

Package ‘wjake’

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Title Personal Themes and Formatting Preferences

Version 1.0.1

Description A collection of utility functions, themes, and templates to support personal data analysis workflows. Includes functions for formatting numeric values as text, custom themes and color scales for 'ggplot2', and automatic formatting for tables created with 'gt'.

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URL <https://github.com/wjakethompson/wjake>,
<https://wjake.wjakethompson.com>

BugReports <https://github.com/wjakethompson/wjake/issues>

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announce	<i>Create an announcement adjective</i>
----------	---

Description

Create an announcement adjective

Usage

```
announce()
```

Value

A character string

Examples

```
announce()
```

apa_words	<i>Write APA Words</i>
-----------	------------------------

Description

Confused about whether a number should be written out ("five") or use numerals ("5")? Use this function! Most useful for R Markdown in-text writing.

Usage

```
apa_words(x, ordinal = FALSE, negative = "negative")
```

Arguments

x	The number to be printed
ordinal	Do you want the ordinal numbering (e.g., 1st, 6th, etc.)
negative	The word used to indicate a negative number.

Value

A character string

See Also

Other formatters: [formatting](#)

Examples

```
apa_words(5)
apa_words(16)
apa_words(6, ordinal = TRUE)
```

code_heading	<i>Create heading dividers</i>
--------------	--------------------------------

Description

Insert some hyphens padded to a specified console character width.

Usage

```
code_heading(width = 80)
```

Arguments

width	The width of console the hyphens should pad to
-------	--

Value

A character string consisting of a ' ' and hyphens that fill to the specified width.

Examples

```
code_heading()
```

color_ramp	<i>Custom color ramps</i>
------------	---------------------------

Description

These color ramp functions create color scales that can be used for making `ggplot2` plots and `gt` tables. Color ramps are based on the [palette_wjake](#) color palette.

Usage

```
make_color_pal(colors, bias = 1)

ramp_blue(output, end = "#FFFFFF")

ramp_yellow(output, end = "#FFFFFF")

ramp_yelblu(output, mid = "#F0F0F0")

ramp_orgblu(output, mid = "#999999")
```

Arguments

colors	colors to interpolate; must be a valid argument to col2rgb() .
bias	a positive number. Higher values give more widely spaced colors at the high end.
output	Colors to pull from the color ramp. Numbers range from 0-1, which is a normalized sliding scale of the color ramp.
end	The end color that the base color should fade into.
mid	For pre-made diverging palettes, the color of the midpoint of the scale.

Details

[make_color_pal\(\)](#) can be used to create a color ramp function for any set of valid colors.

[ramp_blue\(\)](#), [ramp_yellow\(\)](#), and [ramp_yelblu\(\)](#) are pre-made color ramps based on the blue and yellow colors from the [palette_wjake](#) color palette.

[ramp_orgblu\(\)](#) is a pre-made color ramp based on the first two colors from the [palette_okabeito](#) color palette.

Value

`make_color_pal()` returns a function that accepts a numeric vector of values between 0 and 1 and returns a character vector of hex color codes. `ramp_blue()`, `ramp_yellow()`, `ramp_yelblu()`, and `ramp_orgbly()` return a character vector of hex color codes.

Examples

```
new_ramp <- make_color_pal(c("red", "grey", "blue"))
new_ramp(seq(0, 1, length.out = 10))

# Pre-made palettes
ramp_blue(seq(0, 1, by = 0.2))
ramp_yellow(seq(0.2, 1, length.out = 5))
```

formatting

Text and Number Formatting

Description

These formatting functions are used to format numerical values in a consistent manner. This is useful for printing numbers inline with text, as well as for formatting tables.

Usage

```
fmt_digits(
  x,
  digits = 1,
  big_mark = ",",
  min_value = -Inf,
  max_value = Inf,
  sub_threshold = 1/(10^digits),
  keep_boundary = FALSE,
  ...
)

fmt_count(x, ...)

fmt_corr(x, digits = 3, ...)

fmt_prop(x, digits = 2, ...)

fmt_pct(x, digits = 0, ...)

fmt_prop_pct(x, digits = 0, ...)
```

Arguments

<code>x</code>	Number to be formatted.
<code>digits</code>	Number of decimal places to retain.
<code>big_mark</code>	Character used between every 3 digits to separate thousands.
<code>min_value</code>	The minimum value <code>x</code> can take.
<code>max_value</code>	The maximum value <code>x</code> can take.
<code>sub_threshold</code>	The threshold to use when replacing value extremely close to <code>min_value</code> or <code>max_value</code> . By default, this is determined by the <code>digits</code> specified.
<code>keep_boundary</code>	Whether to preserve true values of boundaries (i.e., <code>min_value</code> and <code>max_value</code>). For example if <code>digits = 3</code> , <code>min_value = 0</code> , and <code>keep_boundary = FALSE</code> , a value exactly equal to 0 will become "<.001". If <code>keep_boundary = TRUE</code> , then a value of 0 will remain "0.000", and other small values (e.g., 0.000001) will continue to be replaced with "<.001".
<code>...</code>	Additional arguments passed to <code>scales::number_format()</code> or <code>fmt_digits()</code> . See Details for additional information.

Details

`fmt_digits()` is a wrapper for `scales::number_format()` and prints a number with the specified number of digits, suppressing values close to the minimum and maximum values as necessary.

Several helper functions are provided that wrap `fmt_digits()` with common patterns of `min_value`, `max_value`, and `digits`.

- `fmt_count()` is used for formatting integer values. Prints whole numbers with no decimals.
- `fmt_corr()` is used to format correlations or similar indices that are bounded between [-1, 1]. By default, these values report 3 decimal places, and the leading 0 is removed as required by APA (2020; section 6.36).
- `fmt_prop()` is used to format proportions or similar indices that are bounded between [0, 1]. Similar to `fmt_corr()`, leading 0s are removed. By default, 2 decimal places are reported.
- `fmt_pct()` is used to format percentage values that are bounded [0, 100]. By default, no decimal places are reported.
- `fmt_prop_pct()` formats proportions bounded by [0, 1] as percentages. That is, we first take $x * 100$ and then apply `fmt_pct()`.

Value

The updated character object of the same length as `x`.

References

American Psychological Association. (2020). *Publication manual of the American Psychological Association* (7th ed.). doi:10.1037/0000165000

See Also

Other formatters: `apa_words()`

Examples

```

fmt_digits(runif(5, min = 5, max = 15), digits = 1)
fmt_digits(runif(5, min = 5, max = 15), digits = 3)

fmt_count(sample(10000:99999, size = 5))

fmt_corr(runif(5, min = -1, max = 1))

fmt_prop(runif(5, min = 0, max = 1))

fmt_pct(runif(5, min = 0, max = 100))

fmt_prop_pct(runif(5, min = 0, max = 1))

```

gt_theme_apa	<i>Title</i>
--------------	--------------

Description

Title

Usage

```

gt_theme_apa(
  data,
  dec_dig = 1,
  corr_dig = 3,
  fmt_extreme = TRUE,
  bg_color = "#FFFFFF",
  font = "Arial",
  font_size = 11,
  ...
)

```

Arguments

data	The gt table data object.
dec_dig	The number of decimal places to round to for numeric values.
corr_dig	The number of decimal places to round to for numeric values all constrained to be between [-1, 1].
fmt_extreme	Logical indicator for whether values close to extremes should be suppressed (e.g., .000001 becomes <.001).
bg_color	The background color of the table.
font	The font to use for the table.
font_size	The base font size for the table.
...	Additional options passed to <code>gt::tab_options()</code>

Value

An object of class `gt-tbl`.

Examples

```
gt::gt(head(penguins)) |>
  gt_theme_apa() |>
  gt::fmt_number(year, sep_mark = "", decimals = 0)
```

gt_theme_wjake	<i>Personalized gt theme</i>
----------------	------------------------------

Description

A custom theme for tables generated with `gt::gt()`.

Usage

```
gt_theme_wjake(data, bg_color = "#F0F0F0", font_size = 16, ...)
```

Arguments

<code>data</code>	The <code>gt</code> table data object.
<code>bg_color</code>	The background color of the table.
<code>font_size</code>	The base font size for the table.
<code>...</code>	Additional arguments passed to <code>gt_theme_apa()</code> and <code>gt::tab_options()</code> .

Value

An object of class `gt_tbl`.

Examples

```
gt::gt(head(penguins)) |>
  gt_theme_wjake()
```

palette_okabeito	<i>Okabe-Ito color palette</i>
------------------	--------------------------------

Description

Colorblind friendly palette taken originally described by Okabe and Ito (2008). The original palette has been modified slightly to make the yellow more visible on a white background, as described by Lüdecke et al. (2021). The palette also includes color scales that can be used in place of `ggplot2::scale_color_discrete()` or `ggplot2::scale_fill_discrete()`.

Usage

```
palette_okabeito
```

Format

A character vector of 8 hex color codes.

References

Lüdecke, D., Patil, I., Ben-Shachar, M. S., Wiernik, B. M., Waggoner, P., & Makowski, D. (2021). see: An R package for visualizing statistical models. *Journal of Open Source Software*, 6(64), Article 3393. doi:10.21105/joss.03393

Okabe, M., & Ito, K. (2008). Color universal design (CUD): How to make figures and presentations that are friendly to colorblind people. <https://jfly.uni-koeln.de/color/#pallet> (Original work published 2002)

Examples

```
scales::show_col(palette_okabeito)
```

palette_wjake	<i>Personal color palette</i>
---------------	-------------------------------

Description

Color palette used for theming <https://wjakethompson.com>. The palette also includes color scales that can be used in place of `ggplot2::scale_color_discrete()` or `ggplot2::scale_fill_discrete()`.

Usage

```
palette_wjake
```

Format

A character vector of 5 hex color codes.

Examples

```
scales::show_col(palette_wjake)
```

round_to	<i>Round to a specified value</i>
----------	-----------------------------------

Description

Round to a specified value

Usage

```
round_to(x, accuracy, direction = c("nearest", "up", "down", "random"))
```

Arguments

x	A numeric value to round.
accuracy	The accuracy with which to round (i.e., round to the nearest accuracy).
direction	The direction to round. nearest (default) will round to the nearest accuracy, up will round up to the nearest accuracy, down will round down to the nearest accuracy, and random will randomly round up or down to the nearest accuracy as described by Matthews & Harel (2011).

Value

A numeric rounded to the specified accuracy.

References

Matthews, G., & Harel, O. (2011). Data confidentiality: A review of methods for statistical disclosure limitation and methods for assessing privacy. *Statistics Surveys*, 5, 1–29. doi:10.1214/11SS074

Examples

```
round_to(15, accuracy = 7, direction = "nearest")  
round_to(15, accuracy = 7, direction = "up")  
round_to(20, accuracy = 7, direction = "down")
```

scale_palette	<i>Palette color scale</i>
---------------	----------------------------

Description

This is a qualitative scale using the color palette used for <https://wjakethompson.com>. See [palette_wjake](#) for details.

Arguments

palette	A character vector of the color palette to use in the scale (e.g., palette_wjake , palette_okabeito).
order	Numeric vector listing the order in which the colors should be used. Default is the order of the palette vector.
darken	Relative amount by which the scale should be darkened (for positive values) or lightened (for negative values).
alpha	Alpha transparency level of the color. Default is no transparency.
...	common discrete scale parameters: name, breaks, labels, na.value, limits, guide, and aesthetics. See ggplot2::discrete_scale for more details.

Value

A ScaleDiscrete object that can be added to a `ggplot2::ggplot()`.

Examples

```
library(ggplot2)

ggplot(penguins, aes(x = bill_len, y = flipper_len, color = species)) +
  geom_point() +
  scale_color_wjake()

ggplot(penguins, aes(bill_len, fill = species)) +
  geom_density(alpha = 0.7) +
  scale_fill_okabeito(order = c(1, 2, 5))
```

theme_wjake	<i>Personalized ggplot2 theme</i>
-------------	-----------------------------------

Description

Based on `ggplot2::theme_minimal()`.

Usage

```
theme_wjake(
  base_size = 11.5,
  base_family = "Source Sans Pro",
  header_family = NULL,
  base_line_size = base_size/22,
  base_rect_size = base_size/22,
  ink = "black",
  paper = "white",
  accent = "#FED766",
  continuous = ramp_blue(c(0.1, 1), end = "#FFFFFF"),
  discrete = palette_wjake,
  transparent = FALSE,
  ...
)
```

Arguments

<code>base_size</code>	base font size, given in pts.
<code>base_family</code>	base font family
<code>header_family</code>	font family for titles and headers. The default, NULL, uses theme inheritance to set the font. This setting affects axis titles, legend titles, the plot title and tag text.
<code>base_line_size</code>	base size for line elements
<code>base_rect_size</code>	base size for rect elements
<code>ink, paper, accent</code>	colour for foreground, background, and accented elements respectively.
<code>continuous</code>	A character vector of valid colors that will be interpolated into a continuous color scale.
<code>discrete</code>	A character vector of colors to use for discrete color scales.
<code>transparent</code>	Logical indicator for whether the background of the plot should be transparent.
<code>...</code>	Additional parameters passed to <code>ggplot2::theme()</code> .

Value

A theme object that can be added to a `ggplot2::ggplot()`.

Examples

```
library(ggplot2)

ggplot(penguins, aes(x = bill_len, y = flipper_len)) +
  geom_point(aes(color = species), na.rm = TRUE) +
  labs(
    x = "Bill length (mm)",
    y = "Flipper length (mm)",
    title = "Seminal ggplot2 scatterplot example",
```

```

  subtitle = "A plot that is only useful for demonstration purposes",
  caption = "Brought to you by the letter *p*",
  color = "Species"
) +
theme_wjake(base_family = "sans")

```

write_pkg_bib

Write a bibliography for R packages

Description

Write a bibliography for R packages

Usage

```
write_pkg_bib(pkg, file, update = FALSE)
```

Arguments

pkg	A vector of packages to create a .bib file for.
file	The file to save the references.
update	Should packages be updated before creating the bibliography?

Value

A list containing the citations. Citations are also written to the file as a side effect.

Examples

```
write_pkg_bib(c("ggplot2", "gt"), file = tempfile(fileext = "bib"))
```

xy_scales

X & Y scales for percent and comma labels

Description

Wrappers around `ggplot2::continuous_scale()` that provide automatic percent or comma formatting.

Usage

```

scale_x_comma(...)

scale_y_comma(...)

scale_x_percent(...)

scale_y_percent(...)

```

Arguments

... Additional arguments passed to `ggplot2::scale_x_continuous()` or `ggplot2::scale_y_continuous()`

Value

A ggplot2 continuous scale.

Examples

```
library(ggplot2)
set.seed(1234)

ggplot() +
  geom_point(aes(x = sample(1000:9999, size = 100), y = runif(100, 0, 1))) +
  scale_x_comma() +
  scale_y_percent(breaks = seq(0, 1, by = .2))
```

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