

# Package: coloratio (via r-universe)

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**Title** Assess Color Contrast Ratios for Accessibility

**Version** 0.0.0.9004

**Description** Tools to help choose accessible color combinations based on W3C specifications.

**License** MIT + file LICENSE

**Encoding** UTF-8

**LazyData** true

**Roxygen** list(markdown = TRUE)

**RoxygenNote** 7.1.1

**Imports** graphics, grDevices

**Suggests** covr (>= 3.5.1), testthat (>= 3.0.0)

**Config/testthat/edition** 3

**Repository** <https://matt-dray.r-universe.dev>

**RemoteUrl** <https://github.com/matt-dray/coloratio>

**RemoteRef** HEAD

**RemoteSha** 852ac493f1dcee179d462d083aeb072082107da0

## Contents

cr_choose_bw . . . . .	2
cr_choose_color . . . . .	2
cr_get_ratio . . . . .	3
cr_view_contrast . . . . .	4

<b>Index</b>	<b>5</b>
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cr_choose_bw	<i>Choose White or Black to Overlay On a Supplied Background Color</i>
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### Description

Selects whether black or white has the greater contrast with a user-supplied color. Useful for choosing a text color to overlay on a block-color background, like value labels over the bars of a bar chart. Calculated as per [cr\\_get\\_ratio](#). Defaults to black in the case of a tie.

### Usage

```
cr_choose_bw(col_bg)
```

### Arguments

col_bg	A character vector of colors against which to select either black or white, whichever has maximum contrast. Supply colors as six-digit hex values preceded by '#', or named colors from <a href="#">colors</a> .
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### Value

A character vector of values "black" or "white". The length matches the input.

### Examples

```
cr_choose_bw(c("white", "gray90", "gray50", "gray10", "black"))
```

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cr_choose_color	<i>Choose a High-Contrast Color for a Given Color</i>
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### Description

Given a user-supplied color, what's a good color to pair it with for maximum contrast? Compares provided color against all named R colors, as per [colors](#). Contrast calculated as per [cr\\_get\\_ratio](#).

### Usage

```
cr_choose_color(col, n = 1, ex_bw = FALSE)
```

### Arguments

col	A character value representing a color. Can be a six-digit hex value preceded by '#', or a named color from
n	Number of named colors to return. Color with highest contrast is returned first.
ex_bw	Exclude black and variants of white and gray variants?

**Value**

A character value that's a named R color.

**Examples**

```
cr_choose_color("lightyellow")
```

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cr_get_ratio	<i>Get Contrast Ratio of Two Colors</i>
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**Description**

Calculate the color contrast ratio of two provided colors. Intended as an visual accessibility aid when selecting a text color to place over a single- color background. The output value should be 4.5 or higher to ensure sufficient contrast and readability. This function is currently based on [WCAG 2.1](#). See [WCAG](#) for more information about the calculation.

**Usage**

```
cr_get_ratio(col_1, col_2, quiet = FALSE, view = FALSE)
```

**Arguments**

col_1	Six-digit hex value preceded by '#', or a named color from <a href="#">colors</a>
col_2	Six-digit hex value preceded by '#', or a named color from <a href="#">colors</a>
quiet	Whether to print warning when the ratio value is lower than 4.5.
view	Whether to plot a demonstration of col_1 text on a col_2 background, and vice versa, for visual inspection. Uses <a href="#">cr_view_contrast</a> .

**Value**

A double.

**Examples**

```
cr_get_ratio("#FFFFFF", "white")
```

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cr\_view\_contrast      *Plot a Demo of User-Supplied Color Pair*

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**Description**

Plots text of one color on a background of another color, and vice versa. Used to visualise contrasts.

**Usage**

```
cr_view_contrast(col_1, col_2)
```

**Arguments**

col\_1                  Six-digit hex value preceded by '#', or a named color from [colors](#).  
col\_2                  Six-digit hex value preceded by '#', or a named color from [colors](#).

**Value**

Character value or vector.

**Examples**

```
cr_view_contrast("yellow", "black")
```

# Index

colors, [2–4](#)  
cr\_choose\_bw, [2](#)  
cr\_choose\_color, [2](#)  
cr\_get\_ratio, [2, 3](#)  
cr\_view\_contrast, [3, 4](#)