

# 1 INSTALLING R AND R COMMANDER (Windows)

## 1.1 Installing R (Current version is 3.6.1 as of 2019-07-07)

► NOTE 1: **The instructions in this document are for Windows installation.** ◀

(To install R for Mac OS X, see the footnote.<sup>1</sup>)

► NOTE 2: In some Windows operating systems, the R x64 3.6.1 icon appears in the “START MENU” (lower left corner of the screen). If you right-click on this icon, you can “PIN IT TO START MENU” or “PIN IT TO TASKBAR” for future quick access.

Alternatively, if you prefer to see a desktop icon, do the following: In the “SELECT ADDITIONAL TASKS” window during installation, choose “CREATE A DESKTOP SHORTCUT.” ◀

Here we go:

- Uninstall earlier versions of R and delete all R library folders under Program Files or R folder (if applicable)

- Close all other programs

- Go to

– <http://www.r-project.org/>

- Click

– download R

- Among **CRAN mirrors**, for me, the 0-Cloud link below works well

– <https://cloud.r-project.org/>

- Click

– Download R for Windows

- Click

– install R for the first time

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<sup>1</sup>Installing R for Mac OS X:

- Visit < <https://cran.r-project.org/bin/macosx/> >.
- There is a YouTube video prepared by one of our IT personnel to help you with your Mac OS installation. Thanks, Alex Wang!, < [wangal@mcmaster.ca](mailto:wangal@mcmaster.ca) >.
- The video is here: < <https://www.youtube.com/watch?v=FwiwQXGX1B0&feature=youtu.be> >. It shows the installations of XQuartz, R and then Rcmdr. I hope it works.
- I was told that, as an alternative, Mac users can open a Windows partition and install R there, too.

- Click
    - Download R 3.6.0 for Windows
- and save the file (which will go to your Downloads folder)
- **IMPORTANT:** Install the program to **C: drive**, not to the default folder.
  - When installing, unselect 32-bit Files (if you have Windows 7 or above) and choose
    - Yes (customized startup)

and then choose

- SDI (separate windows)

This above step is important for running Rcmdr smoothly.

Next,

- HTML help
  - As I mentioned above, if you want to see a desktop icon of R, do the following: In the “Select Additional Tasks” window, choose “Create a desktop shortcut.”
- Start R from the icon on the desktop (or the Start Menu).
  - **You will now need to update packages.**
  - Choose

- Packages > Update packages

and select

- 0-Cloud [https] (Or, any other site you prefer).

Follow the instructions to update packages

## 1.2 Installing R Commander (Current version is 2.5-3 as of 2019-06-21)

► **NOTE: The instructions below are for Windows installation.** To install R Commander for Mac OS X, visit <http://socserv.mcmaster.ca/jfox/Misc/Rcmdr/installation-notes.html>.

- Exit R (if it is open) and start R<sup>2</sup>

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<sup>2</sup>Note: If you wish to load the R Commander automatically when R starts up, you can add the following to the Rprofile.site file in R’s ‘etc’ directory: (Use this with care as it may not work on some computers.)

```
local({
  old <- getOption("defaultPackages")
  options(defaultPackages = c(old, "Rcmdr"))
})
```

- The easiest way to install the Rcmdr package is via the command

- `install.packages("Rcmdr")`

This will unpack about 30 or so packages. **This step takes quite a bit of time (several minutes).**

- Note: if you want to see the complete list of (maybe 10,000) packages, enter `install.packages()`
- When you *first* load the Rcmdr package with the command

- `library(Rcmdr)`

it will offer to download and install missing dependencies (with a **terrible noise!**); allow it to do so. (It will, by default, install packages from CRAN.)

- Exit Commander and R.
- Next time you start R, just choose
  - Packages > Load Package > Rcmdr.
  - Or, you can still enter `library(Rcmdr)` to start Rcmdr

This will start the R Commander window and you can start using it now.

- Periodically you should choose
  - Packages > Update Packages.
- Additional help is available here:
  - <http://socserv.mcmaster.ca/jfox/Misc/Rcmdr/>

### 1.3 Installing corrplot (Correlation Plot) Do this, too.

- Install corrplot package from R first by
  - Packages > Install Package(s)...
- After installing corrplot for the first time from R, load it from R by
  - Packages > Load package...

or by

- `library(corrplot)`

or from Rcmdr by

– Tools > Load Package(s)...

- Then generate the `corrmatrix` using Rcmdr by Statistics > Summaries > Correlation matrix...

- Basically, we do this:

– Rcmdr produces a command `cor(Some R commands)`. Write it as,

– `M <- cor(Some R commands) # Just call it M now`

– `corrplot(M, method = "ellipse")`

- Also possible are the commands,

– `corrplot(M, method = "number")`

– `corrplot(M, order = "FPC",method="ellipse") # This orders them, nice!`

## 2 INSTALLING OTHER USEFUL PACKAGES (Windows) — Optional

### 2.1 “Using R” by Verzani

- Install `UsingR` from R by typing

– `install.packages("UsingR",dependencies=TRUE)`

or from R,

– Packages > Install Package(s)...

- Once installed, you can load it from R by

– `library(UsingR),`

or from Rcmdr by

– Tools > Load Package(s)...

This package is useful for plotting confidence and prediction bands, and providing predictions by, e.g., from the `Table3.1Sales-Advertising.csv` file:

```
simple.lm(Dataset$ADVT, Dataset$SALES, show.residuals=TRUE, show.ci=TRUE, pred=c(9,10,11))3
```

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<sup>3</sup>Usage

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`simple.lm(x, y, show.residuals=FALSE, show.ci=FALSE, conf.level=0.95, pred=)`

Arguments

x The predictor variable

y The response variable

show.residuals set to TRUE to plot residuals

show.ci set to TRUE to plot confidence intervals

conf.level if show.ci=TRUE will plot these CI's at this level

pred values of the x-variable for prediction, in the form `pred=c(a,b,c)`