Package ‘pillar’

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Title  Coloured Formatting for Columns
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Author  Kirill Müller [aut, cre] (<https://orcid.org/0000-0002-1416-3412>), Hadley Wickham [aut], RStudio [cph]
pillar-package

Maintainer  Kirill Müller <kirill@cynkra.com>
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pillar-package  pillar: Coloured Formatting for Columns

Description

[Stable]

Formats tabular data in columns or rows using the full range of colours provided by modern terminals. Provides various generics for making every aspect of the display customizable.
Alignment helper

Facilitates easy alignment of strings within a character vector. Designed to help implementers of formatters for custom data types.

**Usage**

```r
align(x, width = NULL, align = c("left", "right"), space = " ")
```

**Arguments**

- `x`: A character vector
- `width`: The width that each string is padded to. If NULL, the maximum display width of the character vector is used (see `get_max_extent()`).
- `align`: How should strings be aligned? If `align = left` then padding appears on the right, and vice versa.
- `space`: What character should be used for the padding?

**Examples**

```r
align(c("abc", "de"), align = "left")
align(c("abc", "de"), align = "right")
```
**ctl_new_pillar**

*Customize the appearance of simple pillars in your tibble subclass*

**Description**

**[Experimental]**

Gain full control over the appearance of the pillars of your tibble subclass in its body. This method is intended for implementers of subclasses of the "tbl" class. Users will rarely need them.

**Usage**

```r
ctl_new_pillar(controller, x, width, ..., title = NULL)
ctl_new_rowid_pillar(controller, x, width, ..., title = NULL, type = NULL)
```

**Arguments**

- `controller` The object of class "tbl" currently printed.
- `x` A simple (one-dimensional) vector.
- `width` The available width, can be a vector for multiple tiers.
- `...` These dots are for future extensions and must be empty.
- `title` The title, derived from the name of the column in the data.
- `type` String for specifying a row ID type. Current values in use are `NULL` and "*".

**Details**

`ctl_new_pillar()` is called to construct pillars for regular (one-dimensional) vectors. The default implementation returns an object constructed with `pillar()`. Extend this method to modify the pillar components returned from the default implementation. Override this method to completely change the appearance of the pillars. Components are created with `new_pillar_component()` or `pillar_component()`. In order to customize printing of row IDs, a method can be supplied for the `ctl_new_rowid_pillar()` generic.

All components must be of the same height. This restriction may be levied in the future.

Implementations should return `NULL` if none of the data fits the available width.

**See Also**

See `ctl_new_pillar_list()` for creating pillar objects for compound columns: packed data frames, matrices, or arrays.
Examples

# Create pillar objects
ctl_new_pillar(
    palmerpenguins::penguins,
    palmerpenguins::penguins$species[1:3],
    width = 60
)

ctl_new_pillar(
    palmerpenguins::penguins,
    palmerpenguins::penguins$bill_length_mm[1:3],
    width = 60
)

# Customize output
lines <- function(char = "-") {
  stopifnot(nchar(char) == 1)
  structure(char, class = "lines")
}

format.lines <- function(x, width, ...) {
  paste(rep(x, width), collapse = "")
}

ctl_new_pillar.line_tbl <- function(controller, x, width, ...) {
  out <- NextMethod()
  new_pillar(list(
    title = out$title,
    type = out$type,
    lines = new_pillar_component(list(lines("=")), width = 1),
    data = out$data
  ))
}

ctl_new_rowid_pillar.line_tbl <- function(controller, x, width, ...) {
  out <- NextMethod()
  new_pillar(
    list(
      title = out$title,
      type = out$type,
      lines = new_pillar_component(list(lines("=")), width = 1),
      data = out$data
    ),
    width = as.integer(floor(log10(max(nrow(x), 1))) + 1)
  )
}

vctrs::new_data_frame(
  list(a = 1:3, b = letters[1:3]),
  class = c("line_tbl", "tbl")
)
ctl_new_pillar_list

Customize the appearance of compound pillars in your tibble subclass

Description

[Experimental]
Gain full control over the appearance of the pillars of your tibble subclass in its body. This method is intended for implementers of subclasses of the "tbl" class. Users will rarely need them, and we also expect the default implementation to be sufficient for the vast majority of cases.

Usage

ctl_new_pillar_list(
  controller,
  x,
  width,
  ..., 
  title = NULL,
  first_pillar = NULL
)
Arguments

controller  The object of class "tbl" currently printed.
x        A vector, can also be a data frame, matrix, or array.
width  The available width, can be a vector for multiple tiers. If NULL, only the first pillar is instantiated.
...        These dots are for future extensions and must be empty.
title  The title, derived from the name of the column in the data.
first_pillar  Can be passed to this method if the first pillar for a compound pillar (or the pillar itself for a simple pillar) has been constructed already.

Details

cntl_new_pillar_list() is called to construct a list of pillars. If x is a regular (one-dimensional) vector, the list contains one pillar constructed by cntl_new_pillar(). This method also works for compound columns: columns that are data frames, matrices or arrays, with the following behavior:

- If width is NULL, the method always returns a list of length one containing one pillar object that represents the first sub-column in this compound column.
- Otherwise, the returned list contains one pillar object for all sub-columns that can be fit in the available horizontal space. These pillar objects are obtained by calling cntl_new_pillar_list() with width = NULL on each sub-column until the available width is exhausted.

This method is called to initiate the construction of all pillars in the tibble to be printed. To ensure that all packed columns that fit the available space are printed, cntl_new_pillar_list() may be called twice on the same input: once with width = NULL, and once with width corresponding to the then known available space and with first_pillar set to the pillar object constructed in the first call.

Examples

# Simple column
cntl_new_pillar_list(
  tibble::tibble(),
  palmerpenguins::penguins$weight[1:3],
  width = 10
)

# Packed data frame: unknown width
cntl_new_pillar_list(
  tibble::tibble(),
  palmerpenguins::penguins[1:3, ],
  width = NULL
)

# Packed data frame: known width
cntl_new_pillar_list(
  tibble::tibble(),
  palmerpenguins::penguins,
dim_desc

Format dimensions

Description

Multi-dimensional objects are formatted as a x b x ... for vectors the length is returned.

Usage

dim_desc(x)

Arguments

x The object to format the dimensions for

Examples

dim_desc(1:10)
dim_desc(Titanic)
**format_glimpse**  

*Format a vector for horizontal printing*

---

**Description**

[Experimental]

This generic provides the logic for printing vectors in `glimpse()`.

The output strives to be as unambiguous as possible, without compromising on readability. In a list, to distinguish between vectors and nested lists, the latter are surrounded by `[]` brackets. Empty lists are shown as `[]`. Vectors inside lists, of length not equal to one, are surrounded by `<>` angle brackets. Empty vectors are shown as `<>`.

**Usage**

```r
format_glimpse(x, ...)  
```

**Arguments**

- **x**: A vector.
- **...**: Arguments passed to methods.

**Value**

A character vector of the same length as `x`.

**Examples**

```r
format_glimpse(1:3)  

# Lists use [], vectors inside lists use <>
format_glimpse(list(1:3))
format_glimpse(list(1, 2:3))
format_glimpse(list(list(1), list(2:3)))
format_glimpse(list(as.list(1), as.list(2:3)))
format_glimpse(list(character()))
format_glimpse(list(NULL))

# Character strings are always quoted
writeLines(format_glimpse(letters[1:3]))
writeLines(format_glimpse(c("A", "B", "C")))

# Factors are quoted only when needed
writeLines(format_glimpse(factor(letters[1:3])))
writeLines(format_glimpse(factor(c("A", "B", "C"))))
```
format_type_sum  

Format a type summary

Description

Called on values returned from `type_sum()` for defining the description in the capital.

Usage

```r
format_type_sum(x, width, ...)
```

## Default S3 method:
```r
format_type_sum(x, width, ...)
```

## S3 method for class 'AsIs'
```r
format_type_sum(x, width, ...)
```

Arguments

- `x`: A return value from `type_sum()`
- `width`: The desired total width. If the returned string still is wider, it will be trimmed.
  Can be NULL.
- `...`: Arguments passed to methods.

Details

Two methods are implemented by default for this generic: the default method, and the method for the "AsIs" class. Return `I("type")` from your `type_sum()` implementation to format the type without angle brackets. For even more control over the formatting, implement your own method.

Examples

```r
# Default method: show the type with angle brackets
format_type_sum(1, NULL)
pillar(1)

# AsIs method: show the type without angle brackets
type_sum.accel <- function(x) {
  I("kg m/s^2")
}
accel <- structure(9.81, class = "accel")
pillar(accel)
```
**get_extent**

*Calculate display width*

**Description**

`get_extent()` calculates the display width for each string in a character vector.

`get_max_extent()` calculates the maximum display width of all strings in a character vector, zero for empty vectors.

**Usage**

```r
get_extent(x)
get_max_extent(x)
```

**Arguments**

- **x** A character vector.

**Examples**

```r
get_extent(c("abc", "de"))
get_extent("\u904b\u6c23")
get_max_extent(c("abc", "de"))
```

---

**glimpse**

*Get a glimpse of your data*

**Description**

`glimpse()` is like a transposed version of `print()`: columns run down the page, and data runs across. This makes it possible to see every column in a data frame. It’s a little like `str()` applied to a data frame but it tries to show you as much data as possible. (And it always shows the underlying data, even when applied to a remote data source.)

See `format_glimpse()` for details on the formatting.

**Usage**

```r
glimpse(x, width = NULL, ...)
```

**Arguments**

- **x** An object to glimpse at.
- **width** Width of output: defaults to the setting of the `width` option (if finite) or the width of the console.
- **...** Unused, for extensibility.
**Value**

x original x is (invisibly) returned, allowing `glimpse()` to be used within a data pipe line.

**S3 methods**

glimpse is an S3 generic with a customised method for tbls and data.frames, and a default method that calls `str()`.

**Examples**

glimpse(mtcars)

glimpse(nycflights13::flights)

---

**new_ornament**

*Helper to define the contents of a pillar*

**Description**

This function is useful if your data renders differently depending on the available width. In this case, implement the `pillar_shaft()` method for your class to return a subclass of "pillar_shaft" and have the `format()` method for this subclass call `new_ornament()`. See the implementation of `pillar_shaft.numeric()` and `format.pillar_shaft_decimal()` for an example.

**Usage**

`new_ornament(x, width = NULL, align = NULL)`

**Arguments**

- `x` A character vector with formatting, can use ANYI styles e.g provided by the `cli` package.
- `width` An optional width of the resulting pillar, computed from `x` if missing
- `align` Alignment, one of "left" or "right"

**Examples**

`new_ornament(c(“abc”, “de”), align = “right”)`
new_pillar

Construct a custom pillar object

Description

[Experimental]

new_pillar() is the low-level constructor for pillar objects. It supports arbitrary components. See pillar() for the high-level constructor with default components.

Usage

new_pillar(components, ..., width = NULL, class = NULL, extra = deprecated())

Arguments

components A named list of components constructed with pillar_component().
... These dots are for future extensions and must be empty.
width Default width, optional.
class Name of subclass.
extra Deprecated.

Details

Arbitrary components are supported. If your tibble subclass needs more or different components in its pillars, override or extend ctl_new_pillar() and perhaps ctl_new_pillar_list().

Examples

lines <- function(char = "-") {
  stopifnot(nchar(char) == 1)
  structure(char, class = "lines")
}

format.lines <- function(x, width, ...) {
  paste(rep(x, width), collapse = "")
}

new_pillar(list(
  title = pillar_component(new_ornament(c("abc", "de"), align = "right")),
  lines = new_pillar_component(list(lines("="), width = 1)
))
Description

[Experimental]

new_pillar_component() constructs an object of class "pillar_component". It is used by custom ctl_new_pillar() methods to create pillars with nonstandard components.

pillar_component() is a convenience helper that wraps the input in a list and extracts width and minimum width.

Usage

new_pillar_component(x, ..., width, min_width = NULL)

pillar_component(x)

Arguments

x A bare list of length one (for new_pillar_component()), or an object with "width" and "min_width" attributes (for pillar_component()).

... These dots are for future extensions and must be empty.

width, min_width Width and minimum width for the new component. If min_width is NULL, it is assumed to match width.

Details

Objects of class "pillar" are internally a named lists of their components. The default components for pillars created by pillar() are: title (may be missing), type, and data. Each component is a "pillar_component" object.

This class captures contents that can be fitted in a simple column. Compound columns are represented by multiple pillar objects, each with their own components.

Examples

new_pillar_component(list(letters[1:3]), width = 1)
pillar_component(new_pillar_title("letters"))
pillar_component(new_pillar_type(letters))
pillar_component(pillar_shaft(letters[1:3]))
Description

The `new_pillar_shaft()` constructor creates objects of the "pillar_shaft" class. This is a virtual or abstract class, you must specify the class argument. By convention, this should be a string that starts with "pillar_shaft_". See vignette("extending", package = "tibble") for usage examples.

This method accepts a vector of arbitrary length and is expected to return an S3 object with the following properties:

- It has an attribute "width"
- It can have an attribute "min_width", if missing, "width" is used
- It must implement a method `format(x, width, ...)` that can be called with any value between `min_width` and `width`
- This method must return an object that inherits from character and has attributes "align" (with supported values "left", "right", and "center") and "width"

The function `new_pillar_shaft()` returns such an object, and also correctly formats NA values. In many cases, the implementation of `pillar_shaft.your_class_name()` will format the data as a character vector (using color for emphasis) and simply call `new_pillar_shaft()`. See pillar:::pillar_shaft.numeric for a code that allows changing the display depending on the available width.

`new_pillar_shaft_simple()` provides an implementation of the `pillar_shaft` class suitable for output that has a fixed formatting, which will be truncated with a continuation character (ellipsis or ~) if it doesn’t fit the available width. By default, the required width is computed from the natural width of the formatted argument.

Usage

```r
new_pillar_shaft(
  x,
  ..., width = NULL,
  min_width = width,
  type_sum = NULL,
  class = NULL,
  subclass = NULL
)

new_pillar_shaft_simple(
  formatted,
  ..., width = NULL,
  align = "left",
```
Arguments

- **x**: An object
- **...**: Passed on to `new_pillar_shaft()`.
- **width**: The maximum column width.
- **min_width**: The minimum allowed column width, width if omitted.
- **type_sum** [Experimental]: Override the type summary displayed at the top of the data. This argument, if given, takes precedence over the type summary provided by `type_sum()`.
- **class**: The name of the subclass.
- **subclass**: Deprecated, pass the `class` argument instead.
- **formatted**: The data to show, an object coercible to character.
- **align**: Alignment of the column.
- **na**: String to use as NA value, defaults to "NA" styled with `style_na()` with fallback if color is not available.
- **na_indent**: Indentation of NA values.
- **shorten**: How to abbreviate the data if necessary:
  - "back" (default): add an ellipsis at the end
  - "front": add an ellipsis at the front
  - "mid": add an ellipsis in the middle
  - "abbreviate": use `abbreviate()`
- **short_formatted**: If provided, a character vector of the same length as `formatted`, to be used when the available width is insufficient to show the full output.

Details

The `formatted` argument may also contain ANSI escapes to change color or other attributes of the text, provided e.g. by the `cli` package.
new_pillar_title

Prepare a column title for formatting

Description

Call `format()` on the result to render column titles.

Usage

```r
new_pillar_title(x, ...)
```

Arguments

- `x` A character vector of column titles.
- `...` These dots are for future extensions and must be empty.

Examples

```r
format(new_pillar_title(names(trees)))
```

---

new_pillar_type

Prepare a column type for formatting

Description

Calls `type_sum()` to format the type. Call `format()` on the result to render column types.

Usage

```r
new_pillar_type(x, ...)
```

Arguments

- `x` A vector for which the type is to be retrieved.
- `...` These dots are for future extensions and must be empty.

Examples

```r
format(new_pillar_type("a"))
format(new_pillar_type(factor("a")))
```
pillar

Object for formatting a vector suitable for tabular display

Description

pillar() creates an object that formats a vector. The output uses one row for a title (if given), one row for the type, and \texttt{vec.size(x)} rows for the data.

Usage

\begin{verbatim}
pillar(x, title = NULL, width = NULL, ...)
\end{verbatim}

Arguments

\begin{itemize}
\item \code{x} A vector to format.
\item \code{title} An optional title for the column. The title will be used "as is", no quoting will be applied.
\item \code{width} Default width, optional.
\item \dots Passed on to \code{pillar_shaft()}
\end{itemize}

Details

A pillar consists of arbitrary components. The \code{pillar()} constructor uses title, type, and data.

\begin{itemize}
\item title via \code{new_pillar_title()}
\item type via \code{new_pillar_type()}, which calls \code{type_sum()} internally
\item data via \code{pillar_shaft()}
\end{itemize}

All components are formatted via \code{format()} when displaying the pillar. A width argument is passed to each \code{format()} call.

As of pillar 1.5.0, \code{pillar()} returns \code{NULL} if the width is insufficient to display the data.

Examples

\begin{verbatim}
x <- 123456789 * (10^c(-1, -3, -5, NA, -8, -10))
pillar(x)
pillar(-x)
pillar(runif(10))
pillar(rcauchy(20))

# Special values are highlighted
pillar(c(runif(5), NA, NaN, Inf, -Inf))

# Very wide ranges will be displayed in scientific format
pillar(c(1e10, 1e-10), width = 20)
pillar(c(1e10, 1e-10))
\end{verbatim}
pillar_options

x <- c(FALSE, NA, FALSE, FALSE, TRUE, FALSE, FALSE, TRUE, FALSE, TRUE)
pillar(x)

x <- c("This is string is rather long", NA, "?", "Short")
pillar(x)
pillar(x, width = 30)
pillar(x, width = 5)

date <- as.Date("2017-05-15")
pillar(date + c(1, NA, 3:5))
pillar(as.POSIXct(date) + c(30, NA, 600, 3600, 86400))

pillar_options

Package options

Description
Options that affect display of tibble-like output.

Details
These options can be set via `options()` and queried via `getOption()`.

Options for the pillar package

- `pillar.print_max`: Maximum number of rows printed, default: 20. Set to Inf to always print all rows. For compatibility reasons, `getOption("tibble.print_max")` and `getOption("dplyr.print_max")` are also consulted, this will be soft-deprecated in pillar v2.0.0.

- `pillar.print_min`: Number of rows printed if the table has more than `print_max` rows, default: 10. For compatibility reasons, `getOption("tibble.print_min")` and `getOption("dplyr.print_min")` are also consulted, this will be soft-deprecated in pillar v2.0.0.

- `pillar.width`: Output width. Default: NULL (use `getOption("width")`). This can be larger than `getOption("width")`, in this case the output of the table’s body is distributed over multiple tiers for wide tibbles. For compatibility reasons, `getOption("tibble.width")` and `getOption("dplyr.width")` are also consulted, this will be soft-deprecated in pillar v2.0.0.

- `pillar.max_footer_lines`: The maximum number of lines in the footer, default: 7. Set to Inf to turn off truncation of footer lines. The `max_extra_cols` option still limits the number of columns printed.

- `pillar.max_extra_cols`: The maximum number of columns printed in the footer, default: 100. Set to Inf to show all columns. Set the more predictable `max_footer_lines` to control the number of footer lines instead.

- `pillar.bold`: Use bold font, e.g. for column headers? This currently defaults to FALSE, because many terminal fonts have poor support for bold fonts.

- `pillar.subtle`: Use subtle style, e.g. for row numbers and data types? Default: TRUE.

- `pillar.subtle_num`: Use subtle style for insignificant digits? Default: FALSE, is also affected by the `subtle` option.
• **pillar.neg**: Highlight negative numbers? Default: TRUE.

• **pillar.sigfig**: The number of significant digits that will be printed and highlighted, default: 3. Set the subtle option to FALSE to turn off highlighting of significant digits.

• **pillar.min_title_chars**: The minimum number of characters for the column title, default: 20. Column titles may be truncated up to that width to save horizontal space. Set to Inf to turn off truncation of column titles.

• **pillar.min_chars**: The minimum number of characters wide to display character columns, default: 3. Character columns may be truncated up to that width to save horizontal space. Set to Inf to turn off truncation of character columns.

• **pillar.max_dec_width**: The maximum allowed width for decimal notation, default: 13.

• **pillar.bidi**: Set to TRUE for experimental support for bidirectional scripts. Default: FALSE. When this option is set, "left right override" and "first strong isolate" Unicode controls are inserted to ensure that text appears in its intended direction and that the column headings correspond to the correct columns.

• **pillar.superdigit_sep**: The string inserted between superscript digits and column names in the footnote. Defaults to a "\u200b", a zero-width space, on UTF-8 platforms, and to " : " on non-UTF-8 platforms.

• **pillar.advice**: Should advice be displayed in the footer when columns or rows are missing from the output? Defaults to TRUE for interactive sessions, and to FALSE otherwise.

### Examples

```r
df <- tibble::tibble(x = c(1.234567, NA, 5:10))
df

# Change for the duration of the session:
old <- options(
  pillar.sigfig = 6,
  pillar.print_max = 5,
  pillar.print_min = 5,
  pillar.advice = FALSE
)
df

# Change back to the original value:
options(old)
df
```
pillar_shaft

Description

Internal class for formatting the data for a column. pillar_shaft() is a coercion method that must be implemented for your data type to display it in a tibble.

This class comes with a default method for print() that calls format(). If print() is called without width argument, the natural width will be used when calling format(). Usually there’s no need to implement this method for your subclass.

Your subclass must implement format(), the default implementation just raises an error. Your format() method can assume a valid value for the width argument.

Usage

pillar_shaft(x, ...)

## S3 method for class 'pillar_shaft'
print(x, width = NULL, ...)

## S3 method for class 'pillar_shaft'
format(x, width, ...)

## S3 method for class 'logical'
pillar_shaft(x, ...)

## S3 method for class 'numeric'
pillar_shaft(x, ..., sigfig = NULL)

## S3 method for class 'Date'
pillar_shaft(x, ...)

## S3 method for class 'POSIXt'
pillar_shaft(x, ...)

## S3 method for class 'character'
pillar_shaft(x, ..., min_width = NULL)

## S3 method for class 'glue'
pillar_shaft(x, ..., min_width = NULL, na_indent = 0L, shorten = NULL)

## S3 method for class 'list'
pillar_shaft(x, ...)

## S3 method for class 'factor'
pillar_shaft(x, ...)

## S3 method for class 'AsIs'
pillar_shaft(x, ...)

## Default S3 method:
pillar_shaft(x, ...)
Arguments

x  A vector to format
...
Arguments passed to methods.
width  Width for printing and formatting.
sigfig  Deprecated, use `num()` or `set_num_opts()` on the data instead.
min_width  Deprecated, use `char()` or `set_char_opts()` on the data instead.
na_indent  Indentation of NA values.
shorten  How to abbreviate the data if necessary:
  • "back" (default): add an ellipsis at the end
  • "front": add an ellipsis at the front
  • "mid": add an ellipsis in the middle
  • "abbreviate": use `abbreviate()`

Details

The default method will currently format via `format()`, but you should not rely on this behavior.

Examples

pillar_shaft(1:3)
pillar_shaft(1.5:3.5)
pillar_shaft(NA)
pillar_shaft(c(1:3, NA))

---

style_num  Styling helpers

Description

Functions that allow implementers of formatters for custom data types to maintain a consistent style with the default data types.

Usage

style_num(x, negative, significant = rep_along(x, TRUE))
style_subtle(x)
style_subtle_num(x, negative)
style_bold(x)
style_na(x)
style_neg(x)
**tbl_format_body**

Format the body of a tibble

**Description**

[Experimental]

For easier customization, the formatting of a tibble is split into three components: header, body, and footer. The `tbl_format_body()` method is responsible for formatting the body of a tibble.

Override this method if you need to change the appearance of all parts of the body. If you only need to change the appearance of a single data type, override `vctrs::vec_ptype_abbr()` and `pillar_shaft()` for this data type.

**Arguments**

- `x` The character vector to style.
- `negative` Logical vector the same length as `x` that indicate if the values are negative.
- `significant` Logical vector the same length as `x` that indicate if the values are significant, respectively.

**Details**

- `style_subtle()` is affected by the `subtle` option.
- `style_subtle_num()` is affected by the `subtle_num` option, which is FALSE by default.
- `style_bold()` is affected by the `bold` option, which is FALSE by default.
- `style_neg()` is affected by the `pillar.neg` option.

**See Also**

- `pillar_options` for a list of options

**Examples**

```r
define style_num {
  c("123", "456"),
  negative = c(TRUE, FALSE)
}
define style_num {
  c("123", "456"),
  negative = c(TRUE, FALSE),
  significant = c(FALSE, FALSE)
}
define style_subtle("text")
define style_subtle_num(0.01 * 1:3, c(TRUE, FALSE, TRUE))
define style_bold("Petal.Width")
define style_na("NA")
define style_neg("123")
```
### Usage

```r
tbl_format_body(x, setup, ...)
```

#### Arguments

- `x` A tibble-like object.
- `setup` A setup object returned from `tbl_format_setup()`.
- `...` These dots are for future extensions and must be empty.

#### Value

A character vector.

#### Examples

```r
setup <- tbl_format_setup(palmerpenguins::penguins)
tbl_format_body(palmerpenguins::penguins, setup)
# Shortcut for debugging
tbl_format_body(setup)
```

---

### Description

[Experimental]

For easier customization, the formatting of a tibble is split into three components: header, body, and footer. The `tbl_format_footer()` method is responsible for formatting the footer of a tibble.

Override or extend this method if you need to change the appearance of the footer. The default implementation adds information about rows and columns that are not shown in the body.

#### Usage

```r
tbl_format_footer(x, setup, ...)
```

#### Arguments

- `x` A tibble-like object.
- `setup` A setup object returned from `tbl_format_setup()`.
- `...` These dots are for future extensions and must be empty.

#### Value

A character vector.
**Examples**

```r
setup <- tbl_format_setup(palmerpenguins::penguins)
tbl_format_footer(palmerpenguins::penguins, setup)

# Shortcut for debugging
tbl_format_footer(setup)
```

---

**tbl_format_header**  
*Format the header of a tibble*

**Description**

[Experimental]

For easier customization, the formatting of a tibble is split into three components: header, body, and footer. The `tbl_format_header()` method is responsible for formatting the header of a tibble.

Override this method if you need to change the appearance of the entire header. If you only need to change or extend the components shown in the header, override or extend `tbl_sum()` for your class which is called by the default method.

**Usage**

```r
tbl_format_header(x, setup, ...)
```

**Arguments**

- `x`  
  A tibble-like object.

- `setup`  
  A setup object returned from `tbl_format_setup()`.

- `...`  
  These dots are for future extensions and must be empty.

**Value**

A character vector.

**Examples**

```r
setup <- tbl_format_setup(palmerpenguins::penguins)
tbl_format_header(palmerpenguins::penguins, setup)

# Shortcut for debugging
tbl_format_header(setup)
```
Description

tbl_format_setup() is called by format.tbl(). This method collects information that is common to the header, body, and footer parts of a tibble. Examples:

- the dimensions sometimes are reported both in the header and (implicitly) in the footer of a tibble;
- the columns shown in the body decide which columns are shown in the footer.

This information is computed once in tbl_format_setup(). The result is passed on to the tbl_format_header(), tbl_format_body(), and tbl_format_footer() methods. If you need to customize parts of the printed output independently, override these methods instead.

Usage

tbl_format_setup(
  x,
  width = NULL,
  ..., 
  n = NULL,
  max_extra_cols = NULL,
  max_footer_lines = NULL,
  focus = NULL
)

## S3 method for class 'tbl'
tbl_format_setup(x, width, ..., n, max_extra_cols, max_footer_lines, focus)

Arguments

- **x**: An object.
- **width**: Actual width for printing, a numeric greater than zero. This argument is mandatory for all implementations of this method.
- **...**: Extra arguments to print.tbl() or format.tbl().
- **n**: Actual number of rows to print. No options should be considered by implementations of this method.
- **max_extra_cols**: Number of columns to print abbreviated information for, if the width is too small for the entire tibble. No options should be considered by implementations of this method.
- **max_footer_lines**: Maximum number of lines for the footer. No options should be considered by implementations of this method.
- **focus**: [Experimental] Names of columns to show preferentially if space is tight.
Details

Extend this method to prepare information that is used in several parts of the printed output of a tibble-like object, or to collect additional arguments passed via ... to \texttt{print.tbl()} or \texttt{format.tbl()}.

We expect that \texttt{tbl_format_setup()} is extended only rarely, and overridden only in exceptional circumstances, if at all. If you override this method, you must also implement \texttt{tbl_format_header()}, \texttt{tbl_format_body()}, and \texttt{tbl_format_footer()} for your class.

Implementing a method allows to override printing and formatting of the entire object without overriding the \texttt{print()} and \texttt{format()} methods directly. This allows to keep the logic of the width and \texttt{n} arguments.

The default method for the "tbl" class collects information for standard printing for tibbles. See \texttt{new_tbl_format_setup()} for details on the returned object.

Value

An object that can be passed as setup argument to \texttt{tbl_format_header()}, \texttt{tbl_format_body()}, and \texttt{tbl_format_footer()}.

Examples

\begin{verbatim}
  tbl_format_setup(palmerpenguins::penguins)
\end{verbatim}

---

tbl_sum

\textit{Provide a succinct summary of an object}

Description

\texttt{tbl_sum()} gives a brief textual description of a table-like object, which should include the dimensions and the data source in the first element, and additional information in the other elements (such as grouping for \texttt{dplyr}). The default implementation forwards to \texttt{obj_sum()}.

Usage

\texttt{tbl_sum(x)}

Arguments

\begin{itemize}
  \item \texttt{x} Object to summarise.
\end{itemize}

Value

A named character vector, describing the dimensions in the first element and the data source in the name of the first element.
See Also

type_sum()

Examples

tbl_sum(1:10)
tbl_sum(matrix(1:10))
tbl_sum(data.frame(a = 1))
tbl_sum(Sys.Date())
tbl_sum(Sys.time())
tbl_sum(mean)
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