

Package ‘muS2RC’

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Type Package

Title Splus to R Compatibility for package muStat

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Description muR2SC contains functions that are needed by package muStat and either have different definitions in R and Splus, or defined in Splus while not in R.

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muS2RC-package

Splus to R Compatibility for package muStat

Description

muR2SC contains functions that are needed by package muStat and either have different definitions in R and Splus, or defined in Splus while not in R.

Details

Package: muS2RC
Type: Package
Version: 1.5.0
Date: 2008-02-07
License: GPL (>= 2)

Author(s)

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See Also

[muR2SC](#)

Examples

```
x <- c(1, 4, NA, 0, 5)
anyMissing(x)
# [1] TRUE
chkMissing(x)
# [1] TRUE
which.na(x)
# [1] 3
stdev(x, na.rm=TRUE, unbiased=TRUE)
# [1] 2.380476
stdev(x, na.rm=TRUE, unbiased=FALSE)
# [1] 1.904381

c <- 5
ifelse1(c>=0, 1, -1)
# [1] 1
is.inf(Inf)
# [1] TRUE
is.inf(NA)
# [1] FALSE
```

```
is.inf(1)
# [1] FALSE

is.number(32)
# [1] TRUE
is.number(matrix(1:20, nrow=2))
#      [,1] [,2] [,3] [,4] [,5] [,6] [,7] [,8] [,9] [,10]
# [1,] TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE
# [2,] TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE
is.number(list(matrix(1:20, nrow=2), 1:4))
# [1] TRUE TRUE
is.number('s')
# [1] TRUE

f1 <- function(x, y) x+y
f2 <- MC(function(x, y) x*y, list(f1=f1))
```

anyMissing

Check for Missing Values.

Description

Check if there exist any missing values.

Usage

```
anyMissing(x)
```

Arguments

x data object

Details

Returns TRUE, if there are any NA's.

Author(s)

Knut M. Wittkowski (kmw@rockefeller.edu)

See Also

[is.na](#), [link{chkMissing}](#)

Examples

```
x <- c(1, 4, NA, 0, 5)
anyMissing(x)
# [1] TRUE
```

`bits.per.integer` *Internal Size of an integer*

Description

`bits.per.integer` tells the number of bits that an integer occupies.

Usage

```
bits.per.integer()
```

Details

Assigned to be 32 for the C programs

Author(s)

Knut M. Wittkowski (kmw@rockefeller.edu)

Examples

```
bits.per.integer()

## The function is currently defined as
function() 32
```

`chkMissing` *Check Missing Data*

Description

`chkMissing` always returns TRUE in R. If in Splus, it returns a logical value, indicating if there exist NA's in data

Usage

```
chkMissing(...)
```

Arguments

... object to be tested

Author(s)

Knut M. Wittkowski (kmw@rockefeller.edu)

See Also

`is.na`, `link{anyMissing}`

Examples

```
x <- c(1, 4, NA, 0, 5)
chkMissing(x)
# [1] TRUE
```

`ifelse1`*Conditional Data Selection*

Description

Places values into an object according to the logical values in test.

Usage

```
ifelse1(test, x, y, ...)
```

Arguments

<code>test</code>	logical object. Missing values (NA) are allowed
<code>x</code>	action to be taken if test is TRUE
<code>y</code>	action to be taken if test is FALSE
<code>...</code>	other

Details

NA values in test cause NAs in the result. Compared with `ifelse()` in Splus, the length of test in `ifelse1()` is 1, which means `ifelse1()` will do only one test.

Value

x or y depending on test.

Author(s)

Knut M. Wittkowski (kmw@rockefeller.edu)

See Also

`if`, `ifelse`

Examples

```
c <- 5
ifelse1(c>=0, 1, -1)
# [1] 1
```

is.inf	<i>Infinite</i>
--------	-----------------

Description

is.inf returns a vector of the same length as the input object, indicating which elements are infinite (not missing).

Usage

```
is.inf(...)
```

Arguments

... object to be tested

Details

is.infinite returns a vector of the same length as x the jth element of which is TRUE if x[j] is infinite (i.e., equal to one of Inf or -Inf). This will be false unless x is numeric or complex. Complex numbers are infinite if either the real and imaginary part is.

Author(s)

Knut M. Wittkowski (kmw@rockefeller.edu)

See Also

~~objects to See Also as [is.finite](#)

Examples

```
is.inf(Inf)
# [1] TRUE
is.inf(NA)
# [1] FALSE
is.inf(1)
# [1] FALSE
```

is.number	<i>Check Values</i>
-----------	---------------------

Description

Returns a logical vector describing if a numeric elements is a number.

Usage

```
is.number(...)
```

Arguments

... numeric vector

Details

is.number is TRUE if the value is finite or infinite, i.e., is neither missing (NA) nor not-a-number (NaN).

Author(s)

Knut M. Wittkowski (kmw@rockefeller.edu)

Examples

```
is.number(32)
# [1] TRUE
is.number(matrix(1:20, nrow=2))
#      [,1] [,2] [,3] [,4] [,5] [,6] [,7] [,8] [,9] [,10]
# [1,] TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE
# [2,] TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE
is.number(list(matrix(1:20, nrow=2), 1:4))
# [1] TRUE TRUE
is.number('s')
# [1] TRUE
```

is.orderable	<i>If a value can be ordered</i>
--------------	----------------------------------

Description

is.orderable() returns !is.na()

Usage

```
is.orderable(x)
```

Arguments

`x` object to be tested

Details

`is.orderable(x)` works elementwise when `x` is a list.

Value

`is.orderable` returns a logical vector of the same attribute as its argument `x`

Author(s)

Knut M. Wittkowski (kmw@rockefeller.edu)

See Also

[is.na](#)

Examples

```
x <- c(1, 4, NA, 0, 5)
is.orderable(x)
# [1] TRUE TRUE FALSE TRUE TRUE
```

MC

Make Closure for functions

Description

MC makes closures for defining functions in a function.

Usage

```
MC(f, env=NULL)
```

Arguments

`f` function
`env` a list containing functions to be used in `f`

Details

MC declares functions to be used in `f`. When `f` is defined inside of a function, say `fun`, it cannot call other functions defined in `fun`. MC can enclose the functions needed by `f` and make it possible for `f` to call other functions defined in `fun`.

Author(s)

Knut M. Wittkowski (kmw@rockefeller.edu)

Examples

```
f1 <- function(x, y) x+y
f2 <- MC(function(x, y) x*y, list(f1=f1))
```

stdev

Standard Deviation

Description

stdev computes the standard deviation of the values in x. If na.rm is TRUE then missing values are removed before computation proceeds. If x is a matrix or a data frame, a vector of the standard deviation of the columns is returned. If unbiased is TRUE then the sample standard deviation is returned, else the population standard deviation is returned.

Usage

```
stdev(x, na.rm, unbiased)
```

Arguments

x	a numeric vector, matrix or data frame
na.rm	logical value indicating if missing values should be removed.
unbiased	whether to return biased or unbiased standard deviation

Value

Standard deviation of x.

Author(s)

Knut M. Wittkowski (kmw@rockefeller.edu)

See Also

[sd](#), [var](#)

Examples

```
x <- c(1, 4, NA, 0, 5)
stdev(x, na.rm=TRUE, unbiased=TRUE)
# [1] 2.380476
stdev(x, na.rm=TRUE, unbiased=FALSE)
# [1] 1.904381
```

`which.na`*Determine Which Values are Missing Values*

Description

`which.na` returns an integer vector describing which values in the input vector, if any, are missing

Usage

```
which.na(x)
```

Arguments

`x` a data object

Value

integer vector containing indices of elements in `x` which are missing. If there are no missing values, the functions return an integer vector of length 0 (`numeric(0)`).

Author(s)

Knut M. Wittkowski (kmw@rockefeller.edu)

See Also

[is.na](#)

Examples

```
x <- c(1, 4, NA, 0, 5)
which.na(x)
# [1] 3
```

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