Package 'sitools'

October 14, 2022

Type Package

Title Format a number to a string with SI prefix

Version 1.4

Date 2012-08-21

Author Jonas Stein, Ben Tupper

Maintainer Jonas Stein <news@jonasstein.de>

Description Format a number (or a list of numbers) to a string (or a list of strings) with SI prefix. Use SI prefixes as constants like (4 * milli)^2

License GPL-3

LazyLoad yes

LazyData yes

Repository CRAN

Date/Publication 2012-08-22 07:53:24

NeedsCompilation no

R topics documented:

---

sitools-package   *SI tools*

Description

tools to handle prefixes as defined in Systeme International d Unites.

Details

Package:	sitools
Type:	Package
Version:	1.2
Date:	2012-01-23
License:	GPL-3
LazyLoad:	yes

Author(s)

Jonas Stein, thanks to Ben Tupper, Roland Fu(sz) Maintainer: Jonas Stein <news@jonasstein.de>

References

<http://www.bipm.org/en/si/>

Examples

```
f2si(0.001)
```

---

f2si	*f2si converts floating-point number to a string with SI prefixes*

Description

Convert a single or a list of float or integer to a string using SI prefixes.

Usage

```
f2si(number, unit="")
```

Arguments

number	number to convert
unit	string to attach behind the SI prefix

Details

Main application of this function is to get nice strings to place at axis ticks. In this case some prefixes like deka are not used. This function will only generate $10^{(3*n)}$ prefixes for positive numbers at the moment. This may change soon.

Value

comp1	string using SI prefixes

Warning

package is still in alpha stage

Author(s)

Jonas Stein <news@jonasstein.de> https://github.com/jonasstein/sitools

References

http://www.bipm.org/en/si/si_brochure/chapter3/prefixes.html

Examples

```
library(sitools)

# convert single number
f2si(10000)

# convert single number with unit
f2si(0.023, unit="V")

# convert list of numbers
numbers <- c(1e5, 3.5e19, 0.004)
f2si(numbers)


# how to create fancy axis labels
# generate some data
xdata <- 10^(0:10)
ydata <- sin(xdata)^2

# lets assume the ticks should be at 1,2,4 ..10,20,40...
tickvalues <- 10^(0:10)

# plot the data and generate axis
plot(x=xdata, y=ydata, log="x", xlim=c(1,1e10),  xaxt="n",xlab="Frequency (Hz)")
axis(1, at=tickvalues, labels=f2si(tickvalues))
```

kilo	*SI prefixes*

Description

SI prefixes are defined as constant factors like kilo <- 1000

Details

SI prefixes are defined as constant factors like kilo <- 1000 The use of constants for SI prefixes will make your code readable. It reduces the risk of mistakes and supports the usage of SI units. The BIPM provides a list of prefixes. All of them are available as constants in sitools.

Author(s)

Jonas Stein <news@jonasstein.de> https://github.com/jonasstein/sitools

References

http://www.bipm.org/en/si/si_brochure/chapter3/prefixes.html

Examples

```
library(sitools)

# dice have a volume of (in metres)
a <- 1 * centi
volumedice <- a^3
volumedice

# how many dice fit in a box with
# 10 cm height
# 20 cm length
# 30 cm width

volumebox <- 10*centi * 20*centi * 30*centi

volumebox / volumedice
```

Index