘rvest’, ‘tibble’, ‘tidyr’, ‘xml2’

There is a binary version available but the

source version is later:

binary source needs\_compilation

hms 1.1.3 1.1.4 FALSE

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/sys\_3.4.3.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/bit\_4.6.0.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/ps\_1.9.1.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/farver\_2.1.2.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/labeling\_0.4.3.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/RColorBrewer\_1.1-3.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/viridisLite\_0.4.2.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/rematch\_2.0.0.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/askpass\_1.2.1.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/bit64\_4.6.0-1.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/prettyunits\_1.2.0.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/processx\_3.8.6.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/backports\_1.5.0.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/generics\_0.1.4.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/blob\_1.2.4.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/DBI\_1.2.3.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/tidyselect\_1.2.1.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/withr\_3.0.2.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/data.table\_1.17.8.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/gtable\_0.3.6.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/isoband\_0.2.7.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/S7\_0.2.0.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/scales\_1.4.0.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/gargle\_1.6.0.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/uuid\_1.2-1.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/cellranger\_1.1.0.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/curl\_7.0.0.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/ids\_1.0.1.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/rematch2\_2.1.2.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/cpp11\_0.5.2.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/pkgconfig\_2.0.3.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/openssl\_2.3.4.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/timechange\_0.3.0.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/utf8\_1.2.6.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/systemfonts\_1.3.1.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/textshaping\_1.0.4.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/clipr\_0.8.0.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/crayon\_1.5.3.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/vroom\_1.6.6.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/tzdb\_0.5.0.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/progress\_1.2.3.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/callr\_3.7.6.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/selectr\_0.4-2.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/broom\_1.0.10.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/conflicted\_1.2.0.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/dbplyr\_2.5.1.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/dplyr\_1.1.4.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/dtplyr\_1.3.2.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/forcats\_1.0.1.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/ggplot2\_4.0.0.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/googledrive\_2.1.2.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/googlesheets4\_1.1.2.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/haven\_2.5.5.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/httr\_1.4.7.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/lubridate\_1.9.4.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/modelr\_0.1.11.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/pillar\_1.11.1.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/purrr\_1.1.0.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/ragg\_1.5.0.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/readr\_2.1.5.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/readxl\_1.4.5.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/reprex\_2.1.1.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/rstudioapi\_0.17.1.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/rvest\_1.0.5.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/tibble\_3.3.0.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/tidyr\_1.3.1.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/xml2\_1.4.0.zip'

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/tidyverse\_2.0.0.zip'

package ‘sys’ successfully unpacked and MD5 sums checked

package ‘bit’ successfully unpacked and MD5 sums checked

package ‘ps’ successfully unpacked and MD5 sums checked

package ‘farver’ successfully unpacked and MD5 sums checked

package ‘labeling’ successfully unpacked and MD5 sums checked

package ‘RColorBrewer’ successfully unpacked and MD5 sums checked

package ‘viridisLite’ successfully unpacked and MD5 sums checked

package ‘rematch’ successfully unpacked and MD5 sums checked

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package ‘generics’ successfully unpacked and MD5 sums checked

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package ‘DBI’ successfully unpacked and MD5 sums checked

package ‘tidyselect’ successfully unpacked and MD5 sums checked

package ‘withr’ successfully unpacked and MD5 sums checked

package ‘data.table’ successfully unpacked and MD5 sums checked

package ‘gtable’ successfully unpacked and MD5 sums checked

package ‘isoband’ successfully unpacked and MD5 sums checked

package ‘S7’ successfully unpacked and MD5 sums checked

package ‘scales’ successfully unpacked and MD5 sums checked

package ‘gargle’ successfully unpacked and MD5 sums checked

package ‘uuid’ successfully unpacked and MD5 sums checked

package ‘cellranger’ successfully unpacked and MD5 sums checked

package ‘curl’ successfully unpacked and MD5 sums checked

package ‘ids’ successfully unpacked and MD5 sums checked

package ‘rematch2’ successfully unpacked and MD5 sums checked

package ‘cpp11’ successfully unpacked and MD5 sums checked

package ‘pkgconfig’ successfully unpacked and MD5 sums checked

package ‘openssl’ successfully unpacked and MD5 sums checked

package ‘timechange’ successfully unpacked and MD5 sums checked

package ‘utf8’ successfully unpacked and MD5 sums checked

package ‘systemfonts’ successfully unpacked and MD5 sums checked

package ‘textshaping’ successfully unpacked and MD5 sums checked

package ‘clipr’ successfully unpacked and MD5 sums checked

package ‘crayon’ successfully unpacked and MD5 sums checked

package ‘vroom’ successfully unpacked and MD5 sums checked

package ‘tzdb’ successfully unpacked and MD5 sums checked

package ‘progress’ successfully unpacked and MD5 sums checked

package ‘callr’ successfully unpacked and MD5 sums checked

package ‘selectr’ successfully unpacked and MD5 sums checked

package ‘broom’ successfully unpacked and MD5 sums checked

package ‘conflicted’ successfully unpacked and MD5 sums checked

package ‘dbplyr’ successfully unpacked and MD5 sums checked

package ‘dplyr’ successfully unpacked and MD5 sums checked

package ‘dtplyr’ successfully unpacked and MD5 sums checked

package ‘forcats’ successfully unpacked and MD5 sums checked

package ‘ggplot2’ successfully unpacked and MD5 sums checked

package ‘googledrive’ successfully unpacked and MD5 sums checked

package ‘googlesheets4’ successfully unpacked and MD5 sums checked

package ‘haven’ successfully unpacked and MD5 sums checked

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package ‘lubridate’ successfully unpacked and MD5 sums checked

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package ‘pillar’ successfully unpacked and MD5 sums checked

package ‘purrr’ successfully unpacked and MD5 sums checked

package ‘ragg’ successfully unpacked and MD5 sums checked

package ‘readr’ successfully unpacked and MD5 sums checked

package ‘readxl’ successfully unpacked and MD5 sums checked

package ‘reprex’ successfully unpacked and MD5 sums checked

package ‘rstudioapi’ successfully unpacked and MD5 sums checked

package ‘rvest’ successfully unpacked and MD5 sums checked

package ‘tibble’ successfully unpacked and MD5 sums checked

package ‘tidyr’ successfully unpacked and MD5 sums checked

package ‘xml2’ successfully unpacked and MD5 sums checked

package ‘tidyverse’ successfully unpacked and MD5 sums checked

The downloaded binary packages are in

C:\Users\Dell\AppData\Local\Temp\RtmpAxgRkW\downloaded\_packages

installing the source package ‘hms’trying URL 'https://cran.rstudio.com/src/contrib/hms\_1.1.4.tar.gz'

Content type 'application/x-gzip' length 44793 bytes (43 KB)

downloaded 43 KB

\* installing \*source\* package 'hms' ...

\*\* this is package 'hms' version '1.1.4'

\*\* package 'hms' successfully unpacked and MD5 sums checked

\*\* using staged installation

\*\* R

\*\* byte-compile and prepare package for lazy loading

\*\* help

\*\*\* installing help indices

\*\*\* copying figures

\*\* building package indices

\*\* testing if installed package can be loaded from temporary location

\*\* testing if installed package can be loaded from final location

\*\* testing if installed package keeps a record of temporary installation path

\* DONE (hms)

The downloaded source packages are in

‘C:\Users\Dell\AppData\Local\Temp\RtmpAxgRkW\downloaded\_packages’

> library(tidyverse)

── **Attaching core tidyverse packages** ─────────────────

✔ dplyr 1.1.4 ✔ readr 2.1.5

✔ forcats 1.0.1 ✔ stringr 1.5.2

✔ ggplot2 4.0.0 ✔ tibble 3.3.0

✔ lubridate 1.9.4 ✔ tidyr 1.3.1

✔ purrr 1.1.0

── **Conflicts** ──────────────── tidyverse\_conflicts() ──

✖ dplyr::filter() masks stats::filter()

✖ dplyr::lag() masks stats::lag()

ℹ Use the conflicted package to force all conflicts to become errors

> ?diamonds

> View(diamonds)

Page no.65

Refer First.R ### Tidyverse ####

mutate(): Used to **add new columns** or **modify existing ones** in a data frame.

Tibble : data object

Doesn’t have unnecessary info like data.frame like row numbers

Saves space.

Refer First.R ### Tidyverse #### 🡪 # Midwest Dataset

# recode() # Used to **reorder factor levels**, usually for better plotting (e.g., sorting bars by height in a bar chart).

# group\_by() and ungroup() #

6.3.1 summarize() and group\_by()

Let’s say that I want calculate/compare the average Score (and other measures) for males and females

separately:

data %>%

group\_by(Sex) %>%

summarize(m = mean(Score), # calculates the mean

s = sd(Score), # calculates the standard deviation

n = n()) %>% # calculates the total number of observations

ungroup()

## # A tibble: 2 x 4

## Sex m s n

## <chr> <dbl> <dbl> <int>

## 1 female 0.437 0.268 25

## 2 male 0.487 0.268 25

filter() only retain specific rows that meet specified requirments