Package ‘rde’

October 14, 2022

Title Reproducible Data Embedding

Version 0.1.0

Description Allows caching of raw data directly in R code. This allows R scripts and R Notebooks to be shared and re-run on a machine without access to the original data. Cached data is encoded into an ASCII string that can be pasted into R code. When the code is run, the data is automatically loaded from the cached version if the original data file is unavailable. Works best for small datasets (a few hundred observations).

Depends R (>= 3.1)

Imports clipr

License GPL-3

Encoding UTF-8

LazyData true

Suggests testthat, knitr, lintr, rmarkdown, spelling

VignetteBuilder knitr

RoxygenNote 6.0.1

Language en-US

SystemRequirements xclip (https://github.com/astrand/xclip) or xsel (http://www.vergenet.net/~conrad/software/xsel/) for accessing the X11 clipboard

URL https://github.com/kloppen/rde

BugReports https://github.com/kloppen/rde/issues

NeedsCompilation no

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Repository CRAN

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Description

`copy_rde_var` is intended to work with `load_rde_var`. The normal workflow would use `copy_rde_var` to copy a variable to the clipboard and then paste it in to the third argument of `load_rde_var`.

Usage

```r
copy_rde_var(var, line.width = 80L, no.clipboard = FALSE)
```

Arguments

- **var**: the variable to copy
- **line.width**: the desired width of lines of text (-1 for no line breaks)
- **no.clipboard**: the default is FALSE. Indicates that you want the function to return the string that would have been copied to the clipboard without actually copying to the clipboard. This option is mainly used for testing purposes. Normal users will not use it.

Details

The variable in the argument `var` is first saved using `saveRDS`. Then the saved variable is compressed using bzip2 compression. Next, the compressed data is base 64 encoded into a character string. Next, that string is prepended with a code that indicates the version of this package. The prepended code (currently ‘rde1’ allows for future changes while providing backwards compatibility). Finally, the string is optionally broken up into lines of width `line.width`. Whitespace and line breaks are ignored by `load_rde_var`.

On X11 systems (e.g. Linux), external software is required in order to access the clipboard. Either ‘xsel’ or ‘xclip’ is required. Installation of this software will depend on the installation that you use, but on Ubuntu/Debian, ‘sudo apt-get install xsel’ will probably work.

On Windows and OSX, no additional software is required.

Value

None (or string if no.clipboard=TRUE)
load_rde_var

Examples

    copy_rde_var(iris)

load_rde_var

Load data in a reproducible way that allows for exchange of code

Description

load_rde_var attempts to execute the code in load.fcn. If that succeeds, then the return value of that code is returned by load_rde_var. Otherwise, the value stored in cache is returned. cache must contain an encoded copy of the value produced by the function copy_rde_var. Optionally, you can force the use of the cached data by setting use.cache = TRUE.

Usage

    load_rde_var(use.cache = FALSE, load.fcn, cache)

Arguments

use.cache          boolean to force the use of cached data
load.fcn           code to load the data from its original source
cache              a cached copy of the data

Details

This package is intended for small datasets. A copy of the data is encoded as a string (using base64 encoding, after compressing the data) and that string is copied into your code. Even though the data is compressed, the encoded string can still be quite long. If your data is more than a few hundred observations, this package probably isn’t for you.

load.fcn must contain executable R code. Unless that code is a single expression, normally it would be enclosed in a pair of braces.

cache must be a string that was originally produced by copy_rde_var. See the documentation for that function for more details about the format of this string.

If the code in load.fcn fails, then a message is produced to indicate that the failure and the data encoded in cache is returned instead. This would occur if you share your code with someone who does not have access to the data that you’re loading in your code.

If use.cache = TRUE, the code in load.fcn is ignored and the data is loaded from the encoded string cache. This can be useful if it takes a very long time obtain the data and you re-run your code often.

If the value produced by the code in load.fcn does not match the value encoded in cache, then a warning is produced to indicate that there is a mismatch.
load_rde_var

Value

The data, either loaded using load.fcn, if possible, or from cache if that fails.

See Also

copy_rde_var

Examples

load_rde_var(use.cache = FALSE, {
  head(iris, 3)
}, "rde1Qlnpo9TFBKSZTwbG0254AKKT/5P//XAAAAAaAwARIwC/n3YBAAAAAwACYFAbAA7IhKIm
1oJoaRqekyaDTQPJP1MhDAaA8AAAGmg0A0AbI0kNGgAAAAAnYUzuJyxRYUJWNnsC1
tgicplFvZTHhARK1KFOu25bNBCC+0pWkGnGEzpVaihSiITBL2j6RRFchjamlGBFpBMwN
bAhwEGosCEGYBzthHPFUVjGcDz3qu9p4cb8rvYlyFhRRSSbWXfD0mTnyJDJh0iMipionY
lfwlFWk/IvzuBsOmuZN6tp7oWrW4UpNNGDl2E9T6lY2RFqab09/9o1N6/p/YV1YFPp
ISLqVP4u5lpwoSFjHbc8A=")
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