

backpack

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Type Package

Title Easily discover, collect, and learn to use packages for statistical modeling.

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Description Use built-in binders (collections) of packages for topics in statistics.

Create your own binders to store collections of packages for easy installing and loading within your projects. Also, explore lessons on multivariate statistical modeling in R.

License GPL (>=2)

URL <https://github.com/priism-center/backpack>

BugReports <https://github.com/priism-center/backpack/issues>

Encoding UTF-8

LazyData true

RoxygenNote 6.1.0.9000

Imports dplyr,
learnr,
devtools,
magrittr

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anxiety	<i>Anxiety Dataset</i>
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Description

An individual's math and english scores based on their anxiety level. Dataset is useful for running a One-Way Manova. Dataset is simulated but draws inspiration from Laerd Statistics.

Usage

```
data(anxiety)
```

Format

A dataframe of 1000 observations and 3 variables.

math math scores

english english scores

anxiety anxiety level (low, med, high)

Source

Laerd Statistics

bind_packages	<i>Bind Packages</i>
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Description

Function to add packages to existing binders to the user views, or to create new binders to store packages

Usage

```
bind_packages(package, binder, source, suggest)
```

Arguments

package	: new packages to add
binder	: either an existing binder or a new user-defined binder
source	: whether package source is CRAN or Github Repo. If the source is a GitHub repo, please provide the 'username/repo[/subdir]'. Default is to CRAN.
suggest	: default = TRUE. Boolean indicating whether want suggestions on existing packages. Once you chose the final name, set suggest = FALSE to either add packages to an existing binder or create a new binder.

Examples

```
bind_packages(Package = c("a", "b", "c"), Binder = "alphabets", source = "CRAN", suggest = FALSE)
```

ExampleEFA*Example EFA dataset*

Description

Student responses on course evaluations. Adapted from a dataset from UCLA's Institute for Digital Research and Education.

Usage

```
data(ExampleEFA)
```

Format

A dataframe of 1365 observations and 13 variables.

X Unique ID

Item 13 Instructor well prepared

Item 14 Instructor scholarly grasp

Item 15 Instructor confidence

Item 16 Instructor focus lectures

Item 17 Instructor uses clear relevant examples

Item 18 Instructor sensitive to students

Item 19 Instructor allows me to answer questions

Item 20 Instructor accessible to students outside class

Item 21 Instructor aware of students understanding

Item 22 I am satisfied with student performance evaluation

Item 23 Compared to other instructors, this instructor is

Item 23 Compared to other courses this course was

Source

Institute for Digital Research and Education

initialize_backpack	<i>Initialze Backpack</i>
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Description

Function to initialize the file where user-defined binders will be saved.

Usage

```
initialize_user_views()
```

Arguments

path	file path to store the table with user-defined binders in. Creates an environment variable where the path is stored.
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Examples

```
initialize_backpack("~/Documents/") ## to store the user binders in documents folder.
```

install_binders	<i>Install Binders</i>
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Description

Function to install the packages in the binders.

Usage

```
install_binders(binders)
```

Arguments

binders	The binder to install
---------	-----------------------

Examples

```
install_binders("MLM")
```

```
install_binders()
```

list_lessons	<i>List Lessons</i>
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Description

Function to list available lessons.

Usage

```
list_lessons()
```

Examples

```
list_lesson()
```

load_binders	<i>Load Binders</i>
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Description

Function to load the packages in a binder(s).

Usage

```
load_binders(binders)
```

Arguments

binders	character vector of binder names. The binder(s) whose packages are to be loaded into the environment.
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Examples

```
load_binders("MLM")
```

psych_ed	<i>Psych_Ed Dataset</i>
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Description

Measurements of psychological constructs and scores on educational tests. Dataset adapted from dataset found on website for UCLA's Institute for Digital Research and Education. See reference link below for original.

Usage

```
data(psych_ed)
```

Format

A dataframe of 300 observations of 7 variables.

control locus of control score

concept self-concept score

motivation motivation score

read standardized test score in reading

write standardized test score in writing

math standardized test score in math

science standardized test score in science

Source

UCLA Institute for Digital Research and Education

seeds	<i>Seeds Dataset</i>
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Description

Measurements of geometrical properties of kernels belonging to three different varieties of wheat. Adapted from the dataset taken from the UCI Machine Learning Repository.

Usage

```
data(seeds)
```

Format

A dataframe of 210 observations of 8 variables.

area area of kernel

perimeter perimeter of kernel

compact compactness of kernel given by $C = 4 \cdot \pi \cdot A / P^2$

length length of kernel

width width of kernel

asymm asymmetry coefficient

groove length of kernel groove

variety variety of wheat: 1 = Kama, 2 = Rosa and 3 = Canadian

Source

UCI Machine Learning Repository

set_backpack_path	<i>Set backpack path</i>
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Description

creates the environment variable "PATH_TO_BACKPACK_USER_VIEWS" where the backpack path will be stored. This is referenced internally to look for user's persona binders.

Usage

```
set_backpack_path()
```

Arguments

path	file path where user-defined binders are. Creates an environment variable where the path is stored.
------	---

Examples

```
set_backpack_path("~/Documents/")
```

start_lesson	<i>Start Lesson</i>
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Description

Function to start a lesson.

Usage

```
start_lesson(lesson_name)
```

Arguments

lesson_name Name of the lesson to learn.

Details

This can also be done using the learnr package as follows 'learnr::run_tutorial("2004-MatrixAlgebra",package="backpack")'. It must be noted that when using this, the packages needed for the tutorial aren't automatically loaded. It is recommended to use start_lesson.

Examples

```
start_lesson(name="2004-MatrixAlgebra")

start_lesson()
```

unbind_packages	<i>Unbind Packages</i>
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Description

Function to remove packages from existing binders, or entire binders, from user views.

Usage

```
unbind_packages(Package, binder)
```

Arguments

package : package(s) to remove. Pass a vector if multiple packages.
 binder : specifies the binder from which Packages need to be removed. If Packages is NULL, will remove entire binder.

Examples

```
unbind_packages(Package = c("a","b"), binder = "alphabets")
unbind_packages(binder = 'alphabets')
```

uninstall_binders	<i>Uninstall Binders</i>
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Description

Function to uninstall the packages in the binder(s).

Usage

```
uninstall_binders(binders)
```

Arguments

binders	The binder(s) to uninstall
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Examples

```
uninstall_binders("MLM")
```

view_binders	<i>View Binders</i>
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Description

Function to see the binders of packages available and a summary for each.

Usage

```
view_binders()
```

Arguments

search	character string, regex style search string for binders with matches to words in the search string. Defaults to NULL in which case all the binders are shown.
compartment	character vector, the compartment to view the binders in. Defaults to "all". - "all" to view all the binders - "master" to view binders that came with the package - "user" to view binders created by the user

Examples

```
view_binders(compartment="master") ## to view all the binders in the master list  
view_binders(compartment="master",binders="Machine Learning") ## to view a summary of just the Machine Learning
```

%>%	<i>Pipe operator</i>
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Description

See `magrittr::%>%` for details.

Usage

lhs %>% rhs

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