Package 'SMEP24'

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Type Package

Title SMEP 2024 Project

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Description Contains files for the 2024 SMEP project

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Encoding UTF-8

LazyData true

Suggests testthat (>= 3.0.0)

Depends bayesplot,
cmdstanr,
ggplot2

Config/testthat/edition 3

RoxygenNote 7.3.2

Contents

bifactor *Generate a Bifactor Simulation Environment*

Description

Generate a Bifactor Simulation Environment

Usage

```
bifactor(...)
```

Arguments

...	objects inherited from parent

Value

an environment stored to a list object of the bifactor simulation environment

countRhat *Rhat Convergence Indicator Function*

Description

Rhat Convergence Indicator Function

Usage

```
countRhat(modsum, rHatThreshold = 1.05)
```

Arguments

modsum	object generated from '$summary()' method on a 'cmdstanr' model environment
rHatThreshold	maximum tolerance for indicated convergence based on Rhat values

Value

count of Rhat > threshold

getDims *Find Dimensions of Filtered* .GlobalEnv *Object*

Description

Find Dimensions of Filtered .GlobalEnv Object

Usage

```
getDims(name, envir)
```

Arguments

name	name of target object
envir	name of target environment

Value

integer of object's total dimensions

getInits *Get Parameter Values for Initializing NUTS*

Description

Get Parameter Values for Initializing NUTS

Usage

```
getInits(modsum)
```

Arguments

modsum	object generated from '$summary()' method on a 'cmdstanr' model environment

Value

a named list object containing *expected a priori* from ADVI-approximated posterior draws

getStdSumScore *Calculate Standardized Sum Scores*

Description

Calculate Standardized Sum Scores

Usage

```
getStdSumScore(resps)
```

Arguments

resps	matrix of dichotomized (0/1) item response data

Value

a vector of standardized sum scores of the measured latent trait

makeNeg *Negative Lambda Indicator Function*

Description

Negative Lambda Indicator Function

Usage

```
makeNeg(lambda, numNeg = 2)
```

Arguments

lambda	inputted item discrimination/slope values
numNeg	integer indicating quantity of lambda values to negate

Value

a vector of all lambda values (including negated lambdas)

methodSelect *Method Selector by Modulo*

Description

Method Selector by Modulo

Usage

```
methodSelect(base10, methodsMatrix)
```

Arguments

base10	number in base-10 (decimal) representation
methodsMatrix	matrix containing all combinations of tested methods conditions

Value

A selected row (after converting from base-10/decimal representation) of the methods matrix that describes the tested conditions

twopl *Generate a 2-Parameter Logistic (2PL) IRT Simulation Environment*

Description

Generate a 2-Parameter Logistic (2PL) IRT Simulation Environment

Usage

```
twopl(...)
```

Arguments

...	objects inherited from parent

Value

an environment stored to a list object of the 2PL simulation environment

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