

Package ‘waldo’

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Title Find Differences Between R Objects

Version 0.2.5

Description Compare complex R objects and reveal the key differences. Designed particularly for use in testing packages where being able to quickly isolate key differences makes understanding test failures much easier.

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URL <https://github.com/r-lib/waldo>

BugReports <https://github.com/r-lib/waldo/issues>

Imports cli, diffobj, fansi, glue, methods, rematch2, rlang (>= 0.4.10), tibble

Suggests testthat (>= 3.0.0), covr, R6

Encoding UTF-8

LazyData true

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`compare`*Compare two objects*

Description

This compares two R objects, identifying the key differences. It:

- Orders the differences from most important to least important.
- Displays the values of atomic vectors that are actually different.
- Carefully uses colour to emphasise changes (while still being readable when colour isn't available).
- Uses R code (not a text description) to show where differences arise.
- Where possible, it compares elements by name, rather than by position.
- Errs on the side of producing too much output, rather than too little.

`compare()` is an alternative to [`all.equal\(\)`](#).

Usage

```
compare(  
  x,  
  y,  
  ...,  
  x_arg = "old",  
  y_arg = "new",  
  tolerance = NULL,  
  max_diffs = if (in_ci()) Inf else 10,  
  ignore_srcref = TRUE,  
  ignore_attr = FALSE,  
  ignore_encoding = TRUE,  
  ignore_function_env = FALSE,  
  ignore_formula_env = FALSE  
)
```

Arguments

- | | |
|-------------------|--|
| <code>x, y</code> | Objects to compare. <code>y</code> is treated as the reference object so messages describe how <code>x</code> is different to <code>y</code> |
| <code>...</code> | A handful of other arguments are supported with a warning for backward compatibility. These include: <ul style="list-style-type: none">• <code>all.equal()</code> arguments <code>checkNames</code> and <code>check.attributes</code>• <code>testthat::compare()</code> argument <code>tol</code> All other arguments are ignored with a warning. |

<code>x_arg, y_arg</code>	Name of <code>x</code> and <code>y</code> arguments, used when generated paths to internal components. These default to "old" and "new" since it's most natural to supply the previous value then the new value.
<code>tolerance</code>	If non-NULL, used as threshold for ignoring small floating point difference when comparing numeric vectors. Setting to any non-NULL value will cause integer and double vectors to be compared based on their values, rather than their types. It uses the same algorithm as <code>all.equal()</code> , i.e., first we generate <code>x_diff</code> and <code>y_diff</code> by subsetting <code>x</code> and <code>y</code> to look only locations with differences. Then we check that <code>mean(abs(x_diff - y_diff)) / mean(abs(y_diff))</code> (or just <code>mean(abs(x_diff - y_diff))</code> if <code>y_diff</code> is small) is less than <code>tolerance</code> .
<code>max_diffs</code>	Control the maximum number of differences shown. The default shows 10 differences when run interactively and all differences when run in CI. Set <code>max_diffs = Inf</code> to see all differences.
<code>ignore_srcref</code>	Ignore differences in function <code>srcrefs</code> ? TRUE by default since the <code>srcref</code> does not change the behaviour of a function, only its printed representation.
<code>ignore_attr</code>	Ignore differences in specified attributes? Supply a character vector to ignore differences in named attributes. For backward compatibility with <code>all.equal()</code> , you can also use TRUE, to all ignore differences in all attributes. This is not generally recommended as it is a blunt tool that will ignore many important functional differences.
<code>ignore_encoding</code>	Ignore string encoding? TRUE by default, because this is R's default behaviour. Use FALSE when specifically concerned with the encoding, not just the value of the string.
<code>ignore_function_env, ignore_formula_env</code>	Ignore the environments of functions and formulas, respectively? These are provided primarily for backward compatibility with <code>all.equal()</code> which always ignores these environments.

Value

A character vector with class "waldo_compare". If there are no differences it will have length 0; otherwise each element contains the description of a single difference.

Examples

```
# Thanks to diffobj package comparison of atomic vectors shows differences
# with a little context
compare(letters, c("z", letters[-26]))
compare(c(1, 2, 3), c(1, 3))
compare(c(1, 2, 3), c(1, 3, 4, 5))
compare(c(1, 2, 3), c(1, 2, 5))

# More complex objects are traversed, stopping only when the types are
# different
compare(
  list(x = list(y = list(structure(1, z = 2))),
    list(x = list(y = list(structure(1, z = "a")))))
```

```
)  
  
# Where possible, recursive structures are compared by name  
compare(iris, rev(iris))  
  
compare(list(x = "x", y = "y"), list(y = "y", x = "x"))  
# Otherwise they're compared by position  
compare(list("x", "y"), list("x", "z"))  
compare(list(x = "x", x = "y"), list(x = "x", y = "z"))
```

compare_proxy

Proxy for waldo comparison

Description

Use this generic to override waldo's default comparison if you need to override the defaults (typically because your object contains an external pointer).

waldo comes with methods for two common cases:

- `data.table`: the `.internal.selfref` attribute is set to `NULL`. This is an external pointer that is used for performance optimisation, and doesn't affect the data.
- `xml2::xml_node`: the underlying XML data is stored in memory in C, behind an external pointer, so the we best can do is to convert the object to a string.

Usage

```
compare_proxy(x)
```

Arguments

x An object.

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