

1 INSTALLING R, R COMMANDER (Rcmdr) and corrplot for Windows

1.1 Installing R (Current version is 4.0.2 as of 2020-07-08)

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

(To install R for Mac OS X, see the footnote.¹)

► NOTE 2: In some Windows operating systems, the R x64 4.0.2 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

¹Installing 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 >.
- 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.

- install R for the first time

- Click

- Download R 4.0.2 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 2.6-2 as of 2020-07-08)

► 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.²
- 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/
```

²Note: 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"))
})
```

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
```

³Usage

`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)`