

Package ‘diffobj’

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Type Package

Title Diffs for R Objects

Description Generate a colored diff of two R objects for an intuitive visualization of their differences.

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License GPL-3

LazyData true

URL <https://github.com/brodieG/diffobj>

BugReports <https://github.com/brodieG/diffobj/issues>

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'styles.R' 's4.R' 'core.R' 'diff.R' 'get.R' 'guides.R'
'hunks.R' 'layout.R' 'myerssimple.R' 'rdiff.R' 'rds.R' 'set.R'
'subset.R' 'summary.R' 'system.R' 'text.R' 'tochar.R' 'trim.R'
'word.R'

Imports crayon (>= 1.3.2), tools, methods, utils, stats

NeedsCompilation yes

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diffobj-package *Diffs for R Objects*

Description

Generate a colored diff of two R objects for an intuitive visualization of their differences. See `'vignette(package="diffobj", "diffobj")'` for details.

AlignThreshold-class *Controls How Lines Within a Diff Hunk Are Aligned*

Description

Controls How Lines Within a Diff Hunk Are Aligned

Slots

`threshold` numeric(1L) between 0 and 1, what proportion of words in the lines must match in order to align them. Set to 1 to effectively turn aligning off. Defaults to 0.25.

`min.chars` integer(1L) positive, minimum number of characters that must match across lines in order to align them. This requirement is in addition to `threshold` and helps minimize spurious alignments. Defaults to 3.

`count.alnum.only` logical(1L) modifier for `min.chars`, whether to count alpha numeric characters only. Helps reduce spurious alignment caused by meta character sequences such as "[[1]]" that would otherwise meet the `min.chars` limit

Examples

```
a1 <- AlignThreshold(threshold=0)
a2 <- AlignThreshold(threshold=1)
a3 <- AlignThreshold(threshold=0, min.chars=2)
## Note how "e f g" is aligned
diffChr(c("a b c e", "d e f g"), "D e f g", align=a1, pager="off")
## But now it is not
diffChr(c("a b c e", "d e f g"), "D e f g", align=a2, pager="off")
## "e f" are not enough chars to align
diffChr(c("a b c", "d e f"), "D e f", align=a1, pager="off")
## Override with min.chars, so now they align
diffChr(c("a b c", "d e f"), "D e f", align=a3, pager="off")
```

any,Diff-method *Determine if Diff Object Has Differences*

Description

Determine if Diff Object Has Differences

Usage

```
## S4 method for signature 'Diff'
any(x, ..., na.rm = FALSE)
```

Arguments

x	a Diff object
...	unused, for compatibility with generic
na.rm	unused, for compatibility with generic

Value

TRUE if there are differences, FALSE if not, FALSE with warning if there are no differences but objects are not [all.equal](#)

Examples

```
any(diffChr(letters, letters))
any(diffChr(letters, letters[-c(1, 5, 8)]))
```

as.character,DiffSummary-method

Generate Character Representation of DiffSummary Object

Description

Generate Character Representation of DiffSummary Object

Usage

```
## S4 method for signature 'DiffSummary'
as.character(x, ...)
```

Arguments

x	a DiffSummary object
...	not used, for compatibility with generic

Value

the summary as a character vector intended to be cated to terminal

Examples

```
as.character(
  summary(diffChr(letters, letters[-c(5, 15)], format="raw", pager="off"))
)
```

 auto_context

Configure Automatic Context Calculation

Description

Helper functions to help define parameters for selecting an appropriate context value.

Usage

```
auto_context(min = getOption("diffobj.context.auto.min"),
             max = getOption("diffobj.context.auto.max"))
```

Arguments

min	integer(1L), positive, set to zero to allow any context
max	integer(1L), set to negative to allow any context

Value

S4 object containing configuration parameters, for use as the context or parameter value in `diff*` methods

Examples

```
## `pager="off"` for CRAN compliance; you may omit in normal use
diffChr(letters, letters[-13], context=auto_context(0, 3), pager="off")
diffChr(letters, letters[-13], context=auto_context(0, 10), pager="off")
diffChr(
  letters, letters[-13], context=auto_context(0, 10), line.limit=3L,
  pager="off"
)
```

console_lines	<i>Attempt to Compute Console Height in Text Lines</i>
---------------	--

Description

Returns the value of the LINES system variable if it is reasonable, 48 otherwise.

Usage

```
console_lines()
```

Value

```
integer(1L)
```

Examples

```
console_lines()
```

diffChr	<i>Diff Character Vectors Element By Element</i>
---------	--

Description

Will perform the diff on the actual string values of the character vectors instead of capturing the printed screen output. Each vector element is treated as a line of text.

Usage

```
diffChr(target, current, ...)
```

```
## S4 method for signature 'ANY'
diffChr(target, current, mode = gdo("mode"),
  context = gdo("context"), format = gdo("format"),
  brightness = gdo("brightness"), color.mode = gdo("color.mode"),
  word.diff = gdo("word.diff"), pager = gdo("pager"),
  guides = gdo("guides"), trim = gdo("trim"), rds = gdo("rds"),
  unwrap.atomic = gdo("unwrap.atomic"), max.diffs = gdo("max.diffs"),
  disp.width = gdo("disp.width"),
  ignore.white.space = gdo("ignore.white.space"),
  convert.hz.white.space = gdo("convert.hz.white.space"),
  tab.stops = gdo("tab.stops"), line.limit = gdo("line.limit"),
  hunk.limit = gdo("hunk.limit"), align = gdo("align"),
  style = gdo("style"), palette.of.styles = gdo("palette"),
  frame = par_frame(), interactive = gdo("interactive"),
  term.colors = gdo("term.colors"), tar.banner = NULL, cur.banner = NULL,
  extra = list())
```

Arguments

target	the reference object
current	the object being compared to target
...	unused, for compatibility of methods with generics
mode	<p>character(1L), one of:</p> <ul style="list-style-type: none"> • “unified”: diff mode used by <code>git diff</code> • “sidebyside”: line up the differences side by side • “context”: show the target and current hunks in their entirety; this mode takes up a lot of screen space but makes it easier to see what the objects actually look like • “auto”: default mode; pick one of the above, will favor “sidebyside” unless <code>getOption("width")</code> is less than 80, or in <code>diffPrint</code> and objects are dimensioned and do not fit side by side, or in <code>diffChr</code>, <code>diffDeparse</code>, <code>diffFile</code> and output does not fit in side by side without wrapping
context	<p>integer(1L) how many lines of context are shown on either side of differences (defaults to 2). Set to <code>-1L</code> to allow as many as there are. Set to “auto” to display as many as 10 lines or as few as 1 depending on whether total screen lines fit within the number of lines specified in <code>line.limit</code>. Alternatively pass the return value of <code>auto_context</code> to fine tune the parameters of the auto context calculation.</p>
format	<p>character(1L), controls the diff output format, one of:</p> <ul style="list-style-type: none"> • “auto”: to select output format based on terminal capabilities; will attempt to use one of the ANSI formats if they appear to be supported, and if not will attempt to use HTML and browser output if in interactive mode. • “raw”: plain text • “ansi8”: color and format diffs using basic ANSI escape sequences • “ansi256”: like “ansi8”, except using the full range of ANSI formatting options • “html”: color and format using HTML markup <p>Defaults to “auto”. See <code>palette.of.styles</code> for details on customization, style for full control of output format.</p>
brightness	<p>character, one of “light”, “dark”, “neutral”, useful for adjusting color scheme to light or dark terminals. “neutral” by default. See PaletteOfStyles for details and limitations. Advanced: you may specify brightness as a function of format. For example, if you typically wish to use a “dark” color scheme, except for when in “html” format when you prefer the “light” scheme, you may use <code>c("dark", html="light")</code> as the value for this parameter. This is particularly useful if <code>format</code> is set to “auto” or if you want to specify a default value for this parameter via options. Any names you use should correspond to a format. You must have one unnamed value which will be used as the default for all formats that are not explicitly specified.</p>
color.mode	<p>character, one of “rgb” or “yb”. Defaults to “yb”. “yb” stands for “Yellow-Blue” for color schemes that rely primarily on those colors to style diffs. Those colors can be easily distinguished by individuals with limited red-green color</p>

	sensitivity. See PaletteOfStyles for details and limitations. Also offers the same advanced usage as the brightness parameter.
word.diff	TRUE (default) or FALSE, whether to run a secondary word diff on the in-hunk differences
pager	one of “auto” (default), “on”, “off”, or a Pager object; controls whether and how a pager is used to display the diff output. If “on” will use the pager associated with the Style specified via the style parameters. If “auto” will behave like “on” but only if in interactive mode. If the pager is enabled, default behavior is to pipe output to file.show if output is taller than the estimated terminal height and your terminal supports ANSI escape sequences. If the terminal does not support ANSI escape sequences, the default is to attempt to pipe to the IDE viewer or web browser. See Pager , view_or_browse , Style , and PaletteOfStyles for more details.
guides	TRUE (default), FALSE, or a function that accepts at least two arguments and requires no more than two arguments. Guides are additional context lines that are not strictly part of a hunk, but provide important contextual data (e.g. column headers). If TRUE, the context lines are shown in addition to the normal diff output, typically in a different color to indicate they are not part of the hunk. If a function, the function should accept as the first argument the object being diffed, and the second the character representation of the object. The function should return the indices of the elements of the second character representation that should be treated as guides. See guides for more details.
trim	TRUE (default), FALSE, or a function that accepts at least two arguments and requires no more than two arguments. Function should compute for each line in captured output what portion of those lines should be diffed. By default, this is used to remove row meta data differences (e.g. [1,]) so they alone do not show up as differences in the diff. See trim for more details.
rds	TRUE (default) or FALSE, if TRUE will check whether target and/or current point to a file that can be read with readRDS and if so, loads the R object contained in the file and carries out the diff on the object instead of the original argument. Currently there is no mechanism for specifying additional arguments to readRDS
unwrap.atomic	TRUE (default) or FALSE. Only relevant for diffPrint , if TRUE, and word.diff is also TRUE, and both target and current are <i>unnamed</i> and atomic, the vectors are unwrapped and diffed element by element, and then re-wrapped. Since diffPrint is fundamentally a line diff, the re-wrapped lines are lined up in a manner that is as consistent as possible with the unwrapped diff. Lines that contain the location of the word differences will be paired up. Since the vectors may well be wrapped with different periodicities this will result in lines that are paired up that look like they should not be paired up, though the locations of the differences should be.
max.diffs	integer(1L), number of <i>differences</i> after which we abandon the $O(n^2)$ diff algorithm in favor of a linear one. Set to -1L to always stick to the original algorithm (defaults to 10000L).
disp.width	integer(1L) number of display columns to take up; note that in “sidebyside” mode the effective display width is half this number (set to 0L to use default

	widths which are <code>getOption("width")</code> for normal styles and 80L for HTML styles.
<code>ignore.white.space</code>	TRUE or FALSE, whether to consider differences in horizontal whitespace (i.e. spaces and tabs) as differences (defaults to FALSE)
<code>convert.hz.white.space</code>	TRUE or FALSE, whether modify input strings that contain tabs and carriage returns in such a way that they display as they would with those characters, but without using those characters (defaults to TRUE). The conversion assumes that tab stops are spaced evenly eight characters apart on the terminal. If this is not the case you may specify the tab stops explicitly with <code>tab.stops</code> .
<code>tab.stops</code>	integer, what tab stops to use when converting hard tabs to spaces. If not integer will be coerced to integer (defaults to 8L). You may specify more than one tab stop. If display width exceeds that addressable by your tab stops the last tab stop will be repeated.
<code>line.limit</code>	integer(2L) or integer(1L), if length 1 how many lines of output to show, where -1 means no limit. If length 2, the first value indicates the threshold of screen lines to begin truncating output, and the second the number of lines to truncate to, which should be fewer than the threshold. Note that this parameter is implemented on a best-efforts basis and should not be relied on to produce the exact number of lines requested. If you want a specific number of lines use <code>[]</code> or <code>head / tail</code> . One advantage of <code>line.limit</code> over these other options is that you can combine it with <code>context="auto"</code> and <code>auto.max.level</code> selection (the latter for <code>diffStr</code>), which allows the diff to dynamically adjust to make best use of the available display lines. <code>[]</code> , <code>head</code> , and <code>tail</code> just subset the text of the output.
<code>hunk.limit</code>	integer(2L) or integer (1L), how many diff hunks to show. Behaves similarly to <code>line.limit</code> . How many hunks are in a particular diff is a function of how many differences, and also how much context is used since context can cause two hunks to bleed into each other and become one.
<code>align</code>	numeric(1L) between 0 and 1, proportion of words in a line of <code>target</code> that must be matched in a line of <code>current</code> in the same hunk for those lines to be paired up when displayed (defaults to 0.25), or an <code>AlignThreshold</code> object. Set to 1 to turn off alignment which will cause all lines in a hunk from <code>target</code> to show up first, followed by all lines from <code>current</code> . Note that in order to be aligned lines must meet the threshold and have at least 3 matching alphanumeric characters (see <code>AlignThreshold</code> for details).
<code>style</code>	"auto", a <code>Style</code> object, or a list. "auto" by default. If a <code>Style</code> object, will override the the <code>format</code> , <code>brightness</code> , and <code>color.mode</code> parameters. The <code>Style</code> object provides full control of diff output styling. If a list, then the same as "auto", except that if the auto-selected <code>Style</code> requires instantiation (see <code>PaletteOfStyles</code>), then the list contents will be used as arguments when instantiating the style object. See <code>Style</code> for more details, in particular the examples.
<code>palette.of.styles</code>	<code>PaletteOfStyles</code> object; advanced usage, contains all the <code>Style</code> objects or "classRepresentation" objects extending <code>Style</code> that are selected by specifying the <code>format</code> , <code>brightness</code> , and <code>color.mode</code> parameters. See <code>PaletteOfStyles</code> for more details.

frame	an environment to use as the evaluation frame for the <code>print/show/str</code> , calls and for <code>diffObj</code> , the evaluation frame for the <code>diffPrint / diffStr</code> calls. Defaults to the return value of <code>par_frame</code> .
interactive	TRUE or FALSE whether the function is being run in interactive mode, defaults to the return value of <code>interactive</code> . If in interactive mode, <code>pager</code> will be used if <code>pager</code> is “auto”, and if ANSI styles are not supported and <code>style</code> is “auto”, output will be send to viewer/browser as HTML.
term.colors	integer(1L) how many ANSI colors are supported by the terminal. This variable is provided for when <code>crayon::num_colors</code> does not properly detect how many ANSI colors are supported by your terminal. Defaults to return value of <code>crayon::num_colors</code> and should be 8 or 256 to allow ANSI colors, or any other number to disallow them. This only impacts output format selection when <code>style</code> and <code>format</code> are both set to “auto”.
tar.banner	character(1L) or NULL, text to display ahead of the diff section representing the target output. If NULL will be inferred from target and current expressions.
cur.banner	character(1L) like <code>tar.banner</code> , but for current
extra	list additional arguments to pass on to the functions used to create text representation of the objects to diff (e.g. <code>print</code> , <code>str</code> , etc.)

Value

a Diff object; see `diffPrint`.

See Also

`diffPrint` for details on the `diff*` functions, `diffObj`, `diffStr`, `diffDeparse` to compare deparsed objects

Examples

```
## `pager="off"` for CRAN compliance; you may omit in normal use
diffChr(LETTERS[1:5], LETTERS[2:6], pager="off")
```

diffCsv

Diff CSV Files

Description

Reads CSV files with `read.csv` and passes the resulting data frames onto `diffPrint`. `extra` values are passed as arguments are passed to both `read.csv` and `print`. To the extent you wish to use different `extra` arguments for each of those functions you will need to `read.csv` the files and pass them to `diffPrint` yourself.

Usage

```
diffCsv(target, current, ...)

## S4 method for signature 'ANY'
diffCsv(target, current, mode = gdo("mode"),
  context = gdo("context"), format = gdo("format"),
  brightness = gdo("brightness"), color.mode = gdo("color.mode"),
  word.diff = gdo("word.diff"), pager = gdo("pager"),
  guides = gdo("guides"), trim = gdo("trim"), rds = gdo("rds"),
  unwrap.atomic = gdo("unwrap.atomic"), max.diffs = gdo("max.diffs"),
  disp.width = gdo("disp.width"),
  ignore.white.space = gdo("ignore.white.space"),
  convert.hz.white.space = gdo("convert.hz.white.space"),
  tab.stops = gdo("tab.stops"), line.limit = gdo("line.limit"),
  hunk.limit = gdo("hunk.limit"), align = gdo("align"),
  style = gdo("style"), palette.of.styles = gdo("palette"),
  frame = par_frame(), interactive = gdo("interactive"),
  term.colors = gdo("term.colors"), tar.banner = NULL, cur.banner = NULL,
  extra = list())
```

Arguments

target	character(1L) or file connection with read capability; if character should point to a CSV file
current	like target
...	unused, for compatibility of methods with generics
mode	character(1L), one of: <ul style="list-style-type: none"> • “unified”: diff mode used by <code>git diff</code> • “sidebyside”: line up the differences side by side • “context”: show the target and current hunks in their entirety; this mode takes up a lot of screen space but makes it easier to see what the objects actually look like • “auto”: default mode; pick one of the above, will favor “sidebyside” unless <code>getOption("width")</code> is less than 80, or in <code>diffPrint</code> and objects are dimensioned and do not fit side by side, or in <code>diffChr</code>, <code>diffDeparse</code>, <code>diffFile</code> and output does not fit in side by side without wrapping
context	integer(1L) how many lines of context are shown on either side of differences (defaults to 2). Set to -1L to allow as many as there are. Set to “auto” to display as many as 10 lines or as few as 1 depending on whether total screen lines fit within the number of lines specified in <code>line.limit</code> . Alternatively pass the return value of <code>auto_context</code> to fine tune the parameters of the auto context calculation.
format	character(1L), controls the diff output format, one of: <ul style="list-style-type: none"> • “auto”: to select output format based on terminal capabilities; will attempt to use one of the ANSI formats if they appear to be supported, and if not will attempt to use HTML and browser output if in interactive mode.

- “raw”: plain text
- “ansi8”: color and format diffs using basic ANSI escape sequences
- “ansi256”: like “ansi8”, except using the full range of ANSI formatting options
- “html”: color and format using HTML markup

Defaults to “auto”. See `palette.of.styles` for details on customization, `style` for full control of output format.

brightness	character, one of “light”, “dark”, “neutral”, useful for adjusting color scheme to light or dark terminals. “neutral” by default. See <code>PaletteOfStyles</code> for details and limitations. Advanced: you may specify brightness as a function of format. For example, if you typically wish to use a “dark” color scheme, except for when in “html” format when you prefer the “light” scheme, you may use <code>c("dark", html="light")</code> as the value for this parameter. This is particularly useful if format is set to “auto” or if you want to specify a default value for this parameter via options. Any names you use should correspond to a format. You must have one unnamed value which will be used as the default for all formats that are not explicitly specified.
color.mode	character, one of “rgb” or “yb”. Defaults to “yb”. “yb” stands for “Yellow-Blue” for color schemes that rely primarily on those colors to style diffs. Those colors can be easily distinguished by individuals with limited red-green color sensitivity. See <code>PaletteOfStyles</code> for details and limitations. Also offers the same advanced usage as the <code>brightness</code> parameter.
word.diff	TRUE (default) or FALSE, whether to run a secondary word diff on the in-hunk differences
pager	one of “auto” (default), “on”, “off”, or a <code>Pager</code> object; controls whether and how a pager is used to display the diff output. If “on” will use the pager associated with the <code>Style</code> specified via the <code>style</code> parameters. If “auto” will behave like “on” but only if in interactive mode. If the pager is enabled, default behavior is to pipe output to <code>file.show</code> if output is taller than the estimated terminal height and your terminal supports ANSI escape sequences. If the terminal does not support ANSI escape sequences, the default is to attempt to pipe to the IDE viewer or web browser. See <code>Pager</code> , <code>view_or_browse</code> , <code>Style</code> , and <code>PaletteOfStyles</code> for more details.
guides	TRUE (default), FALSE, or a function that accepts at least two arguments and requires no more than two arguments. Guides are additional context lines that are not strictly part of a hunk, but provide important contextual data (e.g. column headers). If TRUE, the context lines are shown in addition to the normal diff output, typically in a different color to indicate they are not part of the hunk. If a function, the function should accept as the first argument the object being diffed, and the second the character representation of the object. The function should return the indices of the elements of the second character representation that should be treated as guides. See <code>guides</code> for more details.
trim	TRUE (default), FALSE, or a function that accepts at least two arguments and requires no more than two arguments. Function should compute for each line in captured output what portion of those lines should be diffed. By default, this is used to remove row meta data differences (e.g. [1,]) so they alone do not show up as differences in the diff. See <code>trim</code> for more details.

<code>rds</code>	TRUE (default) or FALSE, if TRUE will check whether target and/or current point to a file that can be read with <code>readRDS</code> and if so, loads the R object contained in the file and carries out the diff on the object instead of the original argument. Currently there is no mechanism for specifying additional arguments to <code>readRDS</code>
<code>unwrap.atomic</code>	TRUE (default) or FALSE. Only relevant for <code>diffPrint</code> , if TRUE, and <code>word.diff</code> is also TRUE, and both target and current are <i>unnamed</i> and atomic, the vectors are unwrapped and diffed element by element, and then re-wrapped. Since <code>diffPrint</code> is fundamentally a line diff, the re-wrapped lines are lined up in a manner that is as consistent as possible with the unwrapped diff. Lines that contain the location of the word differences will be paired up. Since the vectors may well be wrapped with different periodicities this will result in lines that are paired up that look like they should not be paired up, though the locations of the differences should be.
<code>max.diffs</code>	integer(1L), number of <i>differences</i> after which we abandon the $O(n^2)$ diff algorithm in favor of a linear one. Set to -1L to always stick to the original algorithm (defaults to 10000L).
<code>disp.width</code>	integer(1L) number of display columns to take up; note that in “sidebyside” mode the effective display width is half this number (set to 0L to use default widths which are <code>getOption("width")</code> for normal styles and 80L for HTML styles.
<code>ignore.white.space</code>	TRUE or FALSE, whether to consider differences in horizontal whitespace (i.e. spaces and tabs) as differences (defaults to FALSE)
<code>convert.hz.white.space</code>	TRUE or FALSE, whether modify input strings that contain tabs and carriage returns in such a way that they display as they would with those characters, but without using those characters (defaults to TRUE). The conversion assumes that tab stops are spaced evenly eight characters apart on the terminal. If this is not the case you may specify the tab stops explicitly with <code>tab.stops</code> .
<code>tab.stops</code>	integer, what tab stops to use when converting hard tabs to spaces. If not integer will be coerced to integer (defaults to 8L). You may specify more than one tab stop. If display width exceeds that addressable by your tab stops the last tab stop will be repeated.
<code>line.limit</code>	integer(2L) or integer(1L), if length 1 how many lines of output to show, where -1 means no limit. If length 2, the first value indicates the threshold of screen lines to begin truncating output, and the second the number of lines to truncate to, which should be fewer than the threshold. Note that this parameter is implemented on a best-efforts basis and should not be relied on to produce the exact number of lines requested. If you want a specific number of lines use <code>[</code> or <code>head</code> / <code>tail</code> . One advantage of <code>line.limit</code> over these other options is that you can combine it with <code>context="auto"</code> and <code>auto.max.level</code> selection (the latter for <code>diffStr</code>), which allows the diff to dynamically adjust to make best use of the available display lines. <code>[</code> , <code>head</code> , and <code>tail</code> just subset the text of the output.
<code>hunk.limit</code>	integer(2L) or integer (1L), how many diff hunks to show. Behaves similarly to <code>line.limit</code> . How many hunks are in a particular diff is a function of how

	many differences, and also how much context is used since context can cause two hunks to bleed into each other and become one.
align	numeric(1L) between 0 and 1, proportion of words in a line of target that must be matched in a line of current in the same hunk for those lines to be paired up when displayed (defaults to 0.25), or an AlignThreshold object. Set to 1 to turn off alignment which will cause all lines in a hunk from target to show up first, followed by all lines from current. Note that in order to be aligned lines must meet the threshold and have at least 3 matching alphanumeric characters (see AlignThreshold for details).
style	“auto”, a Style object, or a list. “auto” by default. If a Style object, will override the the format, brightness, and color.mode parameters. The Style object provides full control of diff output styling. If a list, then the same as “auto”, except that if the auto-selected Style requires instantiation (see PaletteOfStyles), then the list contents will be used as arguments when instantiating the style object. See Style for more details, in particular the examples.
palette.of.styles	PaletteOfStyles object; advanced usage, contains all the Style objects or “classRepresentation” objects extending Style that are selected by specifying the format, brightness, and color.mode parameters. See PaletteOfStyles for more details.
frame	an environment to use as the evaluation frame for the print/show/str, calls and for diffObj, the evaluation frame for the diffPrint / diffStr calls. Defaults to the return value of par_frame .
interactive	TRUE or FALSE whether the function is being run in interactive mode, defaults to the return value of interactive . If in interactive mode, pager will be used if pager is “auto”, and if ANSI styles are not supported and style is “auto”, output will be send to viewer/browser as HTML.
term.colors	integer(1L) how many ANSI colors are supported by the terminal. This variable is provided for when crayon:num_colors does not properly detect how many ANSI colors are supported by your terminal. Defaults to return value of crayon:num_colors and should be 8 or 256 to allow ANSI colors, or any other number to disallow them. This only impacts output format selection when style and format are both set to “auto”.
tar.banner	character(1L) or NULL, text to display ahead of the diff section representing the target output. If NULL will be inferred from target and current expressions.
cur.banner	character(1L) like tar.banner, but for current
extra	list additional arguments to pass on to the functions used to create text representation of the objects to diff (e.g. print, str, etc.)

Value

a Diff object; see [diffPrint](#).

See Also

[diffPrint](#) for details on the diff* functions, [diffObj](#), [diffStr](#), [diffChr](#) to compare character vectors directly

Examples

```
iris.2 <- iris
iris.2$Sepal.Length[5] <- 99
f1 <- tempfile()
f2 <- tempfile()
write.csv(iris, f1, row.names=FALSE)
write.csv(iris.2, f2, row.names=FALSE)
## `pager="off"` for CRAN compliance; you may omit in normal use
diffCsv(f1, f2, pager="off")
unlink(c(f1, f2))
```

diffDeparse

*Diff Deparsed Objects***Description**

Perform diff on the character vectors produced by [deparse](#)ing the objects. Each element counts as a line. If an element contains newlines it will be split into elements new lines by the newlines.

Usage

```
diffDeparse(target, current, ...)

## S4 method for signature 'ANY'
diffDeparse(target, current, mode = gdo("mode"),
  context = gdo("context"), format = gdo("format"),
  brightness = gdo("brightness"), color.mode = gdo("color.mode"),
  word.diff = gdo("word.diff"), pager = gdo("pager"),
  guides = gdo("guides"), trim = gdo("trim"), rds = gdo("rds"),
  unwrap.atomic = gdo("unwrap.atomic"), max.diffs = gdo("max.diffs"),
  disp.width = gdo("disp.width"),
  ignore.white.space = gdo("ignore.white.space"),
  convert.hz.white.space = gdo("convert.hz.white.space"),
  tab.stops = gdo("tab.stops"), line.limit = gdo("line.limit"),
  hunk.limit = gdo("hunk.limit"), align = gdo("align"),
  style = gdo("style"), palette.of.styles = gdo("palette"),
  frame = par_frame(), interactive = gdo("interactive"),
  term.colors = gdo("term.colors"), tar.banner = NULL, cur.banner = NULL,
  extra = list())
```

Arguments

target	the reference object
current	the object being compared to target
...	unused, for compatibility of methods with generics
mode	character(1L), one of:

	<ul style="list-style-type: none"> • “unified”: diff mode used by <code>git diff</code> • “sidebyside”: line up the differences side by side • “context”: show the target and current hunks in their entirety; this mode takes up a lot of screen space but makes it easier to see what the objects actually look like • “auto”: default mode; pick one of the above, will favor “sidebyside” unless <code>getOption("width")</code> is less than 80, or in <code>diffPrint</code> and objects are dimensioned and do not fit side by side, or in <code>diffChr</code>, <code>diffDeparse</code>, <code>diffFile</code> and output does not fit in side by side without wrapping
context	integer(1L) how many lines of context are shown on either side of differences (defaults to 2). Set to -1L to allow as many as there are. Set to “auto” to display as many as 10 lines or as few as 1 depending on whether total screen lines fit within the number of lines specified in <code>line.limit</code> . Alternatively pass the return value of <code>auto_context</code> to fine tune the parameters of the auto context calculation.
format	<p>character(1L), controls the diff output format, one of:</p> <ul style="list-style-type: none"> • “auto”: to select output format based on terminal capabilities; will attempt to use one of the ANSI formats if they appear to be supported, and if not will attempt to use HTML and browser output if in interactive mode. • “raw”: plain text • “ansi8”: color and format diffs using basic ANSI escape sequences • “ansi256”: like “ansi8”, except using the full range of ANSI formatting options • “html”: color and format using HTML markup <p>Defaults to “auto”. See <code>palette.of.styles</code> for details on customization, <code>style</code> for full control of output format.</p>
brightness	character, one of “light”, “dark”, “neutral”, useful for adjusting color scheme to light or dark terminals. “neutral” by default. See <code>PaletteOfStyles</code> for details and limitations. Advanced: you may specify brightness as a function of format. For example, if you typically wish to use a “dark” color scheme, except for when in “html” format when you prefer the “light” scheme, you may use <code>c("dark", html="light")</code> as the value for this parameter. This is particularly useful if format is set to “auto” or if you want to specify a default value for this parameter via options. Any names you use should correspond to a format. You must have one unnamed value which will be used as the default for all formats that are not explicitly specified.
color.mode	character, one of “rgb” or “yb”. Defaults to “yb”. “yb” stands for “Yellow-Blue” for color schemes that rely primarily on those colors to style diffs. Those colors can be easily distinguished by individuals with limited red-green color sensitivity. See <code>PaletteOfStyles</code> for details and limitations. Also offers the same advanced usage as the brightness parameter.
word.diff	TRUE (default) or FALSE, whether to run a secondary word diff on the in-hunk differences
pager	one of “auto” (default), “on”, “off”, or a <code>Pager</code> object; controls whether and how a pager is used to display the diff output. If “on” will use the pager associated

with the [Style](#) specified via the [style](#) parameters. If “auto” will behave like “on” but only if in interactive mode. If the pager is enabled, default behavior is to pipe output to [file.show](#) if output is taller than the estimated terminal height and your terminal supports ANSI escape sequences. If the terminal does not support ANSI escape sequences, the default is to attempt to pipe to the IDE viewer or web browser. See [Pager](#), [view_or_browse](#), [Style](#), and [PaletteOfStyles](#) for more details.

guides	TRUE (default), FALSE, or a function that accepts at least two arguments and requires no more than two arguments. Guides are additional context lines that are not strictly part of a hunk, but provide important contextual data (e.g. column headers). If TRUE, the context lines are shown in addition to the normal diff output, typically in a different color to indicate they are not part of the hunk. If a function, the function should accept as the first argument the object being diffed, and the second the character representation of the object. The function should return the indices of the elements of the second character representation that should be treated as guides. See guides for more details.
trim	TRUE (default), FALSE, or a function that accepts at least two arguments and requires no more than two arguments. Function should compute for each line in captured output what portion of those lines should be diffed. By default, this is used to remove row meta data differences (e.g. [1,]) so they alone do not show up as differences in the diff. See trim for more details.
rds	TRUE (default) or FALSE, if TRUE will check whether target and/or current point to a file that can be read with readRDS and if so, loads the R object contained in the file and carries out the diff on the object instead of the original argument. Currently there is no mechanism for specifying additional arguments to readRDS
unwrap.atomic	TRUE (default) or FALSE. Only relevant for diffPrint , if TRUE, and word.diff is also TRUE, and both target and current are <i>unnamed</i> and atomic, the vectors are unwrapped and diffed element by element, and then re-wrapped. Since diffPrint is fundamentally a line diff, the re-wrapped lines are lined up in a manner that is as consistent as possible with the unwrapped diff. Lines that contain the location of the word differences will be paired up. Since the vectors may well be wrapped with different periodicities this will result in lines that are paired up that look like they should not be paired up, though the locations of the differences should be.
max.diffs	integer(1L), number of <i>differences</i> after which we abandon the $O(n^2)$ diff algorithm in favor of a linear one. Set to -1L to always stick to the original algorithm (defaults to 10000L).
disp.width	integer(1L) number of display columns to take up; note that in “sidebyside” mode the effective display width is half this number (set to 0L to use default widths which are <code>getOption("width")</code> for normal styles and 80L for HTML styles.
ignore.white.space	TRUE or FALSE, whether to consider differences in horizontal whitespace (i.e. spaces and tabs) as differences (defaults to FALSE)
convert.hz.white.space	TRUE or FALSE, whether modify input strings that contain tabs and carriage

	returns in such a way that they display as they would with those characters, but without using those characters (defaults to TRUE). The conversion assumes that tab stops are spaced evenly eight characters apart on the terminal. If this is not the case you may specify the tab stops explicitly with <code>tab.stops</code> .
<code>tab.stops</code>	integer, what tab stops to use when converting hard tabs to spaces. If not integer will be coerced to integer (defaults to 8L). You may specify more than one tab stop. If display width exceeds that addressable by your tab stops the last tab stop will be repeated.
<code>line.limit</code>	integer(2L) or integer(1L), if length 1 how many lines of output to show, where -1 means no limit. If length 2, the first value indicates the threshold of screen lines to begin truncating output, and the second the number of lines to truncate to, which should be fewer than the threshold. Note that this parameter is implemented on a best-efforts basis and should not be relied on to produce the exact number of lines requested. If you want a specific number of lines use <code>[</code> or <code>head / tail</code> . One advantage of <code>line.limit</code> over these other options is that you can combine it with <code>context="auto"</code> and <code>auto.max.level</code> selection (the latter for <code>diffStr</code>), which allows the diff to dynamically adjust to make best use of the available display lines. <code>[</code> , <code>head</code> , and <code>tail</code> just subset the text of the output.
<code>hunk.limit</code>	integer(2L) or integer (1L), how many diff hunks to show. Behaves similarly to <code>line.limit</code> . How many hunks are in a particular diff is a function of how many differences, and also how much context is used since context can cause two hunks to bleed into each other and become one.
<code>align</code>	numeric(1L) between 0 and 1, proportion of words in a line of target that must be matched in a line of current in the same hunk for those lines to be paired up when displayed (defaults to 0.25), or an <code>AlignThreshold</code> object. Set to 1 to turn off alignment which will cause all lines in a hunk from target to show up first, followed by all lines from current. Note that in order to be aligned lines must meet the threshold and have at least 3 matching alphanumeric characters (see <code>AlignThreshold</code> for details).
<code>style</code>	"auto", a <code>Style</code> object, or a list. "auto" by default. If a <code>Style</code> object, will override the the format, brightness, and color.mode parameters. The <code>Style</code> object provides full control of diff output styling. If a list, then the same as "auto", except that if the auto-selected <code>Style</code> requires instantiation (see <code>PaletteOfStyles</code>), then the list contents will be used as arguments when instantiating the style object. See <code>Style</code> for more details, in particular the examples.
<code>palette.of.styles</code>	<code>PaletteOfStyles</code> object; advanced usage, contains all the <code>Style</code> objects or "classRepresentation" objects extending <code>Style</code> that are selected by specifying the format, brightness, and color.mode parameters. See <code>PaletteOfStyles</code> for more details.
<code>frame</code>	an environment to use as the evaluation frame for the <code>print/show/str</code> , calls and for <code>diffObj</code> , the evaluation frame for the <code>diffPrint / diffStr</code> calls. Defaults to the return value of <code>par_frame</code> .
<code>interactive</code>	TRUE or FALSE whether the function is being run in interactive mode, defaults to the return value of <code>interactive</code> . If in interactive mode, pager will be used if <code>pager</code> is "auto", and if ANSI styles are not supported and <code>style</code> is "auto", output will be send to viewer/browser as HTML.

<code>term.colors</code>	integer(1L) how many ANSI colors are supported by the terminal. This variable is provided for when <code>crayon::num_colors</code> does not properly detect how many ANSI colors are supported by your terminal. Defaults to return value of <code>crayon::num_colors</code> and should be 8 or 256 to allow ANSI colors, or any other number to disallow them. This only impacts output format selection when <code>style</code> and <code>format</code> are both set to “auto”.
<code>tar.banner</code>	character(1L) or NULL, text to display ahead of the diff section representing the target output. If NULL will be inferred from <code>target</code> and <code>current</code> expressions.
<code>cur.banner</code>	character(1L) like <code>tar.banner</code> , but for current
<code>extra</code>	list additional arguments to pass on to the functions used to create text representation of the objects to diff (e.g. <code>print</code> , <code>str</code> , etc.)

Value

a Diff object; see [diffPrint](#).

See Also

[diffPrint](#) for details on the `diff*` functions, [diffObj](#), [diffStr](#), [diffChr](#) to compare character vectors directly

Examples

```
## `pager="off"` for CRAN compliance; you may omit in normal use
diffDeparse(matrix(1:9, 3), 1:9, pager="off")
```

diffFile

Diff Files

Description

Reads text files with [readLines](#) and performs a diff on the resulting character vectors.

Usage

```
diffFile(target, current, ...)
```

```
## S4 method for signature 'ANY'
diffFile(target, current, mode = gdo("mode"),
  context = gdo("context"), format = gdo("format"),
  brightness = gdo("brightness"), color.mode = gdo("color.mode"),
  word.diff = gdo("word.diff"), pager = gdo("pager"),
  guides = gdo("guides"), trim = gdo("trim"), rds = gdo("rds"),
  unwrap.atomic = gdo("unwrap.atomic"), max.diffs = gdo("max.diffs"),
  disp.width = gdo("disp.width"),
  ignore.white.space = gdo("ignore.white.space"),
  convert.hz.white.space = gdo("convert.hz.white.space"),
```

```

tab.stops = gdo("tab.stops"), line.limit = gdo("line.limit"),
hunk.limit = gdo("hunk.limit"), align = gdo("align"),
style = gdo("style"), palette.of.styles = gdo("palette"),
frame = par_frame(), interactive = gdo("interactive"),
term.colors = gdo("term.colors"), tar.banner = NULL, cur.banner = NULL,
extra = list())

```

Arguments

target	character(1L) or file connection with read capability; if character should point to a text file
current	like target
...	unused, for compatibility of methods with generics
mode	character(1L), one of: <ul style="list-style-type: none"> • “unified”: diff mode used by <code>git diff</code> • “sidebyside”: line up the differences side by side • “context”: show the target and current hunks in their entirety; this mode takes up a lot of screen space but makes it easier to see what the objects actually look like • “auto”: default mode; pick one of the above, will favor “sidebyside” unless <code>getOption("width")</code> is less than 80, or in <code>diffPrint</code> and objects are dimensioned and do not fit side by side, or in <code>diffChr</code>, <code>diffDeparse</code>, <code>diffFile</code> and output does not fit in side by side without wrapping
context	integer(1L) how many lines of context are shown on either side of differences (defaults to 2). Set to -1L to allow as many as there are. Set to “auto” to display as many as 10 lines or as few as 1 depending on whether total screen lines fit within the number of lines specified in <code>line.limit</code> . Alternatively pass the return value of <code>auto_context</code> to fine tune the parameters of the auto context calculation.
format	character(1L), controls the diff output format, one of: <ul style="list-style-type: none"> • “auto”: to select output format based on terminal capabilities; will attempt to use one of the ANSI formats if they appear to be supported, and if not will attempt to use HTML and browser output if in interactive mode. • “raw”: plain text • “ansi8”: color and format diffs using basic ANSI escape sequences • “ansi256”: like “ansi8”, except using the full range of ANSI formatting options • “html”: color and format using HTML markup Defaults to “auto”. See <code>palette.of.styles</code> for details on customization, <code>style</code> for full control of output format.
brightness	character, one of “light”, “dark”, “neutral”, useful for adjusting color scheme to light or dark terminals. “neutral” by default. See <code>PaletteOfStyles</code> for details and limitations. Advanced: you may specify brightness as a function of format. For example, if you typically wish to use a “dark” color scheme, except for when in “html” format when you prefer the “light” scheme, you may use

`c("dark", html="light")` as the value for this parameter. This is particularly useful if `format` is set to `"auto"` or if you want to specify a default value for this parameter via options. Any names you use should correspond to a format. You must have one unnamed value which will be used as the default for all formats that are not explicitly specified.

<code>color.mode</code>	character, one of <code>"rgb"</code> or <code>"yb"</code> . Defaults to <code>"yb"</code> . <code>"yb"</code> stands for "Yellow-Blue" for color schemes that rely primarily on those colors to style diffs. Those colors can be easily distinguished by individuals with limited red-green color sensitivity. See PaletteOfStyles for details and limitations. Also offers the same advanced usage as the <code>brightness</code> parameter.
<code>word.diff</code>	TRUE (default) or FALSE, whether to run a secondary word diff on the in-hunk differences
<code>pager</code>	one of <code>"auto"</code> (default), <code>"on"</code> , <code>"off"</code> , or a Pager object; controls whether and how a pager is used to display the diff output. If <code>"on"</code> will use the pager associated with the Style specified via the <code>style</code> parameters. If <code>"auto"</code> will behave like <code>"on"</code> but only if in interactive mode. If the pager is enabled, default behavior is to pipe output to <code>file.show</code> if output is taller than the estimated terminal height and your terminal supports ANSI escape sequences. If the terminal does not support ANSI escape sequences, the default is to attempt to pipe to the IDE viewer or web browser. See Pager , view_or_browse , Style , and PaletteOfStyles for more details.
<code>guides</code>	TRUE (default), FALSE, or a function that accepts at least two arguments and requires no more than two arguments. Guides are additional context lines that are not strictly part of a hunk, but provide important contextual data (e.g. column headers). If TRUE, the context lines are shown in addition to the normal diff output, typically in a different color to indicate they are not part of the hunk. If a function, the function should accept as the first argument the object being diffed, and the second the character representation of the object. The function should return the indices of the elements of the second character representation that should be treated as guides. See guides for more details.
<code>trim</code>	TRUE (default), FALSE, or a function that accepts at least two arguments and requires no more than two arguments. Function should compute for each line in captured output what portion of those lines should be diffed. By default, this is used to remove row meta data differences (e.g. <code>[1,]</code>) so they alone do not show up as differences in the diff. See trim for more details.
<code>rds</code>	TRUE (default) or FALSE, if TRUE will check whether target and/or current point to a file that can be read with readRDS and if so, loads the R object contained in the file and carries out the diff on the object instead of the original argument. Currently there is no mechanism for specifying additional arguments to <code>readRDS</code>
<code>unwrap.atomic</code>	TRUE (default) or FALSE. Only relevant for <code>diffPrint</code> , if TRUE, and <code>word.diff</code> is also TRUE, and both target and current are <i>unnamed</i> and atomic, the vectors are unwrapped and diffed element by element, and then re-wrapped. Since <code>diffPrint</code> is fundamentally a line diff, the re-wrapped lines are lined up in a manner that is as consistent as possible with the unwrapped diff. Lines that contain the location of the word differences will be paired up. Since the vectors may well be wrapped with different periodicities this will result in lines that are

	paired up that look like they should not be paired up, though the locations of the differences should be.
<code>max.diffs</code>	integer(1L), number of <i>differences</i> after which we abandon the $O(n^2)$ diff algorithm in favor of a linear one. Set to <code>-1L</code> to always stick to the original algorithm (defaults to <code>10000L</code>).
<code>disp.width</code>	integer(1L) number of display columns to take up; note that in “sidebyside” mode the effective display width is half this number (set to <code>0L</code> to use default widths which are <code>getOption("width")</code> for normal styles and <code>80L</code> for HTML styles.
<code>ignore.white.space</code>	TRUE or FALSE, whether to consider differences in horizontal whitespace (i.e. spaces and tabs) as differences (defaults to FALSE)
<code>convert.hz.white.space</code>	TRUE or FALSE, whether modify input strings that contain tabs and carriage returns in such a way that they display as they would with those characters, but without using those characters (defaults to TRUE). The conversion assumes that tab stops are spaced evenly eight characters apart on the terminal. If this is not the case you may specify the tab stops explicitly with <code>tab.stops</code> .
<code>tab.stops</code>	integer, what tab stops to use when converting hard tabs to spaces. If not integer will be coerced to integer (defaults to <code>8L</code>). You may specify more than one tab stop. If display width exceeds that addressable by your tab stops the last tab stop will be repeated.
<code>line.limit</code>	integer(2L) or integer(1L), if length 1 how many lines of output to show, where <code>-1</code> means no limit. If length 2, the first value indicates the threshold of screen lines to begin truncating output, and the second the number of lines to truncate to, which should be fewer than the threshold. Note that this parameter is implemented on a best-efforts basis and should not be relied on to produce the exact number of lines requested. If you want a specific number of lines use <code>head</code> or <code>tail</code> . One advantage of <code>line.limit</code> over these other options is that you can combine it with <code>context="auto"</code> and <code>auto.max.level</code> selection (the latter for <code>diffStr</code>), which allows the diff to dynamically adjust to make best use of the available display lines. <code>head</code> , <code>tail</code> and <code>tail</code> just subset the text of the output.
<code>hunk.limit</code>	integer(2L) or integer (1L), how many diff hunks to show. Behaves similarly to <code>line.limit</code> . How many hunks are in a particular diff is a function of how many differences, and also how much context is used since context can cause two hunks to bleed into each other and become one.
<code>align</code>	numeric(1L) between 0 and 1, proportion of words in a line of target that must be matched in a line of current in the same hunk for those lines to be paired up when displayed (defaults to 0.25), or an <code>AlignThreshold</code> object. Set to 1 to turn off alignment which will cause all lines in a hunk from target to show up first, followed by all lines from current. Note that in order to be aligned lines must meet the threshold and have at least 3 matching alphanumeric characters (see <code>AlignThreshold</code> for details).
<code>style</code>	“auto”, a <code>Style</code> object, or a list. “auto” by default. If a <code>Style</code> object, will override the <code>format</code> , <code>brightness</code> , and <code>color.mode</code> parameters. The <code>Style</code> object provides full control of diff output styling. If a list, then the same as “auto”,

except that if the auto-selected Style requires instantiation (see [PaletteOfStyles](#)), then the list contents will be used as arguments when instantiating the style object. See [Style](#) for more details, in particular the examples.

palette.of.styles	PaletteOfStyles object; advanced usage, contains all the Style objects or “classRepresentation” objects extending Style that are selected by specifying the format, brightness, and color.mode parameters. See PaletteOfStyles for more details.
frame	an environment to use as the evaluation frame for the print/show/str, calls and for diffObj, the evaluation frame for the diffPrint / diffStr calls. Defaults to the return value of par_frame .
interactive	TRUE or FALSE whether the function is being run in interactive mode, defaults to the return value of interactive . If in interactive mode, pager will be used if pager is “auto”, and if ANSI styles are not supported and style is “auto”, output will be send to viewer/browser as HTML.
term.colors	integer(1L) how many ANSI colors are supported by the terminal. This variable is provided for when crayon::num_colors does not properly detect how many ANSI colors are supported by your terminal. Defaults to return value of crayon::num_colors and should be 8 or 256 to allow ANSI colors, or any other number to disallow them. This only impacts output format selection when style and format are both set to “auto”.
tar.banner	character(1L) or NULL, text to display ahead of the diff section representing the target output. If NULL will be inferred from target and current expressions.
cur.banner	character(1L) like tar.banner, but for current
extra	list additional arguments to pass on to the functions used to create text representation of the objects to diff (e.g. print, str, etc.)

Value

a Diff object; see [diffPrint](#).

See Also

[diffPrint](#) for details on the diff* functions, [diffObj](#), [diffStr](#), [diffChr](#) to compare character vectors directly

Examples

```
## Not run:
url.base <- "https://raw.githubusercontent.com/wch/r-source"
f1 <- file.path(url.base, "29f013d1570e1df5dc047fb7ee304ff57c99ea68/README")
f2 <- file.path(url.base, "daf0b5f6c728bd3dbcd0a3c976a7be9beee731d9/README")
diffFile(f1, f2)

## End(Not run)
```

diffObj *Diff Objects*

Description

Compare either the printed or `str` screen representation of R objects depending on which is estimated to produce the most useful diff. The selection process tries to minimize screen lines while maximizing differences shown subject to display constraints. The decision algorithm is likely to evolve over time, so do not rely on this function making a particular selection under specific circumstances. Instead, use `diffPrint` or `diffStr` if you require one or the other output.

Usage

```
diffObj(target, current, ...)
```

Arguments

<code>target</code>	the reference object
<code>current</code>	the object being compared to <code>target</code>
<code>...</code>	unused, for compatibility of methods with generics

Value

a Diff object; see `diffPrint`.

See Also

`diffPrint` for details on the `diff*` methods, `diffStr`, `diffChr` to compare character vectors directly `diffDeparse` to compare deparsed objects

Examples

```
## `pager="off"` for CRAN compliance; you may omit in normal use
diffObj(letters, c(letters[1:10], LETTERS[11:26]), pager="off")
with(mtcars, diffObj(lm(mpg ~ hp)$qr, lm(mpg ~ disp)$qr, pager="off"))
```

diffobj_set_def_opts *Set All diffobj Options to Defaults*

Description

Used primarily for testing to ensure all options are set to default values.

Usage

```
diffobj_set_def_opts()
```


Value

list for use with options that contains values of diffobj options before they were forced to defaults

Examples

```
## Not run:
diffobj_set_def_opts()

## End(Not run)
```

diffPrint

Diff printed Objects

Description

This documentation page is intended as a reference document for all the diff* methods. For a high level introduction see vignette("diffobj") and the examples. Almost all aspects of how the diffs are computed and displayed are controllable through the diff* methods parameters. This results in a lengthy parameter list, but in practice you should rarely need to adjust anything past the color.mode parameter. Default values are specified as options so that users may configure diffs in a persistent manner. [gdo](#) is a shorthand function to access diffobj options.

This and other diff* functions are S4 generics that dispatch on the target and current parameters. Methods with signature c("ANY", "ANY") are defined and act as the default methods. You can use this to set up methods to pre-process or set specific parameters for selected classes that can then callNextMethod for the actual diff. Note that while the generics include ... as an argument, none of the methods do.

Usage

```
diffPrint(target, current, ...)

## S4 method for signature 'ANY'
diffPrint(target, current, mode = gdo("mode"),
  context = gdo("context"), format = gdo("format"),
  brightness = gdo("brightness"), color.mode = gdo("color.mode"),
  word.diff = gdo("word.diff"), pager = gdo("pager"),
  guides = gdo("guides"), trim = gdo("trim"), rds = gdo("rds"),
  unwrap.atomic = gdo("unwrap.atomic"), max.diffs = gdo("max.diffs"),
  disp.width = gdo("disp.width"),
  ignore.white.space = gdo("ignore.white.space"),
  convert.hz.white.space = gdo("convert.hz.white.space"),
  tab.stops = gdo("tab.stops"), line.limit = gdo("line.limit"),
  hunk.limit = gdo("hunk.limit"), align = gdo("align"),
  style = gdo("style"), palette.of.styles = gdo("palette"),
  frame = par_frame(), interactive = gdo("interactive"),
  term.colors = gdo("term.colors"), tar.banner = NULL, cur.banner = NULL,
  extra = list())
```

Arguments

target	the reference object
current	the object being compared to target
...	unused, for compatibility of methods with generics
mode	<p>character(1L), one of:</p> <ul style="list-style-type: none"> • “unified”: diff mode used by <code>git diff</code> • “sidebyside”: line up the differences side by side • “context”: show the target and current hunks in their entirety; this mode takes up a lot of screen space but makes it easier to see what the objects actually look like • “auto”: default mode; pick one of the above, will favor “sidebyside” unless <code>getOption("width")</code> is less than 80, or in <code>diffPrint</code> and objects are dimensioned and do not fit side by side, or in <code>diffChr</code>, <code>diffDeparse</code>, <code>diffFile</code> and output does not fit in side by side without wrapping
context	<p>integer(1L) how many lines of context are shown on either side of differences (defaults to 2). Set to <code>-1L</code> to allow as many as there are. Set to “auto” to display as many as 10 lines or as few as 1 depending on whether total screen lines fit within the number of lines specified in <code>line.limit</code>. Alternatively pass the return value of <code>auto_context</code> to fine tune the parameters of the auto context calculation.</p>
format	<p>character(1L), controls the diff output format, one of:</p> <ul style="list-style-type: none"> • “auto”: to select output format based on terminal capabilities; will attempt to use one of the ANSI formats if they appear to be supported, and if not will attempt to use HTML and browser output if in interactive mode. • “raw”: plain text • “ansi8”: color and format diffs using basic ANSI escape sequences • “ansi256”: like “ansi8”, except using the full range of ANSI formatting options • “html”: color and format using HTML markup <p>Defaults to “auto”. See <code>palette.of.styles</code> for details on customization, style for full control of output format.</p>
brightness	<p>character, one of “light”, “dark”, “neutral”, useful for adjusting color scheme to light or dark terminals. “neutral” by default. See PaletteOfStyles for details and limitations. Advanced: you may specify brightness as a function of format. For example, if you typically wish to use a “dark” color scheme, except for when in “html” format when you prefer the “light” scheme, you may use <code>c("dark", html="light")</code> as the value for this parameter. This is particularly useful if <code>format</code> is set to “auto” or if you want to specify a default value for this parameter via options. Any names you use should correspond to a format. You must have one unnamed value which will be used as the default for all formats that are not explicitly specified.</p>
color.mode	<p>character, one of “rgb” or “yb”. Defaults to “yb”. “yb” stands for “Yellow-Blue” for color schemes that rely primarily on those colors to style diffs. Those colors can be easily distinguished by individuals with limited red-green color</p>

	sensitivity. See PaletteOfStyles for details and limitations. Also offers the same advanced usage as the <code>brightness</code> parameter.
<code>word.diff</code>	TRUE (default) or FALSE, whether to run a secondary word diff on the in-hunk differences
<code>pager</code>	one of “auto” (default), “on”, “off”, or a Pager object; controls whether and how a pager is used to display the diff output. If “on” will use the pager associated with the Style specified via the <code>style</code> parameters. If “auto” will behave like “on” but only if in interactive mode. If the pager is enabled, default behavior is to pipe output to <code>file.show</code> if output is taller than the estimated terminal height and your terminal supports ANSI escape sequences. If the terminal does not support ANSI escape sequences, the default is to attempt to pipe to the IDE viewer or web browser. See Pager , view_or_browse , Style , and PaletteOfStyles for more details.
<code>guides</code>	TRUE (default), FALSE, or a function that accepts at least two arguments and requires no more than two arguments. Guides are additional context lines that are not strictly part of a hunk, but provide important contextual data (e.g. column headers). If TRUE, the context lines are shown in addition to the normal diff output, typically in a different color to indicate they are not part of the hunk. If a function, the function should accept as the first argument the object being diffed, and the second the character representation of the object. The function should return the indices of the elements of the second character representation that should be treated as guides. See guides for more details.
<code>trim</code>	TRUE (default), FALSE, or a function that accepts at least two arguments and requires no more than two arguments. Function should compute for each line in captured output what portion of those lines should be diffed. By default, this is used to remove row meta data differences (e.g. [1,]) so they alone do not show up as differences in the diff. See trim for more details.
<code>rds</code>	TRUE (default) or FALSE, if TRUE will check whether <code>target</code> and/or <code>current</code> point to a file that can be read with readRDS and if so, loads the R object contained in the file and carries out the diff on the object instead of the original argument. Currently there is no mechanism for specifying additional arguments to <code>readRDS</code>
<code>unwrap.atomic</code>	TRUE (default) or FALSE. Only relevant for <code>diffPrint</code> , if TRUE, and <code>word.diff</code> is also TRUE, and both <code>target</code> and <code>current</code> are <i>unnamed</i> and <i>atomic</i> , the vectors are unwrapped and diffed element by element, and then re-wrapped. Since <code>diffPrint</code> is fundamentally a line diff, the re-wrapped lines are lined up in a manner that is as consistent as possible with the unwrapped diff. Lines that contain the location of the word differences will be paired up. Since the vectors may well be wrapped with different periodicities this will result in lines that are paired up that look like they should not be paired up, though the locations of the differences should be.
<code>max.diffs</code>	integer(1L), number of <i>differences</i> after which we abandon the $O(n^2)$ diff algorithm in favor of a linear one. Set to -1L to always stick to the original algorithm (defaults to 10000L).
<code>disp.width</code>	integer(1L) number of display columns to take up; note that in “sidebyside” mode the effective display width is half this number (set to 0L to use default

	widths which are <code>getOption("width")</code> for normal styles and 80L for HTML styles.
<code>ignore.white.space</code>	TRUE or FALSE, whether to consider differences in horizontal whitespace (i.e. spaces and tabs) as differences (defaults to FALSE)
<code>convert.hz.white.space</code>	TRUE or FALSE, whether modify input strings that contain tabs and carriage returns in such a way that they display as they would with those characters, but without using those characters (defaults to TRUE). The conversion assumes that tab stops are spaced evenly eight characters apart on the terminal. If this is not the case you may specify the tab stops explicitly with <code>tab.stops</code> .
<code>tab.stops</code>	integer, what tab stops to use when converting hard tabs to spaces. If not integer will be coerced to integer (defaults to 8L). You may specify more than one tab stop. If display width exceeds that addressable by your tab stops the last tab stop will be repeated.
<code>line.limit</code>	integer(2L) or integer(1L), if length 1 how many lines of output to show, where -1 means no limit. If length 2, the first value indicates the threshold of screen lines to begin truncating output, and the second the number of lines to truncate to, which should be fewer than the threshold. Note that this parameter is implemented on a best-efforts basis and should not be relied on to produce the exact number of lines requested. If you want a specific number of lines use <code>[]</code> or <code>head / tail</code> . One advantage of <code>line.limit</code> over these other options is that you can combine it with <code>context="auto"</code> and <code>auto.max.level</code> selection (the latter for <code>diffStr</code>), which allows the diff to dynamically adjust to make best use of the available display lines. <code>[]</code> , <code>head</code> , and <code>tail</code> just subset the text of the output.
<code>hunk.limit</code>	integer(2L) or integer (1L), how many diff hunks to show. Behaves similarly to <code>line.limit</code> . How many hunks are in a particular diff is a function of how many differences, and also how much context is used since context can cause two hunks to bleed into each other and become one.
<code>align</code>	numeric(1L) between 0 and 1, proportion of words in a line of <code>target</code> that must be matched in a line of <code>current</code> in the same hunk for those lines to be paired up when displayed (defaults to 0.25), or an <code>AlignThreshold</code> object. Set to 1 to turn off alignment which will cause all lines in a hunk from <code>target</code> to show up first, followed by all lines from <code>current</code> . Note that in order to be aligned lines must meet the threshold and have at least 3 matching alphanumeric characters (see <code>AlignThreshold</code> for details).
<code>style</code>	"auto", a <code>Style</code> object, or a list. "auto" by default. If a <code>Style</code> object, will override the the <code>format</code> , <code>brightness</code> , and <code>color.mode</code> parameters. The <code>Style</code> object provides full control of diff output styling. If a list, then the same as "auto", except that if the auto-selected <code>Style</code> requires instantiation (see <code>PaletteOfStyles</code>), then the list contents will be used as arguments when instantiating the style object. See <code>Style</code> for more details, in particular the examples.
<code>palette.of.styles</code>	<code>PaletteOfStyles</code> object; advanced usage, contains all the <code>Style</code> objects or "classRepresentation" objects extending <code>Style</code> that are selected by specifying the <code>format</code> , <code>brightness</code> , and <code>color.mode</code> parameters. See <code>PaletteOfStyles</code> for more details.

frame	an environment to use as the evaluation frame for the <code>print/show/str</code> , calls and for <code>diffObj</code> , the evaluation frame for the <code>diffPrint / diffStr</code> calls. Defaults to the return value of <code>par_frame</code> .
interactive	TRUE or FALSE whether the function is being run in interactive mode, defaults to the return value of <code>interactive</code> . If in interactive mode, pager will be used if <code>pager</code> is “auto”, and if ANSI styles are not supported and <code>style</code> is “auto”, output will be send to viewer/browser as HTML.
term.colors	integer(1L) how many ANSI colors are supported by the terminal. This variable is provided for when <code>crayon::num_colors</code> does not properly detect how many ANSI colors are supported by your terminal. Defaults to return value of <code>crayon::num_colors</code> and should be 8 or 256 to allow ANSI colors, or any other number to disallow them. This only impacts output format selection when <code>style</code> and <code>format</code> are both set to “auto”.
tar.banner	character(1L) or NULL, text to display ahead of the diff section representing the target output. If NULL will be inferred from <code>target</code> and <code>current</code> expressions.
cur.banner	character(1L) like <code>tar.banner</code> , but for <code>current</code>
extra	list additional arguments to pass on to the functions used to create text representation of the objects to diff (e.g. <code>print</code> , <code>str</code> , etc.)

Details

Runs the diff between the `print` or `show` output produced by `target` and `current`.

Value

a `Diff` object; this object has a `show` method that will display the diff to screen or pager, as well as `summary`, `any`, and `as.character` methods. If you store the return value instead of displaying it to screen, and display it later, it is possible for the display to be thrown off if there are environment changes (e.g. display width changes) in between the time you compute the diff and the time you display it.

See Also

`diffObj`, `diffStr`, `diffChr` to compare character vectors directly, `diffDeparse` to compare deparsed objects

Examples

```
## `pager="off"` for CRAN compliance; you may omit in normal use
diffPrint(letters, letters[-5], pager="off")
```

diffStr

*Diff Object Structures***Description**

Compares the str output of target and current. If the max.level parameter to str is left unspecified, will attempt to find the largest max.level that fits within line.limit and shows at least one difference.

Usage

```
diffStr(target, current, ...)
```

```
## S4 method for signature 'ANY'
```

```
diffStr(target, current, mode = gdo("mode"),
  context = gdo("context"), format = gdo("format"),
  brightness = gdo("brightness"), color.mode = gdo("color.mode"),
  word.diff = gdo("word.diff"), pager = gdo("pager"),
  guides = gdo("guides"), trim = gdo("trim"), rds = gdo("rds"),
  unwrap.atomic = gdo("unwrap.atomic"), max.diffs = gdo("max.diffs"),
  disp.width = gdo("disp.width"),
  ignore.white.space = gdo("ignore.white.space"),
  convert.hz.white.space = gdo("convert.hz.white.space"),
  tab.stops = gdo("tab.stops"), line.limit = gdo("line.limit"),
  hunk.limit = gdo("hunk.limit"), align = gdo("align"),
  style = gdo("style"), palette.of.styles = gdo("palette"),
  frame = par_frame(), interactive = gdo("interactive"),
  term.colors = gdo("term.colors"), tar.banner = NULL, cur.banner = NULL,
  extra = list())
```

Arguments

target	the reference object
current	the object being compared to target
...	unused, for compatibility of methods with generics
mode	character(1L), one of: <ul style="list-style-type: none"> • “unified”: diff mode used by git diff • “sidebyside”: line up the differences side by side • “context”: show the target and current hunks in their entirety; this mode takes up a lot of screen space but makes it easier to see what the objects actually look like • “auto”: default mode; pick one of the above, will favor “sidebyside” unless getOption(“width”) is less than 80, or in diffPrint and objects are dimensioned and do not fit side by side, or in diffChr, diffDeparse, diffFile and output does not fit in side by side without wrapping

context	integer(1L) how many lines of context are shown on either side of differences (defaults to 2). Set to -1L to allow as many as there are. Set to “auto” to display as many as 10 lines or as few as 1 depending on whether total screen lines fit within the number of lines specified in <code>line.limit</code> . Alternatively pass the return value of <code>auto_context</code> to fine tune the parameters of the auto context calculation.
format	character(1L), controls the diff output format, one of: <ul style="list-style-type: none"> • “auto”: to select output format based on terminal capabilities; will attempt to use one of the ANSI formats if they appear to be supported, and if not will attempt to use HTML and browser output if in interactive mode. • “raw”: plain text • “ansi8”: color and format diffs using basic ANSI escape sequences • “ansi256”: like “ansi8”, except using the full range of ANSI formatting options • “html”: color and format using HTML markup Defaults to “auto”. See <code>palette.of.styles</code> for details on customization, <code>style</code> for full control of output format.
brightness	character, one of “light”, “dark”, “neutral”, useful for adjusting color scheme to light or dark terminals. “neutral” by default. See <code>PaletteOfStyles</code> for details and limitations. Advanced: you may specify brightness as a function of format. For example, if you typically wish to use a “dark” color scheme, except for when in “html” format when you prefer the “light” scheme, you may use <code>c("dark", html="light")</code> as the value for this parameter. This is particularly useful if <code>format</code> is set to “auto” or if you want to specify a default value for this parameter via options. Any names you use should correspond to a format. You must have one unnamed value which will be used as the default for all formats that are not explicitly specified.
color.mode	character, one of “rgb” or “yb”. Defaults to “yb”. “yb” stands for “Yellow-Blue” for color schemes that rely primarily on those colors to style diffs. Those colors can be easily distinguished by individuals with limited red-green color sensitivity. See <code>PaletteOfStyles</code> for details and limitations. Also offers the same advanced usage as the <code>brightness</code> parameter.
word.diff	TRUE (default) or FALSE, whether to run a secondary word diff on the in-hunk differences
pager	one of “auto” (default), “on”, “off”, or a <code>Pager</code> object; controls whether and how a pager is used to display the diff output. If “on” will use the pager associated with the <code>Style</code> specified via the <code>style</code> parameters. If “auto” will behave like “on” but only if in interactive mode. If the pager is enabled, default behavior is to pipe output to <code>file.show</code> if output is taller than the estimated terminal height and your terminal supports ANSI escape sequences. If the terminal does not support ANSI escape sequences, the default is to attempt to pipe to the IDE viewer or web browser. See <code>Pager</code> , <code>view_or_browse</code> , <code>Style</code> , and <code>PaletteOfStyles</code> for more details.
guides	TRUE (default), FALSE, or a function that accepts at least two arguments and requires no more than two arguments. Guides are additional context lines that are not strictly part of a hunk, but provide important contextual data (e.g. column

headers). If TRUE, the context lines are shown in addition to the normal diff output, typically in a different color to indicate they are not part of the hunk. If a function, the function should accept as the first argument the object being diffed, and the second the character representation of the object. The function should return the indices of the elements of the second character representation that should be treated as guides. See [guides](#) for more details.

trim	TRUE (default), FALSE, or a function that accepts at least two arguments and requires no more than two arguments. Function should compute for each line in captured output what portion of those lines should be diffed. By default, this is used to remove row meta data differences (e.g. [1,]) so they alone do not show up as differences in the diff. See trim for more details.
rds	TRUE (default) or FALSE, if TRUE will check whether target and/or current point to a file that can be read with readRDS and if so, loads the R object contained in the file and carries out the diff on the object instead of the original argument. Currently there is no mechanism for specifying additional arguments to readRDS
unwrap.atomic	TRUE (default) or FALSE. Only relevant for diffPrint, if TRUE, and word.diff is also TRUE, and both target and current are <i>unnamed</i> and atomic, the vectors are unwrapped and diffed element by element, and then re-wrapped. Since diffPrint is fundamentally a line diff, the re-wrapped lines are lined up in a manner that is as consistent as possible with the unwrapped diff. Lines that contain the location of the word differences will be paired up. Since the vectors may well be wrapped with different periodicities this will result in lines that are paired up that look like they should not be paired up, though the locations of the differences should be.
max.diffs	integer(1L), number of <i>differences</i> after which we abandon the $O(n^2)$ diff algorithm in favor of a linear one. Set to -1L to always stick to the original algorithm (defaults to 10000L).
disp.width	integer(1L) number of display columns to take up; note that in “sidebyside” mode the effective display width is half this number (set to 0L to use default widths which are <code>getOption("width")</code> for normal styles and 80L for HTML styles.
ignore.white.space	TRUE or FALSE, whether to consider differences in horizontal whitespace (i.e. spaces and tabs) as differences (defaults to FALSE)
convert.hz.white.space	TRUE or FALSE, whether modify input strings that contain tabs and carriage returns in such a way that they display as they would with those characters, but without using those characters (defaults to TRUE). The conversion assumes that tab stops are spaced evenly eight characters apart on the terminal. If this is not the case you may specify the tab stops explicitly with <code>tab.stops</code> .
tab.stops	integer, what tab stops to use when converting hard tabs to spaces. If not integer will be coerced to integer (defaults to 8L). You may specify more than one tab stop. If display width exceeds that addressable by your tab stops the last tab stop will be repeated.
line.limit	integer(2L) or integer(1L), if length 1 how many lines of output to show, where -1 means no limit. If length 2, the first value indicates the threshold of screen

lines to begin truncating output, and the second the number of lines to truncate to, which should be fewer than the threshold. Note that this parameter is implemented on a best-efforts basis and should not be relied on to produce the exact number of lines requested. If you want a specific number of lines use `[]` or `head / tail`. One advantage of `line.limit` over these other options is that you can combine it with `context="auto"` and `auto.max.level` selection (the latter for `diffStr`), which allows the diff to dynamically adjust to make best use of the available display lines. `[]`, `head`, and `tail` just subset the text of the output.

<code>hunk.limit</code>	integer(2L) or integer (1L), how many diff hunks to show. Behaves similarly to <code>line.limit</code> . How many hunks are in a particular diff is a function of how many differences, and also how much context is used since context can cause two hunks to bleed into each other and become one.
<code>align</code>	numeric(1L) between 0 and 1, proportion of words in a line of target that must be matched in a line of current in the same hunk for those lines to be paired up when displayed (defaults to 0.25), or an <code>AlignThreshold</code> object. Set to 1 to turn off alignment which will cause all lines in a hunk from target to show up first, followed by all lines from current. Note that in order to be aligned lines must meet the threshold and have at least 3 matching alphanumeric characters (see <code>AlignThreshold</code> for details).
<code>style</code>	"auto", a <code>Style</code> object, or a list. "auto" by default. If a <code>Style</code> object, will override the the <code>format</code> , <code>brightness</code> , and <code>color.mode</code> parameters. The <code>Style</code> object provides full control of diff output styling. If a list, then the same as "auto", except that if the auto-selected <code>Style</code> requires instantiation (see <code>PaletteOfStyles</code>), then the list contents will be used as arguments when instantiating the style object. See <code>Style</code> for more details, in particular the examples.
<code>palette.of.styles</code>	<code>PaletteOfStyles</code> object; advanced usage, contains all the <code>Style</code> objects or "classRepresentation" objects extending <code>Style</code> that are selected by specifying the <code>format</code> , <code>brightness</code> , and <code>color.mode</code> parameters. See <code>PaletteOfStyles</code> for more details.
<code>frame</code>	an environment to use as the evaluation frame for the <code>print/show/str</code> , calls and for <code>diffObj</code> , the evaluation frame for the <code>diffPrint / diffStr</code> calls. Defaults to the return value of <code>par_frame</code> .
<code>interactive</code>	TRUE or FALSE whether the function is being run in interactive mode, defaults to the return value of <code>interactive</code> . If in interactive mode, pager will be used if <code>pager</code> is "auto", and if ANSI styles are not supported and <code>style</code> is "auto", output will be send to viewer/browser as HTML.
<code>term.colors</code>	integer(1L) how many ANSI colors are supported by the terminal. This variable is provided for when <code>crayon::num_colors</code> does not properly detect how many ANSI colors are supported by your terminal. Defaults to return value of <code>crayon::num_colors</code> and should be 8 or 256 to allow ANSI colors, or any other number to disallow them. This only impacts output format selection when <code>style</code> and <code>format</code> are both set to "auto".
<code>tar.banner</code>	character(1L) or NULL, text to display ahead of the diff section representing the target output. If NULL will be inferred from target and current expressions.
<code>cur.banner</code>	character(1L) like <code>tar.banner</code> , but for current

`extra` list additional arguments to pass on to the functions used to create text representation of the objects to diff (e.g. `print`, `str`, etc.)

Details

Due to the seemingly inconsistent nature of `max.level` when used with objects with nested attributes, and also due to the relative slowness of `str`, this function simulates the effect of `max.level` by hiding nested lines instead of repeatedly calling `str` with varying values of `max.level`.

Value

a Diff object; see [diffPrint](#).

See Also

[diffPrint](#) for details on the `diff*` functions, [diffObj](#), [diffStr](#), [diffChr](#) to compare character vectors directly, [diffDeparse](#) to compare deparsed objects

Examples

```
## `pager="off"` for CRAN compliance; you may omit in normal use
with(mtcars, diffStr(lm(mpg ~ hp)$qr, lm(mpg ~ disp)$qr, pager="off"))
```

`dimnames,PaletteOfStyles-method`

Retrieve Dimnames for PaletteOfStyles Objects

Description

Retrieve Dimnames for PaletteOfStyles Objects

Usage

```
## S4 method for signature 'PaletteOfStyles'
dimnames(x)
```

Arguments

`x` a [PaletteOfStyles](#) object

Value

list the dimension names `dimnames(PaletteOfStyles())`

finalizeHtml

Finalizing Methods for HTML Output

Description

Used as the finalizer slot to [StyleHtml](#) objects to wrap character output prior to output to device. Used primarily by styles that output to HTML to properly configure HTML page structure, including injecting JS, CSS, etc..

Usage

```
finalizeHtml(x, ...)

## S4 method for signature 'ANY'
finalizeHtml(x, x.chr, js, ...)

## S4 method for signature 'Diff'
finalizeHtml(x, x.chr, ...)

## S4 method for signature 'DiffSummary'
finalizeHtml(x, x.chr, ...)
```

Arguments

x	object to finalize
...	arguments to pass on to methods
x.chr	character text representation of x, typically generated with the <code>as.character</code> method for x
js	character javascript code to append to HTML representation

gdo

Shorthand Function for Accessing diffobj Options

Description

`gdo(x)` is equivalent to `getOption(sprintf("diffobj.%s", x))`.

Usage

```
gdo(x)
```

Arguments

x	character(1L) name off diffobj option to retrieve, without the “diffobj.” prefix
---	--

Examples

```
gdo("format")
```

guides

Generic Methods to Implement Flexible Guide Line Computations

Description

Guides are context lines that would normally be omitted from the diff because they are too far from any differences, but provide particularly useful contextual information. Column headers are a common example. Modifying guide finding is an advanced feature intended for package developers that want special treatment for the display output of their objects.

Usage

```
guidesPrint(obj, obj.as.chr)

## S4 method for signature 'ANY,character'
guidesPrint(obj, obj.as.chr)

guidesStr(obj, obj.as.chr)

## S4 method for signature 'ANY,character'
guidesStr(obj, obj.as.chr)

guidesChr(obj, obj.as.chr)

## S4 method for signature 'ANY,character'
guidesChr(obj, obj.as.chr)

guidesDeparse(obj, obj.as.chr)

## S4 method for signature 'ANY,character'
guidesDeparse(obj, obj.as.chr)

guidesFile(obj, obj.as.chr)

## S4 method for signature 'ANY,character'
guidesFile(obj, obj.as.chr)
```

Arguments

obj	an R object
obj.as.chr	the character representation of obj that is used for computing the diffs

Details

Diff detects these important context lines by looking for patterns in the text of the diff, and then displays these lines in addition to the normal diff output. Guides are marked by a tilde in the gutter, and are typically styled differently than normal context lines, by default in grey. Guides may be far from the diff hunk they are juxtaposed to. We eschew the device of putting the guides in the hunk header as `git diff` does because often the column alignment of the guide line is meaningful.

Guides are detected by the `guides*` methods documented here. Each of the `diff*` methods (e.g. `diffPrint`) has a corresponding `guides*` method (e.g. `guidesPrint`), with the exception of `diffCsv` since that method uses `diffPrint` internally. The `guides*` methods expect an R object as the first parameter and the captured display representation of the object in a character vector as the second. The function should then identify which elements in the character representation should be treated as guides, and should return the numeric indices for them.

The original object is passed as the first argument so that the generic can dispatch on it, and so the methods may adjust their guide finding behavior to data that is easily retrievable from the object, but less so from the character representation thereof.

The default method for `guidesPrint` has special handling for 2D objects (e.g. data frames, matrices), arrays, time series, tables, and lists. If you dislike the default handling you can also define your own methods for matrices, arrays, etc., or alternatively you can pass a guide finding function directly via the `guides` parameter to the `diff*` methods. The default method for `guidesStr` highlights top level objects. The default methods for the other `guide*` methods don't do anything and exist only as a mechanism for providing custom guide line methods.

If you have classed objects with special patterns you can define your own methods for them (see examples), though if your objects are S3 you will need to use `setOldClass` as the `guides*` generics are S4.

Value

integer containing values in `seq_along(obj.as.chr)`

Examples

```
## Roundabout way of suppressing guides for matrices
setMethod("guidesPrint", c("matrix", "character"),
  function(obj, obj.as.chr) integer(0L)
)
## Special guides for "zulu" S3 objects that match lines
## starting in "zulu###" where ### is a nuber
setOldClass("zulu")
setMethod("guidesPrint", c("zulu", "character"),
  function(obj, obj.as.chr) {
    if(length(obj) > 20) grep("^zulu[0-9]*", obj.as.chr)
    else integer(0L)
  } )
```

has_Rdiff	<i>Attempt to Detect Whether diff Utility is Available</i>
-----------	--

Description

Checks whether `tools::Rdiff` issues a warning when running with `useDiff=TRUE` and if it does assumes this is because the diff utility is not available. Intended primarily for testing purposes.

Usage

```
has_Rdiff()
```

Value

TRUE or FALSE

Examples

```
has_Rdiff()
```

make_blocking	<i>Create a Blocking Version of a Function</i>
---------------	--

Description

Wraps `fun` in a function that runs `fun` and then issues a readline prompt to prevent further R code evaluation until user presses a key.

Usage

```
make_blocking(fun, msg = "Press ENTER to continue...", invisible.res = TRUE)
```

Arguments

<code>fun</code>	a function
<code>msg</code>	<code>character(1L)</code> a message to use as the readline prompt
<code>invisible.res</code>	whether to return the result of <code>fun</code> invisibly

Value

`fun`, wrapped in a function that does the blocking `make_blocking(sum, invisible.res=FALSE)(1:10)`

nchar_html	<i>Count Text Characters in HTML</i>
------------	--------------------------------------

Description

Very simple implementation that will fail if there are any “>” in the HTML that are not closing tags, and assumes that HTML entities are all one character wide. Also, spaces are counted as one width each because the HTML output is intended to be displayed inside <PRE> tags.

Usage

```
nchar_html(x)
```

Arguments

x	character
---	-----------

Value

integer(length(x)) with number of characters of each element

Examples

```
nchar_html("<a href='http:www.domain.com'>hello</a>")
```

Pager	<i>Objects for Specifying Pager Settings</i>
-------	--

Description

Generate pager configuration objects to use as the pager argument to the `diff*` methods or as the pager slot for `Style` objects.

Usage

```
PagerOff(...)
```

```
PagerSystem(pager = file.show, threshold = -1L, file.ext = "", ...)
```

```
PagerSystemLess(pager = file.show, threshold = -1L, file.ext = "",  
  flags = "R", ...)
```

```
PagerBrowser(pager = make_blocking(view_or_browse), threshold = 0L,  
  file.ext = "html", ...)
```

Arguments

...	additional arguments to pass on to <code>new</code> , typically not used
<code>pager</code>	a function that accepts at least one parameter and does not require a parameter other than the first parameter. This function will be called with a file name passed as the first argument. The referenced file will contain the text of the diff. This is a temporary file that will be deleted as soon as the pager function completes evaluation. <code>PagerSystem</code> and <code>PagerSystemLess</code> use <code>file.show</code> by default, and <code>PagerBrowser</code> uses <code>browseURL</code> .
<code>threshold</code>	integer(1L) number of lines of output that triggers the use of the pager; negative values lead to using <code>console_lines + 1</code> , and zero leads to always using the pager irrespective of how many lines the output has.
<code>file.ext</code>	character(1L) an extension to append to file name passed to <code>pager</code> , <i>without</i> the period. For example, <code>PagerBrowser</code> uses "html" to cause <code>browseURL</code> to launch the web browser.
<code>flags</code>	character(1L), only for <code>PagerSystemLess</code> , what flags to set with the LESS system environment variable. By default the "R" flag is set to ensure ANSI escape sequences are interpreted if it appears your terminal supports ANSI escape sequences. If you want to leave the output on the screen after you exit the pager you can use "RX". You should only provide the flag letters (e.g. "'RX'", not "-RX"). The system variable is only modified for the duration of the evaluation and is reset / unset afterwards. <i>Note:</i> you must specify this slot via the constructor as in the example. If you set the slot directly it will not have any effect.

Details

Several pre-defined pager configuration objects are available via constructor functions:

- `PagerOff`: Turn off pager
- `PagerSystem`: Use the system pager as invoked by `file.show`
- `PagerSystemLess`: Like `PagerSystem`, but provides additional configuration options if it the system pager is less
- `PagerBrowser`: Use `browseURL` as the pager

Make sure you instantiate the pagers with the constructor functions rather than with `new` to make sure they are properly configured.

Custom Pagers

If you wish to define your own pager object you should do so by extending the `Pager` virtual class. In most cases you should be able to use one of the existing objects configured with different parameters, but if your pager function requires special treatment then you can define a custom pager object. At a minimum you should specify the `pager` slot of the object (see constructor function parameter definition). If the function you use to handle the actual paging is non-blocking (i.e. allows R code evaluation to continue after it is spawned, you may want to wrap it in a function that pauses evaluation such as `make_blocking`, as otherwise the temporary file that contains the diff may be deleted before the pager has a chance to read it.

Examples

```
## Assuming system pager is `less` and terminal supports ANSI ESC sequences
## Equivalent to running `less -RFX`
## Not run:
diffPrint(letters, LETTERS, pager=PagerSystemLess(flags="RFX"))

## End(Not run)
```

pager_is_less

Check Whether System Has less as Pager

Description

Checks system PAGER variable and that PAGER_PATH is pointed at “R_HOME/bin/pager”. This is an approximation and may return false positives or negatives depending on your system.

Usage

```
pager_is_less()
```

Value

TRUE or FALSE

Examples

```
pager_is_less()
```

PaletteOfStyles-class *Class for Tracking Default Styles by Style Type*

Description

Provides a mechanism for specifying a style based on the style properties along dimensions of format, brightness, and color. This allows a user to request a style that meets a certain description (e.g. a “light” scheme in “ansi256” format), without having to provide a specific [Style](#) object.

An Array of Styles

A PaletteOfStyles object is an “array” containing either “classRepresentation” objects that extend StyleHtml or are instances of objects that inherit from StyleHtml. The diff* methods then pick an object/class from this array based on the values of the format, brightness, and color.mode parameters.

For the most part the distinction between actual Style objects vs “classRepresentation” ones is academic, except that with the latter you can control the instantiation by providing a parameter list as the style argument to the diff* methods. This is not an option with already instantiated objects. See examples.

Dimensions

There are three general orthogonal dimensions of styles that can be used when rendering diffs: the type of format, the “brightness” of the output, and whether the colors used are distinguishable if you assume reds and greens are not distinguishable. Defaults for the intersections each of these dimensions are encoded as a three dimensional list. This list is just an atomic vector of type “list” with a length 3 `dim` attribute.

The array/list dimensions are:

- `format`: the format type, one of “raw”, “ansi8”, “ansi256”, or “html”
- `brightness`: whether the colors are bright or not, which allows user to chose a scheme that is compatible with their console, one of: “light”, “dark”, “normal”
- `color.mode`: “rgb” for full color or “yb” for dichromats (yb stands for Yellow Blue).

Each of these dimensions can be specified directly via the corresponding parameters to the `diff*` methods.

Methods

PaletteOfStyles objects have The following methods implemented:

- `[], [<-, [[`
- `show`
- `summary`
- `dimnames`

Structural Details

The array/list is stored in the `data` slot of PaletteOfStyles objects. Subsetting methods are provided so you may operate directly on the S4 object as you would on a regular array.

The array/list must be fully populated with objects that are or inherit `Style`, or are “classRepresentation” objects (i.e. those of the type returned by `getClassDef`) that extend `Style`. By default the array is populated only with “classRepresentation” objects as that allows the list form of the `style` parameter to the `diff*` methods. If there is a particular combination of coordinates that does not have a corresponding defined style a reasonable substitution must be provided. For example, this package only defines “light” HTML styles, so it simply uses that style for all the possible brightness values.

There is no explicit check that the objects in the list comply with the descriptions implied by their coordinates, although the default object provided by the package does comply for the most part. One check that is carried out is that any element that has a “html” value in the `format` dimension extends `StyleHtml`.

While the list may only have the three dimensions described, you can add values to the dimensions provided the values described above are the first ones in each of their corresponding dimensions. For example, if you wanted to allow for styles that would render in grid graphics, you could generate a default list with a “grid” value appended to the values of the `format` dimension.

Examples

```
## Not run:
## Look at all "ansi256" styles (assumes compatible terminal)
PaletteOfStyles()["ansi256",,]

## End(Not run)
## Generate the default style object palette, and replace
## the ansi256 / light / rgb style with our modified one
## which for illustrative purposes is the raw style
my.pal <- PaletteOfStyles()
my.style <- StyleRaw() # See `?Style` for custom styles
my.style@funs@word.delete <- function(x) sprintf("--%s--", x)
my.pal["ansi256", "light", "rgb"] <- list(my.style) # note `list()`
## Output has no format now for format/color.mode/brightness
## we modified ...
## `pager="off"` for CRAN compliance; you may omit in normal use
diffPrint(
  1:3, 2:5, format="ansi256", color.mode="rgb", brightness="light",
  palette.of.styles=my.pal, pager="off", disp.width=80
)
## If so desired, set our new style palette as the default
## one; could also pass directly as argument to `diff*` funs
## Not run:
options(diffobj.palette=defs)

## End(Not run)
```

par_frame

Get Parent Frame of S4 Call Stack

Description

Implementation of the function(`x=parent.frame()`) ... pattern for the `diff*` methods since the normal pattern does not work with S4 methods. Works by looking through the call stack and identifying what call likely initiated the S4 dispatch.

Usage

```
par_frame()
```

Details

The function is not exported and intended only for use as the default value for the `frame` argument for the `diff*` methods.

Matching is done purely by looking for the first repeated call which is what usual happens with S4 dispatch since there will be a call to the generic and then to the method. Since methods can be renamed by the user we make no attempt to verify method names. This method could potentially be tricked if you implement custom `diff*` methods that somehow issue two identical sequential calls before calling `callNextMethod`. Failure in this case means the wrong frame will be returned.

Value

an environment

Rdiff_chr

Run Rdiff Directly on R Objects

Description

These functions are here for reference and testing purposes. They are wrappers to `tools::Rdiff` and rely on an existing system diff utility. You should be using `ses` or `diffChr` instead of `Rdiff_chr` and `diffPrint` instead of `Rdiff_obj`. See limitations in note.

Usage

```
Rdiff_chr(from, to, silent = FALSE, minimal = FALSE, nullPointers = TRUE)
```

```
Rdiff_obj(from, to, silent = FALSE, minimal = FALSE, nullPointers = TRUE)
```

Arguments

<code>from</code>	character or object coercible to character for <code>Rdiff_chr</code> , any R object with <code>Rdiff_obj</code> , or a file pointing to an RDS object
<code>to</code>	character same as <code>from</code>
<code>silent</code>	TRUE or FALSE, whether to display output to screen
<code>minimal</code>	TRUE or FALSE, whether to exclude the lines that show the actual differences or only the actual edit script commands
<code>nullPointers</code>	passed to <code>tools::Rdiff</code>

Details

`Rdiff_chr` runs diffs on character vectors or objects coerced to character vectors, where each value in the vectors is treated as a line in a file. `Rdiff_chr` always runs with the `useDiff` and `Log` parameters set to TRUE.

`Rdiff_obj` runs diffs on the printed representation of the provided objects. For each of `from`, `to`, will check if they are 1 length character vectors referencing an RDS file, and will use the contents of that RDS file as the object to compare.

Value

the Rdiff output, invisibly if `silent` is FALSE `Rdiff_chr(letters[1:5], LETTERS[1:5])` `Rdiff_obj(letters[1:5], LETTERS[1:5])`

Note

These functions will try to use the system diff utility. This will fail in systems that do not have that utility available (e.g. windows installation without Rtools).

See Also[ses, diff*](#)

`ses`*Shortest Edit Script*

Description

Computes shortest edit script to convert a into b by removing elements from a and adding elements from b. Intended primarily for debugging or for other applications that understand that particular format. See <http://www.gnu.org/software/diffutils/manual/diffutils.html#Detailed-Normal> for how to interpret the symbols.

Usage`ses(a, b)`**Arguments**

a	character
b	character

Value

character

Examples`ses(letters[1:3], letters[2:4])`

`show, DiffSummary-method`*Display DiffSummary Objects*

Description

Display DiffSummary Objects

Usage

```
## S4 method for signature 'DiffSummary'
show(object)
```

Arguments

object	a DiffSummary object
--------	----------------------

Value

NULL, invisibly show(summary(diffChr(letters, letters[-c(5, 15)], format="raw", pager="off")))

show,PaletteOfStyles-method

Display a PaletteOfStyles

Description

Display a PaletteOfStyles

Usage

```
## S4 method for signature 'PaletteOfStyles'
show(object)
```

Arguments

object a [PaletteOfStyles](#) object

Value

NULL, invisibly

show,Style-method

Show Method for Style Objects

Description

Display a small sample diff with the Style object styles applied. For ANSI light and dark styles, will also temporarily set the background and foreground colors to ensure they are compatible with the style, even though this is not done in normal output (i.e. if you intend on using a “light” style, you should set your terminal background color to be light or expect sub-optimal rendering).

Usage

```
## S4 method for signature 'Style'
show(object)

## S4 method for signature 'StyleHtml'
show(object)
```

Arguments

object a Style S4 object

Value

NULL, invisibly

Examples

```
show(StyleAnsi256LightYb()) # assumes ANSI colors supported
```

Style-class

Customize Appearance of Diff

Description

S4 objects that expose the formatting controls for Diff objects. Many predefined formats are defined as classes that extend the base `Style` class. You may fine tune styles by either extending the pre-defined classes, or modifying an instance thereof.

Arguments

<code>funcs</code>	a StyleFuncs object that contains all the functions represented above
<code>text</code>	a StyleText object that contains the non-content text used by the diff (e.g. <code>gutter.insert.txt</code>)
<code>summary</code>	a StyleSummary object that contains formatting functions and other meta data for rendering summaries
<code>wrap</code>	TRUE or FALSE, whether the text should be hard wrapped to fit in the console
<code>pad</code>	TRUE or FALSE, whether text should be right padded
<code>pager</code>	what type of Pager to use
<code>na.sub</code>	what character value to substitute for NA elements; NA elements are generated when lining up side by side diffs by adding padding rows; by default the text styles replace these with a blank character string, and the HTML styles leave them as NA for the HTML formatting functions to deal with
<code>blank</code>	sub what character value to replace blanks with; needed in particular for HTML rendering (uses <code>"&nbsp;"</code>) to prevent lines from collapsing
<code>finalizer</code>	function that accepts at least two parameters and requires no more than two parameters, will receive as the first parameter the the object to render (either a <code>Diff</code> or a <code>DiffSummary</code> object), and the text representation of that object as the second argument. This allows final modifications to the character output so that it is displayed correctly by the pager. For example, <code>StyleHtml</code> objects use it to generate HTML headers if the <code>Diff</code> is destined to be displayed in a browser. The object themselves are passed along to provide information about the paging device and other contextual data to the function.
<code>escape.html.entities</code>	(<code>StyleHtml</code> objects only) TRUE (default) or FALSE, whether to escape HTML entities in the input

scale	(StyleHtml objects only) TRUE (default) or FALSE, whether to scale HTML output to fit to the viewport
css	(StyleHtml objects only) path to file containing CSS styles to style HTML output with
js	(StyleHtml objects only) path to file containing Javascript used for scaling output to viewports.

Value

Style S4 object

Pre-defined Classes

Pre-defined classes are used to populate the [PaletteOfStyles](#) object, which in turn allows the `diff*` methods to pick the appropriate Style for each combination of the `format`, `color.mode`, and `brightness` parameters when the `style` parameter is set to “auto”. The following classes are pre-defined:

- `StyleRaw`: No styles applied
- `StyleAnsi8NeutralRgb`
- `StyleAnsi8NeutralYb`
- `StyleAnsi256LightRgb`
- `StyleAnsi256LightYb`
- `StyleAnsi256DarkRgb`
- `StyleAnsi256DarkYb`
- `StyleHtmlLightRgb`
- `StyleHtmlLightYb`

Each of these classes has an associated constructor function with the same name (see examples). Objects instantiated from these classes may also be used directly as the value for the `style` parameter to the `diff*` methods. This will override the automatic selection process that uses [PaletteOfStyles](#). If you wish to tweak an auto-selected style rather than explicitly specify one, pass a parameter list instead of a Style objects as the `style` parameter to the `diff*` methods (see examples).

There are predefined classes for most combinations of `format/color.mode/brightness`, but not all. For example, there are only “light” brightness defined for the “html” format, and those classes are re-used for all possible brightness values, and the 8 color ANSI neutral classes are used for the 256 color neutral selections as well.

To get a preview of what a style looks like just instantiate an object; the `show` method will output a trivial diff to screen with styles applied. Note that for ANSI styles of the dark and light variety the `show` method colors the terminal background and foregrounds in compatible colors. In normal usage the terminal background and foreground colors are left untouched so you should not expect light styles to look good on dark background and vice versa even if they render correctly when showing the style object.

Style Structure

Most of the customization is done by specifying functions that operate on character vectors and return a modified character vector of the same length. The intended use case is to pass crayon functions such as `crayon::red`, although you may pass any function of your liking that behaves as described.

The visual representation of the diff has many nested components. The functions you specify here will be applied starting with the innermost ones. A schematic of the various component that represent an inserted line follows (note “insert” abbreviated to “ins”, and “gutter” abbreviated to “gtr”):

```
+ - line -----+
| +- line.ins -----+ |
| | +- gtr -----++- text -----+ | | | | | | | | | | |
| | | +- gtr.ins ----+- gtr.pad ----+ | +- text.ins -----+ | |
| | | |          | |          | | |          +- word.ins -+ | | |
| | | | gtr.ins.txt | | gtr.pad.txt | | | DIFF | TEXT HERE | | |
| | | |          | |          | | |          +-----+ | | |
| | | +------++-----+ | | +------+ | | |
| | +------++-----+ | | +------+ | | |
| +------+ | |
+-----+
```

A similar model applies to deleted and matching lines. The boxes represent functions. `gutter.insert.txt` represents the text to use in the gutter and is not a function. `DIFF TEXT HERE` is text from the objects being diffed, with the portion that has different words inside the `word.insert`. `gutter.pad` and `gutter.pad.txt` are used to separate the gutter from the text and usually end up resolving to a space.

Most of the functions defined here default to `identity`, but you are given the flexibility to fully format the diff. See [StyleFuns](#) and [StyleText](#) for a full listing of the adjustable elements.

In side-by-side mode there are two “lines” per screen line, each with the structure described here.

The structure described here may change in the future.

HTML Styles

If you use a `Style` that inherits from `StyleHtml` the diff will be wrapped in HTML tags, styled with CSS, and output to `getOption("viewer")` if your IDE supports it (e.g. Rstudio), or directly to the browser otherwise, assuming that the default [Pager](#) or a correctly configured pager that inherits from [PagerBrowser](#) is in effect. Otherwise, the raw HTML will be output to your terminal.

By default HTML output sent to the viewer/browser is a full stand-alone webpage with CSS styles to format and color the diff, and JS code to handle scaling. The CSS and JS is read from the [default files](#) and injected into the HTML to simplify packaging of the output. You can customize the CSS and JS by using the `css` and `js` arguments respectively, but read the rest of this documentation section if you plan on doing so.

Should you want to capture the HTML output for use elsewhere, you can do so by using `as.character` on the return value of the `diff*` methods. If you want the raw HTML without any of the headers, CSS, and JS use `html.output="diff.only"` when you instantiate the `StyleHtml` object (see examples), or disable the [Pager](#). Another option is `html.output="diff.w.style"` which will add

`<style>` tags with the CSS, but without wrapping those in `<head>` tags. This last option results in illegal HTML with a `<style>` block outside of the `<head>` block, but appears to work and is useful if you want to embed HTML someplace but do not have access to the headers.

If you wish to modify the CSS styles you should do so cautiously. The HTML and CSS work well together out of the box, but may not take kindly to modifications. The safest changes you can make are to the colors of the scheme. You also probably should not modify the functions in the `@funs` slot of the `StyleHtml` object. If you want to provide your own custom styles make a copy of the file at the location returned by `diffobj_css()`, modify it to your liking, and pass the location of your modified sheet back via the `css` argument (see examples).

The javascript controls the scaling of the output such that its width fits in the viewport. If you wish to turn off this behavior you can do so via the `scale` argument. You may need to modify the javascript if you modify the `@funs` functions, but otherwise you are probably best off leaving the javascript untouched. You can provide the location of a modified javascript file via the `js` argument.

Both the CSS and JS files can be specified via options, “diffobj.html.css”, and “diffobj.html.js” respectively.

If you define your own custom `StyleHtml` object you may want to modify the slot `@funs@container`. This slot contains a function that is applied to the entire diff output. For example, `StyleHtmlLightRgb` uses `@funs@container <- cont_f("light", "rgb")`. `cont_f` returns a function that accepts a character vector as an argument and returns that value wrapped in a DIV block with class “diffobj_container light rgb”. This allows the CSS style sheet to target the Diff elements with the correct styles.

Modifying Style Parameters Directly

Often you will want to specify some of the style parameters (e.g. `scale`) while still relying on the default style selection to pick the specific style. You can do so by passing a list to the `style` parameter of the `diff*` methods. See examples.

New Classes

You can in theory create entirely new classes that extend `Style`. For example you could generate a class that renders the diff in grid graphics. Note however that we have not tested such extensions and it is possible there is some embedded code that will misbehave with such a new class.

Examples

```
## Not run:
## Create a new style based on existing style by changing
## gutter symbols and guide color; see `?StyleFuns` and
## `?StyleText` for a full list of adjustable elements
my.style <- StyleAnsi8NeutralYb()
my.style ## `show` method gives you a preview of the style
my.style@text@gutter.insert <- "+++"
my.style@text@gutter.delete <- "---"
my.style@funs@text.guide <- crayon::green
my.style ## Notice gutters and guide color

## Provide a custom style sheet; here we assume there is a style sheet at
## `HOME/web/mycss.css`
```

```

my.css <- file.path(path.expand("~"), "web", "mycss.css")
diffPrint(1:5, 2:6, style=StyleHtmlLightYb(css=my.css))

## Turn of scaling; notice how we pass a list to `style`
## and we do not need to specify a specific style
diffPrint(letters, letters[-5], format="html", style=list(scale=FALSE))

## Alternatively we can do the same by specifying a style, but we must
## give an exact html style instead of relying on preferences to pick
## one for us
my.style <- StyleHtmlLightYb(scale=FALSE)
diffPrint(letters, letters[-5], style=my.style)

## End(Not run)
## Return only the raw HTML without any of the headers
as.character(
  diffPrint(1:5, 2:6, format="html", style=list(html.output="diff.only"))
)

```

StyleFuns-class

Functions Used for Styling Diff Components

Description

Except for container every function specified here should be vectorized and apply formatting to each element in a character vectors. The functions must accept at least one argument and require no more than one argument. The text to be formatted will be passed as a character vector as the first argument to each function.

Arguments

container	function used primarily by HTML styles to generate an outermost DIV that allows for CSS targeting of its contents (see cont_f for a function generator appropriate for use here)
line	function
line.insert	function
line.delete	function
line.match	function
line.guide	function formats guide lines (see guides)
text	function
text.insert	function
text.delete	function
text.match	function
text.guide	function formats guide lines (see guides)
gutter	function

<code>gutter.insert</code>	function
<code>gutter.delete</code>	function
<code>gutter.match</code>	function
<code>gutter.guide</code>	function
<code>gutter.pad</code>	function
<code>header</code>	function to format each hunk header with
<code>banner</code>	function to format entire banner
<code>banner.insert</code>	function to format insertion banner
<code>banner.delete</code>	function to format deletion banner
<code>meta</code>	function format meta information lines
<code>context.sep</code>	function to format the separator used to visually distinguish the A and B hunks in “context” mode

Details

These functions are applied in post processing steps. The `diff*` methods do not do any of the formatting. Instead, the formatting is done only if the user requests to show the object. Internally, `show` first converts the object to a character vector using `as.character`, which applies every formatting function defined here except for `container`. Then `show` applies `container` before forwarding the result to the screen or pager.

Value

a StyleFuns S4 object

Note

the slots are set to class “ANY” to allow classed functions such as those defined in the `crayon` package. Despite this seemingly permissive slot definition, only functions are allowed in the slots by the validation functions.

See Also

[Style](#)

StyleSummary-class *Styling Information for Summaries*

Description

Styling Information for Summaries

Slots

`container` function applied to entire summary
`body` function applied to everything except the actual map portion of the summary
`detail` function applied to section showing how many deletions / insertions, etc. occurred
`map` function applied to the map portion of the summary

StyleText-class *Character Tokens Used in Diffs*

Description

Various character tokens are used throughout diffs to provide visual cues. For example, gutters will contain characters that denote deletions and insertions (< and > by default).

Arguments

<code>gutter.insert</code>	character(1L) text to use as visual cue to indicate whether a diff line is an insertion, defaults to ">"
<code>gutter.insert.ctd</code>	character(1L) if a diff line is wrapped, the visual cue shifts to this character to indicate wrapping occurred
<code>gutter.delete</code>	character(1L) see <code>gutter.insert</code> above
<code>gutter.delete.ctd</code>	character(1L) see <code>gutter.insert.ctd</code> above
<code>gutter.match</code>	character(1L) see <code>gutter.insert</code> above
<code>gutter.match.ctd</code>	character(1L) see <code>gutter.insert.ctd</code> above
<code>gutter.guide</code>	character(1L) see <code>gutter.insert</code> above
<code>gutter.guide.ctd</code>	character(1L) see <code>gutter.insert.ctd</code> above
<code>gutter.fill</code>	character(1L) see <code>gutter.insert</code> above
<code>gutter.fill.ctd</code>	character(1L) see <code>gutter.insert.ctd</code> above
<code>gutter.pad</code>	character(1L) separator between gutter characters and the rest of a line in a diff
<code>pad.col</code>	character(1L) separator between columns in side by side mode

Value

a StyleText S4 object

See Also

[Style](#)

summary,Diff-method *Summary Method for Diff Objects*

Description

Provides high level count of insertions, deletions, and matches, as well as a “map” of where the differences are.

Usage

```
## S4 method for signature 'Diff'
summary(object, scale.threshold = 0.1, max.lines = 50L,
        width = getOption("width"), ...)
```

Arguments

object	at Diff object
scale.threshold	numeric(1L) between 0 and 1, how much distortion to allow when creating the summary map, where 0 is none and 1 is as much as needed to fit under max.lines, defaults to 0.1
max.lines	integer(1L) how many lines to allow for the summary map, defaults to 50
width	integer(1L) how many columns wide the output should be, defaults to getOption("width")
...	unused, for compatibility with generic

Details

Sequences of single operations (e.g. "DDDDD") are compressed provided that compressing them does not distort the relative size of the sequence relative to the longest such sequence in the map by more than `scale.threshold`. Since length 1 sequences cannot be further compressed `scale.threshold` does not apply to them.

Value

a DiffSummary object ## ‘pager="off"‘ for CRAN compliance; you may omit in normal use `summary(diffChr(letters, letters[-c(5, 15)], format="raw", pager="off"))`

 summary,PaletteOfStyles-method

Display a Summarized Version of a PaletteOfStyles

Description

Display a Summarized Version of a PaletteOfStyles

Usage

```
## S4 method for signature 'PaletteOfStyles'
summary(object, ...)
```

Arguments

object	a PaletteOfStyles object
...	unused, for compatibility with generic

Value

character representation showing classes and/or objects in PaletteOfStyles summary(PaletteOfStyles())

 tag_f

Make Functions That Wrap Text in HTML Tags

Description

Helper functions to generate functions to use as slots for the StyleHtml@funs classes. These are functions that return *functions*.

Usage

```
tag_f(tag, class = character(), style = character())
```

```
div_f(class = character(), style = character())
```

```
span_f(class = character(), style = character())
```

```
cont_f(class = character())
```

Arguments

tag	character(1L) a name of an HTML tag
class	character the CSS class(es)
style	named character inline styles, where the name is the CSS property and the value the value.

Details

tag_f and related functions (div_f, span_f) produce functions that are vectorized and will apply opening and closing tags to each element of a character vector. container_f on the other hand produces a function will collapse a character vector into length 1, and only then applies the tags. Additionally, container_f already comes with the “diffobj_container” class specified.

Value

a function that accepts a character parameter. If applied, each element in the character vector will be wrapped in the div tags

Note

inputs are assumed to be valid class names or CSS styles.

Examples

```
## Assuming class 'ex1' has CSS styles defined elsewhere
tag_f("div", "ex1")(LETTERS[1:5])
## Use convenience function, and add some inline styles
div_f("ex2", c(color="green", `font-family`="arial"))(LETTERS[1:5])
## Notice how this is a div with pre-specified class,
## and only one div is created around the entire data
cont_f()(LETTERS[1:5])
```

trim

Methods to Remove Unsemantic Text Prior to Diff

Description

diff* methods, in particular diffPrint, modify the text representation of an object prior to running the diff to reduce the incidence of spurious mismatches caused by unsemantic differences. For example, we look to remove matrix row indices and atomic vector indices (i.e. the ‘[1]’ or ‘[1,]’ strings at the beginning of each display line).

Usage

```
trimPrint(obj, obj.as.chr)

## S4 method for signature 'ANY,character'
trimPrint(obj, obj.as.chr)

trimStr(obj, obj.as.chr)

## S4 method for signature 'ANY,character'
trimStr(obj, obj.as.chr)

trimChr(obj, obj.as.chr)
```



```
## S4 method for signature 'ANY,character'
trimChr(obj, obj.as.chr)

trimDeparse(obj, obj.as.chr)

## S4 method for signature 'ANY,character'
trimDeparse(obj, obj.as.chr)

trimFile(obj, obj.as.chr)

## S4 method for signature 'ANY,character'
trimFile(obj, obj.as.chr)
```

Arguments

<code>obj</code>	the object
<code>obj.as.chr</code>	character the printed representation of the object

Details

Consider:

```
> matrix(10:12)
  [,1]
[1,] 10
[2,] 11
[3,] 12
> matrix(11:12)
  [,1]
[1,] 11
[2,] 12
```

In this case, the line by line diff would find all rows of the matrix to be mismatched because where the data matches (rows containing 11 and 12) the indices do not. By trimming out the row indices before the diff, the diff can recognize that row 2 and 3 from the first matrix should be matched to row 1 and 2 of the second.

These methods follow a similar interface as the `guide*` methods, with one available for each `diff*` method except for `diffCsv` since that one uses `diffPrint` internally. The unsemantic differences are added back after the diff for display purposes, and are colored in grey to indicate they are ignored in the diff.

Currently only `trimPrint` and `trimStr` do anything meaningful. `trimPrint` removes row index headers provided that they are of the default un-named variety. If you add row names, or if numeric row indices are not ascending from 1, they will not be stripped as those have meaning. `trimStr` removes the `'..$'` and `'..-'` tokens to minimize spurious matches.

You can modify how text is trimmed by providing your own functions to the `trim` argument of the `diff*` methods, or by defining `trim*` methods for your objects. Note that the return value for these functions is the start and end columns of the text that should be *kept* and used in the diff.

Value

a `length(obj.as.chr)` row and 2 column integer matrix with the start (first column) and end (second column) character positions of the sub string to run diffs on.

Note

`obj.as.chr` will be post `strip_hz_control`

<code>view_or_browse</code>	<i>Invoke IDE Viewer If Available, browseURL If Not</i>
-----------------------------	---

Description

Use `getOption("viewer")` to view HTML output if it is available as per **RStudio**. Fallback to `browseURL` if not available.

Usage

```
view_or_browse(url)
```

Arguments

`url` character(1L) a location containing a file to display

Value

the return value of `getOption("viewer")` if it is a function, or of `browseURL` if the viewer is not available

<code>webfiles</code>	<i>Return Location of Default HTML Support Files</i>
-----------------------	--

Description

File location for default CSS and JS files. Note that these files are read and injected into the output HTML rather than referenced to simplify serving.

Usage

```
diffobj_css()
```

```
diffobj_js()
```

Value

path to the default CSS or JS file

Examples

```
diffobj_css()
diffobj_js()
```

```
[,Diff,numeric,missing,missing-method
      Subsetting Methods for Diff Objects
```

Description

Methods to subset the character representation of the diff output. The subsetting bears no link to the line numbers in the diffs, only to the actual displayed diff.

Usage

```
## S4 method for signature 'Diff,numeric,missing,missing'
x[i]

## S4 method for signature 'Diff'
head(x, n, ...)

## S4 method for signature 'Diff'
tail(x, n, ...)
```

Arguments

x	Diff object
i	subsetting index, must be numeric
n	integer(1L), the size for the resulting object
...	unused, for compatibility with generics

Details

[only supports numeric indices, and returns without error if you specify out of bound indices. If you apply multiple subsetting methods they will be applied in the following order irrespective of what order you actually specify them in: [, then head, then tail. If you use the same subsetting method multiple times on the same object, the last call will define the outcome.

These methods are implemented by storing the chosen indices in the Diff object and using them to subset the as.character output. This mechanism explains the seemingly odd behavior documented above.

Value

Diff object with subsetting indices recorded for use by show ## 'pager="off"' for CRAN compliance; you may omit in normal use diff <- diffChr(letters, LETTERS, format="raw", pager="off") diff[5:15] head(diff, 5) tail(diff, 5) head(head(diff, 5), 8) ## note not 'typical' behavior

[<- ,PaletteOfStyles-method

Extract/Replace a Style Class or Object from PaletteOfStyles

Description

Extract/Replace a Style Class or Object from PaletteOfStyles

Usage

```
## S4 replacement method for signature 'PaletteOfStyles'
x[i, j, ...] <- value

## S4 method for signature 'PaletteOfStyles,ANY,ANY,ANY'
x[i, j, ..., drop = FALSE]

## S4 method for signature 'PaletteOfStyles'
x[[i, j, ..., exact = TRUE]]
```

Arguments

x	a PaletteOfStyles object
i	numeric, or character corresponding to a valid style format
j	numeric, or character corresponding to a valid style brightness
...	pass a numeric or character corresponding to a valid color.mode
value	a <i>list</i> of Style class or Style objects
drop	TRUE or FALSE, whether to drop dimensions, defaults to FALSE, which is different than generic
exact	passed on to generic

Value

a [Style](#) ClassRepresentation object or [Style](#) object for [], and a list of the same for []

See Also

[diffPrint](#) for explanations of format, brightness, and color.mode

Examples

```
pal <- PaletteOfStyles()
pal[["ansi256", "light", "rgb"]]
pal[["ansi256", "light", ]
pal[["ansi256", "light", "rgb"] <- list(StyleAnsi8NeutralRgb())
```

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