Package ‘lazyData’

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Type Package
Title A LazyData Facility
Version 1.1.0
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Description Supplies a LazyData facility for packages which have data sets but do not provide LazyData: true. A single function is included, requireData, which is a drop-in replacement for base::require, but carrying the additional functionality. By default, it suppresses package startup messages as well. See argument ‘reallyQuitely’.
Depends R (>= 2.15.0)
Imports utils
Suggests mgcv
License GPL-2
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R topics documented:

lazyData-package .......................................................... 2
requireData .............................................................. 3

Index

Description

Supplies a LazyData facility for packages which have data sets but do not provide LazyData. A single function is included, requireData, which is a drop-in replacement for base::require, but carrying the additional functionality.

Details

<table>
<thead>
<tr>
<th>Package:</th>
<th>lazyData</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type:</td>
<td>Package</td>
</tr>
<tr>
<td>Version:</td>
<td>1.1.0</td>
</tr>
<tr>
<td>Date:</td>
<td>2016-12-05</td>
</tr>
<tr>
<td>License:</td>
<td>GPL-2</td>
</tr>
</tbody>
</table>

If a package is attached with requireData, a check is made to see if a) the package provides data and b) if the data sets are not made visible to the user via LazyData: true. If both are the case, the package is attached to the search path, and in addition a second entry to the search path is made immediately behind the package containing promises to load the data sets should they be needed. This keeps data sets out of the global environment (unless they are modified), making them visible without occupying memory (unless they are needed).

Using requireData a second time on the same package has the effect of flushing any data sets brought into memory and reinstating them as promises.

Author(s)

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References

None.

See Also

require, library, data delayedAssign

Examples

requireData("mgcv")  ## we assume has data sets but no LazyLoad
.Search()            ## show the augmented search path
requireData

Attach packages as required and expose non-LazyData data sets as promises.

Description
This function provides LazyData functionality for packages which do not provide it. It acts as an enhanced substitute for the base package require function.

Usage

requireData(package = stop("you must specify a package"),
lib.loc = NULL, quietly = TRUE, character.only = FALSE,
warn.conflicts = TRUE, reallyQuietly = TRUE, ...)

Arguments

package The name of the package whose attachment to the search path is required. May be a name or a literal character string.
lib.loc The path to the library holding the package. As for require.
quietly Logical: should the standard loading message be suppressed? Ignored if reallyQuiet is TRUE.
character.only Logical: should the package argument be treated as a character string even if not literal?
warn.conflicts Should objects masked by the attachment of the package be flagged? As for require. Ignored if reallyQuiet is TRUE.
reallyQuietly Logical: should the package be loaded using suppressPackageStartupMessages? If TRUE, the default, this will make the loading as quietly as possible, but will suppress potentially useful messages, such as masking information.
...
Additional arguments currently ignored.

Details
The only function this package provides, requireData, is a substitute for the base function require. If the package is not already on the search path, it attaches it. In addition, if the package a) has data sets and b) does NOT use the LazyData facility, then an additional entry is made on the search path. This is an unlocked environment initially populated by 'promises' (using delayedAssign) to load a copy of the data set into memory if and when it is needed.
This is done recursively for all packages attached to the search path via dependencies.
If the package appears on the search path as package:<pkg> at position p, then any exposed data set objects appear at position p+1 as datasets:<pkg>. The package environment is locked, but the...
requireData

datasets environment is not. If a data set object is needed at any stage, it is brought silently into memory at position p+1 on the search path.

Any further call to requireData(<pkg>) will reinstate the datasets as promises, thus potentially freeing memory.

The intended effect is to make data sets more conveniently available to users, to make the use of the data function largely unnecessary, and to avoid cluttering the global environment with copies of passive data set objects.

Value

TRUE if the package was successfully attached and FALSE otherwise.

Author(s)

Bill Venables

References

Null

See Also

require, data

Examples

requireData("mgcv") ## we assume has data sets but no LazyLoad .Search() ## show augmented search path

## > ls("datasets:mgcv")
##[1] "columb"    "columb.polys"
Index

*Topic data
  lazyData-package, 2
  requireData, 3

data, 2, 4
delayedAssign, 2

lazyData(lazyData-package), 2
lazyData-package, 2
library, 2

require, 2–4
requireData, 3