Package 'simsem'

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Type Package

Title SIMulated Structural Equation Modeling data.

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Depends R(>= 2.12), methods, lavaan, MASS

Description This package will generate data for structural equation modeling framework. This package is tailored to use those simulated data for various purposes, such as model fit evaluation.

License GPL (>= 2)

LazyLoad yes

R topics documented:

`simsem-package` *SIMulated Structural Equation Modeling data.*

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Details

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Author(s)

Sunthud Pornprasertmanit (University of Kansas; psunthud@ku.edu)

Maintainer: Sunthud Pornprasertmanit (University of Kansas; psunthud@ku.edu)

`loading.from.alpha` *Find standardized factor loading from coefficient alpha*

Description

Find standardized factor loading from coefficient alpha assuming that all items have equal loadings.

Usage

```
loading.from.alpha(alpha, ni)
```

Arguments

`alpha`	A desired coefficient alpha value.
`ni`	A desired number of items.

Value

`result`	The standardized factor loadings that make desired coefficient alpha with specified number of items.

Author(s)

Sunthud Pornprasertmanit (University of Kansas; psunthud@ku.edu)

Examples

```
loading.from.alpha(0.8, 4)
```

Rnorm-class *Class "Rnorm"*

Description

Object that create a random number from normal distribution.

Objects from the Class

The object should be created by `rnorm.object` function. Objects can be created by calls of the form `new("Rnorm", ...)`.

Slots

`Mean`: Mean of the distribution

`SD`: Standard deviation of the distribution

Extends

Class "`simDist`", directly.

Methods

run `signature(object = "Rnorm")`: create a random number from the distribution

summary `signature(object = "Rnorm")`: summarize information in the object

Author(s)

Sunthud Pornprasertmanit (University of Kansas, psunthud@ku.edu)

Examples

```
showClass("Rnorm")
n2 <- rnorm.object(0, 0.2)
run(n2)
summary(n2)
```

rnorm.object *Create random normal distribution object*

Description

Create random normal distribution object. Random normal distribution object will save mean and standard deviation parameter. This will use in specifying parameters that distributed as normal distribution.

Usage

```
rnorm.object(Mean, SD)
```

Arguments

Mean	Desired population mean
SD	Desired population standard deviation

Value

Rnorm	Random Normal Distribution object that save the specified parameters

Author(s)

Sunthud Pornprasertmanit (University of Kansas; psunthud@ku.edu)

Examples

```
n02 <- rnorm.object(0, 0.2)
run(n02)
```

run *Run a particular object in simsem package.*

Description

Run a particular object such as running any distribution objects to create number.

Usage

```
run(object, ...)
```

Arguments

object	'simsem' object
...	any additional arguments

Value

object	depends on particular object

Author(s)

Sunthud Pornprasertmanit (University of Kansas; psunthud@ku.edu)

Examples

```
n02 <- rnorm.object(0, 0.2)
run(n02)
```

`Runif-class` *Class "Runif"*

Description

Object that create a random number from uniform distribution.

Objects from the Class

The object should be created by `runif.object` function. Objects can be created by calls of the form `new("Runif", ...)`.

Slots

`Lower`: Lower bound parameter

`Upper`: Upper bound parameter

Extends

Class "`simDist`", directly.

Methods

run `signature(object = "Runif")`: create a random number from the distribution

summary `signature(object = "Runif")`: summarize information in the object

Author(s)

Sunthud Pornprasertmanit (University of Kansas, psunthud@ku.edu)

Examples

```
showClass("Runif")
u1 <- runif.object(-0.1, 0.1)
run(u1)
summary(u1)
```

runif.object *Create random uniform distribution object*

Description

Create random uniform distribution object. Random uniform distribution object will save mean and standard deviation parameter. This will use in specifying parameters that distributed as normal distribution.

Usage

```
runif.object(Lower, Upper)
```

Arguments

Lower	Lower bound of the distribution
Upper	Upper bound of the distribution

Value

Runif	Random Uniform Distribution object that save the specified parameters

Author(s)

Sunthud Pornprasertmanit (University of Kansas; psunthud@ku.edu)

Examples

```
u1 <- runif.object(-0.1, 0.1)
run(u1)
```

simDist-class *Class "simDist"*

Description

All distribution objects

Objects from the Class

A virtual Class: No objects may be created from it.

Methods

No methods defined with class "simDist" in the signature.

Author(s)

Sunthud Pornprasertmanit (University of Kansas, psunthud@ku.edu)

Examples

```
showClass("simDist")
```

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