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R

cran.r-project.org

r studio



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.

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 (2014-10-31, Pumpkin Helmet) [R-3.1.2.tar.gz](#), read [what's new](#) in the latest version.
- Sources of [R alpha and beta releases](#) (daily snapshots, created only in time periods before a planned release).
- Daily snapshots of current patched and development versions are [available here](#). Please read about [new features and bug fixes](#) before filing corresponding feature requests or bug reports.
- Source code of older versions of R is [available here](#).
- 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 [answers to frequently asked questions](#) before you send an email.

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The R environment

R is an integrated suite of software facilities for data manipulation, calculation and graphical display. Is a powerful statistics system.

Windows system

```
RGui (32-bit)
File Edit View Misc Packages Windows Help

R Console

R version 2.15.3 (2013-03-01) -- "Security Blanket"
Copyright (C) 2013 The R Foundation for Statistical Computing
ISBN 3-900051-07-0
Platform: i386-w64-mingw32/i386 (32-bit)

R is free software and comes with ABSOLUTELY NO WARRANTY.
You are welcome to redistribute it under certain conditions.
Type 'license()' or 'licence()' for distribution details.

Natural language support but running in an English locale

R is a collaborative project with many contributors.
Type 'contributors()' for more information and
'citation()' on how to cite R or R packages in publications.

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.

> |
```

UNIX system

```
meme@meme-pc:~$ R

R version 3.0.2 (2013-09-25) -- "Frisbee Sailing"
Copyright (C) 2013 The R Foundation for Statistical Computing
Platform: x86_64-pc-linux-gnu (64-bit)

R is free software and comes with ABSOLUTELY NO WARRANTY.
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'citation()' on how to cite R or R packages in publications.

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.

> |
```



R operates on "Objects":

- vectors
- matrices
- data frames
- lists
- factors
- "user define" functions / R functions



- Import/export object
 - >read.table(...)
 - > scan(...)
 - > write.table (...)

- Conditional structures
 - If,then,else
 - For, while loop

- Graphical procedures
 - Plot, hist, boxplot



An Introduction to R

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https://www.google.it/search?client=ubuntu&channel=fs&q=r-tutorial&le=utf-8&oe=utf-8&gfe_rd=cr&ei=L47VVLtoI...
 Google R-cran tutorial

Web Video Immagini Maps Notizie Altro Strumenti di ricerca

Circa 88.100 risultati (0,29 secondi)

An Introduction to R - The Comprehensive R Archive Network

cran.r-project.org/doc/manuals/r-.../R-intro.html Traduci questa pagina
 13.1 Standard packages; 13.2 Contributed packages and CRAN; 13.3 Namespaces ...
 R is similar to the award-winning S system, which was developed at Bell ...
 Preface - 1 Introduction and preliminaries - 2 Simple manipulations ...

[PDF] R for Beginners - The Comprehensive R Archive Network

cran.r-project.org/doc/.../Paradis-rdebuts_en.pdf Traduci questa pagina
 di E Paradis - Citato da 34 - Articoli correlati
 members of the R Development Core Team for their considerable efforts in ... available
 for the most recent versions; look at the CRAN site if necessary. R has ...

[PDF] Creating R Packages: A Tutorial

cran.r-project.org/doc/.../Leisch-CreatingPackages... Traduci questa pagina
 di F Leisch - 2009 - Citato da 8 - Articoli correlati
 This tutorial gives a practical introduction to creating R packages. ... lesser quality than
 the above, e.g., many contributed packages on CRAN are written and.

CRAN: Manuals

cran.r-project.org/manuals.html Traduci questa pagina
 The following manuals for R were created on Debian Linux and may differ from the
 manuals for Mac or Windows on platform-specific pages, but most parts will ...

https://www.youtube.com/watch?v=AipnE4sBsKk
 Cookies help us deliver our services. By using our services, you agree to our use of cookies. Learn more
 YouTube

Statistics with R (part 4: R CRAN web tutorial)
 Ehsan Karim
 36,106

SHANGHAI A PARTIRE DA 379 €
 SEUL A PARTIRE DA 499 €
 ANDATA E RITORNO TUTTO INCLUSO.
 ACQUISTA SUBITO
 Alitalia

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 r.Rpad.org for the source and latest
 gitwiners by Emmanuel Paradis (with

character or factor columns are surrounded by quotes (""); sep is the field separator; col is the end-of-line separator; na is the string for missing values; use col.names=NA to add a blank column header to get the column headers aligned correctly for spreadsheet input
 sink(file) output to file; until sink()
 Most of the IO functions have a file argument. This can often be a character string naming a file or a connection. file="" means the standard input or output. Connections can include files, pipes, zipped files, and R variables. On windows, the file connection can also be used with description = "clipboard". To read a table copied from Excel, use
 x <- read.delim("clipboard")
 To write a table to the clipboard for Excel, use
 write.table(x,"clipboard",sep=";",col.names=NA)
 For database interaction, see packages RODBC, DBI, RMySQL, RPostgreSQL, and ROracle. See packages XML, hdfs, netCDF for reading other file formats.

Data creation
 c(...) generic function to combine arguments with the default forming a vector; with recursive=TRUE descends through lists combining all elements into one vector
 from:to generates a sequence; ":" has operator priority: 1+4+1="2,3,4,5"
 seq(from,to) generates a sequence by= specifies increment; length= specifies desired length
 seq(along=x) generates 1, 2, ..., length(along); useful for for loops
 rep(x, times) replicate x times; use each= to repeat "each" element of x each times; rep(c(1,2,3),2) is 1 2 3 1 2 3; rep(c(1,2,3),each=2) is 1 1 2 2 3 3
 data.frame(...) create a data frame of the named or unnamed arguments; data.frame(v=1:4,cb=c("a","b","c","d"),n=10); shorter vectors are recycled to the length of the longest
 list(...) create a list of the named or unnamed arguments; list(a=c(1,2),b="hi",c=3);
 array(x,dim=) array with data x; specify dimensions like dim=c(3,4,2); elements of x recycle if x is not long enough
 matrix(x,nrow=ncol=) matrix; elements of x recycle
 factor(x,levels=) encodes a vector x as a factor
 gl(n,k,length=n*k,labels=1:n) generate levels (factors) by specifying the pattern of their levels; k is the number of levels, and n is the number of replications
 expand.grid() a data frame from all combinations of the supplied vectors or factors
 rbind(...) combine arguments by rows for matrices, data frames, and others
 cbind(...) id. by columns

ls() show objects in the search path; specify pat="pat*" to search on a pattern
 ls.str() str() for each variable in the search path
 dir() show files in the current directory
 methods(a) shows S3 methods of a
 methods(class=class(a)) lists all the methods to handle objects of class a

Input and output

load() load the datasets written with save
 data(x) loads specified data sets
 library(x) load add-on packages
 read.table(file) reads a file in table format and creates a data frame from it; the default separator sep=";" is any whitespace; use header=TRUE to read the first line as a header of column names; use as.is=TRUE to prevent character vectors from being converted to factors; use comment.char="" to prevent "#" from being interpreted as a comment; use skip=n to skip n lines before reading data; see the help for options on row naming, NA treatment, and others
 read.csv("filename",header=TRUE) id. but with defaults set for reading comma-delimited files
 read.delim("filename",header=TRUE) id. but with defaults set for reading tab-delimited files
 read.fwf(file,widths,header=FALSE,sep="",as.is=FALSE) read a table of fixed width/formatted data into a "data.frame"; widths is an integer vector, giving the widths of the fixed-width fields

Indexing lists
 x[n] list with elements n
 x[[n]] nth element of the list
 x[["name"]] element of the list named "name"
 x\$name id.
 Indexing matrices
 x[i,j] element at row i, column j
 x[i,] row i
 x[,j] column j
 x[,c(1,3)] columns 1 and 3
 x["name",] row named "name"
 Indexing data frames (matrix indexing plus the following)
 x[["name"]] column named "name"
 x\$name id.

Variable conversion
 as.array(x), as.data.frame(x), as.numeric(x), as.logical(x), as.complex(x), as.character(x), ... convert type; for a complete list, use methods(as)

Variable information
 is.na(x), is.null(x), is.array(x), is.data.frame(x), is.numeric(x), is.complex(x), is.character(x), ... test for type; for a complete list, use methods(is)
 length(x) number of elements in x
 dim(x) Retrieve or set the dimension of an object; dim(x) <- c(3,2)
 dimnames(x) Retrieve or set the dimension names of an object
 nrow(x) number of rows; NROW(x) is the same but treats a vector as a one-row matrix
 ncol(x) and NCOL(x) id. for columns
 class(x) get or set the class of x; class(x) <- "myclass"
 unclass(x) remove the class attribute of x
 attr(x,which) get or set the attribute which of x
 attributes(obj) get or set the list of attributes of obj

Data selection and manipulation
 which.max(x) returns the index of the greatest element of x
 which.min(x) returns the index of the smallest element of x
 rev(x) reverses the elements of x
 sort(x) sorts the elements of x in increasing order; to sort in decreasing order, use sort(x,decreasing=TRUE)
 cut(x,breaks) divides x into intervals (factors); breaks is the number of cut intervals or a vector of cut points
 match(x,y) returns a vector of the same length than x with the elements of y which are in x (NA otherwise)

Slicing and extracting data

Help function!!

>help(...)



IMPORTANT

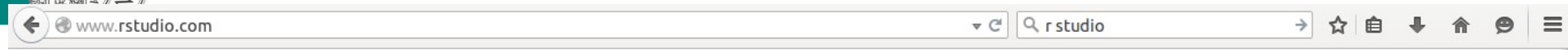








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Our developers and expert



Bring R to the web

Shiny is an elegant and powerful



RStudio

Own script

```
1  
2  
3 #####  
4 ## Generazione dei file pdf e .tex  
5 #####  
6  
7 rm(list=ls())  
8 dev.off()  
9  
10 setwd("/home/meme/Desktop/projection")
```

workspace

Global Environment	
Data	
m	logi [1:5, 1:10] NA NA NA NA NA NA ...
matrice	logi [1:5, 1:10] NA NA NA NA NA NA ...
Values	
vector	int [1:10] 1 2 3 4 5 6 7 8 9 10

R command line

```
> help(mean)  
> vector<-c(1:10)  
> m<-matrix(ncol=10,nrow=5)  
> matrice<-matrix(ncol=10,nrow=5)  
>
```

plot

packages

help

Arithmetic Mean

Description

Generic function for the (trimmed) arithmetic mean.

Usage

```
mean(x, trim = 0, na.rm = FALSE, ...)
```