

Package ‘declared’

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Title Functions to Declare Missing Values

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Imports admisc (> 0.17)

License GPL (>= 3)

URL <https://github.com/dusadrian/declared>

BugReports <https://github.com/dusadrian/declared/issues>

Description A set of functions that offer an alternative to package 'haven', to deal with labelled objects with existing values declared as missing.

NeedsCompilation no

Author Adrian Dusa [aut, cre, cph] (<<https://orcid.org/0000-0002-3525-9253>>)

Maintainer Adrian Dusa <dusa.adrian@unibuc.ro>

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declared-package *Functions to Declare Missing Values*

Description

A set of functions that offer an alternative to package 'haven', to deal with labelled objects with existing values declared as missing.

Details

Package: declared
Type: Package
Version: 0.7
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License: GPL-v3

Author(s)

Adrian Dusa

Maintainer: Adrian Dusa (dusa.adrian@unibuc.ro)

declared *Labelled vectors with declared missing values*

Description

The labelled vectors are mainly used to analyse social science data, and the missing values declaration is an important step in the analysis.

Usage

```
declared(  
  x = double(),  
  labels = NULL,  
  na_values = NULL,  
  na_range = NULL,  
  label = NULL,  
  ...  
)  
  
is_declared(x)
```

```
as_declared(x, ...)
```

```
as_haven(x, ...)
```

```
undeclare(x, ...)
```

Arguments

x	A numeric vector to label, or a declared labelled vector (for undeclare)
labels	A named vector or NULL. The vector should be the same type as x. Unlike factors, labels don't need to be exhaustive: only a fraction of the values might be labelled.
na_values	A vector of values that should also be considered as missing.
na_range	A numeric vector of length two giving the (inclusive) extents of the range. Use -Inf and Inf if you want the range to be open ended.
label	A short, human-readable description of the vector.
...	Other arguments used by various other methods.

Details

The declared objects are very similar to the `haven_labelled_spss` objects from package **haven**. It has exactly the same arguments, but it features a fundamental difference in the treatment of (declared) missing values.

In package **haven**, existing values are treated as if they were missing. By contrast, in package **declared** the NA values are treated as existing values.

This difference is fundamental and points to an inconsistency in package **haven**: while existing values can be identified as missing using the function `is.na()`, they are in fact present in the vector and other packages (most importantly the core ones) will not know these values should be treated as missing.

Consequently, the existing values are interpreted as missing only by package **haven**. Statistical procedures will use those values as just like they were valid values.

Package **declared** approaches the problem in exactly the opposite way: instead of treating existing values as missing, it treats (certain) NA values as existing. This way, it does not run into the risk of using values which should not be used.

The function `undeclare()` replaces the NA entries into their original numeric values, and drops all attributes related to missing values: `na_values`, `na_range` and `na_index`.

Value

`declared()` and `as_declared()` will return a labelled vector.

`is_declared()` will return a logical scalar.

`undeclare()` will return a an object of class `declared` without the declared missing values

`as_haven()` returns an object of class `haven_labelled_spss`

Examples

```
x <- declared(c(1:5, -1),
              labels = c(Good = 1, Bad = 5, DK = -1),
              na_values = -1)

x

is.na(x)

x > 0

x == -1

# when newly added values are already declared as missing, they are automatically coerced
c(x, 2, -1)

# switch NAs with their original values
undeclare(x)
```

Labels

Get / Declare missing values

Description

Functions to extract information about the declared missing values, or to declare such values if they are present in the data.

Usage

```
value_labels(x, prefixed = FALSE)
```

```
value_labels(x) <- value
```

```
variable_label(x)
```

```
variable_label(x) <- value
```

Arguments

x	A vector.
prefixed	Logical, prefix labels with values.
value	Any vector of values that should be declared as missing (for <code>value_labels</code>) or a numeric vector of length two giving the (inclusive) extents of the range of missing values (for <code>variable_label</code>).

Value

`value_labels()` will return a named vector.

`variable_label()` will return a single character string.

Examples

```
x <- declared(c(-2, 1:5, -1),
              labels = c(Good = 1, Bad = 5, DK = -1),
              na_values = c(-1, -2),
              label = "Test variable")
x
value_labels(x)
value_labels(x) <- c(Good = 1, Bad = 5, DK = -1, NotApplicable = -2)
variable_label(x)
variable_label(x) <- "This is a proper label"
```

Missing values

Get / Declare missing values

Description

Functions to extract information about the declared missing values, or to declare such values if they are present in the data.

Usage

```
missing_values(x)
```

```
missing_values(x) <- value
```

```
missing_range(x)
```

```
missing_range(x) <- value
```

Arguments

`x` A vector.

`value` Any vector of values that should be declared as missing (for `missing_values`) or a numeric vector of length two giving the (inclusive) extents of the range of missing values (for `missing_range`).

Value

`missing_values()` will return a vector of one or more values.

`missing_range()` will return a numeric vector of length 2.

Examples

```
x <- declared(c(-2, 1:5, -1),  
             labels = c(Good = 1, Bad = 5, DK = -1, NotApplicable = -2),  
             na_values = c(-1, -2))
```

```
x
```

```
missing_values(x)
```

```
missing_range(x) <- c(-10, -7)
```

```
missing_range(x)
```

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