Package ‘ggallin’

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**Type** Package

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**Version** 0.1.1

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**License** LGPL-3

**Title** Grab Bag of ‘ggplot2’ Functions

**BugReports** [https://github.com/shabbychef/ggallin/issues](https://github.com/shabbychef/ggallin/issues)

**Description** Extra geoms and scales for ‘ggplot2’, including geom_cloud(), a Normal density cloud replacement for errorbars; transforms ssqrt_trans and pseudolog10_trans, which are loglike but appropriate for negative data; interp_trans() and warp_trans() which provide scale transforms based on interpolation; and an infix compose operator for scale transforms.

**Depends** ggplot2 (>= 2.2.1)

**Suggests** knitr, testthat

**Imports** scales, grid

**RoxygenNote** 6.0.1

**URL** [https://github.com/shabbychef/ggallin](https://github.com/shabbychef/ggallin)

**Collate** 'geom_cloud.R' 'ggallin.R' 'transforms.R'

**NeedsCompilation** no

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**Repository** CRAN

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**R topics documented:**

- `ggallin-package`
- `ggallin-NEWS`
- `interp_trans`
- `ssqrt_trans`
- `%of%`
Description
This package consists of some helper functions for working with ggplot2: geoms, transforms, etc., with no real unifying theme among them.

Legal Mumbo Jumbo

ggallin is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public License for more details.

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News for package ‘ggallin’:

Version 0.1.1 (2017-10-01)
- submit to CRAN

Description
Interpolation based scale transformations. The user supplies \( x \) and \( y \) (which should be monotonic increasing or decreasing in \( x \)) to create a scale transformation based on linear interpolation.

A ‘warp’ transformation is also supported wherein the user supplies \( x \) and \( w \) where, after sorting on \( x \), the cumulative sum of \( w \) are used as the \( y \) in an interpolation transformation. Here \( w \) are the rate of increase, or ‘weights’.

Interpolation based scale transforms.
interp_trans

Usage

interp_trans(x=NULL,y=NULL,data=NULL,na.rm=TRUE,breaks=NULL,format=NULL)
warp_trans(x=NULL,w=NULL,data=NULL,na.rm=TRUE,breaks=NULL,format=NULL)

Arguments

x the x coordinates for linear interpolation.
y the y coordinates for linear interpolation.
data A data.frame with columns of x and y for interp_trans or x and w for warp_trans. If data is given, it takes precedence over the given x, y, w.
na.rm If TRUE, then missing x or y will be removed.
breaks default breaks function for this transformation. The breaks function is applied to the raw data.
format default format for this transformation. The format is applied to breaks generated to the raw data.
w the w coordinates for the ‘warp’ interpolation. The cumulative sum of w are computed then fed to the interpolation transform.

Value

A scale transformation object.

Author(s)

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See Also

trans_new.

Examples

set.seed(1234)
ggplot(data.frame(x=rnorm(100),y=runif(100)),aes(x=x,y=y)) +
  geom_point() +
  scale_x_continuous(trans=interp_trans(x=seq(-10,10,by=1),y=cumsum(runif(21))))

set.seed(1234)
ggplot(data.frame(x=rnorm(100),y=runif(100)),aes(x=x,y=y)) +
  geom_point() +
  scale_x_continuous(trans=warp_trans(x=seq(-10,10,by=1),w=runif(21)))

# equivalently:
set.seed(1234)
ggplot(data.frame(x=rnorm(100),y=runif(100)),aes(x=x,y=y)) +
  geom_point() +
  scale_x_continuous(trans=warp_trans(data=data.frame(x=seq(-10,10,by=1),w=runif(21))))
# this is like trans_sqrt:
set.seed(1234)
myx <- seq(0.5, by=0.01)
ggplot(data.frame(x=rnorm(100), y=runif(100)), aes(x=x, y=y)) +
  geom_point() +
  scale_y_continuous(trans=interp_trans(x=myx, y=sqrt(myx)))

## ssqrt_trans

**Description**

Various scale transformations.

**Usage**

```
ssqrt_trans
pseudolog10_trans
```

**Format**

An object of class trans of length 7.

**Details**

The available transforms:

- `ssqrt_trans` a signed square root transform appropriate for negative or positive numbers.
- `pseudolog10_trans` an asinh transformation, which is like a logarithm, but appropriate for negative or positive numbers. This transformation was taken from the Win Vector blog, http://www.win-vector.com/blog/2012/03/modeling-trick-the-signed-pseudo-logarithm/.

**Value**

A scale transformation object.

**Author(s)**

Steven E. Pav <shabbychef@gmail.com>

**See Also**

- `trans_new`
- http://www.win-vector.com/blog/2012/03/modeling-trick-the-signed-pseudo-logarithm/
Examples

```r
set.seed(1234)
ggplot(data.frame(x=rnorm(100),y=runif(100)),aes(x=x,y=y)) +
  geom_point() +
  scale_x_continuous(trans=ssqrt_trans)

set.seed(1234)
ggplot(data.frame(x=rnorm(100),y=runif(100)),aes(x=x,y=y)) +
  geom_point() +
  scale_x_continuous(trans=pseudolog10_trans)
```

---

Composition of scale transforms.

Description

A binary infix operator that allows one to compose together two scale transformations. We should have that the transformation `a %of% b` first applies `b`, then applies `a` to the results. This is useful for reversing scales, for example, along with other transformations.

Usage

```
a %of% b
```

Arguments

- `a`: a transformation object.
- `b`: a transformation object.

Value

A transformation object that performs `a` on the output of `b`.

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See Also

`trans_new`.

Examples

```r
set.seed(1234)
# compose transformations with %of%:
ggplot(data.frame(x=rnorm(100),y=exp(rnorm(100,mean=-2,sd=4))),aes(x=x,y=y)) +
  geom_point() +
  scale_y_continuous(trans=scales::reverse_trans() %of% scales::log10_trans())
```
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