Package ‘ggvenn’

March 31, 2023

Title  Draw Venn Diagram by ‘ggplot2’
Version  0.1.10
Author  Linlin Yan [aut, cre] (<https://orcid.org/0000-0002-4990-6239>)
Maintainer  Linlin Yan <yanlinlin82@gmail.com>
Description  An easy-to-use way to draw pretty venn diagram by ‘ggplot2’.
Depends  dplyr, grid, ggplot2
License  MIT + file LICENSE
Encoding  UTF-8
RoxygenNote  7.2.3
NeedsCompilation  no
Repository  CRAN
Date/Publication  2023-03-31 03:50:02 UTC

R topics documented:

data_frame_to_list ......................................................... 1
geom_venn ................................................................. 2
ggvenn ................................................................. 4
list_to_data_frame ..................................................... 7

Index  8

<table>
<thead>
<tr>
<th>data_frame_to_list</th>
<th>Utility function for data type conversion.</th>
</tr>
</thead>
</table>

Description

Utility function for data type conversion.

Usage

data_frame_to_list(x)
Arguments

x  A data.frame with logical columns representing sets.

Value

A list of sets.

Examples

d <- tibble(name = 1:6,
  A = c(rep(TRUE, 5), FALSE),
  B = rep(c(FALSE, TRUE), each = 3))

print(d)
data_frame_to_list(d)

geom_venn

Plot venn diagram as a ggplot layer object. It supports only data frame as input.

Description

Plot venn diagram as a ggplot layer object. It supports only data frame as input.

Usage

geom_venn(
  mapping = NULL,
  data = NULL,
  stat = "identity",
  position = "identity",
  ...,
  set_names = NULL,
  show_percentage = TRUE,
  digits = 1,
  label_sep = ",",
  count_column = NULL,
  show_outside = c("auto", "none", "always"),
  auto_scale = FALSE,
  fill_color = c("blue", "yellow", "green", "red"),
  fill_alpha = 0.5,
  stroke_color = "black",
  stroke_alpha = 1,
  stroke_size = 1,
  stroke_linetype = "solid",
  set_name_color = "black",
  set_name_size = 6,
  text_color = "black",
  text_size = 4
)
Arguments

mapping  Set of aesthetic mappings created by \texttt{aes()}. If specified and \texttt{inherit.aes = TRUE} (the default), it is combined with the default mapping at the top level of the plot. You must supply \texttt{mapping} if there is no plot mapping.

data  A data.frame or a list as input data.

stat  The statistical transformation to use on the data for this layer, as a string.

position  Position adjustment, either as a string naming the adjustment (e.g. "jitter" to use \texttt{position_jitter}), or the result of a call to a position adjustment function. Use the latter if you need to change the settings of the adjustment.

...  Other arguments passed on to \texttt{layer()}. These are often aesthetics, used to set an aesthetic to a fixed value, like \texttt{colour = "red"} or \texttt{size = 3}. They may also be parameters to the paired geom/stat.

set_names  Set names, use column names if omitted.

show_percentage  Show percentage for each set.

digits  The desired number of digits after the decimal point

label_sep  separator character for displaying elements.

count_column  Specify column for element repeat count.

show_outside  Show outside elements (not belongs to any set).

auto_scale  Allow automatically resizing circles according to element counts.

fill_color  Filling colors in circles.

fill_alpha  Transparency for filling circles.

stroke_color  Stroke color for drawing circles.

stroke_alpha  Transparency for drawing circles.

stroke_size  Stroke size for drawing circles.

stroke_linetype  Line type for drawing circles.

set_name_color  Text color for set names.

set_name_size  Text size for set names.

text_color  Text color for intersect contents.

text_size  Text size for intersect contents.

Value

The ggplot object to print or save to file.

See Also

ggvenn
Examples

```r
library(ggvenn)

# use data.frame as input
d <- tibble(value = c(1, 2, 3, 5, 6, 7, 8, 9),
  'Set 1' = c(TRUE, FALSE, TRUE, TRUE, FALSE, TRUE, FALSE, TRUE),
  'Set 2' = c(TRUE, FALSE, FALSE, TRUE, FALSE, FALSE, FALSE, TRUE),
  'Set 3' = c(TRUE, TRUE, FALSE, FALSE, FALSE, FALSE, TRUE, TRUE),
  'Set 4' = c(FALSE, FALSE, FALSE, FALSE, TRUE, TRUE, FALSE, FALSE))

# ggplot gramma
ggplot(d) +
  geom_venn(aes(A = 'Set 1', B = 'Set 2')) +
  coord_fixed() +
  theme_void()

ggplot(d) +
  geom_venn(aes(A = 'Set 1', B = 'Set 2', C = 'Set 3')) +
  coord_fixed() +
  theme_void()

ggplot(d) +
  geom_venn(aes(A = 'Set 1', B = 'Set 2', C = 'Set 3', D = 'Set 4')) +
  coord_fixed() +
  theme_void()

# set fill color
ggplot(d) +
  geom_venn(aes(A = 'Set 1', B = 'Set 2'), fill_color = c("red", "blue")) +
  coord_fixed() +
  theme_void()

# hide percentage
ggplot(d) +
  geom_venn(aes(A = 'Set 1', B = 'Set 2'), show_percentage = FALSE) +
  coord_fixed() +
  theme_void()

# change precision of percentages
ggplot(d) +
  geom_venn(aes(A = 'Set 1', B = 'Set 2'), digits = 2) +
  coord_fixed() +
  theme_void()

# show elements instead of count/percentage
ggplot(d) +
  geom_venn(aes(A = 'Set 1', B = 'Set 2', C = 'Set 3', D = 'Set 4', label = value)) +
  coord_fixed() +
  theme_void()
```

---

**ggvenn**  
Plot venn diagram as an independent function. It supports both data frame and list as input.
ggvenn

**Description**

Plot venn diagram as an independent function. It supports both data frame and list as input.

**Usage**

```r
ggvenn(
  data,
  columns = NULL,
  show_elements = FALSE,
  show_percentage = TRUE,
  digits = 1,
  fill_color = c("blue", "yellow", "green", "red"),
  fill_alpha = 0.5,
  stroke_color = "black",
  stroke_alpha = 1,
  stroke_size = 1,
  stroke_linetype = "solid",
  set_name_color = "black",
  set_name_size = 6,
  text_color = "black",
  text_size = 4,
  label_sep = ",",
  count_column = NULL,
  show_outside = c("auto", "none", "always"),
  auto_scale = FALSE
)
```

**Arguments**

data  A data.frame or a list as input data.
columns  A character vector use as index to select columns/elements.
show_elements  Show set elements instead of count/percentage.
show_percentage  Show percentage for each set.
digits  The desired number of digits after the decimal point
fill_color  Filling colors in circles.
fill_alpha  Transparency for filling circles.
stroke_color  Stroke color for drawing circles.
stroke_alpha  Transparency for drawing circles.
stroke_size  Stroke size for drawing circles.
stroke_linetype  Line type for drawing circles.
set_name_color  Text color for set names.
set_name_size  Text size for set names.
text_color  Text color for intersect contents.
text_size Text size for intersect contents.
label_sep Separator character for displaying elements.
count_column Specify column for element repeat count.
show_outside Show outside elements (not belongs to any set).
auto_scale Allow automatically resizing circles according to element counts.

Value
The ggplot object to print or save to file.

See Also
geom_venn

Examples

```r
library(ggvenn)

# use list as input
a <- list('Set 1' = c(1, 3, 5, 7),
    'Set 2' = c(1, 5, 9),
    'Set 3' = c(1, 2, 8),
    'Set 4' = c(6, 7))
ggvenn(a, c("Set 1", "Set 2"))
ggvenn(a, c("Set 1", "Set 2", "Set 3"))
ggvenn(a)

# use data.frame as input
d <- tibble(value = c(1, 2, 3, 5, 6, 7, 8, 9),
    'Set 1' = c(TRUE, FALSE, TRUE, TRUE, FALSE, TRUE, FALSE, TRUE),
    'Set 2' = c(TRUE, FALSE, FALSE, TRUE, FALSE, FALSE, FALSE, TRUE),
    'Set 3' = c(TRUE, TRUE, FALSE, FALSE, FALSE, FALSE, TRUE, TRUE),
    'Set 4' = c(FALSE, FALSE, FALSE, FALSE, TRUE, TRUE, FALSE, FALSE))
ggvenn(d, c("Set 1", "Set 2"))
ggvenn(d, c("Set 1", "Set 2", "Set 3"))
ggvenn(d)

# set fill color
ggvenn(d, c("Set 1", "Set 2"), fill_color = c("red", "blue"))

# hide percentage
ggvenn(d, c("Set 1", "Set 2"), show_percentage = FALSE)

# change precision of percentages
ggvenn(d, c("Set 1", "Set 2"), digits = 2)

# show elements instead of count/percentage
ggvenn(a, show_elements = TRUE)
ggvenn(d, show_elements = "value")
```
list_to_data_frame

Description
Utility function for data type conversion.

Usage
list_to_data_frame(x)

Arguments
x A list of sets.

Value
A data.frame with logical columns representing sets.

Examples
a <- list(A = 1:5, B = 4:6)
print(a)
list_to_data_frame(a)
Index

aes().3

data_frame_to_list.1

geom_venn.2
ggvenn.4

layer().3
list_to_data_frame.7