

# Package ‘RWsearch’

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**Title** Lazy Search in R Packages, Task Views, CRAN, the Web. All-in-One Download

**Description** Search by keywords in R packages, task views, CRAN, the web and display the results in the console or in txt, html or pdf files. Download the package documentation (html index, README, NEWS, pdf manual, vignettes, source code, binaries) with a single instruction. Visualize the package dependencies and CRAN checks. Compare the package versions, unload and install the packages and their dependencies in a safe order. Explore CRAN archives. Use the above functions for task view maintenance. Access web search engines from the console thanks to 80+ bookmarks. All functions accept standard and non-standard evaluation.

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**Author** Patrice Kiener [aut, cre] (<<https://orcid.org/0000-0002-0505-9920>>)

**Maintainer** Patrice Kiener <rpackages@inmodelia.com>

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## Description

Search by keywords in R packages, task views, CRAN, the web and display the results in the console or in txt, html or pdf files. Download the package documentation (html index, README, NEWS, pdf manual, vignettes, source code, binaries) with a single instruction. Visualize the package dependencies and CRAN checks. Compare the package versions, unload and install the packages and their dependencies in a safe order. Explore CRAN archives. Use the above functions for task view maintenance. Access web search engines from the console thanks to 80+ bookmarks. All functions accept standard and non-standard evaluation. Inspired by the packages `ctv`, `foghorn`, `latexpdf`, `pacman` and `sos`.

## Examples

```
### THE W IN RWsearch: LAUNCH WEBSITES AND SEARCH ENGINES
if (interactive()) {
  h_cranbydate(repos = "https://cloud.r-project.org")
  h_yt("Serge Gainsbourg Ne dis rien")
  h_osm("La Ferriere sous Jougne")
  h_mw(recension)
  h_lexilogos()
}

### A CONVENIENT FUNCTION FOR NON-STANDARD EVALUATION
## Non-standard content (nsc1, nsc2), standard content ("stc3", "double word4")
## and regular object (obj) stored in .GlobalEnv can be merged with cncs()
obj <- c("obj5", "obj6")
cncs(nsc1, nsc2, "stc3", "double word4", obj)

### DOWNLOAD CRANDB AND CHECKDB
## In real life, download crandb and checkdb from CRAN or load them
## with functions crandb_down(), crandb_load(), checkdb_down(), checkdb_load().
## checkdb can be ignored if less than npkgs are explored.
## In this example, we use two small files.
crandb_load(system.file("data", "zcrandb.rda", package = "RWsearch"))
checkdb_load(system.file("aabb", "zcheck_results.rds", package = "RWsearch"))

### PRINT THE LATEST PACKAGES UPLOADED INTO CRAN (LAST DATE = "2021-06-01")
crandb_fromto(from = "2021-03-01", to = Sys.Date())
crandb_fromto(from = -15, to = max(crandb$Published))

### SEARCH IN CRANDB
## Search in crandb. Use standard or non-standard content.
## Display the results in a vector or in a list.
s_crandb(search, find, cran, web)
s_crandb(search, find, cran, web, select = "PD", mode = "and")
s_crandb("^f", select = "P")
s_crandb(c("thermodynamic", "chemical reaction"))
```

```

(lst <- s_crandb_list(thermodynamic, "chemical reaction"))
(lst2 <- lapply(lst, function(x) x[1:2]))

### DISPLAY THE RESULTS
## in the console, in (txt, md, pdf) files or in the browser.
if (interactive()) {
  p_table2(lst)
  p_table7pdf(lst, dir = file.path(tempdir(), "ptable"), cleantex = FALSE, openpdf = TRUE)
  p_text(lst2, dir = file.path(tempdir(), "ptext1"), pager = TRUE,
    repos = "https://cloud.r-project.org")
  p_text2pdf(lst, dir = file.path(tempdir(), "ptext1"), cleantex = FALSE,
    openpdf = TRUE, repos = "https://cloud.r-project.org")
  p_display(lst, dir = file.path(tempdir(), "pdisp1"))
}

### VISUALIZE THE DOCUMENTATION (IN A BROWSER)
## from the installed packages on your computer
## or from the packages listed in https://search.r-project.org
if (interactive()) {
  p_html(brew, sig)
  p_htmlweb(foghorn)
  p_pdfweb(sos, repos = "https://cloud.r-project.org")
}

### VISUALIZE THE PACKAGE DEPENDENCIES AND THE INSTALLED VERSIONS
if (interactive()) {
  p_graphF(actuar, fitdistrplus, reverse = TRUE) # Children
  p_graphF(RWsearch) # Parents
  p_vers_deps(RWsearch) # Installed versions
}

### VISUALIZE THE PACKAGE CHECKS (USE checkdb FOR FASTER RESULTS)
if (interactive()) {
  p_check(RWsearch, repos = "https://cloud.r-project.org")
  res <- p_checkdeps_lst(RWsearch, repos = "https://cloud.r-project.org")
  head(res, 3)
}

### DOWNLOAD THE DOCUMENTATION
## Vector => download in the "docpkgs" directory ( "." is the current directory)
## List => download in subdirectories named after the keywords
## (non-standard content is accepted)

p_down(pacman, pdfsearch, sos, dir = file.path(tempdir(), "pdown"),
  repos = "https://cloud.r-project.org")
p_down(lst, dir = file.path(tempdir(), "pdown"), repos = "https://cloud.r-project.org")

### SEARCH WITH sos (ON R-PROJECT HELP PAGES), rdr AND rdoc
if (interactive()) {
  (res <- s_sos(distillation))
  head(data.frame(res), 3)
  tail(data.frame(res), 3)
}

```

```

h_rdr(distillation)
h_rdoc(distillation)
}

### TASK VIEW MAINTENANCE
## In real life, download crandb and tvdb from CRAN or load them from your directory
## with functions crandb_down(), crandb_load(), tvdb_down(), tvdb_load().
## In this example, we use small files.
crandb_load(system.file("data", "zcrandb.rda", package = "RWsearch"))
tvdb_load(system.file("data", "ztvdb.rda", package = "RWsearch"))

## List the task views
tvdb_vec()
tvdb_pkgs(gR, Genetics, Robust)

## Search for some packages in the task views
s_tvdb(actuar, FatTailsR, MASS, zoo, nopackage)

## Search for recent packages in crandb that contain the keyword
## and verify if the packages are already referred in the task view.
## from = "2017-01-01" and "2018-01-01" are selected for this small example.
s_crandb_tvdb("distribution", tv = "Distributions", from = "2017-01-01")
s_crandb_tvdb("distribution", tv = "Distributions", from = "2018-01-01")

### EXPLORE CRAN ARCHIVE AND DOWNLOAD OLD tar.gz FILES
## In real life, download archivedb and crandb from CRAN
## with the functions archivedb_down() and crandb_down().
## In this example, we load two small files (50 and 43 packages).
crandb_load(system.file("data", "zcrandb.rda", package = "RWsearch"))
archivedb_load(system.file("aabb", "zCRAN-archive.html", package = "RWsearch"))
archivedb_npkgs()
lapply(archivedb_list(), tail)

## Download the latest tar.gz version from CRAN archive
## (this works for both both existing and removed packages).

p_downarch(fitur, zmatrix, dir = file.path(tempdir(), "pdownarch"))

```

---

archivedb

*CRAN archive (CRAN-archive.html + archivedb)*


---

## Description

The following functions deal with the packages archived in CRAN. The html file downloaded from CRAN contains the regular packages that have been updated once and the packages that have been removed from CRAN by CRAN administrators. It does not contain the first version of the packages uploaded to CRAN and never updated. These files and the files removed from CRAN index can be guessed through a comparison with crandb.

`archivedb_down` downloads from CRAN the html file of the archived packages, saves it on the disk under the name `filename`, extracts from it and loads in `.GlobalEnv` a data.frame named `archivedb`.

`archivedb_load` reads the html file `filename` saved on the disk, extracts from it and loads in `.GlobalEnv` a data.frame named `archivedb`.

`archivedb_npkgs` returns the number of packages listed each category: number of packages in `crandb`, in `archivedb`, at first version, at subsequent version and removed from `crandb` (CRAN index).

`archivedb_pkgs` returns the packages listed in CRAN archive (= `archivedb`).

`archivedb_rempkgs` returns the packages removed from CRAN but available in CRAN archive. The result can be combined with [p\\_check](#) to display the last CRAN check performed (if available). See the example.

`archivedb_list` compares the data.frame `archivedb` and `crandb` and returns a list with the following items:

- `pkgs_crandb`: the packages listed in `crandb`.
- `pkgs_archivedb`: the packages listed in `archivedb`.
- `pkgs_first`: the packages in first version in `crandb`.
- `pkgs_updated`: the packages with more than one version in `crandb`.
- `pkgs_removed`: the archived packages removed from CRAN regular index, i.e. not listed in `crandb`.
- `dfr_crandb`: data.frame `pkgs_crandb` + Published date.
- `dfr_archivedb`: data.frame `pkgs_archivedb` + Archived date.
- `dfr_first`: data.frame `pkgs_first` + Published date.
- `dfr_updated`: data.frame `pkgs_updated` + Published date.
- `dfr_removed`: data.frame `pkgs_removed`+ Archived date.
- `npkgs`: the number of packages in each category.

Use [p\\_archive\\_lst](#) to list the package versions stored in CRAN archive.

Use [p\\_downarch](#) to download packages from CRAN archive, either the latest version or a specific version number.

### Usage

```
archivedb_down(filename = "CRAN-archive.html", dir = ".",
  url = "https://cran.r-project.org/src/contrib/Archive")
```

```
archivedb_load(filename = "CRAN-archive.html")
```

```
archivedb_npkgs(archivedb = get("archivedb", envir = .GlobalEnv),
  crandb = get("crandb", envir = .GlobalEnv))
```

```
archivedb_pkgs(archivedb = get("archivedb", envir = .GlobalEnv))
```

```
archivedb_rempkgs(archivedb = get("archivedb", envir = .GlobalEnv),
```

```

crandb = get("crandb", envir = .GlobalEnv))

archivedb_list(archivedb = get("archivedb", envir = .GlobalEnv),
  crandb = get("crandb", envir = .GlobalEnv))

```

### Arguments

filename	character. The path to file "CRAN-archive.html" (or equivalent).
dir	character. The directory where filename or tar.gz files are saved. Default value "." is the current directory.
url	character. The url address of CRAN archive html file.
archivedb	data.frame archivedb. The archivedb data.frame format loaded in memory by archivedb_down or archivedb_load.
crandb	data.frame crandb. The data.frame of CRAN packages.

### Examples

```

### DOWNLOAD archivedb AND COMPARE IT WITH crandb.
## In real life, download archivedb and crandb from CRAN
## with the functions archivedb_down() and crandb_down().
## In this example, we load two small files.

crandb_load(system.file("data", "zcrandb.rda", package = "RWsearch"))
archivedb_load(system.file("aabb", "zCRAN-archive.html", package = "RWsearch"))
archivedb_npkgs()
archivedb_pkgs()
archivedb_rempkgs()

lst <- archivedb_list()
lapply(lst, head)
lapply(lst, tail)

xlim <- as.Date(range(lst$dfr_archivedb$Archived)) ; xlim
op <- par(mfrow = c(2,1))
hist(as.Date(lst$dfr_first$Published),
      breaks = 12, freq = TRUE, las = 1, xlim = xlim)
hist(as.Date(lst$dfr_archivedb$Archived),
      breaks = 12, freq = TRUE, las = 1, xlim = xlim)
par(op)

```

**Description**

`binarydb_down` downloads the matrix of the packages available in binary format available in CRAN (Windows or macOS depending the computer), saves it in a file named `binarydb` and finally loads it in `.GlobalEnv` under the name `binarydb`. It is a wrapper around the function `available.packages(type = "binary")`.

`binarydb_load` loads the file `filename` in `.GlobalEnv` under the name `binarydb`.

When loaded in `.GlobalEnv`, `binarydb` is recognized by the functions `p_vers` and `p_vers_deps` to compare the package version numbers of the installed packages with the most recent versions of the binary and the source versions available in CRAN.

**Usage**

```
binarydb_down(dir = ".", repos = getOption("repos")[1])
```

```
binarydb_load(filename = "binarydb.rda")
```

**Arguments**

<code>dir</code>	character. The directory where "binarydb.rda" is saved Default value "." is the current directory.
<code>repos</code>	character. The address of your local CRAN.
<code>filename</code>	character. The (path to a) file "binarydb.rda" or an equivalent.

---

<code>checkdb</code>	<i>CRAN checks file (check_results.rds)</i>
----------------------	---

---

**Description**

`checkdb_down` downloads from CRAN the file `check_results.rds`, saves it unchanged in the designated directory and loads it in `.GlobalEnv` under the name `checkdb`.

`checkdb_load` loads the file `check_results.rds` in `.GlobalEnv` under the name `checkdb`.

`checkdb` is a `data.frame` of dimension 200000 x 10 (approximately). It is used by the functions `p_check_lst` and `p_checkdeps_lst`.

**Usage**

```
checkdb_down(dir = ".", repos = getOption("repos")[1])
```

```
checkdb_load(filename = "check_results.rds")
```

**Arguments**

<code>dir</code>	character. The directory where <code>filename</code> or <code>tar.gz</code> files are saved. Default value "." is the current directory.
<code>repos</code>	character. The address of your local CRAN.
<code>filename</code>	character. The path to file "check_results.rds" (or equivalent).



## Examples

```
### zcheck_results.rds is a subset of 107 packages synchronized with zcrandb.

checkdb_load(system.file("aabb", "zcheck_results.rds", package = "RWsearch"))
dim(checkdb)
head(checkdb, 15)
unique(checkdb$Package)
```

---

cncs

*Conversion of Standard and Non-Standard Content*


---

## Description

cncs reads standard content (object in `.GlobalEnv` or quoted characters) and non-standard content. Standard content, including *calls*, is evaluated. Non-standard content and non-existing objects (in `.GlobalEnv`) are converted into character chains. Regular lists are kept unchanged.

`cncscinfun` is used inside `cncs`. It should not be called directly. If you find `cncs` and `cncscinfun` appealing, copy the code of `cncscinfun` in your package and use it as an hidden function.

## Usage

```
cncs(...)

cncscinfun()

cncscinfun2(...)
```

## Arguments

```
...      Character vectors, standard or non-standard, existing or non-existing R objects,
         regular call. Examples : "word1"; c("word1 word2"); c("word1", "word2");
         "word1", "word2", "word3"; word1, word2, c("word3", "word4").
```

## Examples

```
### cncs
## Non-standard content (nsc1, nsc2), standard content ("stc3", "double word4")
## and regular object (vec) stored in .GlobalEnv are merged.
vec <- c("obj5", "obj6")
cncs(nsc1, nsc2, "stc3", "double word4", vec)

## Lists, either name in .GlobalEnv or call, are evaluated.
lst <- list(A = c("txt1", "txt2", "txt3"), B = c("txt4", "txt5"))
cncs(lst)
cncs(list(C = c("pkg1", "pkg2", "pkg3"), D = c("pkg4", "pkg5")))

### cncscinfun
```

```

fun <- function(...) cnscinfun()
fun(nsc1, nsc2, "stc3", "double word4", vec)
fun(lst)

### cnscinfun used in RWsearch: one line at the beginning of each function.
### An easy-to-use Non Standard Evaluation, mainly for characters.
funsort <- function(..., char = NULL) {
  words <- if (is.null(char)) cnscinfun() else char
  sort(words)
  # or more complex code
}
funsort(nsc1, nsc2, "stc3", "double word4", vec)
funsort(char = sample(vec, 5, replace = TRUE))

```

---

crandb

*CRAN Packages (crandb.rda)*


---

## Description

crandb\_down downloads from CRAN the file *packages.rds*, a file refreshed everyday that describes the packages available in CRAN for this day, opens it as a data.frame and cleans this data.frame with the following operations: rename (with `make.names`) the column names that are syntactically invalid, remove the duplicated lines located at the end of the file, clean some bad characters in the Description column. The resulting clean data.frame is then loaded in `.GlobalEnv` under the name `crandb` and saved in the current directory with the filename `crandb.rda`. If `oldfile` is defined, the vector of packages between the two files is compared and a short message is printed about the differences (removed packages, new packages, updated packages).

crandb\_load loads the file `filename` in `.GlobalEnv` under the name `crandb`. It embeds the function `load("crandb.rda")` and add a short message about the data.frame properties.

crandb\_pkgs displays all packages listed in `crandb`. The number of packages is larger than the number obtained with `nrow(available.packages())` since packages for all OSes are counted.

crandb\_fromto displays the packages published in CRAN between two dates.

## Usage

```

crandb_down(dir = ".", oldfile = "crandb.rda", verbose = TRUE,
  repos = getOption("repos")[1])

crandb_load(filename = "crandb.rda")

crandb_comp(filename = "crandb.rda", oldfile = "crandb-old.rda", addtxt = "")

crandb_pkgs(bydate = FALSE, rev = FALSE, crandb = get("crandb", envir =
  .GlobalEnv))

crandb_fromto(from = -10, to = Sys.Date(), crandb = get("crandb", envir =
  .GlobalEnv))

```

**Arguments**

<code>dir</code>	character. The directory where "crandb.rda" is saved and the old "crandb.rda" is read. Default value "." is the current directory.
<code>oldfile</code>	character or NULL. The (path to an) old file that will be compared to a freshly downloaded version of "crandb.rda" or to filename. Set to NULL if no comparison is required.
<code>verbose</code>	logical. TRUE prints the result. FALSE keeps it invisible.
<code>repos</code>	character. The address of your local CRAN.
<code>filename</code>	character. The (path to a) file "crandb.rda" or an equivalent.
<code>addtxt</code>	character. Internal use.
<code>bydate</code>	logical. List the package by date of publication rather than by alphabetical order.
<code>rev</code>	logical. Print in reverse order.
<code>crandb</code>	data.frame crandb. The data.frame of CRAN packages.
<code>from</code>	Negative integer or character representing a date. The number of days preceding to or a date before to.
<code>to</code>	date. The upper date in the search.

**Examples**

```
### In this example, we use the small file zcrandb.rda.
## List the 110 packages of this file, the ones uploaded since 2021-03-01
## and those uploaded in the last 15 days before the last date (2021-06-01).

crandb_load(system.file("data", "zcrandb.rda", package = "RWsearch"))
crandb_pkgs()
dim(crandb)
colnames(crandb)
crandb$Published
crandb_fromto(from = "2021-03-01", to = Sys.Date())
pkgs <- crandb_fromto(from = -15, to = max(crandb$Published)) ; pkgs

## Print the table in the console (better if full width)
p_table2(pkgs)

## Display in the browser
if (interactive()) {
  p_display7(pkgs, dir = file.path(tempdir(), "crandbdown"))
}

### In the real life, we use a fresh file downloaded from CRAN (6 MB / 20").
## Here, we retrieve the packages uploaded during the last 2 days.
# crandb_down(dir = tempdir(), repos = "https://cloud.r-project.org")
# crandb_fromto(-2)
```

---

cranmirrors	<i>CRAN archive (CRAN-archive.html + archivedb)</i>
-------------	---

---

### Description

cranmirrors\_down downloads the csv file of CRAN mirrors, modifies the "Maintainer" and "Host" columns, eventually saves the modified data.frame on the disk, loads this data.frame in .GlobalEnv and prints in the console a subset of the data.frame made of the selected columns.

### Usage

```
cranmirrors_down(filename = "CRAN-mirrors1.csv", dir = ".",
  columns = c(1, 3, 7), save = FALSE,
  url = "https://cran.r-project.org/CRAN_mirrors.csv")
```

### Arguments

filename	character. The path to file "CRAN-mirrors1.csv" (or equivalent).
dir	character. The directory where filename is saved. Default value "." is the current directory.
columns	a vector of integers or a vector of names. The column numbers or the column names. Allowed numbers are within 1:9. Allowed names are: "Name", "Country", "City", "URL", "Host", "Maintainer", "OK", "CountryCode" and "Comment".
save	logical. Save the file. If FALSE, the default, the file is just loaded in .GlobalEnv and a subset is printed in the console.
url	character. The url address of the CRAN csv file.

### Examples

```
cranmirrors_down(dir = file.path(tempdir(), "cranmirrors"), save = TRUE)
```

---

e_check	<i>Check Results of Packages Identified by their Email Address</i>
---------	--

---

### Description

e\_check opens the browser and returns the "CRAN Check Results" page(s) of the packages maintained by one or several maintainers identified by their regular email addresses (but not the orphaned ones). An internet connection is required. This function is a simplified version of the functions proposed in the package *foghorn*.

**Usage**

```
e_check(..., char = NULL, repos = getOption("repos")[1])
```

**Arguments**

... any format recognized by `cnsc`, except list. A vector of quoted "e-mail addresses".

char (name to) a character vector. Use this argument if ... fails or if you call the function from another function. If used, argument ... is ignored.

repos character. The address of your local CRAN.

**Examples**

```
if (interactive()) {
  e_check(c("FatTailsR@inmodelia.com", "christophe.dutang@ensimag.fr"),
         repos = "https://cloud.r-project.org")
}
```

---

 funmaintext

---

*Modify the Main Text and the Markdown Header in p\_text Function*


---

**Description**

Use `funmaintext` or `funmaintext2` to select the function that displays the main text. Usage is `f\_maintext = funmaintext` (without curly braces).

Use `funheadermd` to insert markdown header in function `sep1 = funheadermd()` (with curly braces).

See the example in `p\_text`. To create you own functions, use these functions as a pattern. The five parameters in `f\_maintext`, `funmaintext` are mandatory. `funheadermd` can be freely modified.

**Usage**

```
funmaintext(pkg, sep1, sep2, eol, crandb, repos)
```

```
funmaintex(pkg, sep1, sep2, eol, crandb, repos)
```

```
funheadermd(title = "TITLE", author = "AUTHOR", date = Sys.Date(),
            keep_tex = "false", toc = "false", number_sections = "true",
            fontsize = "10pt", papersize = "a4paper", margin = "1in")
```

```
funheadertex(fontsize = "10pt", papersize = "a4paper", margin = "1in")
```

```
funfootertex()
```

**Arguments**

pkg	character. The package name.
sep1	character. The symbols written just before each package name.
sep2	character. The symbols written just after each package name.
eol	character. The end of line for the main text (but not for the header and the footer). "\n" for text, "\n" for rmarkdown, "\\ \n" for latex.
crandb	data.frame crandb. The data.frame of CRAN packages.
repos	character. The address of your local CRAN.
title	character. The title of the .md document (and then in the .pdf file).
author	character. The author of the .md document.
date	character. The date of the document. Any text format is accepted.
keep_tex	character. "true" or "false".
toc	character. "true" or "false".
number_sections	character. "true" or "false".
fontsize	character. Usually "10pt", "11pt", "12pt".
papersize	character. The usual tex format. Example: "a4paper".
margin	character. In inches, cm or mm. Example: "0.5in", "1.5cm", "25mm".

---

f\_args

*Names and Arguments of Functions*


---

**Description**

f\_args is a wrapper of the base function [args](#).

f\_sig prints the name and arguments of one or several functions in a readable style. It wraps the function sig::sig.

p\_sig prints the name and arguments of the functions exported by one or several packages. It wraps the function sig::list\_sigs.

**Usage**

```
f_args(..., char = NULL)
```

```
f_sig(..., char = NULL)
```

```
p_sig(..., char = NULL, pattern = NULL)
```

**Arguments**

...	any format recognized by <code>cns</code> , except list. A vector of unquoted "functions" or characters.
char	(name to) a character vector. Use this argument if ... fails or if you call the function from another function. If used, argument ... is ignored.
pattern	a regular expression. See the example.

**Examples**

```
f_args(mean, p_display)
f_sig( mean, p_display)

library(brew)
library(sos)
p_sig(brew)
p_sig(RWsearch, sos, pattern = "^f")
```

**Description**

f\_pdf generates in the current directory the pdf pages of one or several functions. The pdf pages are printed but not opened. MikTeX or TeXlive is required. This function wraps `{utils::help}` with the pdf option activated. Similar functions are available in the packages *document* and *sinew*.

**Usage**

```
f_pdf(..., char = NULL)
```

**Arguments**

...	any format recognized by <code>cns</code> , except list. A vector of quoted "package::function".
char	(name to) a character vector. Use this argument if ... fails or if you call the function from another function. If used, argument ... is ignored.

**Examples**

```
## FALSE is here to avoid a NOTE in CRAN checks. Ignore this line.
if (FALSE) {
  f_pdf(c("RWsearch::cns", "RWsearch::p_inun"))
}
```

---

`h_direct`*Open a Web Page in the your browser*

---

**Description**

`h_framasoft` gives access to several free web services (as in speech and in half pint of beer) that are good alternatives to GAFA services.

`h_academie` is a bookmark to the Academie francaise's dictionary.

`h_lexilogos` gives access to hundreds of dictionaries in many languages.

`h_deep1`, `h_googletranslate`, `h_interglot`, `h_reverso`, `h_linguee`, `h_prompt`, `h_reverso`, `h_systran` provide translation engines. `h_linguee` returns examples with long sentences.

`h_yacy` is a decentralized peer-to-peer web search software.

`h_etz` is a bookmark to the EveryTimeZone website.

`h_tad` and `h_tadsm` are bookmarks to timeanddate.com, a website dedicated to date and time conversion plus timezone management.

`h_meteoblue` and `h_windy` are bookmarks to the Meteoblue and Windy meteo and weather websites.

**Usage**`h_academie()``h_deep1()``h_etz()``h_framasoft()``h_framasoft0()``h_googletranslate()``h_interglot()``h_lexilogos()``h_linguee()``h_meteoblue()``h_prompt()``h_reverso()`



```
h_systran()
```

```
h_tad()
```

```
h_tadsm()
```

```
h_windy()
```

```
h_yacy()
```

### Examples

```
if (interactive()) {  
  h_linguee()  
  h_lexilogos()  
}
```

---

h\_engine

*Explore the Web with Various Search Engines*

---

### Description

Launch the default browser and search in: ABC Bourse (short stock names), arXiv (vectorized), Ask, Baidu, Blackle, Bing, Bing Map (bmap), Boursorama (short stocknames), CNRTL (French dictionary), Collins English Dictionary, CPAN and metaCPAN (Perl), Crossref (DOI and bibliographic metadata), CTAN (Latex), Daum, DailyMotion (dm), DOI, DuckDuckGo (ddg), Ecosia, Egerin, Evene (citations), Exalead, Excite, Gigablast, GitHub, GitLab, Google Map (gmap), Google, Google Scholar (gscholar), IANA TLD root domain database, IANA WHOIS service, Info, Khoj, Les Echos, La Tribune (lt), Lilo, Lycos, Mappy Map, Merriam-Webster (mw, English dictionary), Nabble, Nate, Naver (see N2H4 package), Orcid, Open Street Map, OSM Nominatim, Parsijoo, PeerTube, Peru, Pipilika, Qwant (qw + qwfr), R-bloggers, Rdocumentation (rdoc), Rdocumentation task views (rdoctv), Rdr, Reverso dictionary, Rseek, Sapo, Searx, Sogou, SSRN and SSRN Author (vectorized), Stackoverflow (so), Startpage (ex-Ixquick), Twitter (+ twfr), L'Usine Nouvelle (un), ViaMichelin Map and Routes (via), Les Verbes, Vimeo, Wego (Here maps), Wikipedia (wp + wpfr), Yahoo, Yahoo Finance, Yandex, Yooz, Youtube (yt).

h\_zbib is a bookmark to ZoteroBib, a service that returns the complete bibliographic reference from a fragment of information: URL, ISBN, DOI, PMID, arXiv id or title and generates a MD5 number to retrieve it later.t

Using the regular R format "w1 w2 w3" rather than w1, w2, w3 makes sense as most functions collapse the words into character chains "w1 w2 w3", "w1+w2+w3" or "w1-w2-w3".

Visit [https://en.wikipedia.org/wiki/Web\\_search\\_engine](https://en.wikipedia.org/wiki/Web_search_engine) for a list of web search engines.

### Usage

```
h_abcbourse(..., char = NULL)
```

h\_ask(..., char = NULL)  
h\_arxiv(..., char = NULL)  
h\_arxivpdf(..., char = NULL)  
h\_baidu(..., char = NULL)  
h\_blackle(..., char = NULL)  
h\_bing(..., char = NULL)  
h\_biorxiv(..., char = NULL)  
h\_biorxivpdf(..., char = NULL)  
h\_bmap(..., char = NULL)  
h\_boursorama(..., char = NULL)  
h\_cnrtl(..., char = NULL)  
h\_collins(..., char = NULL)  
h\_cpan(..., char = NULL)  
h\_crossref(..., char = NULL)  
h\_ctan(..., char = NULL)  
h\_daum(..., char = NULL)  
h\_ddg(..., char = NULL)  
h\_dm(..., char = NULL)  
h\_doi(..., char = NULL)  
h\_ecosia(..., char = NULL)  
h\_egerin(..., char = NULL)  
h\_estrep(..., char = NULL)  
h\_evene(..., char = NULL)  
h\_exalead(..., char = NULL)

h\_excite(..., char = NULL)  
h\_framabee(..., char = NULL)  
h\_gigablast(..., char = NULL)  
h\_github(..., char = NULL)  
h\_gitlab(..., char = NULL)  
h\_gmap(..., char = NULL)  
h\_google(..., char = NULL)  
h\_gsolar(..., char = NULL)  
h\_ianaTLD(..., char = NULL)  
h\_ianaWHOIS(..., char = NULL)  
h\_info(..., char = NULL)  
h\_ixquick(..., char = NULL)  
h\_khoj(..., char = NULL)  
h\_lesechos(..., char = NULL)  
h\_lilo(..., char = NULL)  
h\_lt(..., char = NULL)  
h\_lycos(..., char = NULL)  
h\_mappy(..., char = NULL)  
h\_mw(..., char = NULL)  
h\_nate(..., char = NULL)  
h\_naver(..., char = NULL)  
h\_orcid(..., char = NULL)  
h\_osm(..., char = NULL)  
h\_osmn(..., char = NULL)

h\_parsijoo(..., char = NULL)  
h\_peertube(..., char = NULL)  
h\_peru(..., char = NULL)  
h\_pipilika(..., char = NULL)  
h\_qwant(..., char = NULL, lang = "en")  
h\_qwfr(..., char = NULL)  
h\_reverso\_d(..., char = NULL)  
h\_sapo(..., char = NULL)  
h\_searx(..., char = NULL)  
h\_so(..., char = NULL)  
h\_sogou(..., char = NULL)  
h\_ssrn(..., char = NULL)  
h\_ssrnauth(..., char = NULL)  
h\_startpage(..., char = NULL)  
h\_twfr(..., char = NULL)  
h\_twitter(..., char = NULL, lang = "en")  
h\_un(..., char = NULL)  
h\_verbes(..., char = NULL)  
h\_via(..., char = NULL)  
h\_vimeo(..., char = NULL)  
h\_wego(..., char = NULL)  
h\_wp(..., char = NULL, lang = "en")  
h\_wpfr(..., char = NULL)  
h\_yahoo(..., char = NULL, lang = "en")

```

h_yahoofin(..., char = NULL, lang = "en")
h_yandex(..., char = NULL)
h_yooz(..., char = NULL)
h_yt(..., char = NULL)
h_zbib(..., char = NULL)

```

### Arguments

...	any format recognized by <a href="#">cnsr</a> , except list. A vector of packages.
char	(name to) a character vector. Use this argument if ... fails or if you call the function from another function.
lang	character. The language accepted by the search engine, usually "en", "de", "es", "fr", "jp", etc.

### Examples

```

if (interactive()) {
  h_yt("Serge Gainsbourg Ne dis rien")
  h_so(R, deep, neural, network)
  h_osm("Le Chateau d'Oleron")
  h_mw(recension)
  h_arxiv(c(1212.4320, 1605.08732))
  h_doi("10.1016/j.ejor.2013.06.029")
}

```

---

h\_R

*Open a Web Page in the Browser*


---

### Description

h\_R opens the page <https://www.r-project.org>. h\_Rml opens the page dedicated to the mailing lists <https://www.r-project.org/mail.html>. h\_Rnews opens the page <https://cran.r-project.org/doc/manuals/r-devel/NEWS.html>. h\_Rversions opens a page (from rversions package) that keeps a record of all R versions and their release dates.

h\_cran opens the page of you local CRAN.

h\_cranbydate and h\_cranbyname open the page of CRAN packages sorted by date of publication and in alphabetical order.

h\_cranchecks and h\_crancheckwindows open the pages related to the checks of all packages listed by name, maintainers, dates, os. A special page is dedicated to Windows packages with the results for the previous, the current and the devel R versions.

h\_crantv opens the page of CRAN task views.

h\_cranberries, h\_nabble, h\_rbloggers, h\_rdoc, h\_rdoctv (RDocumentation), h\_rdr, h\_rseek open the pages of web sites related to R.

h\_gepuro lists all (most) R packages available on GitHub. A huge file.

### Usage

```
h_R()

h_Rml()

h_Rnews(repos = getOption("repos")[1])

h_Rversions(repos = getOption("repos")[1])

h_cran(repos = getOption("repos")[1])

h_cranbydate(repos = getOption("repos")[1])

h_cranbyname(repos = getOption("repos")[1])

h_cranchecks(repos = getOption("repos")[1])

h_crancheckwindows(repos = getOption("repos")[1])

h_crantv(repos = getOption("repos")[1])

h_cranstatus()

h_cranberries()

h_gepuro()

h_nabble(..., char = NULL)

h_rbloggers(..., char = NULL)

h_rdoc(..., char = NULL)

h_rdoctv(..., char = NULL)

h_rdr(..., char = NULL)

h_rseek(..., char = NULL)

h_biocstats()
```

### Arguments

repos            character. The address of your local CRAN.

... any format recognized by `cnsc`, except list. A regular web address.

char (name to) a character vector. Use this argument if ... fails or if you call the function from another function.

### Examples

```
if (interactive()) {  
  h_crantv(repos = "https://cloud.r-project.org")  
  h_cranberries()  
}
```

---

h\_ftp

*Open a Web Page in the Browser*

---

### Description

h\_ftp opens the page corresponding to the mentioned address in the default browser.

### Usage

```
h_ftp(..., char = NULL, https = TRUE, www = FALSE)
```

### Arguments

... any format recognized by `cnsc`, except list. A regular web address.

char (name to) a character vector. Use this argument if ... fails or if you call the function from another function.

https logical. Use https or http.

www logical. Add www. to the address.

### Examples

```
if (interactive()) {  
  h_ftp("www.r-project.org")  
}
```

---

p\_archive

*Read Packages in CRAN archive*


---

### Description

p\_archive opens in the browser one page per package and displays the package versions stored in CRAN archive.

p\_archive\_lst prints in the console a list of the package versions stored in CRAN archive.

Use l\_targz takes as input the list issued by p\_archive\_lst and lists the last package versions archived before a certain date.

Use p\_downarch to download packages from the CRAN archives, either the latest version stored or a specific version number.

Use archivedb\_list to list all packages stored in CRAN archive (does not include the valid packages having a single version which are stored in regular CRAN).

### Usage

```
p_archive(..., char = NULL)
```

```
p_archive_lst(..., char = NULL)
```

```
l_targz(lst, before = Sys.Date())
```

### Arguments

...	any format recognized by <a href="#">cnsc</a> , except list. A vector of packages.
char	(name to) a character vector. Use this argument if ... fails or if you call the function from another function. If used, argument ... is ignored.
lst	list. A list produced by p_archive_lst.
before	character which can be converted to a Date, for instance "2017-05-14". Extract from CRAN archive the package(s) available before this date. Can be synchronized with the release dates of base-R versions listed at: <a href="https://CRAN.R-project.org/src/contrib/">https://CRAN.R-project.org/src/contrib/</a> and <a href="https://CRAN.R-project.org/package=rversions/readme/README.html">https://CRAN.R-project.org/package=rversions/readme/README.html</a>

### Examples

```
if (interactive()) p_archive(brew, RWsearch)

lst <- p_archive_lst(RWsearch, zmatrix, NotAPkg) ; lst
l_targz(lst, before = "2019-06-01")
```



p\_check

*Return CRAN Package Check Results***Description**

p\_check opens the default browser, connects to your local CRAN and displays for each package the CRAN Package Check Results or the last Check Results recorded in CRAN archive (with the date of the archive). An internet connexion is required.

p\_check\_lst reads the check results from the repository and print the results as a list in the console, with a message for the archived package(s). An internet connexion is required. If a large number of packages is to be analyzed, a preload of checkdb is required before launching the instruction (via [checkdb\\_down](#) or [checkdb\\_load](#)). This preload speeds up significantly the analysis.

p\_checkdeps and p\_checkdeps\_lst extend the analysis to the package dependencies.

Comprehensive tables of the check results for package sources and Windows binaries can be displayed with [h\\_cranchecks](#) and [h\\_crancheckwindows](#).

**Usage**

```
p_check(..., char = NULL, repos = getOption("repos")[1])
```

```
p_check_lst(..., char = NULL, npkgs = 10, repos = getOption("repos")[1])
```

```
p_checkdeps(..., char = NULL, which = "DIL", recursive = TRUE,
  reverse = FALSE, crandb = get("crandb", envir = .GlobalEnv),
  repos = getOption("repos")[1])
```

```
p_checkdeps_lst(..., char = NULL, which = "DIL", recursive = TRUE,
  reverse = FALSE, npkgs = 10, crandb = get("crandb", envir =
  .GlobalEnv), repos = getOption("repos")[1])
```

**Arguments**

...	any format recognized by <a href="#">cncs</a> , except list. A vector of packages.
char	(name to) a character vector. Use this argument if ... fails or if you call the function from another function. If used, argument ... is ignored.
repos	character. The address of your local CRAN.
npkgs	integer. The number of packages from which a preload of checkdb is required (via <a href="#">checkdb_down</a> or <a href="#">checkdb_load</a> ).
which	character vector. A sub-vector of c("Depends", "Imports", "LinkingTo", "Suggests", "Enhances"). The short forms "D", "I", "L", "S", "N", "DL", "DI", "DIL", "DILS", "DILN", "DILSN", "SN" are accepted. "N" is for "Enhances" as the single letter "E" is used by R as a shortcut to <code>EXPR</code> , a reserved word.
recursive	logical. Search for (reverse) dependencies of (reverse) dependencies.
reverse	logical. Search for reverse dependencies.
crandb	data.frame crandb. Also accepted is NULL which will search in the local <code>installed.packages()</code> . This later form allows (private) packages that are not listed in crandb.

## Examples

```
## In real life, download crandb and checkdb from CRAN or load them
## with functions crandb_down(), crandb_load(), checkdb_down(), checkdb_load().
## checkdb can be ignored if less than npkgs are explored.
## In these examples, we use two small files of 110 and 107 packages.

crandb_load(system.file("data", "zcrandb.rda", package = "RWsearch"))
checkdb_load(system.file("aabb", "zcheck_results.rds", package = "RWsearch"))

if (interactive()) {
  p_check(RWsearch, zmatrix, NotApkg, repos = "https://cloud.r-project.org")
}
p_check_lst(igraph, zmatrix, NotApkg, repos = "https://cloud.r-project.org")
p_checkdeps_lst(igraph, zmatrix, NotApkg, repos = "https://cloud.r-project.org")
```

---

p\_deps

*Dependencies and Reverse Dependencies of Packages*

---

## Description

p\_deps returns the (reverse) dependencies of a (vector of) package(s). It is a wrapper of the `tools::package_dependencies` function. A warning is issued for packages that are not in `crandb + .libPaths()` (for instance in CRAN archive, Bioconductor, Github or your own directories).

p\_depsrec is a shortcut to `p_deps(recursive = TRUE)`. It returns the recursive dependencies (e.g. the list of all ancestors).

p\_depsrev is a shortcut to `p_deps(reverse = TRUE)`. It returns the reverse dependencies (e.g. the children packages).

p\_deps\_deps returns a list with the recursive dependencies for the packages `packages` and every first level dependencies (including or excluding the ones in `.Library`).

p\_deps\_ndeps returns a vector of the number of dependencies for each package and their parent dependencies. With the argument `sort = TRUE`, the packages are listed from no dependency to the largest number of dependencies.

p\_deps\_count counts the number of (recursive/reverse) dependencies for each package and returns a data.frame with 4 columns: `Parents1`, `ParentsN`, `Children1`, `ChildrenN`.

p\_deps\_inpkgs returns the package dependencies that are installed in the computer.

p\_deps\_unpkgs returns the package dependencies that are not installed in the computer.

p\_deps\_inun combines `p_deps` and `p_inun_crandb`, then returns the status of all dependencies: installed or not installed in the computer, available or not available in the current `crandb` (see CRAN archives, Bioconductor, Github, your own packages).

The missing packages available on CRAN can be downloaded with [p\\_down0](#), downloaded and checked (by R CMD check) with `xfun::rev_check` or installed with `install.packages`. The packages removed from CRAN but available in CRAN archive can be downloaded with [p\\_downarch](#).

**Usage**

```

p_deps(..., char = NULL, which = "DIL", recursive = FALSE,
        reverse = FALSE, verbose = TRUE, crandb = get("crandb", envir =
        .GlobalEnv))

p_depsrec(..., char = NULL, which = "DIL", reverse = FALSE,
          verbose = TRUE, crandb = get("crandb", envir = .GlobalEnv))

p_depsrev(..., char = NULL, which = "DIL", recursive = FALSE,
          verbose = TRUE, crandb = get("crandb", envir = .GlobalEnv))

p_deps_deps(..., char = NULL, which = "DIL", Library = FALSE,
            verbose = TRUE, crandb = get("crandb", envir = .GlobalEnv))

p_deps_ndeps(..., char = NULL, which = "DIL", Library = FALSE,
             sort = TRUE, verbose = TRUE, crandb = get("crandb", envir =
             .GlobalEnv))

p_deps_count(..., char = NULL, which = "DIL", verbose = TRUE,
             crandb = get("crandb", envir = .GlobalEnv))

p_deps_inpkgs(..., char = NULL, which = "DIL", recursive = TRUE,
              reverse = FALSE, crandb = get("crandb", envir = .GlobalEnv))

p_deps_unpkgs(..., char = NULL, which = "DIL", recursive = TRUE,
              reverse = FALSE, crandb = get("crandb", envir = .GlobalEnv))

p_deps_inun(..., char = NULL, which = "DIL", recursive = TRUE,
            reverse = FALSE, crandb = get("crandb", envir = .GlobalEnv))

```

**Arguments**

...	any format recognized by <a href="#">cns</a> , excluding list. A package or a vector of packages listed in <code>crandb</code> or in <code>installed.packages()</code> .
char	(name to) a character vector. Use this argument if ... fails or if you call the function from another function. If used, argument ... is ignored.
which	character vector. A sub-vector of <code>c("Depends", "Imports", "LinkingTo", "Suggests", "Enhances")</code> . The short forms "D", "I", "L", "S", "N", "DL", "DI", "DIL", "DILS", "DILN", "DILSN", "SN" are accepted. "N" is for "Enhances" as the single letter "E" is used by R as a shortcut to <code>EXPR</code> , a reserved word.
recursive	logical. Search for (reverse) dependencies of (reverse) dependencies.
reverse	logical. Search for reverse dependencies.
verbose	logical. Print the message.
crandb	data.frame <code>crandb</code> . Also accepted is <code>NULL</code> which will search in the local <code>installed.packages()</code> . This later form allows (private) packages that are not listed in <code>crandb</code> .
Library	logical. The default <code>FALSE</code> excludes the base and recommended packages stored in <code>.Library</code> . <code>TRUE</code> includes them.

sort                    logical. The default TRUE sorts the package by the number of dependencies.

### Examples

```
## In real life, download crandb from CRAN or load it from your directory
## with functions crandb_down() or crandb_load().
## In this example, we use a small file.
crandb_load(system.file("data", "zcrandb.rda", package = "RWsearch"))

p_deps(networkD3, visNetwork)
p_deps(networkD3, visNetwork, recursive = TRUE)
p_deps(actuar, fitdistrplus, reverse = TRUE, which = "DILSN")

p_deps_inpkgs(RWsearch, canprot)
p_deps_unpkgs(RWsearch, canprot)
p_deps_inun(RWsearch, canprot, NotApkg)

p_deps_deps(actuar, networkD3, FatTailsR, RWsearch, NotApkg)
p_deps_ndeps(actuar, networkD3, FatTailsR, RWsearch, NotApkg)
p_deps_count(actuar, networkD3, FatTailsR, RWsearch, NotApkg)
```

---

p\_display

*Display Package Information in HTML Pages*

---

### Description

p\_display, p\_display5 and p\_display7 open the default browser and display the results of p\_table, p\_table5 and p\_table7 in one or several html pages. If ... (or char) is a list, several pages are opened.

### Usage

```
p_display(..., char = NULL, columns = c("Package", "Title", "Description"),
  dir = tempdir(), verbose = FALSE, crandb = get("crandb", envir =
  .GlobalEnv))

p_display5(..., char = NULL, dir = tempdir(), verbose = FALSE,
  crandb = get("crandb", envir = .GlobalEnv))

p_display7(..., char = NULL, dir = tempdir(), verbose = FALSE,
  crandb = get("crandb", envir = .GlobalEnv))
```

### Arguments

...                    any format recognized by `cnsc`, including list. A vector or a list of packages. Or a vector or a list of data.frame produced by `p_table`.

char                    (name to) a character vector. Use this argument if ... fails or if you call the function from another function. If used, argument ... is ignored.

columns	character vector. A sub-vector of <code>colnames(crandb)</code> . The short form "P", "T", "D", "PT", "PD", "TD", "PTD", "A", "M", "AM" describing the Package name, Title, Description, Author, Maintainer or a combination of them is accepted.
dir	character. The directory in which the html file(s) is (are) saved. <code>tempdir()</code> or <code>getwd()</code> are common paths.
verbose	logical. List the generated html file(s).
crandb	data.frame <code>crandb</code> . The data.frame of CRAN packages.

### Examples

```
## In real life, download crandb from CRAN or load it from your directory
## with functions crandb_down() or crandb_load().
## In this example, we use a small file.
## No package has the 'distillation' keyword. An empty table is returned.
crandb_load(system.file("data", "zcrandb.rda", package = "RWsearch"))
(lst <- s_crandb_list("thermodynamic", "chemical reaction", "distillation"))

if (interactive()) {
  dir <- file.path(tempdir(), "pdisplay")

  ## Vector => 1 page
  p_display(RWsearch, pacman, pdfsearch, sos, brew, dir = dir)

  ## List with 3 items => 3 pages with one empty
  p_display5(lst, dir = dir)
}
```

---

p\_down *Download the Package Documentation in One Directory or in Several Subdirectories*

---

### Description

If `pkgs` is a vector of packages obtained from `s_crandb`, `p_down` downloads from CRAN and saves in the `dir` directory (by default the current directory) the index page, the manual, the vignettes, the README, NEWS, ChangeLog, CRAN checks files, the source code in `pkg_ver.tar.gz` format, the binary code in `pkg_ver.tgz` (Mac OSX) or `pkg_ver.zip` (Windows) format and a minimal R-script of each package. The files that do not exist are ignored, with no warning.

If `pkgs` is a list of packages obtained from `s_crandb_list`, `p_down` saves the downloaded files in subdirectories named after the names of the list, e.g. the keywords used at the search step. The names are eventually modified with `gsub(".", "_", make.names(pkg), fixed = TRUE)` to cope with Unix and Windows directory names.

`p_down0` calls `p_down` with different values for each argument. With the default configuration, this function downloads nothing. It is mostly used to download one specific item which has not been previously downloaded.

`p_downarch` downloads from CRAN archive the `tar.gz` file of one or several packages, either the last version(s) with `Sys.Date()` or the version(s) before a given date. It combines 3 functions:

`p_archive_lst` lists the packages stored in CRAN archive and their version numbers, `l_targz` extracts the appropriate version numbers available before a given date, `targz_down` downloads the tar.gz files in the selected directory (default is the current directory) and eventually decompresses it.

`targz_down` downloads the tar.gz files from CRAN archive to the selected directory (default is the current directory) and eventually decompresses it. If `url = "https://cran.r-project.org/src/contrib"`, `targz_down` will take the latest version of the package.

## Usage

```
p_down(..., char = NULL, index = TRUE, manual = TRUE, vignettes = TRUE,
  README = TRUE, NEWS = FALSE, ChangeLog = FALSE, checks = FALSE,
  targz = FALSE, untar = FALSE, binary = FALSE, type = "binary",
  script = FALSE, dir = ".", crandb = get("crandb", envir = .GlobalEnv),
  repos = getOption("repos")[1])
```

```
p_down0(..., char = NULL, index = FALSE, manual = FALSE,
  vignettes = FALSE, README = FALSE, NEWS = FALSE, ChangeLog = FALSE,
  checks = FALSE, targz = FALSE, untar = FALSE, binary = FALSE,
  type = "binary", script = FALSE, dir = ".", crandb = get("crandb",
  envir = .GlobalEnv), repos = getOption("repos")[1])
```

```
p_downarch(..., char = NULL, before = Sys.Date(), dir = ".",
  untar = FALSE, url = "https://cran.r-project.org/src/contrib/Archive")
```

```
targz_down(ptargz, dir = ".", untar = FALSE,
  url = "https://cran.r-project.org/src/contrib/Archive")
```

## Arguments

<code>...</code>	any format recognized by <code>cnsc</code> , including list. A vector or packages or a named list of packages (with names being the keywords).
<code>char</code>	(name to) a character vector or a list. Use this argument if <code>...</code> fails or if you call the function from another function. If used, argument <code>...</code> is ignored.
<code>index</code>	logical. Download the html index page of each package.
<code>manual</code>	logical. Download the pdf manual.
<code>vignettes</code>	logical. Download the html and pdf vignettes, if they exist.
<code>README</code>	logical. Download the README file, if it exists.
<code>NEWS</code>	logical. Download the NEWS file, if it exists.
<code>ChangeLog</code>	logical. Download the ChangeLog file, if it exists.
<code>checks</code>	logical. Download the CRAN checks file.
<code>targz</code>	logical. Download the *.tar.gz source file.
<code>untar</code>	logical. Decompress the downloaded tar.gz file.
<code>binary</code>	logical. Download the *.tgz (Mac OSX) or *.zip (Windows) binary file, depending the type value.

type	character. Either "mac.binary", "mac.binary.el-capitan", or "win.binary". The default, "binary", automatically detects the local OS and the variants between R-3.6.3, R-4.0.0 or (for Windows) gcc8. See the type section of <code>utils::install.packages</code> .
script	logical. Create a mini-script and save it in a *.R file.
dir	character. The directory in which the files are saved. Default value "." is the current directory.
crandb	data.frame crandb. The data.frame of CRAN packages.
repos	character. The address of your local CRAN.
before	character which can be converted to a Date, for instance "2017-05-14". Extract from CRAN archive the package(s) available before this date. Can be synchronized with the release dates of base-R versions listed at: <a href="https://CRAN.R-project.org/src/contrib/">https://CRAN.R-project.org/src/contrib/</a> and <a href="https://CRAN.R-project.org/package=rversions/readme/README.html">https://CRAN.R-project.org/package=rversions/readme/README.html</a>
url	character. The url address of CRAN archive html file.
ptargz	character. A vector of package(s) with their version number and tar.gz extension stored in CRAN archive. These packages can be identified with <code>l_targz</code> .

## Examples

```
## In real life, download crandb from CRAN or load it from your directory
## with functions crandb_down() or crandb_load().
## In this example, we use a small file.
crandb_load(system.file("data", "zcrandb.rda", package = "RWsearch"))

## Download the documentation in the "dirpkgs" directory. Flat representation.
dir <- file.path(tempdir(), "dirpkgs")
p_down(RWsearch, pdfsearch, sos, dir = dir, repos = "https://cloud.r-project.org")
list.files(dir, recursive = TRUE, full.names = TRUE)

## Download the documentation in subdirectories named after the keywords.
dir <- file.path(tempdir(), "dirpkgslist")
(lst <- s_crandb_list(thermodynamic, "chemical reaction"))
(lst2 <- lapply(lst, function(x) x[1:2]))
system.time(
  p_down(lst2, dir = dir, repos = "https://cloud.r-project.org")
)
list.files(dir, recursive = TRUE, full.names = TRUE)

## Download tar.gz files stored in CRAN archive.
dir <- file.path(tempdir(), "targzip")
p_downarch(fitur, zmatrix, NotAPkg, before = "2017-05-14", dir = dir)
targz_down("SVN_1.0.tar.gz", dir = dir, untar = TRUE)
list.files(dir, recursive = TRUE, full.names = TRUE)
```

## Description

p\_graphF calculates the (recursive/reverse) dependencies of a (vector of) package(s) and displays in the default browser a standard graph (F/Force in the networkD3 terminology) of the package dependencies. It combines the p\_network and n\_graphF functions.

p\_graphS calculates the (recursive/reverse) dependencies of a (vector of) package(s) and displays in the default browser a Sankey graph (in the networkD3 terminology) of the package dependencies. It combines the p\_network and n\_graphS functions.

p\_network returns the (recursive/reverse) dependencies of a (vector of) package(s) as a network of nodes and links.

n\_graphF takes as input a network of package nodes and links and displays them in the default browser as a standard graph (F/Force in the networkD3 terminology) representing the package dependencies.

n\_graphS takes as input a network of package nodes and links and displays them in the default browser as a Sankey graph (in the networkD3 terminology) representing the package dependencies.

Remember that the option exclpkgs = ... whose default value TRUE is equivalent to exclpkgs = c("graphics", "grDevices", "methods", "stats", "tools", "utils"), can substantially modify the aspect of the graph, especially for reverse = FALSE.

## Usage

```
p_graphF(..., char = NULL, which = "DIL", recursive = TRUE,
  reverse = FALSE, exclpkgs = TRUE, group = 2, fontFamily = "serif",
  fontSize = 11, linkDistance = 50, charge = -100,
  crandb = get("crandb", envir = .GlobalEnv))
```

```
p_graphS(..., char = NULL, which = "DIL", recursive = TRUE,
  reverse = FALSE, exclpkgs = TRUE, group = 2, fontFamily = "serif",
  fontSize = 14, nodeWidth = 30, nodePadding = 10,
  crandb = get("crandb", envir = .GlobalEnv))
```

```
p_network(..., char = NULL, which = "DIL", recursive = TRUE,
  reverse = FALSE, exclpkgs = TRUE, crandb = get("crandb", envir =
  .GlobalEnv))
```

```
n_graphF(netw, group = 2, fontFamily = "serif", fontSize = 11,
  linkDistance = 50, charge = -100)
```

```
n_graphS(netw, group = 2, fontFamily = "serif", fontSize = 14,
  nodeWidth = 30, nodePadding = 10)
```



**Arguments**

...	any format recognized by <a href="#">cnsr</a> . Lists are accepted for <code>p_graphF</code> and <code>p_graphS</code> (and will result in multiple html pages) but not in <code>p_network</code> . A vector or a list of package(s) listed in <code>crandb</code> or in <code>installed.packages()</code> .
char	(name to) a character vector. Use this argument if ... fails or if you call the function from another function. If used, argument ... is ignored.
which	character vector. A sub-vector of <code>c("Depends", "Imports", "LinkingTo", "Suggests", "Enhances")</code> . The short forms "D", "I", "L", "S", "N", "DL", "DI", "DIL", "DILS", "DILN", "DILSN", "SN" are accepted. "N" is for "Enhances" as the single letter "E" is used by R as a shortcut to <code>EXPR</code> , a reserved word.
recursive	logical. Search for (reverse) dependencies of (reverse) dependencies.
reverse	logical. Search for reverse dependencies.
exclpkgs	logical or character vector. TRUE excludes from the network of nodes and links the dependencies <code>c("graphics", "grDevices", "methods", "stats", "tools", "utils")</code> . FALSE includes them. You can provide your own vector of packages to exclude them from the network of nodes and links, for instance: <code>exclpkgs = c("ggplot2", list.files(.Library))</code> .
group	integer, currently 1, 2 or 3. The suffix of the "NGroup" column in <i>netw</i> . Define a scheme for colouring the nodes.
fontFamily	character. Either "serif" or "sans-serif".
fontSize	integer. The size of the font.
linkDistance	integer. The minimal distance of a link between two nodes.
charge	integer. A repulsive value between two nodes.
crandb	<code>data.frame</code> <code>crandb</code> . Also accepted is NULL which will search in the local <code>installed.packages()</code> . This later form allows (private) packages that are not listed in <code>crandb</code> .
nodeWidth	integer. The width of the rectangular nodes in the Sankey graph.
nodePadding	integer. The vertical space between two nodes in the same column of a Sankey graph.
netw	a list of class "pkgsnetwork" produced by <a href="#">p_network</a> that describes the dependencies of one or several packages with nodes and links (a network).

**Examples**

```
## In real life, download crandb from CRAN or load it from your directory
## with functions crandb_down() or crandb_load().
## In this example, we use a small file.
crandb_load(system.file("data", "zcrandb.rda", package = "RWsearch"))

lst <- list("RWsearch", "visNetwork") ; lst
netw <- p_network(actuar, fitdistrplus, reverse = TRUE) ; netw

if (interactive()) {
  p_graphF(lst)
  p_graphS(RWsearch, visNetwork)
}
```

```
n_graphF(netw)
n_graphS(netw)
}
```

---

p\_html

*HTML Help Page, PDF Manual and Vignettes*


---

## Description

p\_page opens the default browser, connects to your local CRAN and displays the home page of the package(s). An internet connexion is required.

p\_html and p\_html2 open the default browser and display the html help page of the package, if it is installed. On Windows, p\_html returns a local server address *http://127.0.0.1:\*.html* and subfunctions listed in the page can be explored whereas p\_html2 returns a file address *file:///C:/\*\*.html* with no links to the subfunctions.

p\_htmlweb opens the default browser and displays the html help pages housed by the R-project (previously by the University of Pennsylvania). An internet connexion is required.

p\_pdf displays in a pdf reader the pdf manual of the package, or generates it on the fly in the current directory if the package is installed. Miktex or Texlive is required. This is a very fast function if the files already exist (and `overwrite=FALSE`) and a (relatively) slow function if the files needs to be generated, usually much slower than:

p\_pdfweb downloads from you local CRAN the pdf manual of the package, saves it in the current directory and opens it in the pdf application of your browser. An internet connexion is required.

p\_vig is a wrapper of `utils::browseVignettes`. It opens the default browser and displays a list of the vignettes related to a package, if they exist.

p\_vig\_all wraps `utils::browseVignettes(NULL)`. It opens the default browser and displays all vignettes available in the computer. This can be a very large html file.

Use [p\\_archive](#) or [p\\_archive](#) to display in the browser or in the console the package archives. An internet connexion is required.

## Usage

```
p_page(..., char = NULL, repos = getOption("repos")[1])
p_html(..., char = NULL)
p_html2(..., char = NULL)
p_htmlweb(..., char = NULL)
p_pdf(..., char = NULL, overwrite = FALSE, dir = ".")
p_pdfweb(..., char = NULL, repos = getOption("repos")[1])
p_vig(..., char = NULL)
p_vig_all()
```

**Arguments**

...	any format recognized by <a href="#">cns</a> , except list. A vector of packages.
char	(name to) a character vector. Use this argument if ... fails or if you call the function from another function. If used, argument ... is ignored.
repos	character. The address of your local CRAN.
overwrite	logical. Overwrite already existing file (and use LaTeX intensively).
dir	character. The directory in which the files are read or written. Default value "." is the current directory.

**Examples**

```

if (interactive()) {
  p_page(RWsearch, sos, repos = "https://cloud.r-project.org")
  p_html(RWsearch, sos)
  p_htmlweb(RWsearch)
  p_pdfweb(sos, repos = "https://cloud.r-project.org")

  ## Try
  p_pdf(sos, dir = file.path(tempdir(), "pdf"))
  p_vig(RWsearch)
}

```

---

p\_inst                      *A simple wrapper around install.packages()*

---

**Description**

p\_inst is a wrapper around [install.packages](#) which tries hard to select the most appropriate lib and stops in case of conflict.

... allows a non-standard evaluation of unquoted packages separated by commas. Use [install.packages](#) if any additional argument is needed.

**Usage**

```

p_inst(..., char = NULL, lib = NULL, repos = getOption("repos"),
       contriburl = NULL, type = getOption("pkgType"))

```

**Arguments**

...	any format recognized by <a href="#">cns</a> , excluding list. A vector of packages.
char	(name to) a character vector or a list. Use this argument if ... fails or if you call the function from another function. If used, argument ... is ignored.
lib	character. The directory where to install the packages, usually one of the directories listed by <a href="#">.libPaths</a> . If NULL, select automatically the most relevant directory.

repos	character. The address of your local CRAN.
contriburl	character. The address of your private repository.
type	character. Either "source", "both", "binary" (or its variants "mac.binary", "mac.binary.el-capitan", "win.binary").

---

p\_inun *List of Installed, Uninstalled and Non-Existing Packages*

---

### Description

p\_incrandb returns TRUE if all packages are listed in crandb and a vector of FALSE with the names of the packages not listed in crandb.

p\_inun returns a list of packages installed or not installed in the computer.

p\_inun\_crandb checks if the packages exist or do not exist in crandb (see CRAN archives, Bioconductor, Github, your own packages).

The missing packages available on CRAN can be downloaded with [p\\_down0](#), downloaded and checked (by R CMD check) with `xfun::rev_check` or installed with `install.packages`. The packages removed from CRAN but available in CRAN archive can be downloaded with [p\\_downarch](#).

### Usage

```
p_incrandb(..., char = NULL, crandb = get("crandb", envir = .GlobalEnv))
```

```
p_inun(..., char = NULL)
```

```
p_inun_crandb(..., char = NULL, crandb = get("crandb", envir = .GlobalEnv))
```

### Arguments

...	any format recognized by <a href="#">cnsc</a> , including list. A vector or a list of packages.
char	(name to) a character vector or a list. Use this argument if ... fails or if you call the function from another function. If used, argument ... is ignored.
crandb	data.frame crandb.

### Examples

```
## In real life, download crandb from CRAN or load it from your directory
## with functions crandb_down() or crandb_load().
## In this example, we use a small file.
crandb_load(system.file("data", "zcrandb.rda", package = "RWsearch"))

## Check if packages are installed or not, and exist or not in crandb
p_incrandb(RWsearch, NotAPkg1, pacman, NotAPkg2, sos)
p_inun(RWsearch, NotAPkg1, pacman, NotAPkg2, sos)
p_inun_crandb(RWsearch, NotAPkg1, pacman, NotAPkg2, sos)
```

**Description**

p\_table returns a subset of cranDB for the given packages and the selected columns, by default the Package name, the Title and the Description.

p\_table2 has a preset value to 2 columns: "Package", "Title" and prints the results in the console with a left alignment.

p\_table5 has a preset value to 5 columns: "Package", "Title", "Description", "Author", "Maintainer".

p\_table7 has a preset value to 7 columns: "Package", "Version", "Published", "Title", "Description", "Author", "Maintainer".

table\_pdf prints the results of p\_table, p\_table5 or p\_table7 in pdf file(s). MikTeX or Texlive is required.

p\_table2pdf, p\_table3pdf, p\_table5pdf, p\_table7pdf combine the above functions.

**Usage**

```
p_table(..., char = NULL, columns = c("Package", "Title", "Description"),
  cranDB = get("cranDB", envir = .GlobalEnv))
```

```
p_table2(..., char = NULL, cranDB = get("cranDB", envir = .GlobalEnv))
```

```
p_table5(..., char = NULL, cranDB = get("cranDB", envir = .GlobalEnv))
```

```
p_table7(..., char = NULL, cranDB = get("cranDB", envir = .GlobalEnv))
```

```
table_pdf(x, filename = "SelectedPkgs.tex", dir = ".",
  texops = "a4paper,landscape,10pt", pdf = TRUE, cleantex = TRUE,
  openpdf = TRUE, verbose = TRUE)
```

```
p_table2pdf(..., char = NULL, filename = "Selectedpkgs", dir = ".",
  texops = "a4paper,landscape,10pt", pdf = TRUE, cleantex = TRUE,
  openpdf = TRUE, verbose = TRUE, cranDB = get("cranDB", envir =
  .GlobalEnv))
```

```
p_table3pdf(..., char = NULL, filename = "Selectedpkgs", dir = ".",
  texops = "a4paper,landscape,10pt", pdf = TRUE, cleantex = TRUE,
  openpdf = TRUE, verbose = TRUE, cranDB = get("cranDB", envir =
  .GlobalEnv))
```

```
p_table5pdf(..., char = NULL, filename = "Selectedpkgs", dir = ".",
  texops = "a4paper,landscape,10pt", pdf = TRUE, cleantex = TRUE,
  openpdf = TRUE, verbose = TRUE, cranDB = get("cranDB", envir =
```

```
.GlobalEnv))

p_table7pdf(..., char = NULL, filename = "Selectedpkgs", dir = ".",
  texops = "a4paper,landscape,10pt", pdf = TRUE, cleantex = TRUE,
  openpdf = TRUE, verbose = TRUE, crandb = get("crandb", envir =
  .GlobalEnv))
```

## Arguments

...	any format recognized by <a href="#">cns</a> , including list. A vector or a list of packages.
char	(name to) a character vector. Use this argument if ... fails or if you call the function from another function. If used, argument ... is ignored.
columns	character vector. A sub-vector of <code>colnames(crandb)</code> . The short form "P", "T", "D", "PT", "PD", "TD", "PTD", "A", "M", "AM" describing the Package name, Title, Description, Author, Maintainer or a combination of them is accepted.
crandb	data.frame crandb. The data.frame of CRAN packages.
x	(list of) data.frame produced by <code>p_table</code> (with 3 columns), <code>p_table5</code> (5 columns) or <code>p_table7</code> (7 columns). If x is a list, the names of the list will be appended to filename.
filename	character. The file name (with or without extension).
dir	character. The directory in which the files are read or written. Default value "." is the current directory.
texops	character vector. Options passed to instruction <code>documentclass</code> in *.tex file.
pdf	logical. FALSE generates the *.tex file. TRUE generates both the *.tex and *.pdf files.
cleantex	logical. Remove the .tex file(s) (only if pdf = TRUE).
openpdf	logical. Open the generated *.pdf file(s) in a pdf viewer (only if pdf = TRUE).
verbose	logical. Print the path(s) to the generated file(s).

## Examples

```
## In real life, download crandb from CRAN or load it from your directory
## with functions crandb_down() or crandb_load().
## In this example, we use a small file.
crandb_load(system.file("data", "zcrandb.rda", package = "RWsearch"))

## Use a large console (useful for p_table2())
p_table2(pacman, pdfsearch, sos)
(lst <- s_crandb_list("thermodynamic", "chemical reaction", "distillation"))
p_table2(lst)

## Print the tables as pdf files and open them in a pdf viewer.
if (interactive()) {
  dir <- file.path(tempdir(), "ptablepdf")
  p_table5pdf(pacman, pdfsearch, sos, filename = "table5", dir = dir)
  p_table7pdf(lst, filename = "table7", dir = dir, cleantex = FALSE)
}
```

**Description**

p\_text extracts from CRAN the most relevant information related to one or several packages and print them in a text file which can be tailored to various formats: \*.txt, \*.md, \*.tex for further treatment.

p\_text2md has preset values for markdown files.

p\_text2tex has preset values for latex files.

p\_text2pdf has preset values for pdf files.

**Usage**

```
p_text(..., char = NULL, filename = "txtpkgs.txt", dir = ".",
  beforetext = "", f_maintext = funmaintext, sep1 = "==" ,
  sep2 = " ==", eol = "\n", README = TRUE, NEWS = TRUE,
  vignettes = TRUE, aftertext = "", editor = FALSE, pager = FALSE,
  verbose = TRUE, crandb = get("crandb", envir = .GlobalEnv),
  repos = getOption("repos")[1])
```

```
p_text2md(..., char = NULL, filename = "mdpkgs.md", dir = ".",
  beforetext = funheadermd(), f_maintext = funmaintext, sep1 = "# ",
  sep2 = " ", eol = " \n", README = TRUE, NEWS = TRUE,
  vignettes = TRUE, aftertext = "", editor = FALSE, pager = FALSE,
  verbose = TRUE, crandb = get("crandb", envir = .GlobalEnv),
  repos = getOption("repos")[1])
```

```
p_text2tex(..., char = NULL, filename = "texpkgs.tex", dir = ".",
  beforetext = funheadertex(), f_maintext = funmaintext,
  sep1 = "\\section{", sep2 = "}", eol = " \\\\n",
  README = TRUE, NEWS = TRUE, vignettes = TRUE,
  aftertext = funfootertex(), editor = FALSE, pager = FALSE,
  verbose = TRUE, crandb = get("crandb", envir = .GlobalEnv),
  repos = getOption("repos")[1])
```

```
p_text2pdf(..., char = NULL, filename = "pdfpkgs.pdf", dir = ".",
  beforetext = funheadertex(), f_maintext = funmaintext,
  sep1 = "\\section{", sep2 = "}", eol = " \\\\n",
  README = TRUE, NEWS = TRUE, vignettes = TRUE,
  aftertext = funfootertex(), cleantex = TRUE, openpdf = FALSE,
  verbose = TRUE, crandb = get("crandb", envir = .GlobalEnv),
  repos = getOption("repos")[1])
```

**Arguments**

...	any format recognized by <code>cnsc</code> , including list. A vector or packages or a named list of packages (with names being the keywords).
char	(name to) a character vector or a list. Use this argument if ... fails or if you call the function from another function. If used, argument ... is ignored.
filename	character. The file name with extension. If ... (or ...) is a list, the names of the list will be appended to filename.
dir	character. The directory in which the files are read or written. Default value "." is the current directory.
beforetext	character. The text written at the beginning of the file.
f_maintext	function name. The function used to extract the main text from <code>crandb</code> (supplied with no parenthesis).
sep1	character. The symbols written just before each package name.
sep2	character. The symbols written just after each package name. If used with <code>markdown</code> , add two blank characters at the end to force a new line.
eol	character. The end of line for the main text (but not for the header and the footer). "\n" for text, "\n" for <code>rmarkdown</code> , "\\n" for <code>latex</code> .
README	logical. Write the line related to the README page, if it exists.
NEWS	logical. Write the line related to the NEWS page, if it exists.
vignettes	logical. Write the lines related to the vignette(s), if they exist.
aftertext	character. The text written at the end of the file.
editor	logical. Open the text file with <code>editor</code> .
pager	logical. Open the text file with <code>pager</code> .
verbose	logical. List the generated file(s).
crandb	data.frame <code>crandb</code> . The data.frame of CRAN packages.
repos	character. The address of your local CRAN.
cleantex	logical. Remove the .tex file(s).
openpdf	logical. Open the pdf files in the default pdf viewer.

**Examples**

```
## In real life, download crandb from CRAN or load it from your directory
## with functions crandb_down() or crandb_load().
## In this example, we use a small file.
crandb_load(system.file("data", "zcrandb.rda", package = "RWsearch"))

## Search in crandb
vec <- s_crandb(search, find, select = "PT") ; vec
lst <- s_crandb_list(thermodynamic, "chemical reaction") ; lst
lst2 <- lapply(lst, function(x) x[1:2]) ; lst2
dir <- file.path(tempdir(), "ptext")

## Generate a txt file
```



```

p_text(vec[1:5], filename = "SearchFind.txt", dir = dir,
       repos = "https://cloud.r-project.org")

## Generate 2 tex + 2 pdf files (10-20 seconds)
## Try the options cleantex = FALSE and openpdf = TRUE on lst
if (interactive()) {
  p_text2pdf(lst2, dir = dir, cleantex = TRUE, openpdf = FALSE,
            repos = "https://cloud.r-project.org")
}

```

---

p_unload_all	<i>Unload all non-base and non-recommended packages from the namespace</i>
--------------	--

---

### Description

p\_unload\_all unloads in a safe order all packages, except the base and recommended packages, that are attached or loaded in the namespace, plus their respective DLLs.

It must be used before installing new versions of packages that are currently loaded in the namespace and require some forced unloading, as revealed by the first column of the data.frame produced by [p\\_vers\\_deps](#). Warning: this function also removes `RWsearch` and its dependencies. It is therefore recommended to perform the installation with [install.packages](#) rather than [p\\_inst](#).

This function is safe enough to reinstall locked packages but not safe enough for a further use as it does not unload the S3 and S4 classes nor the documentation which is detected as corrupted. It is therefore recommend to stop and restart R after the installation of the fresh packages.

### Usage

```
p_unload_all(unload = FALSE, crandb = get("crandb", envir = .GlobalEnv))
```

### Arguments

unload	logical. FALSE prints a list with 3 items: the loaded packages, the packages in the namespace, the loaded DLLs. TRUE removes the packages and their DLLs, then prints the refreshed list.
crandb	data.frame crandb.

### Examples

```

## In real life, download crandb from CRAN or load it from your directory
## with functions crandb_down() or crandb_load().
## In this example, we use a small file.
crandb_load(system.file("data", "zcrandb.rda", package = "RWsearch"))

p_unload_all()
## Then run p_unload_all(TRUE), but only for maintenance!

```

## Description

The information displayed by `p_vers` depends on the availability of `crandb` and `binarydb` in `.GlobalEnv`.

If `crandb` is not loaded in `.GlobalEnv`, `p_vers` returns a `data.frame` with two columns: first column `nsloaded` (TRUE/FALSE) detects (with `base::isNamespaceLoaded`) if the package namespaces are loaded. Second column `version` is the version number of the installed packages.

If `crandb` is loaded in `.GlobalEnv`, three columns are added. Column `crandb` displays the version number of the source packages recorded in the `crandb` file. Column `gcc` displays the need for a compilation. Column `compare` compares this version number with the version installed on the computer. Possible values are: -2 for a package not installed on the computer (NA) but available in `crandb`; -1 for an installed package older than the source package available in CRAN; 0 for an installed package with the same version number than CRAN; +1 for a more recent package than the one available in CRAN; +2 for a package installed on the computer and not available in CRAN (NA); +3 for a package not installed on the computer (NA) and not available in CRAN (NA).

If `binarydb` is loaded in `.GlobalEnv`, two or three columns are added. Column `binary` displays the version number of the binary packages recorded in the `binarydb = available.packages, type = "binary"` matrix. Column `difvb` compares the installed version on the computer with this binary version and column `difbc` compares (if `crandb` is in `.GlobalEnv`) the binary version with the source package available in CRAN (which can differ for recently updated packages, a matter of 1 to 3 days). The numbering is identical to the one used for `crandb`.

If `ndeps = TRUE`, two more columns are added with the number of recursive dependencies per package. Column `tdeps` includes the base and recommended packages. Column `ndeps` does not count them. This option can take some time. Set it to `FALSE` if you need speed.

`p_vers_deps` calculates the same information but includes the recursive dependencies. Subsetting by `"compare < 0"` returns a shorter `data.frame` with the uninstalled (-2) and the outdated (-1) packages. Packages marked with `nsloaded = TRUE` must be detached and unloaded before any reinstallation. Using this instruction before running `install.packages` or `p_inst` is very useful as it detects packages that are locked and cannot be reinstalled. The order provided by `p_vers_deps` is the best one for the reinstallation of outdated packages.

## Usage

```
p_vers(..., char = NULL, ndeps = TRUE)
```

```
p_vers_deps(..., char = NULL, ndeps = TRUE, subset = "compare < 4",
  crandb = get("crandb", envir = .GlobalEnv))
```

## Arguments

... any format recognized by [cnsC](#). A (list of) vector of packages for `p_vers`. A vector of packages for `p_vers_deps`

char	(name to) a character vector. Use this argument if ... fails or if you call the function from another function. If used, argument ... is ignored.
ndeps	logical. Calculate the number of recursive dependencies. crandb in .GlobalEnv is required for this option.
subset	character. Subset the output data.frame on som columns. The default "compare < 4" does not subset. Usual values are "compare < 0" or "compare < 0 && nsloaded == TRUE"
crandb	data.frame crandb. The data.frame of CRAN packages.

### Examples

```
## In real life, download crandb from CRAN or load it from your directory
## with functions crandb_down() or crandb_load().
## In this example, we use a small file.
crandb_load(system.file("data", "zcrandb.rda", package = "RWsearch"))

## macOS and Windows users can launch (no file stored in RWsearch)
# binarydb_down()

pkgs <- cncs(RWsearch, MASS, Matrix, NotAPkg, R)
p_vers(pkgs, ndeps = FALSE)
p_vers(p_deps(pkgs), ndeps = FALSE)

p_vers_deps(pkgs) # dependencies can be visualized with p_graphF(pkgs)
```

---

s\_crandb

*Search Packages by Keywords in data.frame crandb*


---

### Description

The most important functions in this package along with [p\\_down](#).

Search packages in data.frame crandb that contain one or several keywords in the columns "Package", "Title", "Description", "Author" or "Maintainer".

s\_crandb returns a vector of the packages that contain the keywords.

s\_crandb\_list returns a list where each element of the list is one of the keywords.

s\_crandb\_PTD returns a list split by results in columns "Package", "Title" and "Description". Option mode = "and", "relax" is ignored.

s\_crandb\_AM returns a list split by results in columns "Author" and "Maintainer". Option mode = "and", "relax" is ignored.

Use [p\\_table2](#) to print the results of s\_crandb and s\_crandb\_list in the console. Use [p\\_text](#) to send the results in txt, md or pdf files. Use [p\\_display](#) to visualize the results in html pages in the browser.

**Usage**

```
s_crandb(..., char = NULL, select = "PTD", mode = "or",
  sensitive = FALSE, perl = FALSE, fixed = FALSE, agrep = FALSE,
  max.distance = 0.1, costs = NULL, crandb = get("crandb", envir =
  .GlobalEnv))
```

```
s_crandb_list(..., char = NULL, select = "PTD", mode = "or",
  sensitive = FALSE, perl = FALSE, fixed = FALSE, agrep = FALSE,
  max.distance = 0.1, costs = NULL, crandb = get("crandb", envir =
  .GlobalEnv))
```

```
s_crandb_PTD(..., char = NULL, mode = "or", sensitive = FALSE,
  perl = FALSE, fixed = FALSE, agrep = FALSE, max.distance = 0.1,
  costs = NULL, crandb = get("crandb", envir = .GlobalEnv))
```

```
s_crandb_AM(..., char = NULL, mode = "or", sensitive = FALSE,
  perl = FALSE, fixed = FALSE, agrep = FALSE, max.distance = 0.1,
  costs = NULL, crandb = get("crandb", envir = .GlobalEnv))
```

**Arguments**

...	any format recognized by <a href="#">cns</a> , except list. One or several keywords.
char	(name to) a character vector. Use this argument if ... fails or if you call the function from another function. If used, argument ... is ignored.
select	character vector. A sub-vector of <code>colnames(crandb)</code> . The short form "P", "T", "D", "PT", "PD", "TD", "PTD", "A", "M", "AM" describing the Package name, Title, Description, Author, Maintainer or a combination of them is accepted.
mode	character among "or", "and", "relax". The search mode. "relax" is for 3 words and more. It is an intermediate between "or" and "and" as it requires just 2 matching words: ("word1" AND "word2") OR ("word1" AND "word3") OR ("word1" AND "word3").
sensitive	logical. TRUE forces the search to be case sensitive.
perl	logical. Used only if <code>fixed = FALSE</code> . TRUE uses Perl-compatible regex. FALSE uses default regexps.
fixed	logical. TRUE matches the keywords as is (and <code>sensitive</code> is forced to TRUE). FALSE allows <code>grep</code> or Perl regexps. See <a href="#">grep</a> . Not used by <code>agrep</code> .
agrep	logical. For approximate matching, use <a href="#">agrep</a> function rather than <code>grep</code> .
max.distance	integer or numeric. See <a href="#">agrep</a> .
costs	NULL or list. See <a href="#">agrep</a> .
crandb	data.frame <code>crandb</code> .

**Examples**

```
## In real life, download crandb from CRAN or load it from your directory
## with functions crandb_down() or crandb_load().
## In this example, we use a small file.
```

```

crandb_load(system.file("data", "zcrandb.rda", package = "RWsearch"))

## Search using standard or non-standard content
s_crandb(c("thermodynamic", "chemical reaction", "distillation"))
s_crandb_list(thermodynamic, "chemical reaction", distillation)

## Search using the various options
s_crandb("^f", select = "P")
s_crandb(pH, sensitive = TRUE)
s_crandb_PTD(pH, sensitive = TRUE)
s_crandb_PTD("C++", fixed = TRUE)
s_crandb(search, find, cran, web, select = "PD", mode = "and")
s_crandb(search, find, cran, web, select = "PD", mode = "relax")
s_crandb(search, find, cran, web, select = "PD", mode = "or")

## Search for some authors using the various options
s_crandb_AM(Kiener, Dutang, ORPHANED)

## Non-standard content can be unquoted words or objects in .GlobalEnv
## They are transformed into character or are evaluated
## Here, the searched keywords are "find" and "search".
OTHER <- "search"
(lst <- s_crandb_list(find, OTHER, select = "P", sensitive = TRUE))

## Display in the browser this list of packages
if (interactive()) {
  p_display5(lst, dir = file.path(tempdir(), "scrandb"))
}

```

---

s\_crandb\_tvdb

*Search For Recent Packages In crandb And In Task View*


---

## Description

This is a function for task view maintenance.

Search packages in a subset of crandb within dates from and to that contain one or several keywords in the columns "Package", "Title", "Description", "Author" or "Maintainer", then verify if these packages are already refereed in one of the task views stored in tvdb.

## Usage

```

s_crandb_tvdb(..., char = NULL, tv = "Distributions", from = -10,
  to = Sys.Date(), select = "PTD", mode = "or", sensitive = FALSE,
  perl = FALSE, fixed = FALSE, agrep = FALSE, max.distance = 0.1,
  costs = NULL, crandb = get("crandb", envir = .GlobalEnv),
  tvdb = get("tvdb", envir = .GlobalEnv))

```

**Arguments**

...	any format recognized by <a href="#">cnsc</a> , except list. One or several keywords.
char	(name to) a character vector. Use this argument if ... fails or if you call the function from another function. If used, argument ... is ignored.
tv	character. One task view among those listed in tvdb.
from	character representing a date earlier than date to. Or a negative integer representing the number of days preceeding the date to.
to	date. The upper date in the search.
select	character vector. A sub-vector of colnames(crandb). The short form "P", "T", "D", "PT", "PD", "TD", "PTD", "A", "M", "AM" describing the Package name, Title, Description, Author, Maintainer or a combination of them is accepted.
mode	character among "or", "and", "relax". The search mode. "relax" is for 3 words and more. It is an intermediate between "or" and "and" as it requires just 2 matching words: ("word1" AND "word2") OR ("word1" AND "word3") OR ("word1" AND "word3").
sensitive	logical. TRUE forces the search to be case sensitive.
perl	logical. Used only if fixed = FALSE. TRUE uses Perl-compatible regex. FALSE uses default regexps.
fixed	logical. TRUE matches the keywords as is (and sensitive is forced to TRUE). FALSE allows grep or Perl regexps. See <a href="#">grep</a> . Not used by <a href="#">agrep</a> .
agrep	logical. For approximate matching, use <a href="#">agrep</a> function rather than <a href="#">grep</a> .
max.distance	integer or numeric. See <a href="#">agrep</a> .
costs	NULL or list. See <a href="#">agrep</a> .
crandb	data.frame crandb.
tvdb	list. The list of the task views.

**Value**

A list with the following vectors:

- spkgs: The selected packages that contain the keyword(s).
- inTV: The packages that contain the keyword(s) already refereed in the task view.
- notinTV: The packages that contain the keyword(s) not (yet) refereed in the task view.
- inTV\_in: Among the packages available in the task view, those installed in the computer.
- inTV\_un: Among the packages available in the task view, those not installed in the computer.
- notinTV\_in: Among the packages not refereed in the task view, those installed in the computer.
- notinTV\_un: Among the packages not refereed in the task view, those not installed in the computer.

## Examples

```
### TASK VIEW MAINTENANCE (tvdb + crandb)
## In real life, download crandb and tvdb from CRAN or load them from your directory
## with functions crandb_down(), crandb_load(), tvdb_down(), tvdb_load().
## In this example, we use small files.
crandb_load(system.file("data", "zcrandb.rda", package = "RWsearch"))
tvdb_load(system.file("data", "ztvdb.rda", package = "RWsearch"))

## List the task views
tvdb_vec()

## Search for the recent packages in crandb that contain the keyword
## and verify the packages already refereed in the task view.
(lst <- s_crandb_tvdb("distribution", tv = "Distributions", from = "2018-01-01"))

if (interactive()) {
  p_display7(lst[c("inTV", "notinTV")], dir = file.path(tempdir(), "scrandbtvdb"))
}
```

---

s\_hs

*Search Packages and Functions in Installed Packages*


---

## Description

s\_hs is a wrapper of the well known function `??` and its parent function `help.search`. Visit the help page [help.search](#) for details on the various arguments.

## Usage

```
s_hs(..., char = NULL, fields = c("alias", "concept", "title"), apropos,
      keyword, whatis, ignore.case = TRUE, package = NULL, agrep = NULL,
      use_UTF8 = FALSE)
```

## Arguments

...	one single character string recognized by <a href="#">cns</a> . One and only one pattern
char	(name to) a single character string. Use this argument if ... fails or if you call the function from another function. If used, argument ... is ignored.
fields	See <code>help.search</code> .
apropos	See <code>help.search</code> .
keyword	See <code>help.search</code> .
whatis	See <code>help.search</code> .
ignore.case	See <code>help.search</code> .
package	See <code>help.search</code> .
agrep	See <code>help.search</code> .
use_UTF8	See <code>help.search</code> .

---

s_sos	<i>Search Packages and Functions on R-Project Help pages and RDocumentation</i>
-------	---

---

## Description

s\_sos searches in all R documentation packages and functions that contain one or several keywords, open the default browser and display the results in a html page. For one or two keywords, s\_sos may find more results than [s\\_crandb](#) as it goes deeper in the documentation, down to the function level. An internet connection is required to reach the website maintained by the R-Project which replaced the University of Pennsylvania during year 2021.

s\_sos is a minimal wrapper of the function `sos::findFn`. Use directly the package `sos` and read its vignette for advanced search options.

## Usage

```
s_sos(..., char = NULL)
```

## Arguments

... any format recognized by [cnsc](#), except list. One or several keywords.

char (name to) a character vector. Use this argument if ... fails or if you call the function from another function. If used, argument ... is ignored.

## See Also

<https://search.r-project.org> to search for functions rather than packages,

<https://CRAN.R-project.org/package=sos> (index and vignette).

## Examples

```
## Search using standard or non-standard content
## and display the results in a browser.
if (interactive()) {
  s_sos("chemical reaction")
  (res <- s_sos(distillation))
  tail(data.frame(res))
}
```



---

s_tvdb	<i>Search Packages in Task Views</i>
--------	--------------------------------------

---

**Description**

s\_tvdb searches if one or several package(s) are referred in some task views and lists these task views.

**Usage**

```
s_tvdb(..., char = NULL, tvdb = get("tvdb", envir = .GlobalEnv))
```

**Arguments**

...	any format recognized by <a href="#">cnsc</a> , except list. The names of one or several task views.
char	(name to) a character vector or a list. Use this argument if ... fails or if you call the function from another function. If used, argument ... is ignored.
tvdb	list. The list of the task views.

**Examples**

```
## In real life, download tvdb from CRAN or load it from your directory
## with functions tvdb_down() or tvdb_load().
## In this example, we use a small file.
tvdb_load(system.file("data", "ztvdb.rda", package = "RWsearch"))
tvdb_dfr()
s_tvdb(actuar, FatTailsR, MASS, zoo, NotAPkg)
```

---

tvdb	<i>Task Views (tvdb.rda)</i>
------	------------------------------

---

**Description**

tvdb\_down downloads from CRAN the file "Views.rds", a file refreshed every day that describes the task views available in CRAN for this day, rearranges the list in an alphabetical order and gives names to the list names, then loads in .GlobalEnv this list (of class ctvlist) under the name tvdb and saves it with the filename tvdb.rda.

tvdb\_load loads the file filename in .GlobalEnv under the name tvdb. Equivalent to load("tvdb.rda").

tvdb\_vec displays the list of the task views. There are 36 task views in August 2018.

tvdb\_dfr extracts from tvdb a data.frame *version, name, topic* of the task views.

tvdb\_list extracts from tvdb the list of the task views and the referenced packages.

tvdb\_pkgs displays the packages referenced by one or several task views.

Visit [s\\_crandb\\_tvdb](#) to conduct task view maintenance.

**Usage**

```

tvdb_down(dir = ".", repos = getOption("repos")[1])

tvdb_load(filename = "tvdb.rda")

tvdb_vec(tvdb = get("tvdb", envir = .GlobalEnv))

tvdb_dfr(tvdb = get("tvdb", envir = .GlobalEnv))

tvdb_list(tvdb = get("tvdb", envir = .GlobalEnv))

tvdb_pkgs(..., char = NULL, tvdb = get("tvdb", envir = .GlobalEnv))

```

**Arguments**

<code>dir</code>	character. The directory where "tvdb.rda" is saved. Default value "." is the current directory.
<code>repos</code>	character. The address of your local CRAN.
<code>filename</code>	character. The path to file "tvdb.rda". The default is to read in the current directory.
<code>tvdb</code>	list. The list of the task views.
<code>...</code>	any format recognized by <a href="#">cnsc</a> , except list. The names of one or several task views.
<code>char</code>	(name to) a character vector or a list. Use this argument if <code>...</code> fails or if you call the function from another function. If used, argument <code>...</code> is ignored.

**Examples**

```

### DOWNLOAD AND VISUALIZE THE TASK VIEWS (tvdb)
## In real life, download tvdb from CRAN or load it from your directory
## with functions tvdb_down() or tvdb_load().
## In this example, we use a small file.
tvdb_load(system.file("data", "ztvdb.rda", package = "RWsearch"))
length(tvdb)

## List the task views
tvdb_vec()
tvdb_dfr()
tvdb_pkgs("Genetics")
lengths(tvdb_list())

## Here, 'lst' is subsetted from the small crandb file.
crandb_load(system.file("data", "zcrandb.rda", package = "RWsearch"))
funIN <- function(x, y) x[match(x, y, nomatch = 0) > 0]
lst <- lapply(tvdb_list()[1:2], funIN, crandb$Package) ; lst

if (interactive()) p_display7(lst[[1]], dir = file.path(tempdir(), "ptvdbdown"))

```

---

zcrandb

*File zcrandb.rda: A Subset of crandb Dataset*

---

### Description

The file *zcrandb.rda* contains a data.frame named `crandb` of dimension 110 x 64. It is a subset of 110 packages of the large `crandb` data.frame usually downloaded from CRAN by the function [crandb\\_down](#). The use of `zcrandb.rda` avoids inappropriate connections to CRAN and increases the speed of the examples.

### Examples

```
crandb_load(system.file("data", "zcrandb.rda", package = "RWsearch"))
```

---

ztvdb

*File ztvdb.rda: A Subset of tvdb Dataset*

---

### Description

The file *ztvdb.rda* contains a list of 6 task views named `tvdb`. It is a subset of the large file *tvdb.rda* that contain 42 task views usually downloaded from CRAN by the function [tvdb\\_down](#). The use of *ztvdb.rda* avoids inappropriate connections to CRAN and increases the speed of the examples.

### Examples

```
tvdb_load(system.file("data", "ztvdb.rda", package = "RWsearch"))
```

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