Curso de Formación de Personal Investigador
Usuario de Animales para Experimentación

STATISTICAL ANALYSIS IN PRACTICE

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UAB

OBJECTIVE, CONTENTS and METHODOLOGY

- **Objective**: achieve competences in developing and interpreting basic (and very useful) statistical analyses.
- **Contents**:
  - ✓ Exploratory data analysis
  - ✓ Statistical inference
  - ✓ Comparison of two means: t-test; power and sample size
  - ✓ Comparison of k means: ANOVA
  - ✓ Simple regression and correlation
  - ✓ Randomized blocks design and Factorial design
- **Case methodology**, includes: presentation of data, statistical theory, resolution by using a statistical package (R Commander a GUI of R) and interpretation of outputs.

Download R (1)

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

[Home]

Download

CRAN

R Project

About R
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What's New?

The R Project for Statistical Computing

Getting Started

R is a free software environment for statistical computing 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 3.5.2 (Eggshell Igloo)** has been released on 2018-12-20.

CRAN Mirrors

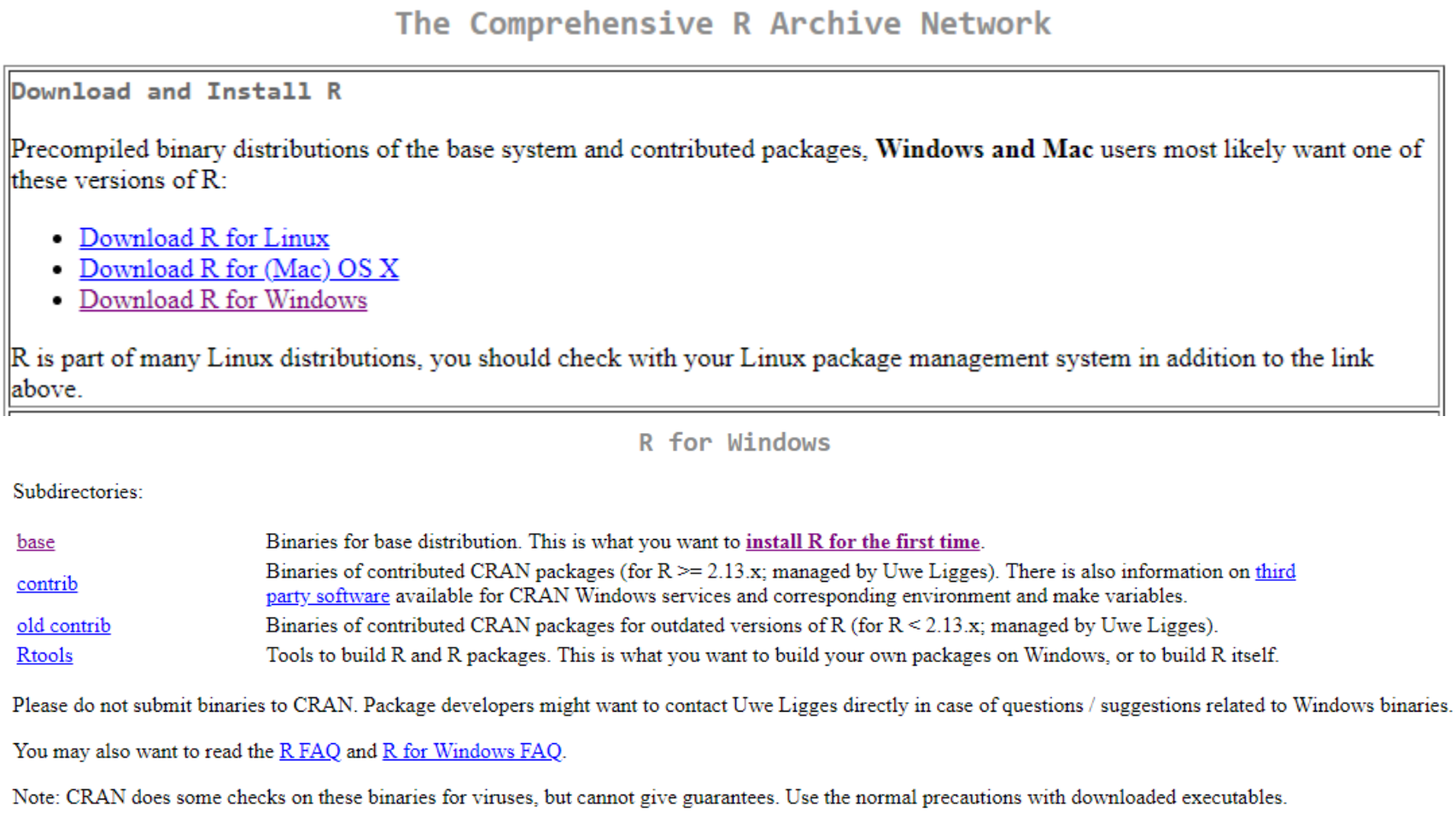
The Comprehensive R Archive Network is available at the following URLs, please choose a location close to you. Some statistics on the status of the mirrors can be found here: main page, windows release, windows old release.

If you want to host a new mirror at your institution, please have a look at the CRAN Mirror HOWTO.

0-Cloud
https://cloud.r-project.org/ Automatic redirection to servers worldwide, currently sponsored by Rstudio

Download R (2)

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



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 Linux
- 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.

R for Windows

Subdirectories:

base	Binaries for base distribution. This is what you want to **install R for the first time**.
contrib	Binaries of contributed CRAN packages (for R >= 2.13.x; managed by Uwe Ligges). There is also information on third party software available for CRAN Windows services and corresponding environment and make variables.
old contrib	Binaries of contributed CRAN packages for outdated versions of R (for R < 2.13.x; managed by Uwe Ligges).
Rtools	Tools to build R and R packages. This is what you want to build your own packages on Windows, or to build R itself.

Please do not submit binaries to CRAN. Package developers might want to contact Uwe Ligges directly in case of questions / suggestions related to Windows binaries.

You may also want to read the R FAQ and R for Windows FAQ.

Note: CRAN does some checks on these binaries for viruses, but cannot give guarantees. Use the normal precautions with downloaded executables.

Download R (3)

R-3.5.2 for Windows (32/64 bit)

Download R 3.5.2 for Windows (79 megabytes, 32/64 bit)

Installation and other instructions
New features in this version

If you want to double-check that the package you have downloaded matches the package distributed by CRAN, you can compare the md5sum of the .exe to the fingerprint on the master server. You will need a version of md5sum for windows: both graphical and command line versions are available.

Frequently asked questions

- Does R run under my version of Windows?
- How do I update packages in my previous version of R?
- Should I run 32-bit or 64-bit R?

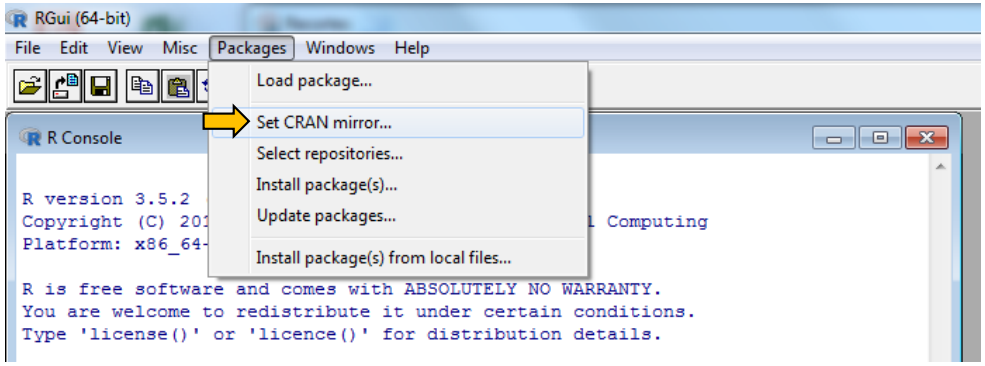
2.28 Should I run 32-bit or 64-bit R?

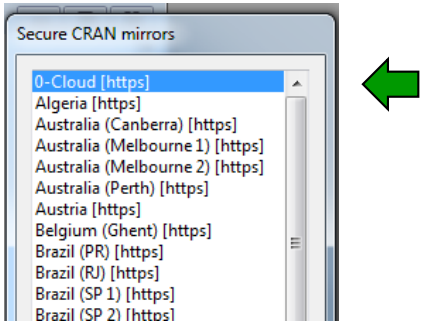
Obviously, only relevant if you are using 64-bit Windows.

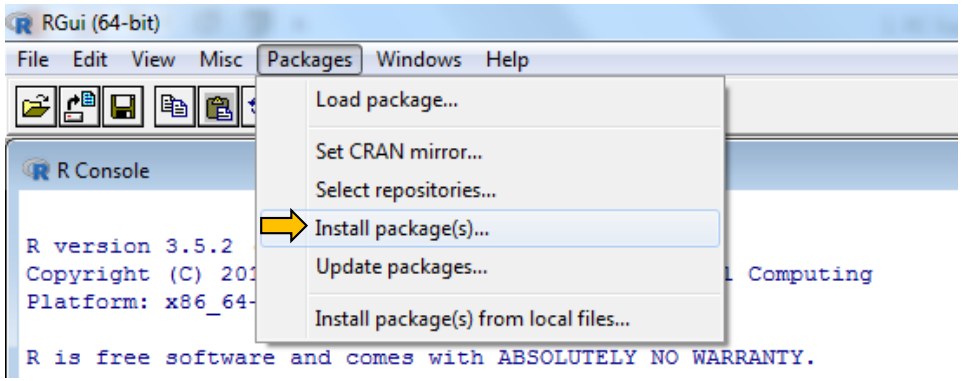
For most users we would recommend using the 'native' build, that is the 32-bit version on 32-bit Windows and the 64-bit version of 64-bit Windows.

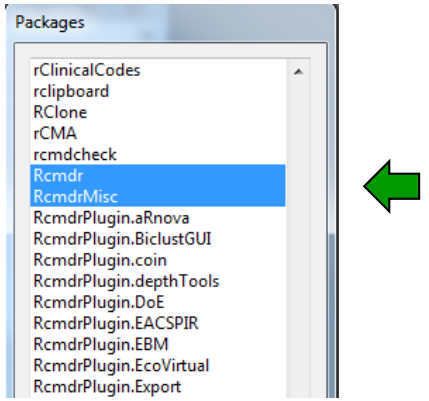
The advantage of a native 64-bit application is that it gets a 64-bit address space and hence can address far more than 4GB (how much depends on the version of Windows, but in principle 8TB). This allows a single process to take advantage of more than 4GB of RAM (if available) and for R's memory manager to more easily handle large objects (in particular those of 1GB or more). The disadvantages are that all the pointers are 8 rather than 4 bytes and so small objects are larger and more data has to be moved around, and that less external software is available for 64-bit versions of the OS. The 64-bit compilers are able to take advantage of extra features of all x86-64 chips (more registers, SSE2/3 instructions, ...) and so the code may run faster despite using larger pointers. The 64-bit build is nowadays usually slightly faster than the 32-bit build on a recent CPU (Intel Core 2 or later or AMD equivalent).

Download R Commander









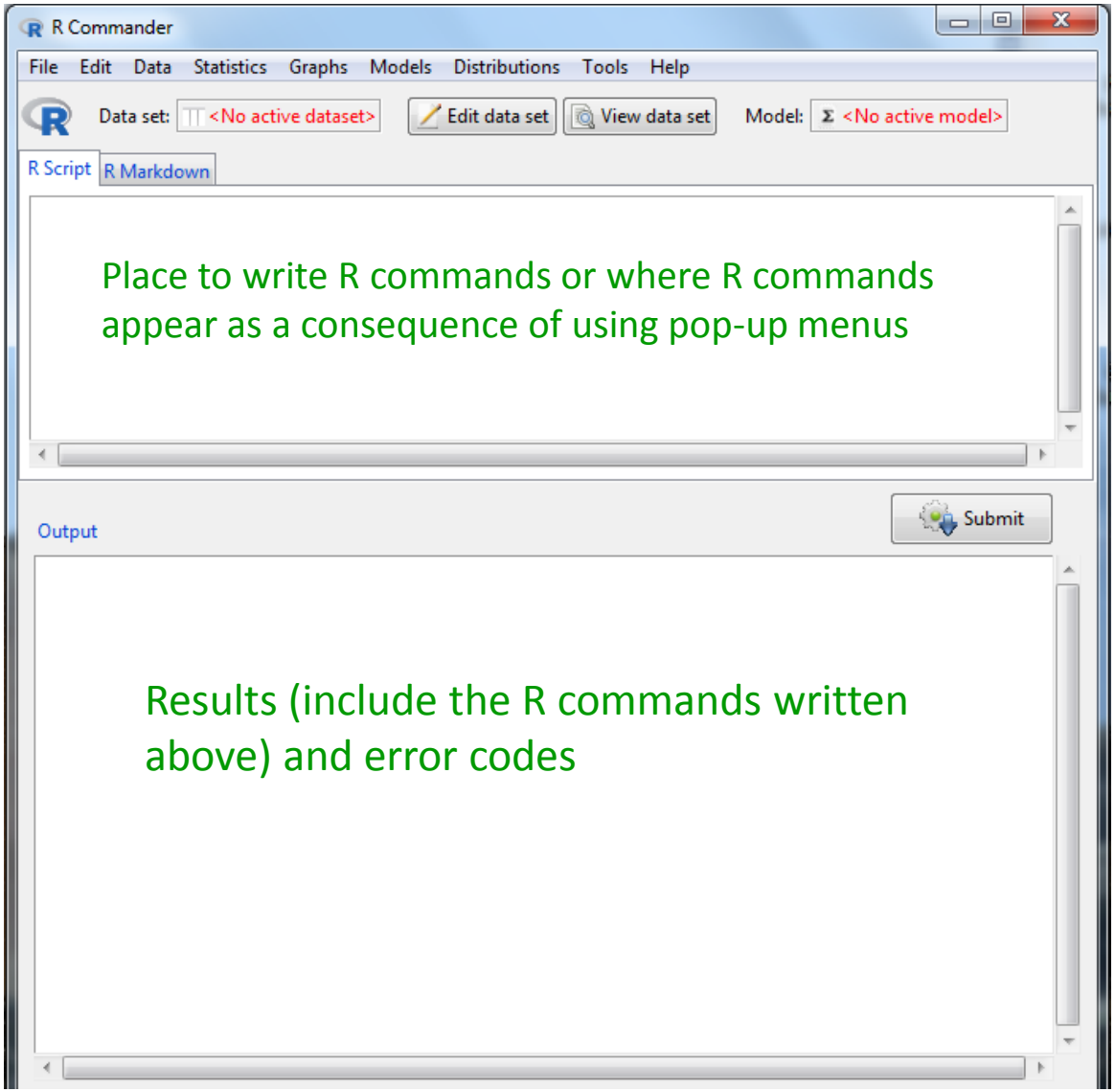

```
Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.

[Previously saved workspace restored]

> library(Rcmdr)
```

The first time you write **`library(Rcmdr)`** you will be asked to install some additional packages: **accept**

You get this when executing `library(Rcmdr)`



Observe that R Commander is a new window and that RGui(64-bit) is maintained

References for the course

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