

Package ‘monochromeR’

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Title Easily Create, View and Use Monochrome Colour Palettes

Version 0.2.0

Description Generate a monochrome palette from a starting colour for a specified number of colours. The package can also be used to display colour palettes in the plot window, with or without hex codes and colour labels.

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Encoding UTF-8

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URL <https://github.com/cararthompson/monochromeR>

BugReports <https://github.com/cararthompson/monochromeR/issues>

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Imports ggplot2, magrittr

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check_colour_return_rgb

Checks colour variables are either RGB values, hex colour codes or a recognised colour name and converts to rgb (helper funct)

Description

Checks colour variables are either RGB values, hex colour codes or a recognised colour name and converts to rgb (helper funct)

Usage

```
check_colour_return_rgb(colour, colour_variable_name)
```

Arguments

colour The colour string / rgb vector to check
colour_variable_name The name of the variable, for readability of error messages

Value

An error message if the colour value can't be interpreted

Examples

```
check_colour_return_rgb("White", "test_colour")  
## Not run: check_colour_return_rgb("foo", "test_colour")
```

generate_palette

Generate a monochrome palette

Description

This function allows users generate a monochrome colour palette containing any number of colours, starting from the colour they specify. The modification parameter can be set to make the palette go darker, lighter, or both ways from the starting colour. The function also allows users to create a palette that goes from one colour to another, by providing a blend_colour.

Usage

```
generate_palette(  
  colour,  
  modification,  
  n_colours,  
  blend_colour = NULL,  
  view_palette = FALSE,  
  view_labels = TRUE,  
  ...  
)
```

Arguments

colour	The starting colour for the palette, which must be either be a recognised colour name (e.g. "white"), a hex colour code (e.g. "#ffffff") or vector of length 3 (red value, green value, blue value, e.g. c(15, 75, 99)), with all values between 0 and 255.
modification	One of the following: "go_darker", "go_lighter", "go_both_ways", or "blend". If a blend_colour is supplied, modification is automatically set to "blend".
n_colours	Number of colours (levels) required in the palette
blend_colour	Optional. Can be either be a recognised colour name (e.g. "white"), a hex colour code (e.g. "#ffffff") or vector of length 3 (red value, green value, blue value, e.g. c(15, 75, 99)), with all values between 0 and 255.
view_palette	Logical. view_palette = TRUE displays the palette in the plot window.
view_labels	Logical. If view_palette is set to TRUE, view_labels = FALSE determines whether or not the hex colour codes are shown on the palette displayed in the plot window.
...	Allows for US spelling of color/colour.

Value

A vector of hex colour codes making up the generated palette

Examples

```
generate_palette("red", modification = "go_lighter",  
  n_colours = 5, view_palette = TRUE, view_labels = TRUE)  
  
generate_palette(c(15, 75, 99), modification = "go_both_ways",  
  n_colours = 12, view_palette = TRUE, view_labels = FALSE)  
  
generate_palette("red", blend_colour = "blue",  
  n_colours = 6, view_palette = TRUE)
```

hex_to_rgb	<i>Converts Hex codes values to RGB vectors</i>
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Description

Converts Hex codes values to RGB vectors

Usage

```
hex_to_rgb(x)
```

Arguments

x	A hex colour code
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Value

A corresponding matrix of red, blue and green values

Examples

```
hex_to_rgb("purple")
hex_to_rgb("#fafafa")
```

rgba_to_hex	<i>rgba_to_hex</i>
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Description

rgba_to_hex

Usage

```
rgba_to_hex(colour_rgba, background_colour = "#ffffff", ...)
```

Arguments

colour_rgba	A vector of length 4: c(red value, green value, blue value, alpha). All colour values must be between 0 and 255. Alpha must be between 0 and 1.
background_colour	Defaults to white. Users can specify a different colour to get the hex code for their original colour blended with a specified background colour. background_colour must either be a recognised colour name (e.g. "white"), a hex colour code (e.g. "#ffffff") or vector of length 3 (red value, green value, blue value), with all values between 0 and 255. The default value is white ("#ffffff").
...	Allows for US spelling of color/colour.

Value

Returns the corresponding hex colour code

Examples

```
rgba_to_hex(c(52, 46, 39, 0.8))
rgba_to_hex(c(52, 46, 39, 0.8), "blue")
rgba_to_hex(c(52, 46, 39, 0.8), "#032cfc")
```

rgba_to_rgb *Converts RGBA to RGB (helper function)*

Description

Converts RGBA to RGB (helper function)

Usage

```
rgba_to_rgb(colour_rgba, background_colour = "#ffffff", ...)
```

Arguments

- colour_rgba A vector of length 4: c(red value, green value, blue value, alpha). All colour values must be between 0 and 255. Alpha must be between 0 and 1.
- background_colour Defaults to white. Users can specify a different colour to get the hex code for their original colour blended with a specified background colour. background_colour must either be a recognised colour name (e.g. "white"), a hex colour code (e.g. "#ffffff") or vector of length 3 (red value, green value, blue value), with all values between 0 and 255. The default value is white ("#ffffff").
- ... Allows for US spelling of color/colour.

Value

A matrix of red, green and blue values

Examples

```
rgba_to_rgb(c(52, 46, 39, 0.8))
rgba_to_rgb(c(52, 46, 39, 0.8), "blue")
rgba_to_rgb(c(52, 46, 39, 0.8), "#032cfc")
```

rgb_to_hex	<i>Converts RGB values to hex colour code</i>
------------	---

Description

Converts RGB values to hex colour code

Usage

```
rgb_to_hex(x)
```

Arguments

x A matrix of red, blue and green values

Value

A corresponding hex colour code

Examples

```
temp_rgb_matrix <- rgba_to_rgb(c(52, 46, 39, 0.8))
rgb_to_hex(temp_rgb_matrix)
```

view_palette	<i>Easy way to view the created palette</i>
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Description

Easy way to view the created palette

Usage

```
view_palette(monochrome_palette, view_labels = TRUE)
```

Arguments

monochrome_palette

Vector of hex colour codes, or a generate_palette() call

view_labels

Logical. If view_palette is set to TRUE, view_labels determines whether or not the hex colour codes are shown on the palette displayed in the plot window.

Value

A plot showing all the colours in the palette on the same row

Examples

```
view_palette(c("#464E69", "#8C90A1", "#D1D2D9"))  
view_palette(c("unripe" = "#89973d", "ripe" = "#e8b92f", "overripe" = "#a45e41"))  
view_palette(generate_palette("pink", "go_darker", n_colours = 3))
```

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