Hi All,

Thank you for attending this statistical modelling and R workshop.

Before we can start, we need you to do a couple of things!

To being, let's download R and RStudio on your laptop, click on the link below:

https://www.r-project.org/

From here click on the download R link!



Download

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About R Logo

CRAN

The R Project for Statistical Computing

Getting Started

R is a free software environment for statistical control and graphics. It compiles and runs on a wide variety of UNIX platforms, Windows and MacOS. To **download R**, please choose your preferred CRAN mirror.

If you have questions about R like how to download and install the software, or what the license terms are, please read our answers to frequently asked questions before you send an email.

News

- R version 4.0.4 (Lost Library Book) has been released on 2021-02-15.
- Thanks to the organisers of useR! 2020 for a successful online conference. Recorded tutorials and talks from the conference are available on the R Consortium YouTube channel.
- R version 3.6.3 (Holding the Windsock) was released on 2020-02-29.
- · You can support the R Foundation with a renewable subscription as a supporting member

News via Twitter

You'll be redirected to the nearest server, in this case, choose the Manitoba Unix User Group

Canada

https://mirror.rcg.sfu.ca/mirror/CRAN/ https://muug.ca/mirror/cran/ https://mirror.its.dal.ca/cran/ https://utstat.toronto.edu/cran/ Simon Fraser University, Burnaby Manitoba Unix User Group Dalhousie University, Halifax University of Toronto Next, you'll want to download R for the appropriate computer operating software (OS)

| The Comprehensive R Archive Network | | | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|
| Download and Install R | | | | | |
| Precompiled binary distributions of the base system and contributed packages, Windows and Mac users most likely want one of these versions of R: | | | | | |
| Download R for (Mac) OS X Download R for Windows | | | | | |
| R is part of many Linux distributions, you should check with your Linux package management system in addition to the link above. | | | | | |
| Source Code for all Platforms | | | | | |
| Windows and Mac users most likely want to download the precompiled binaries listed in the upper box, not the source code. The sources have to be compiled before you can use them. If you do not know what this means, you probably do not want to do it! | | | | | |
| • The latest release (2021-02-15, Lost Library Book) <u>R-4.0.4.tar.gz</u> , read <u>what's new</u> in the latest version. | | | | | |
| • Sources of <u>R alpha and beta releases</u> (daily snapshots, created only in time periods before a planned release). | | | | | |
| Daily snapshots of current patched and development versions are <u>available here</u> . Please read about <u>new features and bug fixes</u> before filing corresponding feature requests or bug reports. | | | | | |
| Source code of older versions of R is <u>available here</u> . | | | | | |
| Contributed extension packages | | | | | |
| Questions About R | | | | | |
| • If you have questions about R like how to download and install the software, or what the license terms are, please read our <u>answers to frequently asked questions</u> before you send an email. | | | | | |

Then, click on install R for the first time, and download the version that is prompted!



Run the program and choose the appropriate architecture for your computer. For example, if you're using more than 4 gbs of RAM then choose the x64 only. If less, then choose the x32 version only.

Now, let's download Rstudio with the below link:

https://rstudio.com/

Go to the download button



Choose the free version and click the download button for the appropriate OS



Run the program and choose the appropriate architecture for your computer like above!

Now, let's download some packages to R!

To begin, open up RStudio

The interface will look something like this.

Download and open up the script called:

14-03-2021-RCBD-workingscript

From:

What you'll see now is something like this

| U RStudio | | | | |
|-------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------------------------------|---------------------|
| File Edit | Code View Plots Session Build Debug Profile Tools Help | | | |
| 0 - OK | 😅 🗸 🗔 📮 🃥 Go to file/function 🛛 🖽 🖌 Addins 👻 | | | R Project: (None) * |
| | | | | |
| · 14-03 | +2021-RCBD-workingscript.R × | = 0 | Environment History Connections Tutorial | |
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| 2 | #some packages we in need (install only once, then use regularly by turning them on): | <u></u> | R 👻 🐴 Global Environment 👻 | Q, |
| 4 | <pre>#For importing excel files: install.packages(readx])</pre> | | | |
| 5 | install.packages(Rcpp) | | Environment is empty | |
| 6 | area antidan aumandana | | | |
| 8 | install.packages("FSA") | | | |
| 9 | | | | |
| 10 | <pre>#For linear mixed models, including Randomized Complete Block Designs (RCBD)</pre> | | | |
| 12 | inscall.packages(ine+) | | | |
| 13 | #for making publication quality plots: | | | |
| 14 | install.packages("ggplot2") | | | |
| 16 | install.packages("gofortify") | | | |
| 17 | | | | |
| 18 | #Use packages: | | | |
| 20 | library(FSA) | | Files Plots Packages Help Viewer | |
| 21 | library(readx1) | | an an P Zoom P Sport - Q | |
| 22 | library(Rcpp) | | | |
| 24 | library(ggplot2) | | | |
| 25 | | | | |
| 26 | #Eirst things first sat up our working directory | | | |
| 16-20 | (Terland a | 0 faviat a | | |
| 16.30 | (iop zeve) s | K Scipt s | | |
| Console Terminal × Jobs × | | | | |
| Cr/Users/Victor/Downloads/2020-01-30_Desktop_Uni_file/PhD_UoM/R workshop/Stats-examples/03-13-2021-RC8D-final-script/ 🗇 | | | | |
| R vers copyri Platfo | ion 4.0.4 (2021-02-15) "Lost Library Book" ght (c) 2021 The R Foundation for statistical Computing mm:x86_4-M=4a-imign22/x86 (d=-btt) | | | |
| R is f You ar Type | ree software and comes with ABSOLUTELY NO WARRANTY. e welcome to redistribute it under certain conditions. license(): or 'licence()' for distribution details. | | | |
| Natu | ral language support but running in an English locale | | | |
| R is a collaborative project with many contributors. | | | | |
| Type 'citat | contributors()' for more information and ion()' on how to cite R or R packages in publications. | | | |
| туре 'help. туре | demo()' for some demos, 'help()' for on-line help, or start()' for an HTML browser interface to help. q()' to quit R. | | | |
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From here, highlight the portion with names such as "install.packages(...) like above one at a time and then click run!

Or, highlight all of them and click run

Let them do their thing and wait for R to prompt that the packages are installed

Congrats! You're ready to start using R!