Package 'repo.data'

September 15, 2025

```
package dependencies, links between help pages, aliases, package
     availability on a given date, and other repository dependent outcome.
     This metadata can be used to help package maintainers and users to
     navigate changes on dependencies and with reproducibility.
License GPL (>= 3)
URL https://github.com/llrs/repo.data,
     https://llrs.github.io/repo.data/
BugReports https://github.com/llrs/repo.data/issues
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```

Description Retrieve metadata about packages from repositories to explore

Title R Repository Data

Version 0.1.4

base_alias

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base_alias

Base R's alias

Description

Retrieve alias available on R.

Usage

base_alias(packages = NULL)

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Arguments

packages

A vector with packages or NULL for all packages.

Value

A data.frame with three columns: Package, Source and Target.

See Also

```
The raw source of the data is: base_aliases_db(). Other alias: cran_alias()
```

Examples

```
ba <- base_alias()
head(ba)</pre>
```

base_help_cliques

Help pages with cliques

Description

Some help pages have links to and from but they are closed networks.

Usage

```
base_help_cliques()
```

Details

Requires igraph

Value

Return a data.frame of help pages not connected to the network of help pages.

See Also

Other functions related to BASE help pages: base_help_pages_not_linked(), base_help_pages_wo_links()

```
base_help_cliques()
```

```
base_help_pages_not_linked

Help pages without links
```

Description

Help pages without links to other help pages. This makes harder to navigate to related help pages.

Usage

```
base_help_pages_not_linked()
```

Value

A data.frame with two columns: Package and Source

See Also

Other functions related to BASE help pages: base_help_cliques(), base_help_pages_wo_links()

Examples

```
bhnl <- base_help_pages_not_linked()
head(bhnl)</pre>
```

```
base_help_pages_wo_links
```

Help pages not linked from base R

Description

Help pages without links from other help pages. This makes harder to find them.

Usage

```
base_help_pages_wo_links()
```

Value

A data.frame with two columns: Package and Source

See Also

Other functions related to BASE help pages: base_help_cliques(), base_help_pages_not_linked()

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Examples

```
bhwl <- base_help_pages_wo_links()
head(bhwl)</pre>
```

base_links

Base R's links

Description

Retrieve links on R documentation files.

Usage

```
base_links(packages = NULL)
```

Arguments

packages

A vector with packages or NULL for all packages.

Value

A data.frame with the links on R's files. It has 4 columns: Package, Anchor, Target and Source.

See Also

```
The raw source of the data is: base_rdxrefs_db().

Other links from R: base_pages_links(), base_pkges_links(), base_targets_links()
```

Examples

```
bl <- base_links()
head(bl)</pre>
```

base_pages_links

Links between help pages by page

Description

Explore the relationship between base R packages and other help pages. If the target help page is ambiguous it is omitted.

Usage

```
base_pages_links(packages = NULL)
```

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Arguments

packages

A vector with packages or NULL for all packages.

Value

A data.frame with 6 columns: from_pkg, from_Rd, to_pkg, to_Rd, n (Number of links).

See Also

```
Other links from R: base_links(), base_pkges_links(), base_targets_links()
```

Examples

```
bpl <- base_pages_links()
head(bpl)</pre>
```

base_pkges_links

Links between help pages by package

Description

Explore the relationship between base R packages and other packages. If the target package is ambiguous it is omitted.

Usage

```
base_pkges_links(packages = NULL)
```

Arguments

packages

A vector with packages or NULL for all packages.

Value

A data.frame with 6 columns: from_pkg, to_pkg, n (Number of links).

See Also

```
Other links from R: base_links(), base_pages_links(), base_targets_links()
```

```
bpkl <- base_pkges_links()
head(bpkl)</pre>
```

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base_targets_links

Links between help pages by target

Description

Explore the relationship between base R packages and other help pages by the target they use.

Usage

```
base_targets_links(packages = NULL)
```

Arguments

packages

A vector with packages or NULL for all packages.

Value

A data.frame with 6 columns: from_pkg, from_Rd, to_pkg, to_target, to_Rd, n (Number of links).

See Also

```
Other links from R: base_links(), base_pages_links(), base_pkges_links()
```

Examples

```
btl <- base_targets_links()
head(btl)</pre>
```

bioc_cran_archived

Bioconductor packages using CRAN archived packages

Description

Checks on the 4 Bioconductor repositories which packages depend on a archived package.

Usage

```
bioc_cran_archived(which = "strong")
```

Arguments

which

a character vector listing the types of dependencies, a subset of c("Depends", "Imports", "LinkingTo", "Suggests", "Enhances"). Character string "all" is shorthand for that vector, character string "most" for the same vector without "Enhances", character string "strong" (default) for the first three elements of that vector.

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Value

A data.frame with the name of the Bioconductor packages depending on archived packages (on Archived column) and the number of missing packages (n).

See Also

```
For CRAN's data source: tools::CRAN_package_db()
```

Examples

```
bca <- bioc_cran_archived()
head(bca)</pre>
```

clean_cache

Clean cache

Description

Clean cache to download repository data again.

Usage

```
clean_cache()
```

Details

Cleans the package's environment used for caching the data.

Value

Returns NULL.

```
clean_cache()
```

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cran_alias

CRAN's alias

Description

Retrieve alias available on CRAN.

Usage

```
cran_alias(packages = NULL)
```

Arguments

packages

A vector with packages or NULL for all packages.

Value

A data.frame with three columns: Package, Source and Target.

See Also

```
The raw source of the data is: CRAN_aliases_db().
```

Other alias: base_alias()

 $Other meta info from CRAN: cran_archive(), cran_comments(), cran_history(), cran_links()\\$

Examples

```
ca <- cran_alias("BWStest")
head(ca)</pre>
```

cran_archive

Retrieve CRAN archive

Description

Retrieve the archive and the current database.

Usage

```
cran_archive(packages = NULL)
```

Arguments

packages

A vector with packages or NULL for all packages.

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Details

Some packages would get an NA in Version, if package_version() were to be used with strict = FALSE. Packages might have been on CRAN but could have been removed and won't show up. Depending on the data requested and packages currently on CRAN, you might get a warning regarding a package being both archived and current.

Value

A data.frame with 6 columns: Package, Date (of publication), Version, User, size and status (archived or current). It is sorted by package name and date.

See Also

The raw source of the data is: CRAN_archive_db(), CRAN_current_db(). For some dates and comments about archiving packages: cran_comments().

Other meta info from CRAN: cran_alias(), cran_comments(), cran_history(), cran_links()

Examples

```
ap <- available.packages()
a_package <- rownames(ap)[startsWith(rownames(ap), "A")][2]
ca <- cran_archive(a_package)
head(ca)</pre>
```

cran_comments

CRAN comments

Description

CRAN volunteers document since ~2009 why they archive packages. This function retrieves the data and prepares it for analysis, classifying the actions taken by the team per package and date.

Usage

```
cran_comments(packages = NULL)
```

Arguments

packages

A vector with packages or NULL for all packages.

Details

The comments are slightly edited: multiple comments for the same action are joined together so that they can be displayed on a single line. Actions are inferred from 7 keywords: archived, orphaned, removed, renamed, replaced, unarchived, unorphaned.

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Value

A data.frame with four columns: package, comment, date and action.

Note

There can be room for improvement: some comments describe two actions, please let me know if you think this can be improved. Other actions can be described on multiple comments/lines or out of order. Compare with the original file in case of doubts.

References

```
Original file: https://cran.r-project.org/src/contrib/PACKAGES.in
```

See Also

Other meta info from CRAN: cran_alias(), cran_archive(), cran_history(), cran_links()

Examples

```
cc <- cran_comments()
head(cc)</pre>
```

cran_date

Estimate CRAN's date of packages

Description

Check which CRAN dates are possible for a given packages and versions.

Usage

```
cran_date(versions)
cran_session(session = sessionInfo())
```

Arguments

versions A data.frame with the packages names and versions

session Session information.

Value

Last installation date from CRAN.

See Also

```
Other utilities: cran_doom(), cran_snapshot(), duplicated_alias(), package_date(), package_repos(), repos_dependencies(), update_dependencies()
```

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Examples

```
# ip <- installed.packages()
ip <- data.frame(Package = c("A3", "AER"), Version = c("1.0.0", "1.2-15"))
cran_date(ip)
cran_session()</pre>
```

cran_doom

Calculate time till packages are archived

Description

Given the deadlines by the CRAN volunteers packages can be archived which can trigger some other packages to be archived. This code calculates how much time the chain reaction will go on if maintainer don't fix/update the packages.

Usage

```
cran_doom(which = "strong", bioc = FALSE)
```

Arguments

which

a character vector listing the types of dependencies, a subset of c("Depends", "Imports", "LinkingTo", "Suggests", "Enhances"). Character string "all" is shorthand for that vector, character string "most" for the same vector without "Enhances", character string "strong" (default) for the first three elements of that vector.

bioc

Logical value if Bioconductor packages should be provided, (Requires internet connection).

Details

Packages on Suggested: field should

Value

A list with multiple elements:

- time_till_last: Time till last package is affected.
- last_archived: the date of the last package that would be affected.
- npackages: Numeric vector with the number of packages used.
- details: A data.frame with information for each individual package: Name, date affected, affected directly, repository, times it is affected (by archival causing issues.)

References

Original code from: https://github.com/schochastics/cran-doomsday/blob/main/index.qmd

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See Also

```
The raw source of the data is: tools::CRAN_package_db()

Other utilities: cran_date(), cran_snapshot(), duplicated_alias(), package_date(), package_repos(), repos_dependencies(), update_dependencies()
```

Examples

```
cd <- cran_doom()
head(cd$details)</pre>
```

cran_help_cliques

Help pages with cliques

Description

Some help pages have links to other pages and they might be linked from others but they are closed network: there is no link that leads to different help pages.

Usage

```
cran_help_cliques(packages = NULL)
```

Arguments

packages

A vector with packages or NULL for all packages.

Details

Requires igraph

Value

Return a data.frame of help pages not connected to the network of help pages. Or NULL if nothing are found.

See Also

Other functions related to CRAN help pages: cran_help_pages_not_linked(), cran_help_pages_wo_links()

```
chc <- cran_help_cliques("BaseSet")
head(chc)</pre>
```

```
cran_help_pages_links_wo_deps
```

Links without dependencies

Description

On WRE section "2.5 Cross-references" explains that packages shouldn't link to help pages outside the dependency.

Usage

```
cran_help_pages_links_wo_deps(packages = NULL)
```

Arguments

packages

A vector with packages or NULL for all packages.

Value

A data.frame of help pages and links.

References

https://cran.r-project.org/doc/manuals/r-devel/R-exts.html#Cross_002dreferences

Examples

```
evmix <- cran_help_pages_links_wo_deps("evmix")</pre>
```

```
cran_help_pages_not_linked
```

Help pages without links

Description

Help pages without links to other help pages. This makes harder to navigate to related help pages.

Usage

```
cran_help_pages_not_linked(packages = NULL)
```

Arguments

packages

A vector with packages or NULL for all packages.

Value

A data.frame with two columns: Package and Source

See Also

Other functions related to CRAN help pages: cran_help_cliques(), cran_help_pages_wo_links()

Examples

```
ap <- available.packages()
a_package <- rownames(ap)[startsWith(rownames(ap), "A")][1]
chnl <- cran_help_pages_not_linked(a_package)
head(chnl)</pre>
```

```
cran_help_pages_wo_links
```

Help pages not linked

Description

Help pages without links from other help pages. This makes harder to find them.

Usage

```
cran_help_pages_wo_links(packages = NULL)
```

Arguments

packages

A vector with packages or NULL for all packages.

Value

A data.frame with two columns: Package and Source

See Also

Other functions related to CRAN help pages: cran_help_cliques(), cran_help_pages_not_linked()

```
ap <- available.packages()
a_package <- rownames(ap)[startsWith(rownames(ap), "a")][1]
chwl <- cran_help_pages_wo_links(a_package)
head(chwl)</pre>
```

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cran_history

Check package history on CRAN

Description

It uses available information to provide the most accurate information of CRAN at any given time.

Usage

```
cran_history(packages = NULL)
```

Arguments

packages

A vector with packages or NULL for all packages.

Details

Several sources are used: CRAN's database to check packages files and versions, CRAN's volunteers actions for when packages are archived or removed and CRAN's comments to fill in the gaps.

Value

A data.frame with the information to recreate CRAN at any point before today.

See Also

```
cran_archive(), cran_actions(), cran_comments().
Other meta info from CRAN: cran_alias(), cran_archive(), cran_comments(), cran_links()
```

Examples

cran_history

cran_links

CRAN's links

Description

Retrieve links on CRAN packages' R documentation files.

Usage

```
cran_links(packages = NULL)
```

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Arguments

packages

A vector with packages or NULL for all packages.

Value

A data frame with the links on CRAN's packages. It has 4 columns: Package, Anchor, Target and Source.

See Also

```
The raw source of the data is: CRAN_rdxrefs_db().

Other links from CRAN: cran_pages_links(), cran_pkges_links(), cran_targets_links()

Other meta info from CRAN: cran_alias(), cran_archive(), cran_comments(), cran_history()
```

Examples

```
cl <- cran_links("CytoSimplex")
head(cl)</pre>
```

cran_maintainers

Tidy information about maintainers

Description

Make more accessible information about maintainers. Extracts and makes comparable some dates. It also provides the user name used and cleans the names of the maintainer of extra quotes.

Usage

```
cran_maintainers()
```

Details

User is what the machine building the package reported. This might indicate some collaboration, repackaging or simply nothing as it can be hidden/modified. The name, email and user might help identify similar named people (or confuse between maintainers)

Value

A data frame with one row per package and 11 columns. The package name, Maintainer field, user maintainer manual date, packaged date, published date, name of maintainer used, email used, direction and domain.

See Also

The raw source of the data is: CRAN_authors_db()

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Examples

```
maintainers <- cran_maintainers()
head(maintainers)</pre>
```

cran_pages_links

Links between help pages by page

Description

Explore the relationship between CRAN packages and other help pages. If the target help page is ambiguous it is omitted.

Usage

```
cran_pages_links(packages = NULL)
```

Arguments

packages

A vector with packages or NULL for all packages.

Value

A data.frame with 6 columns: from_pkg, from_Rd, to_pkg, to_Rd, n (Number of links).

See Also

```
Other links from CRAN: cran_links(), cran_pkges_links(), cran_targets_links()
```

Examples

```
cpl <- cran_pages_links("Matrix")
head(cpl)</pre>
```

cran_pkges_links

Links between help pages by package

Description

Explore the relationship between CRAN packages and other packages. If the target package is ambiguous it is omitted.

Usage

```
cran_pkges_links(packages = NULL)
```

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Arguments

packages

A vector with packages or NULL for all packages.

Value

A data.frame with 6 columns: from_pkg, to_pkg, n (Number of links).

See Also

```
Other links from CRAN: cran_links(), cran_pages_links(), cran_targets_links()
```

Examples

```
cpkl <- cran_pkges_links()
head(cpkl)</pre>
```

cran_snapshot

Check CRAN package state on any given date

Description

Given the available information which packages were on CRAN on a given date?

Usage

```
cran_snapshot(date)
```

Arguments

date

The date you want to check.

Value

The data.frame with the packages and versions at a given date.

Note

Due to missing of CRAN comments some packages are not annotated when were they archived and more packages than present might be returned for any given date.

See Also

```
Other utilities: cran_date(), cran_doom(), duplicated_alias(), package_date(), package_repos(), repos_dependencies(), update_dependencies()
```

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Examples

```
cs <- cran_snapshot(Sys.Date() -2 )
head(cs)</pre>
```

cran_targets_links

Links between help pages by target

Description

Explore the relationship between CRAN packages and other help pages by the target they use.

Usage

```
cran_targets_links(packages = NULL)
```

Arguments

packages

A vector with packages or NULL for all packages.

Value

A data.frame with 6 columns: from_pkg, from_Rd, to_pkg, to_target, to_Rd, n (Number of links).

See Also

```
Other links from CRAN: cran_links(), cran_pages_links(), cran_pkges_links()
```

Examples

```
ctl <- cran_targets_links("BaseSet")
head(ctl)</pre>
```

duplicated_alias

Report duplicated alias

Description

Report duplicated alias

Usage

```
duplicated_alias(alias)
```

Arguments

alias

The output of cran_alias() or base_alias()

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Value

A sorted data.frame with the Target, Package and Source of the duplicate alias.

See Also

```
Other utilities: cran_date(), cran_doom(), cran_snapshot(), package_date(), package_repos(), repos_dependencies(), update_dependencies()
```

Examples

```
# Checking the overlap between to seemingly unrelated packages:
alias <- cran_alias(c("fect", "gsynth"))
dup_alias <- duplicated_alias(alias)
head(dup_alias)</pre>
```

os_alias

Base R OS specific alias

Description

Data from the R source code of OS specific man help pages. This is to complement tools::base_aliases_db() which only provides links for Unix.

Usage

os_alias

Format

os_alias:

A matrix with 33 rows and 5 columns:

Package Package name

os OS system where this applies

file Name of the Rd file.

Source Path to the file.

Target Name of the Target

22 package_date

package_date

Find earliest date of compatibility

Description

Search the DESCRIPTION file for the release dates of dependencies and return the earliest date according to CRAN's archive. This is the date at which the package could be installed.

Usage

```
package_date(packages = ".", which = "strong")
```

Arguments

packages Path to the package folder and/or name of packages published.

which a character vector listing the types of dependencies, a subset of c("Depends",

"Imports", "LinkingTo", "Suggests", "Enhances"). Character string "all" is shorthand for that vector, character string "most" for the same vector without "Enhances", character string "strong" (default) for the first three elements of

that vector.

Details

Currently this function assumes that packages only use ">=" and not other operators. This might change on the future if other operators are more used.

Value

A vector with the datetimes of the published package (or current date if not published) and the datetime when the requirements were met.

See Also

```
Other utilities: cran_date(), cran_doom(), cran_snapshot(), duplicated_alias(), package_repos(), repos_dependencies(), update_dependencies()
```

```
package_date("ABACUS")
package_date("paramtest")
package_date("Seurat") # Dependencies on packages not on CRAN
package_date("afmToolkit") # Dependency was removed from CRAN
```

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package_dependencies Find current installations

Description

Despite the description minimal requirements find which versions are required due to dependencies.

Usage

```
package_dependencies(packages = ".", which = "strong")
```

Arguments

packages Path to a file with a DESCRIPTION file or package's names from a repository.

which a character vector listing the types of dependencies, a subset of c("Depends",

"Imports", "LinkingTo", "Suggests", "Enhances"). Character string "all" is shorthand for that vector, character string "most" for the same vector without "Enhances", character string "strong" (default) for the first three elements of

that vector.

Value

A data.frame with the name, version required, if only one package requires it it also show the name of the package.

Note

It keeps the base packages too even if just knowing the R version required would be enough.

Examples

```
pd <- package_dependencies("ggeasy")
head(pd)</pre>
```

package_repos

Package dependencies to repositories

Description

Explore the relationships between packages and repositories available.

Usage

```
package_repos(packages = NULL, repos = getOption("repos"), which = "all")
```

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Arguments

packages a character vector of package names.

repos Repositories and their names are taken from getOptions("repos").

which a character vector listing the types of dependencies, a subset of c("Depends",

"Imports", "LinkingTo", "Suggests", "Enhances"). Character string "all" is shorthand for that vector, character string "most" for the same vector without "Enhances", character string "strong" (default) for the first three elements of

that vector.

Value

A data frame with one line per package and at least one column per repository. It also has a column for Other repositories (Additional_repositories, or missing repositories), and the total number of dependencies and total number of repositories used.

See Also

```
Other utilities: cran_date(), cran_doom(), cran_snapshot(), duplicated_alias(), package_date(), repos_dependencies(), update_dependencies()
```

Examples

```
pr <- package_repos("experDesign")
head(pr)</pre>
```

repos_dependencies

Tidy dependencies

Description

Extract the packages dependencies, name of the dependency, operator and version for each type and package of current repositories (getOptions("repos")).

Usage

```
repos_dependencies(packages = NULL, which = "all")
```

Arguments

packages a character vector of package names.

which a character vector listing the types of dependencies, a subset of c("Depends",

"Imports", "LinkingTo", "Suggests", "Enhances"). Character string "all" is shorthand for that vector, character string "most" for the same vector without "Enhances", character string "strong" (default) for the first three elements of

that vector.

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Value

A data.frame with 5 columns: the name of the dependency, the operator (op), the version it depends the type of dependency and the package.

See Also

```
Other utilities: cran_date(), cran_doom(), cran_snapshot(), duplicated_alias(), package_date(), package_repos(), update_dependencies()
```

Examples

```
rd <- repos_dependencies("BaseSet")
head(rd)</pre>
```

update_dependencies

Upgradable versions

Description

Helper function to detect which package have a required version on the dependencies that could be upgraded.

Usage

```
update_dependencies(packages)
```

Arguments

packages

A character vector of packages names.

Details

Increasing this version requirements won't affect users as they already should have these versions installed as required by other dependencies.

Value

The data frame filtered with some relevant rows

See Also

```
package_dependencies()
Other utilities: cran_date(), cran_doom(), cran_snapshot(), duplicated_alias(), package_date(),
package_repos(), repos_dependencies()
```

```
update_dependencies("arrow")
```

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