Package ‘unikn’
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Type Package
Title Graphical Elements of the University of Konstanz’s Corporate Design
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Description Define and use graphical elements of corporate design manuals in R. The ‘unikn’ package provides color functions (by defining dedicated colors and color palettes, and commands for changing, viewing, and using them) and styled text elements (e.g., for marking, underlining, or plotting colored titles). The pre-defined range of colors and text functions is based on the corporate design of the University of Konstanz <https://www.uni-konstanz.de/>, but can be adapted and extended for other institutions and purposes.
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**Bordeaux**

*uni.kn color Bordeaux.*

---

**Description**

Bordeaux provides the preferred color of `pal_bordeaux` (as an atomic HEX character value) and is defined as `pal_bordeaux[[4]]`.

**Usage**

Bordeaux

**Format**

An object of class character of length 1.

**Details**


**See Also**

`pal_bordeaux` for the corresponding color palette; `pal_unikn` for the unikn default color palette with all 5 colors of `pal_seeblau`; `pal_unikn_pref` for a uni.kn color palette with all preferred colors; `seecol` to show color palettes; `usecol` to use color palettes.

Other preferred colors: Grau, Karpfenblau, Peach, Petrol, Pinky, Seeblau, Seegruen, Signal

**Examples**

Bordeaux  # HEX character "#8E2043" (as value)
all.equal(Bordeaux, pal_bordeaux[[4]])  # TRUE (same HEX values)

seecol(Bordeaux)  # view color and details

---

**Grau**

*uni.kn color Grau.*

---

**Description**

Grau provides the preferred color of `pal_grau` (as an atomic HEX character value) and is defined as `pal_grau[[3]]`.

**Usage**

Grau

---
grepal

**Format**

An object of class character of length 1.

**Details**


**See Also**

pal_grau for the corresponding color palette; pal_unikn for the unikn default color palette with all 5 colors of pal_seeblau; pal_unikn_pref for a uni.kn color palette with all preferred colors; seecol to show color palettes; usecol to use color palettes.

Other preferred colors: Bordeaux, Karpfenblau, Peach, Petrol, Pinky, Seeblau, Seegruen, Signal

**Examples**

Grau # HEX character "#9AA0A7" (as value)
all.equal(Grau, pal_grau[[3]]) # TRUE (same HEX values)

seecol(Grau) # view color and details

grepal

*Get a vector of colors whose names match a regular expression.*

**Description**

grepal returns a vector of colors whose names match a regular expression (regex).

**Usage**

grepal(pattern, x = colors(), ignore_case = TRUE)

**Arguments**

- **pattern**
  - A regular expression (specified as a string/character object).
- **x**
  - A vector of R color names or a data frame of named colors (i.e., whose names can be searched). Default: x = colors().
- **ignore_case**
  - Should the case of pattern be ignored (passed to ignore.case of the grep function)? Default: ignore_case = TRUE.
Details

By default, the base R vector of named colors (i.e., `colors()`) is searched for names matching a pattern (which can be a simple string or regular expression).

If `x` (i.e., the object to be searched) is provided, it must be a vector of color names or a data frame of named color objects (e.g., a color palette).

The name `grepal` is an abbreviation of `grep` and "pal".

See Also

defpal to define color palettes; seepal to plot color palettes; usecol to use a color palette.

Other color functions: newpal(), seecol(), usecol()

Examples

grepal("cyan")

# With regular expressions:
some_grey <- grepal("gr(a|e)y")
start_grey <- grepal("gr(a|e)y")
only_grey <- grepal("gr(a|e)y$")

length(some_grey)
length(only_grey)

# With other color objects (df as x):
grepal("blau", x = pal_unikn)
grepal("SEE", x = pal_unikn_pref)

# Applications:
seecol(grepal("white"), col_bg = "lightblue2", title = "See 'white' colors()")

olives <- grepal("olive")
oranges <- grepal("orange")
seecol(list(olives, oranges),
       pal_names = c("olives", "oranges"),
       title = "Comparing olives and oranges")
seecol(grepal("SEE", pal_unikn), title = "All 'SEE' colors in pal_unikn")
seecol(grepal("blau", pal_unikn_pref), title = "All 'blau' colors in pal_unikn_pref")

heading

Plot a heading (as marked text elements).

Description

heading plots 1 or more text strings (provided as a character vector labels) as a heading to an (existing or new) plot and places a colored box behind each label to mark it (i.e., highlighting the heading).
Usage

heading(
  labels,
  x = 0,
  y = 0.8,
  y_layout = "flush",
  col = "black",
  col_bg = "default",
  cex = 2,
  font = 2,
  new_plot = "slide"
)

Arguments

labels      A character vector specifying the text labels to be plotted.
x          A numeric vector of x-coordinates at which the text labels in labels should be written. If the lengths of x and y differ, the shorter one is recycled. Default: x = 0.
y          A numeric vector of y-coordinates at which the text labels in labels should be written. If the lengths of x and y differ, the shorter one is recycled. Default: y = .8.
y_layout    A numeric value or vector for the vertical spacing of labels in labels. 2 special values are "even" (i.e., even distribution of labels across available y-space) and "flush" (i.e., no space between adjacent labels, or y_layout = 0). Default: y_layout = "flush".
col         The color(s) of the text label(s). Default: col_lbl = "black".
col_bg      The color(s) to highlight or fill the rectangle(s) with. Default: col_bg = "default" (to automatically select different shades of pal_seeblau).
cex      Numeric character expansion factor(s), multiplied by par("cex") to yield the character size(s). Default: cex = 2.
font         The font type(s) to be used. Default: font = 2 (i.e., bold).
new_plot    Boolean: Should a new plot be generated? Set to "blank" or "slide" to create a new plot, and to "none" to add to an existing plot. Default: new_plot = "slide" (i.e., create a new slide).

Details

Text formatting parameters (like col, col_bg, cex, font) are recycled to match length(labels).

heading uses the base graphics system graphics:::

See Also

slide and xbox to create simple plots (without text).
Examples

```r
heading(labels = c("This is a headline", "containing two lines."))

# Note the warning:
heading(labels = c("Headlines", "with 3 or more lines",
                  "should not be arranged", "in such a step-wise fashion."))

# Avoiding the warning:
heading(labels = c("Headlines with", "3 or more lines should",
                  "not be arranged", "in a step-wise fashion."))

# Using non-default colors:
heading(labels = c("Ene,", "mene, miste.", "es rappelt", "in der Kiste.")
          , cex = 1.6, col = "white", col_bg = usecol(c(Pinky, Seegruen, Bordeaux, Karpfenblau)))

#' @family text functions
```

---

**Karpfenblau**  
*uni.kn color* Karpfenblau.

---

**Description**

Karpfenblau provides the preferred color of `pal_karpfenblau` (as an atomic HEX character value) and is defined as `pal_karpfenblau[[4]]`.

**Usage**

Karpfenblau

**Format**

A character object of length 1.

**Details**


**See Also**

- `pal_karpfenblau` for the corresponding color palette; `pal_unikn_pref` for a uni.kn color palette with all preferred colors; `pal_unikn` for the default uni.kn color palette; `seecol` to show color palettes; `usecol` to use color palettes.
- Other preferred colors: *Bordeaux, Grau, Peach, Petrol, Pinky, Seeblau, Seegruen, Signal*
Examples

Karpfenblau # HEX character "#3E5496" (as value)
all.equal(Karpfenblau, pal_karpfenblau[[4]]) # TRUE (same HEX values)

seecol(Karpfenblau) # view color and details

mark # Plot marked (or highlighted) text elements.

Description

mark plots 1 or more text strings (provided as a character vector labels) to an (existing or new) plot and places a colored box behind each label to mark it (i.e., highlight or make it stand out from the background).

Usage

mark(
  labels,
  x = 0,
  y = 0.55,
  y_layout = "even",
  col = "black",
  col_bg = Seeblau,
  cex = 2,
  font = 2,
  new_plot = "none"
)

Arguments

labels A character vector specifying the text labels to be plotted.
x A numeric vector of x-coordinates at which the text labels in labels should be written. If the lengths of x and y differ, the shorter one is recycled. Default: x = 0.
y A numeric vector of y-coordinates at which the text labels in labels should be written. If the lengths of x and y differ, the shorter one is recycled. Default: y = 0.55.
y_layout A numeric value or vector for the vertical spacing of labels in labels. 2 special values are "even" (i.e., even distribution of labels across available y-space) and "flush" (i.e., no space between adjacent labels, or y_layout = 0). Default: y_layout = "even".
col The color(s) of the text label(s). Default: col_lbl = "black".
col_bg The color(s) to highlight or fill the rectangle(s) with. Default: col_bg = Seeblau.
mark

- **cex**: Numeric character expansion factor(s), multiplied by `par("cex")` to yield the character size(s). Default: `cex = 2`.
- **font**: The font type(s) to be used. Default: `font = 2` (i.e., bold).
- **new_plot**: Should a new plot be generated? Set to "blank" or "slide" to create a new plot. Default: `new_plot = "none"` (i.e., add to an existing plot).

**Details**

The positions of the text elements in `labels` can be specified by providing their coordinates (as `x` and `y` arguments) or by providing an initial position and an `y_layout` (see below).

Text formatting parameters (like `col`, `col_bg`, `cex`, `font`) are recycled to match `length(labels)`.

`mark` uses the base graphics system `graphics::`.

**See Also**

- `slide` and `xbox` to create simple plots (without text).
- Other text functions: `post()`, `uline()`, `url_unikn()`

**Examples**

# Basics:
mark(labels = "This is a test.", new_plot = "blank")  # create a new blank plot
mark(labels = "More testing here...", y = .45, col_bg = pal_pinky[[2]])  # add to plot

# Example:
# (a) Mark text on an existing plot:
plot(x = 0, y = 0, type = "n", xlim = c(0, 1), ylim = c(0, 1), xlab = "", ylab = "")
mark(x = 0, y = .8, labels = "Mark (on an existing plot)"")  # uses existing plot

# (b) Mark text on a new plot:
mark(x = 0, y = .8, labels = "Mark (and create a new plot)",
     new_plot = "slide")  # starts a new plot

# (c) More text and decorations:
mark(x = 0, y = c(.60, .50),
     labels = c("Highlighting text is simple", "and effective"),
     cex = 1.5, col_bg = c(pal_seeblau[[2]], pal_seeblau[[1]]))

mark(labels = c("It is also flexible", "but to be handled with care"),
      x = .4, y = .3, y_layout = "flush", cex = 1.2,
      col = c("white", "black"), col_bg = c(pal_seeblau[[5]], "gold"))
Define new color palettes.

newpal allows defining new color palettes (as data frames).

Usage

newpal(col, names = NA, as_df = FALSE)

Arguments

col
A required vector of colors (specified by their R color names, HEX codes, or RGB values).

names
An optional character vector of names. Default: names = NA, yielding numeric names.

as_df
Should the new color palette be returned as a data frame (rather than as a vector)? Default: as_df = FALSE.

See Also

seepal to plot color palettes; usecol to use a color palette.

Other color functions: grepal(), seecol(), usecol()

Examples

newpal(col = c("black", "white"), names = c("dark", "bright"))

# Example: 3 ways of defining a new color palette:

# (1) From R color names: ------
pal_flag_de <- newpal(col = c("black", "firebrick3", "gold"),
                     names = c("Schwarz", "Rot", "Gold"))
seecol(pal_flag_de, title = "Colors in the flag of Germany")

# (2) From HEX values: ------
# (a) Google logo colors:
# Source: https://www.schemecolor.com/google-logo-colors.php
color_google <- c("#4285f4", "#34a853", "#fbbc05", "#ea4335")
names_google <- c("blueberry", "sea green", "selective yellow", "cinnabar")
pal_google <- newpal(color_google, names_google)
seecol(pal_google, title = "Colors of the Google logo", col_brd = "white", lwd_brd = 10)

# (b) German flag revised:
# Based on a different source at
pal_bordeaux

# <https://www.schemecolor.com/germany-flag-colors.php>:
pal_flag_de_2 <- newpal(col = c("#000000", "#dd0000", "#ffce00"),
                        names = c("black", "red", "gold")
)  
seecol(pal_flag_de_2, title = "Colors of the German flag (www.schemecolor.com)"
)

# (c) MPG colors:
pal_mpg <- newpal(col = c("#007367", "white", "#D0D3D4"),
                        names = c("mpg green", "white", "mpg grey")
)  
seecol(pal_mpg, title = "Colors of the Max Planck Society"
)

# (3) From RGB values: -----  
# Barrier-free color palette  
# Source: Okabe & Ito (2002): Color Universal Design (CUD):  
# Fig. 16 of <https://jfly.uni-koeln.de/color/>:

# (a) Vector of colors (as RGB values):
o_i_colors <- c(rgb( 0, 0, 0, maxColorValue = 255), # black  
                rgb(230, 159, 0, maxColorValue = 255), # orange  
                rgb( 86, 180, 233, maxColorValue = 255), # skyblue  
                rgb( 0, 158, 115, maxColorValue = 255), # green  
                rgb(240, 228, 66, maxColorValue = 255), # yellow  
                rgb( 0, 114, 178, maxColorValue = 255), # blue  
                rgb(213, 94, 0, maxColorValue = 255), # vermilion  
                rgb(204, 121, 167, maxColorValue = 255) # purple
)

# (b) Vector of color names:
o_i_names <- c("black", "orange", "skyblue", "green", "yellow", "blue", "vermillion", "purple")

# (c) Use newpal() to combine colors and names:
pal_okabe_ito <- newpal(col = o_i_colors,  
                        names = o_i_names)

seecol(pal_okabe_ito,  
       title = "Color-blind friendly color scale (Okabe & Ito, 2002)"
)

# Compare custom color palettes:  
my_pals <- list(pal_flag_de, pal_flag_de_2, pal_google, pal_mpg, pal_okabe_ito)
seecol(my_pals, col_brd = "white", lwd_brd = 5,  
       title = "Comparing custom color palettes"
)

pal_bordeaux

uni.kn bordeaux color palette.

Description

pal_bordeaux provides an additional uni.kn color palette as a data frame containing 5 colors (shades of Bordeaux).
pal_grau

Usage

pal_bordeaux

Format

An object of class data.frame with 1 rows and 5 columns.

Details


See Also

pal_unikn for the unikn default color palette with all 5 colors of pal_seeblau; pal_peach and pal_pinky for alternative redish uni.kn color palettes; pal_unikn_pref for a uni.kn color palette with all preferred colors; seecol to show and use color palettes.

Other color palettes: pal_grau, pal_karpfenblau, pal_peach, pal_petrol, pal_pinky, pal_seeblau, pal_seegruen, pal_signal, pal_unikn_dark, pal_unikn_light, pal_unikn_pair, pal_unikn_ppt, pal_unikn_pref, pal_unikn_web, pal_unikn

Examples

pal_bordeaux

dim(pal_bordeaux) \# 1 5
pal_bordeaux[4] \# preferred (named) color "bordeaux4"
pal_bordeaux[[4]] \# preferred color "bordeaux4" OR "#8E2043"

\# Plotting palette:
seecol(pal_bordeaux)

pal_grau

uni.kn grau color palette.

Description

pal_grau provides an additional uni.kn color palette as a data frame containing 5 colors (shades of Grau or grey).

Usage

pal_grau

Format

An object of class data.frame with 1 rows and 5 columns.
**Details**


**See Also**

`pal_unikn` for the unikn default color palette with all 5 colors of `pal_seeblau`; `pal_unikn_pref` for a uni.kn color palette with all preferred colors; `seecol` to show color palettes; `usecol` to use color palettes.

Other color palettes: `pal_bordeaux`, `pal_karpfenblau`, `pal_peach`, `pal_petrol`, `pal_pinky`, `pal_seeblau`, `pal_seegruen`, `pal_signal`, `pal_unikn_dark`, `pal_unikn_light`, `pal_unikn_pair`, `pal_unikn_ppt`, `pal_unikn_pref`, `pal_unikn_web`, `pal_unikn`

**Examples**

```r
pal_grau
dim(pal_grau)  # 1 5
pal_grau[3]    # preferred (named) color "grau3"
pal_grau[[3]]  # preferred color "grau3" OR "#9AA8A7"

# Plotting palette:
seecol(pal_grau)
```

---

**Description**

`pal_karpfenblau` provides an additional uni.kn color palette as a data frame containing 5 colors (shades of *Karpfenblau* or blue carp).

**Usage**

`pal_karpfenblau`

**Format**

An object of class `data.frame` with 1 rows and 5 columns.

**Details**

See Also

`pal_unikn` for the unikn default color palette with all 5 colors of `pal_seeblau`, `pal_seeblau` for the default seeblau uni.kn color palette; `pal_unikn_pref` for a uni.kn color palette with all preferred colors; `seecol` to show and use color palettes.

Other color palettes: `pal_bordeaux`, `pal_grau`, `pal_peach`, `pal_petrol`, `pal_pinky`, `pal_seeblau`, `pal_seegruen`, `pal_signal`, `pal_unikn_dark`, `pal_unikn_light`, `pal_unikn_pair`, `pal_unikn_ppt`, `pal_unikn_pref`, `pal_unikn_web`, `pal_unikn`.

Examples

```r
pal_karpfenblau
  dim(pal_karpfenblau) # 1 5
  pal_karpfenblau[4] # preferred (named) color "karpfenblau4"
  pal_karpfenblau[4][] # preferred color "karpfenblau4" OR "#3E5496"

  # Plotting palette:
  seecol(pal_karpfenblau)
```  

---

**pal_peach**

*uni.kn peach color palette.*

### Description

`pal_peach` provides an additional uni.kn color palette as a data frame containing 5 colors (shades of Peach).

### Usage

`pal_peach`

### Format

An object of class `data.frame` with 1 row and 5 columns.

### Details


### See Also

`pal_unikn` for the unikn default color palette with all 5 colors of `pal_seeblau`, `pal_pinky` and `pal_bordeaux` for alternative redish uni.kn color palettes; `pal_unikn_pref` for a uni.kn color palette with all preferred colors; `seecol` to show color palettes; `usecol` to use color palettes.

Other color palettes: `pal_bordeaux`, `pal_grau`, `pal_karpfenblau`, `pal_petrol`, `pal_pinky`, `pal_seeblau`, `pal_seegruen`, `pal_signal`, `pal_unikn_dark`, `pal_unikn_light`, `pal_unikn_pair`, `pal_unikn_ppt`, `pal_unikn_pref`, `pal_unikn_web`, `pal_unikn`
**Examples**

```r
code
pal_peach
dim(pal_peach)  # 1 5
pal_peach[4]    # preferred (named) color "peach4"
pal_peach[[4]]  # preferred color "peach4" OR "#FEA090"

# Plotting palette:
seecol(pal_peach)
```

---

**Description**

`pal_petrol` provides an additional uni.kn color palette as a data frame containing 5 colors (shades of **Petrol** or grue).

**Usage**

```r
code
pal_petrol
```

**Format**

An object of class **data.frame** with 1 rows and 5 columns.

**Details**


**See Also**

- `pal_unikn` for the unikn default color palette with all 5 colors of `pal_seeblau`; `pal_seegruen` for an alternative green/grue uni.kn color palette; `pal_unikn_pref` for a uni.kn color palette with all preferred colors; `seecol` to show color palettes; `usecol` to use color palettes.

Other color palettes: `pal_bordeaux, pal_grau, pal_karpfenblau, pal_peach, pal_pinky, pal_seeblau, pal_seegruen, pal_signal, pal_unikn_dark, pal_unikn_light, pal_unikn_pair, pal_unikn_ppt, pal_unikn_pref, pal_unikn_web, pal_unikn`

**Examples**

```r
code
pal_petrol
dim(pal_petrol)  # 1 5
pal_petrol[4]    # preferred (named) color "petrol4"
pal_petrol[[4]]  # preferred color "petrol4" OR "#077187"
```
# Plotting palette:
seecol(pal_petrol)

---

pal_pinky  
uni.kn pinky color palette.

**Description**

pal_pinky provides an additional uni.kn color palette as a data frame containing 5 colors (shades of Pinky or pink).

**Usage**

pal_pinky

**Format**

An object of class data.frame with 1 rows and 5 columns.

**Details**


**See Also**

pal_unikn for the unikn default color palette with all 5 colors of pal_seeblau; pal_peach and pal_bordeaux for alternative redish uni.kn color palettes; pal_unikn_pref for a uni.kn color palette with all preferred colors; seecol to show color palettes; usecol to use color palettes.

Other color palettes: pal_bordeaux, pal_grau, pal_karpfenblau, pal_peach, pal_petrol, pal_seeblau, pal_seegruen, pal_signal, pal_unikn_dark, pal_unikn_light, pal_unikn_pair, pal_unikn_ppt, pal_unikn_pref, pal_unikn_web, pal_unikn

**Examples**

```r
pal_pinky
dim(pal_pinky)  # 1 5
pal_pinky[4]   # preferred (named) color "pinky4"
pal_pinky[[4]] # preferred color "pinky4" OR "#E0607E"

# Plotting palette:
seecol(pal_pinky)
```
**Description**

`pal_seeblau` provides an additional uni.kn color palette as a data frame containing 5 colors (shades of *Seeblau*).

**Usage**

`pal_seeblau`  

**Format**

An object of class `data.frame` with 1 rows and 5 columns.

**Details**


**See Also**

- `pal_unikn` for the unikn default color palette with all 5 colors of `pal_seeblau`; `pal_karpfenblau` for an alternative blue uni.kn color palette; `pal_unikn_pref` for a uni.kn color palette with all preferred colors; `seecol` to show color palettes; `usecol` to use color palettes.

Other color palettes: `pal_bordeaux`, `pal_grau`, `pal_karpfenblau`, `pal_peach`, `pal_petrol`, `pal_pinky`, `pal_seegruen`, `pal_signal`, `pal_unikn_dark`, `pal_unikn_light`, `pal_unikn_pair`, `pal_unikn_ppt`, `pal_unikn_pref`, `pal_unikn_web`, `pal_unikn`  

**Examples**

```r
pal_seeblau  
dim(pal_seeblau) # 1 5

# Preferred color:
pal_seeblau[3] # preferred (named) color "seeblau3" (as df)
pal_seeblau[[3]] # preferred color value "#59C7EB"

# Access by position:
pal_seeblau[3] # named color "seeblau3" (as df)
pal_seeblau[[3]] # color value "#59C7EB"

# Access by name:
pal_unikn["seeblau3"] # color "seeblau3" (as df)
pal_unikn[["seeblau3"]]) # color value "#59C7EB"

# Plotting palette:
seecol(pal_seeblau)
```
Description

pal_seegruen provides an additional uni.kn color palette as a data frame containing 5 colors (shades of Seegruen).

Usage

colnames(pal_seegruen)

Format

An object of class data.frame with 1 rows and 5 columns.

Details


See Also

pal_unikn for the unikn default color palette with all 5 colors of pal_seeblau; pal_petrol for an alternative green uni.kn color palette; pal_unikn_pref for a uni.kn color palette with all preferred colors; seecol to show color palettes; usecol to use color palettes.

Other color palettes: pal_bordeaux, pal_grau, pal_karpfenblau, pal_peach, pal_petrol, pal_pinky, pal_seeblau, pal_signal, pal_unikn_dark, pal_unikn_light, pal_unikn_pair, pal_unikn_ppt, pal_unikn_pref, pal_unikn_web, pal_unikn

Examples

colnames(pal_seegruen)
dim(pal_seegruen) # 1 5
colnames(pal_seegruen) # preferred (named) color "seegruen4"
colnames(pal_seegruen)[4] # preferred color "seegruen4" OR "#0A9086"

# Plotting palette:
seecol(pal_seegruen)
pal_signal

---

pal_signal  uni.kn signal (Ampel) color palette.

Description

pal_signal provides an additional uni.kn color palette as a data frame containing 3 colors (Ampel or traffic signal colors).

Usage

pal_signal

Format

An object of class data.frame with 1 rows and 3 columns.

Details

The colors are arranged as in a traffic light ("Ampel"):

1. top: red or "bad"
2. mid: yellow or "alert"
3. bot: green or "good"


See Also

- pal_unikn for the unikn default color palette with all 5 colors of pal_seeblau; pal_unikn_pref for a uni.kn color palette with all preferred colors; seecol to show and use color palettes.

Other color palettes: pal_bordeaux, pal_grau, pal_karpfenblau, pal_peach, pal_petrol, pal_pinky, pal_seeblau, pal_seegruen, pal_unikn_dark, pal_unikn_light, pal_unikn_pair, pal_unikn_ppt, pal_unikn_pref, pal_unikn_web, pal_unikn

Examples

```r
dim(pal_signal) # 1 3
pal_signal[2]  # (named) color "signal2"
pal_signal[[2]] # color "signal2" OR "#EFDC60"

# Plotting palette:
seecol(pal_signal)
```
pal_unikn combines the 5 blue colors from color palette \texttt{pal_seeblau} with the 6 non-blue colors of \texttt{pal_unikn} to a palette containing 11 color values.

**Usage**

\texttt{pal_unikn}

**Format**

An object of class \texttt{data.frame} with 1 rows and 11 columns.

**Details**

Adding \texttt{seeblau5} (i.e., \texttt{pal_seeblau[1]}) to the default color palette \texttt{pal_unikn} also puts white at the central (middle) position of a palette with 11 values:

\texttt{pal_unikn[6]} is white or "\texttt{#FFFFFF}".

This is useful when creating color gradients.


**See Also**

\texttt{pal_unikn} for the default uni.kn color palette; \texttt{pal_seeblau} for the uni.kn seeblau color palette; \texttt{seecol} to show color palettes; \texttt{usecol} to use color palettes.

Other color palettes: \texttt{pal_bordeaux, pal_grau, pal_karpfenblau, pal_peach, pal_petrol, pal_pinky, pal_seeblau, pal_seegruen, pal_signal, pal_unikn_dark, pal_unikn_light, pal_unikn_pair, pal_unikn_ppt, pal_unikn_pref, pal_unikn_web}

**Examples**

\begin{verbatim}
pal_unikn
dim(pal_unikn)  # 1 11

# Access by position:
pal_unikn[1]  # new color "seeblau5" (as df)
pal_unikn[6]  # new color value "#008ECE"

# Access by name:
pal_unikn["seeblau5"]  # new color "seeblau5" (as df)
pal_unikn["#008ECE"]  # new color value "#008ECE"

# Plotting palette:
\end{verbatim}
**Description**

`pal_unikn_dark` provides an additional uni.kn color palette that collects 2 dark colors of 4 color palettes as a data frame containing 8 colors (in 4 pairs).

**Usage**

`pal_unikn_dark`

**Format**

An object of class `data.frame` with 1 rows and 10 columns.

**Details**


**See Also**

`pal_unikn_light` for a lighter uni.kn color palette; `pal_unikn_pair` for a pairwise uni.kn color palette; `pal_unikn` for the default uni.kn color palette; `seecol` to show color palettes; `usecol` to use color palettes. Other color palettes: `pal_bordeaux, pal_grau, pal_karpfenblau, pal_peach, pal_petrol, pal_pinky, pal_seebau, pal_seegrue, pal_signal, pal_unikn_light, pal_unikn_pair, pal_unikn_ppt, pal_unikn_pref, pal_unikn_web, pal_unikn`

**Examples**

```r
pal_unikn_dark
dim(pal_unikn_dark)  # 1 8
pal_unikn_dark[1]    # color “karpfenblau5” by position
pal_unikn_dark[[1]]  # color value by position: #324376
pal_unikn_dark[“karpfenblau5”]  # color value by name

# Plotting palette:
seecol(pal_unikn_dark)
```
**Description**

pal_unikn_light provides an additional uni.kn color palette that collects 2 light colors of 4 color palettes as a data frame containing 8 colors (in 4 pairs).

**Usage**

pal_unikn_light

**Format**

An object of class data.frame with 1 rows and 10 columns.

**Details**


**See Also**

- [pal_unikn_dark](#) for a darker uni.kn color palette;
- [pal_unikn_pair](#) for a pairwise uni.kn color palette;
- [pal_unikn](#) for the default uni.kn color palette;
- [seecol](#) to show color palettes;
- [usecol](#) to use color palettes.

Other color palettes:
- [pal_bordeaux](#), [pal_grau](#), [pal_karpfenblau](#), [pal_peach](#), [pal_petrol](#), [pal_pink](#),
- [pal_seeblau3](#), [pal_seegruen](#), [pal_signal](#), [pal_unikn_dark](#), [pal_unikn_pair](#), [pal_unikn_ppt](#),
- [pal_unikn_pref](#), [pal_unikn_web](#), [pal_unikn](#)

**Examples**

```r
pal_unikn_light
dim(pal_unikn_light) # 1 8

# Access by position:
pal_unikn_light[1] # color "seeblau3" (as df)
pal_unikn_light[[1]] # color value "#59C7EB"

# Access by name:
pal_unikn_light["seeblau3"] # color "seeblau3" (as df)
pal_unikn_light[["seeblau3"]] # color value "#59C7EB"

# Plotting palette:
seecol(pal_unikn_light)
```
pal_unikn_pair

---

pal_unikn_pair  uni.kn pairwise colors in a color palette.

Description

pal_unikn_pair provides an additional uni.kn color palette that collects 16 paired colors of 8 color palettes as a data frame containing 16 colors (in 8 pairs).

Usage

pal_unikn_pair

Format

An object of class data.frame with 1 rows and 16 columns.

Details


See Also

pal_unikn_light for a lighter uni.kn color palette; pal_unikn_dark for a darker uni.kn color palette; pal_unikn for the default uni.kn color palette; seecol to show color palettes; usecol to use color palettes.

Other color palettes: pal_bordeaux, pal_grau, pal_karpfenblau, pal_peach, pal_petrol, pal_pinky, pal_seebau, pal_seegruen, pal_signal, pal_unikn_dark, pal_unikn_light, pal_unikn_ppt, pal_unikn_pref, pal_unikn_web, pal_unikn

Examples

```r
pal_unikn_pair
dim(pal_unikn_pair)  # 1 16
pal_unikn_pair[1]    # color "karpfenblau4" by position
pal_unikn_pair[[1]]  # color value by position: #3E5496
pal_unikn_pair"karpfenblau4"]  # color value by name

# Plotting palette:
seecol(pal_unikn_pair)
```
Description

pal_unikn_ppt provides an alternative uni.kn color palette as a data frame containing 10 colors.

Usage

pal_unikn_ppt

Format

An object of class data.frame with 1 rows and 10 columns.

Details

This is a secondary (ppt) variant with more muted colors.


See Also

pal_unikn for the unikn default color palette with all 5 colors of pal_seeblau; pal_unikn_pref for a uni.kn color palette with all preferred colors; seecol to show color palettes; usecol to use color palettes.

Other color palettes: pal_bordeaux, pal_grau, pal_karpfenblau, pal_peach, pal_petrol, pal_pinky, pal_seeblau, pal_seegruen, pal_signal, pal_unikn_dark, pal_unikn_light, pal_unikn_pair, pal_unikn_pref, pal_unikn_web, pal_unikn

Examples

```r
pal_unikn_ppt
dim(pal_unikn_ppt) # 1 10

# Access by position:
pal_unikn_ppt[2] # 2nd named color "seeblau3" (as df)
pal_unikn_ppt[[2]] # 2nd color value "#59B6DC"

# Access by name:
pal_unikn_ppt["seeblau3"] # color "seeblau3" (as df)
pal_unikn_ppt[["seeblau3"]]] # color value "#59B6DC"

# Plotting palette:
seecol(pal_unikn_ppt)
```
Description

`pal_unikn_pref` provides an additional uni.kn color palette that collects the preferred color of each palette as a data frame containing 9 (or 8 + 1) colors.

Usage

`pal_unikn_pref`

Format

An object of class `data.frame` with 1 rows and 9 columns.

Details

The colors are arranged in a sequence that provides high contrasts between adjacent colors.

Note that the (alert) color `Signal` is not a preferred color according to the official color definition.


See Also

- `pal_unikn` for the default uni.kn color palette
- `seecol` to show color palettes
- `usecol` to use color palettes.

Other color palettes:
- `pal_bordeaux`, `pal_grau`, `pal_karpfenblau`, `pal_peach`, `pal_petrol`, `pal_pinky`,
- `pal_seeblau`, `pal_seegruen`, `pal_signal`, `pal_unikn_dark`, `pal_unikn_light`, `pal_unikn_pair`,
- `pal_unikn_ppt`, `pal_unikn_web`, `pal_unikn`

Examples

```r
pal_unikn_pref
dim(pal_unikn_pref) # 1 9

# Access by position:
pal_unikn_pref[1]   # color Seeblau (as df)
pal_unikn_pref[[1]] # color value "#59C7EB"

# Access by name:
pal_unikn_pref["Seeblau"] # color "seeblau3" (as df)
pal_unikn_pref["Seeblau"][] # color value "#59C7EB"

# Plotting palette:
seecol(pal_unikn_pref)
```
Description

pal_unikn_web provides the default uni.kn color palette as a data frame containing 10 colors.

Usage

pal_unikn_web

Format

An object of class data.frame with 1 rows and 10 columns.

Details

This is the primary (web/sRGB) scale.


See Also

pal_unikn for the unikn default color palette with all 5 colors of pal_seeblau; pal_unikn_ppt for an alternative (ppt) version; pal_unikn_pref for a uni.kn color palette with all preferred colors; seecol to show color palettes; usecol to use color palettes.

Other color palettes: pal_bordeaux, pal_grau, pal_karpfenblau, pal_peach, pal_petrol, pal_pinky, pal_seeblau, pal_seegruen, pal_signal, pal_unikn_dark, pal_unikn_light, pal_unikn_pair, pal_unikn_ppt, pal_unikn_pref, pal_unikn

Examples

pal_unikn_web
dim(pal_unikn_web) # 1 10

# Access by position:
pal_unikn_web[2] # 2nd named color "seeblau3" (as df)
pal_unikn_web[[2]] # 2nd color value "#59C7EB"

# Access by name:
pal_unikn_web["seeblau3"] # color "seeblau3" (as df)
pal_unikn_web["seeblau3"] # color value "#59C7EB"

# Plotting palette:
seecol(pal_unikn_web)
Peach

uni.kn color Peach.

Description

Peach provides the preferred color of `pal_peach` (as an atomic HEX character value) and is defined as `pal_peach[[4]]`.

Usage

Peach

Format

An object of class character of length 1.

Details


See Also

`pal_peach` for the corresponding color palette; `pal_unikn` for the unikn default color palette with all 5 colors of `pal_seeblau`; `pal_unikn_pref` for a uni.kn color palette with all preferred colors; `seecol` to show and use color palettes.

Other preferred colors: Bordeaux, Grau, Karpfenblau, Petrol, Pinky, Seeblau, Seegruen, Signal

Examples

```
Peach  # HEX character "#FEA090" (as value)
all.equal(Peach, pal_peach[[4]])  # TRUE (same HEX values)

seecol(Peach)  # view color and details
```

Petrol

uni.kn color Petrol.

Description

Petrol provides the preferred color of `pal_petrol` (as an atomic HEX character value) and is defined as `pal_petrol[[4]]`.

Usage

Petrol
Pinky

Format

An object of class character of length 1.

Details


See Also

pal_petrol for the corresponding color palette; pal_unikn for the unikn default color palette with all 5 colors of pal_seeblau; pal_unikn_pref for a unikn color palette with all preferred colors; seecol to show color palettes; usecol to use color palettes.

Other preferred colors: Bordeaux, Grau, Karpfenblau, Peach, Pinky, Seeblau, Seegruen, Signal

Examples

Petrol  # HEX character "#077187" (as value)
all.equal(Petrol, pal_petrol[[4]])  # TRUE (same HEX values)

seecol(Petrol)  # view color and details

________________________

Pinky  

uni.kn color Pinky.

________________________

Description

Pinky provides the preferred color of pal_pinky (as an atomic HEX character value) and is defined as pal_pinky[[4]].

Usage

Pinky

Format

An object of class character of length 1.

Details

See Also

pal_pinky for the corresponding color palette; pal_unikn for the unikn default color palette with all 5 colors of pal_seeblau; pal_unikn_pref for a uni.kn color palette with all preferred colors; seecol to show color palettes; usecol to use color palettes.

Other preferred colors: Bordeaux, Grau, Karpfenblau, Peach, Petrol, Seeblau, Seegruen, Signal

Examples

Pinky # HEX character "#E0607E" (as value)
all.equal(Pinky, pal_pinky[[4]]) # TRUE (same HEX values)

seecol(Pinky) # view color and details

Description

post plots 1 or more text strings (provided as a character vector labels) to an (existing or new) xbox.

Usage

post(  
labels,  
  x = 0.03,  
  y = 0.55,  
  y_layout = "even",  
  col = "white",  
  col_bg = Seeblau,  
  cex = 1,  
  font = 1,  
  new_plot = "none"
)

Arguments

  labels A character vector specifying the text labels to be plotted.
  x       A numeric vector of x-coordinates at which the text labels in labels should be written. If the lengths of x and y differ, the shorter one is recycled. Default: x = 0.03.
  y       A numeric vector of y-coordinates at which the text labels in labels should be written. If the lengths of x and y differ, the shorter one is recycled. Default: y = 0.55.
**Details**

The positions of the text elements in `labels` can be specified by providing their coordinates (as `x` and `y` arguments) or by providing an initial position and an `y_layout` (see below).

Text formatting parameters (like `col`, `col_bg`, `cex`, `font`) are recycled to match `length(labels)`.

`post` uses the base graphics system `graphics::`.

**See Also**

`xbox` to create a new `xbox` (without text).

Other text functions: `mark()`, `uline()`, `url_unikn()`

**Examples**

```r
post(labels = "Post this line with default settings.", new_plot = "xbox")

# Create a new xbox:
post(labels = "This is a test.", new_plot = "xbox",
     cex = 1.2, font = 2, col_bg = pal_seeblau[[5]])

# Add text to an existing xbox:
post(labels = c("More text follows here.",
               "yet another line here.",
               "and even more here.")
         y = .4, y_layout = .04,
         new_plot = "none")
```
\textit{Seeblau} provides the preferred color of \texttt{pal\_seeblau} (as an atomic HEX character value) and is defined as \texttt{pal\_seeblau[[3]]}.

**Usage**

\texttt{Seeblau}

**Format**

An object of class \texttt{character} of length 1.

**Details**


**See Also**

\texttt{pal\_seeblau} for the corresponding color palette; \texttt{pal\_unikn} for the unikn default color palette with all 5 colors of \texttt{pal\_seeblau}; \texttt{pal\_unikn\_pref} for a uni\_kn color palette with all preferred colors; \texttt{seecol} to show color palettes; \texttt{usecol} to use color palettes.

Other preferred colors: \texttt{Bordeaux, Grau, Karpfenblau, Peach, Petrol, Pinky, Seegruen, Signal}

**Examples**

\begin{verbatim}
Seeblau  # HEX character \\"\#59C7EB" (as value)
all.equal(Seeblau, pal\_seeblau[[3]])  # TRUE (same HEX values)

seecol(Seeblau)  # view color and details
\end{verbatim}

\texttt{seecol} provides an interface to plotting (or "seeing") the colors of a palette or comparing multiple color palettes.
Usage

seecol(
  pal = "unikn_all",
  n = "all",
  alpha = NA,
  hex = NULL,
  rgb = NULL,
  col_bg = NULL,
  col_brd = NULL,
  lwd_brd = NULL,
  grid = TRUE,
  title = NA,
  mar_note = NA,
  pal_names = NA,
  ...
)

Arguments

pal A single color palette (as a vector of colors), multiple color palettes (as a list),
or a recognized keyword (as a character string). Default: pal = "unikn_all".
Recognized keywords are:
1. "unikn_all": All color palettes defined in unikn
2. "unikn_basic": All basic palettes.
3. "pair_all": All palettes with pairwise colors.
4. "pref_all": All preferred colors and their gradients.
5. "grad_all":

seecol does also recognize keywords (e.g., "all_unikn") or keywords without
"unikn" (e.g., "basic").
n Number of colors to show or use. If n is lower or higher than the length of
the current color palette pal, the color palette is reduced or extrapolated (using
grDevices::colorRampPalette). Default: n = "all" (i.e., show all colors in
palette).
alpha A factor modifying the opacity alpha (as in adjustcolor); typically in [0,1]. If
used, the value is shown in the plot title. Default: alpha = NA (i.e., no modifica-
tion of opacity).
hex Should HEX color values be shown? Default: hex = NULL (i.e., show HEX color
values when there is sufficient space to print them).
rgb Should RGB color values be shown? Default: rgb = NULL (i.e., show RGB color
values when there is sufficient space to print them).
col_bg Color of plot background. Default: col_bg = NULL.
col_brd Color of shape borders (if shown). Default: col_brd = NULL.
lwd_brd Line width of shape borders (if shown). Default: lwd_brd = NULL.
grid Show grid in the color plot? Default: grid = TRUE.
seecol

<table>
<thead>
<tr>
<th>title</th>
<th>Plot title (as a character string). Default: <code>title = NA</code> creates a default title.</th>
</tr>
</thead>
<tbody>
<tr>
<td>mar_note</td>
<td>Optional margin note (on bottom right). Default: <code>mar_note = NA</code> (i.e., no margin note).</td>
</tr>
<tr>
<td>pal_names</td>
<td>Names of color palettes or colors (as a character vector). Default: <code>pal_names = NA</code> (for default names).</td>
</tr>
<tr>
<td>...</td>
<td>Other graphical parameters (passed to <code>plot</code>).</td>
</tr>
</tbody>
</table>

Details

`seecol` has 2 main modes, based on the contents of its `pal` argument:

1. if `pal = "unikn_all"` or a list of multiple color palettes:
   Plot visual vectors of all current color palettes for comparing them.
2. if `pal` is set to a specific color palette (or a vector of multiple colors or color palettes):
   Plot the current color palette and optional details on its colors.

The `title` and `pal_names` arguments add control over plotted text labels. However, the length of a character vector provided to `pal_names` must correspond to the number of (custom) color palettes or colors.

See Also

`usecol` for using a color palette; `pal_unikn` for the default uni.kn color palette.

Other color functions: `grepal()`, `newpal()`, `usecol()`

Examples

# See multiple color palettes:
seecol()  # default: `seecol(pal = "all")`

# See details of one color palette:
seecol(pal_unikn)  # see a specific color palette

# Combining colors or color palettes:
seecol(c(rev(pal_seeblau), pal_seegruen))  # combine color palettes
seecol(c(rev(pal_seeblau), "white", pal_pinky))  # combine color palettes and color names
seecol(c(\"black\", \"firebrick\", \"gold\"))  # combine color names

# Using n to reduce or extend color palettes:
seecol(n = 3)  # viewing reduced ranges of all palettes
seecol(n = 12)  # viewing extended ranges of all palettes

seecol(pal_unikn, n = 5,
       title = "Reduced version of pal_unikn (n = 5)")  # reducing pal_unikn
seecol(pal_seeblau, n = 8,
       title = "Extended version of pal_seeblau (n = 8)")  # extending pal_seeblau

# Combining and extending color palettes:
seecol(c(rev(pal_seeblau), "white", pal_bordeaux), n = 17,
       title = "Diverging custom color palette (with 17 colors)")
```r
# Defining custom color palettes:
pal_mpg <- c("#007367", "white", "#D0D3D4") # mixing hex values and color names
names(pal_mpg) <- c("mpg green", "mpg white", "mpg grey") # color names

pal_bdg <- usecol(c(Bordeaux, "gold"), n = 10) # using usecol

# Viewing extended color palette:
seecol(pal_mpg, n = 9, title = "Custom color palette of the Max Planck Society")

# Comparing (and labeling) custom color palettes:
seecol(list(pal_mpg, pal_bdg, pal_unikn), n = 7,
  pal_names = c("Max Planck", "Bordeaux-Gold", "Uni Konstanz"),
  title = "Comparing and labeling custom color palettes")

## Viewing color palettes from other packages:
# library(RColorBrewer)
# seecol(brewer.pal(name = "RdBu", n = 11)) # viewing "RdBu" palette from RColorBrewer

## Extending color palettes:
# seecol(brewer.pal(name = "RdBu", n = 11), n = 15) # extending palette to 15 colors
```

### Seegruen

**uni.kn color Seegruen.**

#### Description

Seegruen provides the preferred color of `pal_seegruen` (as an atomic HEX character value) and is defined as `pal_seegruen[[4]]`.

#### Usage

Seegruen

#### Format

An object of class character of length 1.

#### Details


#### See Also

`pal_seegruen` for the corresponding color palette; `pal_unikn` for the unikn default color palette with all 5 colors of `pal_seeblau`; `pal_unikn_pref` for a uni.kn color palette with all preferred colors; `seecol` to show color palettes; `usecol` to use color palettes.

Other preferred colors: `Bordeaux`, `Grau`, `Karpfenblau`, `Peach`, `Petrol`, `Pinky`, `Seeblau`, `Signal`
**Signal**

**Examples**

Seegruen  # HEX character "#0A9086" (as value)
all.equal(Seegruen, pal_seegruen[4])  # TRUE (same HEX values)

seecol(Seegruen)  # view color and details

---

**Description**

Signal provides the alert color of **pal_signal** (as an atomic HEX character value) and is defined as **pal_signal[2]**.

**Usage**

Signal

**Format**

An object of class character of length 1.

**Details**

The official specification of **pal_signal** does not identify a preferred color. We provide Signal as a dedicated color as it is suited for creating color gradients (see **usecol**).


**See Also**

**pal_signal** for the corresponding color palette; **pal_unikn** for the unikn default color palette with all 5 colors of **pal_seeblau**; **pal_unikn_pref** for a uni.kn color palette with all preferred colors; **seecol** to show color palettes; **usecol** to use color palettes.

Other preferred colors: **Bordeaux, Grau, Karpfenblau, Peach, Petrol, Pinky, Seeblau, Seegruen**

**Examples**

Signal  # HEX character "#EFDC60" (as value)
all.equal(Signal, pal_signal[[2]])  # TRUE (same HEX values)

seecol(Signal)  # view color and details
**slide**

*Plot a slide (or frame).*

---

**Description**

`slide` plots an empty slide (or frame) as a colored rectangle.

**Usage**

```r
slide(col = NA, dim = c(4/3, 1), border = grey(0.33, 1), lwd = 1.5)
```

**Arguments**

- `col` The color to fill the slide with (i.e., its background color). Default: `col = NA` (i.e., system default for transparency).
- `dim` The x- and y-dimensions of the slide. Default: `dim = c(4/3, 1)` (i.e., unit height, 4/3 wider than high).
- `border` The color of the slide’s border. Setting `border = NA` hides border. Default: `border = grey(.33, 1)`.
- `lwd` The line width of the slide’s border. Setting `lwd = 0` or `lwd = NA` removes border. Default: `lwd = 1.5`.

**See Also**

`heading`, `line`, or `mark` to add text to a slide; `xbox` to plot a box.

Other plot functions: `theme_grau()`, `theme_unikn()`, `xbox()`

**Examples**

```r
slide()  # default slide (or frame)
slide(lwd = NA)  # borderless slide

# Dimensions:
slide(dim = c(18, 9))  # larger and 2:1 dimensions

# Formatting:
slide(col = pal_seeblau[[1]], border = pal_seeblau[[5]], lwd = 2)
```
Alternative theme for ggplot2.

Description

theme_grau provides an alternative unikn theme to use in ggplot2 commands.

Usage

theme_grau(
  col_title = grey(0, 1),
  base_size = 11,
  base_family = "",
  base_line_size = base_size/22,
  base_rect_size = base_size/22
)

Arguments

  col_title  Color of title (text) elements (optional, numeric). Default: col_title = grey(0, 1) (i.e., "black"). Consider using col_title = unikn::pal_seeblau[[4]].
  base_size  Base font size (optional, numeric). Default: base_size = 11.
  base_family Base font family (optional, character). Default: base_family = "". Options include "mono", "sans" (default), and "serif".
  base_line_size  Base line size (optional, numeric). Default: base_line_size = base_size/22.
  base_rect_size  Base rectangle size (optional, numeric). Default: base_rect_size = base_size/22.

Details

theme_grau is no-nonsense, but fills panel backgrounds in "grau" (specifically, pal_seegrgrau[[1]]). This theme works well for dark colors and bright color accents, but is of limited use with transparent colors.

See Also

  theme_unikn for default theme.

  Other plot functions: slide(), theme_unikn(), xbox()

Examples

  # Plotting iris dataset (using ggplot2, theme_grau, and unikn colors):

library('ggplot2')  # theme_unikn requires ggplot2
```r
ggplot(datasets::iris) +
  geom_jitter(aes(x = Sepal.Length, y = Sepal.Width, color = Species), size = 3, alpha = 2/3) +
  facet_wrap(~Species) +
  scale_color_manual(values = usecol(pal = c(Pinky, Seeblau, Seegruen))) +
  labs(tag = "B",
       title = "Iris sepals",
       caption = "Data from datasets::iris") +
  coord_fixed(ratio = 3/2) +
  theme_grau()
```

#### theme_unikn

**Basic unikn theme for ggplot2.**

**Description**

theme_unikn provides a basic unikn theme to use in ggplot2 commands.

**Usage**

```r
theme_unikn(
  col_title = pal_seeblau[[4]],
  base_size = 11,
  base_family = "",
  base_line_size = base_size/22,
  base_rect_size = base_size/22
)
```

**Arguments**

- `base_family`: Base font family (optional, character). Default: `base_family = ""`. Options include "mono", "sans" (default), and "serif".
- `base_line_size`: Base line size (optional, numeric). Default: `base_line_size = base_size/22`.

**Details**

The theme is lightweight and no-nonsense, but somewhat opinionated (e.g., in using mostly grey scales to allow emphasizing data points with color accents).
uline

See Also

theme_grau for an alternative theme.

Other plot functions: slide(), theme_grau(), xbox()

Examples

# Plotting iris dataset (using ggplot2, theme_unikn, and unikn colors):

library('ggplot2') # theme_unikn requires ggplot2

ggplot(datasets::iris) +
  geom_jitter(aes(x = Petal.Length, y = Petal.Width, color = Species), size = 3, alpha = 2/3) +
  scale_color_manual(values = usecol(pal = c(Pinky, Seeblau, Seegruen))) +
  labs(tag = "A", title = "Iris petals",
       caption = "Data from datasets::iris") +
  theme_unikn()

uline

Plot underlined text elements.

Description

uline plots 1 or more text strings (provided as a character vector labels) to an (existing or new) plot and places a colored line underneath each label (to underline it).

Usage

uline(
  labels,
  x = 0,
  y = 0.55,
  y_layout = "even",
  col = "black",
  col_bg = Seeblau,
  cex = 1.5,
  font = 1,
  new_plot = "none"
)

Arguments

labels A character vector specifying the text labels to be plotted.
x  A numeric vector of x-coordinates at which the text labels in labels should be written. If the lengths of x and y differ, the shorter one is recycled. Default: x = 0.

y  A numeric vector of y-coordinates at which the text labels in labels should be written. If the lengths of x and y differ, the shorter one is recycled. Default: y = .55.

y_layout  A numeric value or vector for the vertical spacing of labels in labels. 2 special values are "even" (i.e., even distribution of labels across available y-space) and "flush" (i.e., no space between adjacent labels, or y_layout = 0). Default: y_layout = "even".

col  The color(s) of the text label(s). Default: col_lbl = "black".

col_bg  The color(s) of the line (under the text labels of labels). Default: col_bg = Seeblau.

cex  Numeric character expansion factor(s), multiplied by par("cex") to yield the character size(s). Default: cex = 1.5.

font  The font type(s) to be used. Default: font = 1 (i.e., plain text).

new_plot  Boolean: Should a new plot be generated? Set to "blank" or "slide" to create a new plot. Default: new_plot = "none" (i.e., add to an existing plot).

Details
The positions of the text elements in labels can be specified by providing their coordinates (as x and y arguments) or by providing an initial position and an y_layout (see below).
Text formatting parameters (like col, col_bg, cex, font) are recycled to match length(labels).
uline uses the base graphics system graphics::.

See Also
slide and xbox to create simple plots (without text).
Other text functions: mark(), post(), url_uniqn()

Examples
uline(labels = "This is a test.", new_plot = "blank") # create a new blank plot
uline(labels = "More testing here...", y = .33, col_bg = pal_pinky[[2]]) # add to plot

# 2 basic cases:
# (a) Underline text on an existing plot:
plot(x = 0, y = 0, type = "n", xlim = c(0, 1), ylim = c(0, 1), xlab = "", ylab = "")
uline(x = 0, y = .8, labels = "Underline text (on an existing plot)") # add to plot

# (b) Underline text on a new plot:
uline(x = .02, y = .80, labels = "Underline text (on a new plot)",
      new_plot = "slide") # create a new plot

# Example:
lbl_line <- c("This is neat, true, and terribly important.")
unikn.guide

Opens the unikn package guides

Description

Opens the unikn package guides

Usage

unikn.guide()

url_unikn

url_unikn formats an URL the uni.kn way.

Description

url_unikn removes various patterns (e.g., "http", "https", "://", "www.") from the front of a given URL and returns the remaining character string with a figure dash prefix.

Usage

url_unikn(url = "https://www.uni-konstanz.de/")

Arguments

url The url to be written (as copied from a web browser).

See Also

xbox to create a new xbox (without text).
Other text functions: mark(), post(), uline()

Examples

url_unikn("https://www.uni-konstanz.de/")
**usecol**

*Use a color or color palette.*

**Description**

usecol allows using a color or color palette `pal` (e.g., for plotting).

**Usage**

```r
usecol(
  pal = pal_unikn,
  n = "all",
  alpha = NA,
  use_names = FALSE,
  use_col_ramp = FALSE
)
```

**Arguments**

- `pal` A color palette (as a vector of colors or color palettes). Default: `pal = pal_unikn`.
- `n` An integer value specifying the desired number of colors from the palette. Default: `n = "all"` (i.e., use all colors of a color palette). For the palettes defined by `unikn`, `n` is set to a pre-defined selection of colors if the desired number of colors is smaller than the available number. For all other palettes and values of `n` larger than `length(pal)`, `n` compresses or extends the palette using `colorRampPalette`.
- `alpha` A factor modifying the opacity alpha (as in `adjustcolor`); to a value in `[0,1]`. Default: `alpha = NA` (i.e., no modification of opacity).
- `use_names` A logical value indicating whether colors should be returned as a named vector. Default: `use_names = FALSE`, for compatibility with `ggplot`.
- `use_col_ramp` A logical value specifying whether the default of using pre-selected colors should be overridden and `colorRampPalette` should be used to process `n`. Default: `use_col_ramp = FALSE`.

**Details**

usecol also allows modifying and combining color palettes in various ways.

**Value**

A vector of colors (in character format).

**See Also**

- `seecol` to plot color palettes; `pal_unikn` for the default `uni.kn` color palette.

Other color functions: `grepal()`, `newpal()`, `seecol()`
Examples

usecol(pal = pal_unikn, n = "all")  # default color palette
usecol(pal = pal_unikn, n = 4)    # selecting n dedicated colors
usecol(pal = pal_unikn, n = 20)   # extending color palette

# Mixing a new color palette:
pal_1 <- usecol(pal = c(rev(pal_seeblau), "white", pal_pinky))
seecol(pal_1)

# Mixing and extending a color palette:
pal_2 <- usecol(pal = c(rev(pal_seegruen), "white", pal_bordeaux), n = 20)
seecol(pal_2)

# Defining and using a custom color palette:
pal_princeton_1 <- c("#E77500", "white", "black")
names(pal_princeton_1) <- c("orange_w", "white", "black")
pal_3 <- usecol(pal_princeton_1, n = 7)
seecol(pal_3)

---

xbox  

Plot a box (with x).

Description

xbox plots a box with a cross (x) in its top-right corner.

Usage

xbox(col = Seeblau, dim = c(1, 1))

Arguments

col The color to fill the box with (i.e., its background color). Default: col = unlist(seeblau).
dim The x- and y-dimensions of the box. Default: dim = c(1,1) (i.e., a unit square).

Details

The cross (x) appears rectangular when viewing the plot at the correct aspect ratio (as defined by dim).

See Also

post to add text to an xbox; slide to plot a new slide (or frame).
Other plot functions: slide(), theme_grau(), theme_unikn()
Examples

  xbox()  # default box

  # Options:
  xbox(col = Bordeaux)
  xbox(dim = c(2, 1))  # 2:1 dimension (wider than high)
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