

Package ‘xmap’

January 31, 2025

Type Package

Title Transforming Data Between Statistical Classifications

Version 0.1.0

Description Provides support for transformations of numeric aggregates between statistical classifications (e.g. occupation or industry categorisations) using the 'Crossmaps' framework. Implements classes for representing transformations between a source and target classification as graph structures, and methods for validating and applying crossmaps to transform data collected under the source classification into data indexed using the target classification codes.

Documentation about the 'Crossmaps' framework is provided in the included vignettes and in Huang (2024, <[doi:10.48550/arXiv.2406.14163](https://doi.org/10.48550/arXiv.2406.14163)>).

License MIT + file LICENSE

Encoding UTF-8

Language en-GB

Maintainer Cynthia A. Huang <cynthiahq@gmail.com>

URL <https://github.com/cynthiahq/xmap>,
<https://cynthiahq.github.io/xmap/>

BugReports <https://github.com/cynthiahq/xmap/issues>

LazyData true

Depends R (>= 4.1)

Imports cli (>= 3.4.0), dplyr (>= 1.1.0), methods, pillar (>= 1.6.0),
rlang (>= 1.0.0), tibble, tidyr, tidyselect, vctrs (>= 0.6.0)

RoxygenNote 7.3.2

Suggests knitr, purrr, rmarkdown, testthat (>= 3.0.0)

Config/testthat/edition 3

VignetteBuilder knitr

NeedsCompilation no

Author Cynthia A. Huang [aut, cre] (<<https://orcid.org/0000-0002-9218-987X>>),
Laura Puzzello [aut, fnd]

Repository CRAN

Date/Publication 2025-01-31 16:10:01 UTC

Contents

apply_xmap	2
as_xmap_tbl	3
demo	4

Index	5
--------------	----------

apply_xmap	<i>Apply Crossmap Transformation to Conformable Data</i>
------------	--

Description

This function applies crossmap transformation to a dataset, transforming data based on specified mapping rules.

Usage

```
apply_xmap(.data, .xmap, values_from, keys_from = names(.xmap$.from), ...)
```

```
diagnose_apply_xmap(.data, .xmap, values_from, keys_from = NULL, ...)
```

Arguments

.data	The dataset to transform.
.xmap	An 'xmap_tbl' object.
values_from	A 'tidyselect' expression of columns in '.data' with values to transform
keys_from	A 'tidyselect' expression specifies the column in '.data' to match with '.xmap\$.from'
...	(reserved)

Value

A tibble with transformed data.

Functions

- `diagnose_apply_xmap()`: Returns messages for any diagnosed issues.

Examples

```

abc_xmap <- demo$abc_links |>
  as_xmap_tbl(from = "lower", to = "upper", weight_by = "share")
abc_data <- tibble::tibble(
  lower = unique(demo$abc_links$lower),
  count = runif(length(unique(demo$abc_links$lower)), min = 100, max = 500)
)
apply_xmap(
  .data = abc_data,
  .xmap = abc_xmap,
  values_from = count
)

```

as_xmap_tbl

*Coercing data frames of links to crossmap tibbles***Description**

This method takes a data.frame-like object and converts it into an 'xmap_tbl' based on specified columns for 'from', 'to', and 'weight'.

Usage

```

as_xmap_tbl(x, ...)

## S3 method for class 'data.frame'
as_xmap_tbl(x, from, to, weight_by, ..., tol = .Machine$double.eps^0.5)

diagnose_as_xmap_tbl(
  x,
  from,
  to,
  weight_by,
  ...,
  tol = .Machine$double.eps^0.5
)

```

Arguments

x	A data.frame or tibble to be converted in a crossmap tibble.
...	(reserved) Additional arguments passed to methods.
from	The column in 'x' that specifies the 'from' nodes.
to	The column in 'x' that specifies the 'to' nodes.
weight_by	The column in 'x' that specifies the weight of the links.
tol	Tolerance of comparison.

Value

Returns an xmap tibble object.

Examples

```
demo$abc_links |>
  as_xmap_tbl(from = lower, to = upper, weight_by = share)
```

demo

Demo objects for the 'xmap' package

Description

A collection of demo inputs for experimenting with functions in the 'xmap' package. '_pairs' objects are tibbles with just source-target *pairs* (no weights) '_links' objects are tibbles with weighted source-target *links*.

Usage

demo

Format

'demo' A list with:

ctr_iso3c_pairs named vector with 249 elements. Names are ISO-3 country codes, values are ISO English country names. Retrieved from 'countrycode' package: <https://github.com/vincentarelbundock/countrycode>

anzsco22_isco8_crosswalk tibble with 10 rows and 5 columns. Subset of crosswalk between ANZSCO22 and ISCO8 Occupation Code Standards published by The AUstralian Bureau of Statistics

anzsco22_stats tibble with 10 rows and 2 columns. Stylised Occupation Counts

simple_links tibble with 10 rows and 3 columns. specifying links 'xcode'-'>'alphacode' by 'weight'

abc_links tibble with 6 rows and 3 columns, specifying links 'lower'-'>'upper' by 'share'

aus_state_pairs named list with 1 element named "AUS" containing codes for the Australian states

aus_state_pop_df tibble containing 2022 population figures for Australia by state. Retrieved from: <https://www.abs.gov.au/statistics/people/population/national-state-and-territory-population/jun-2022>

Examples

```
demo$abc_links
```

Index

* datasets

demo, [4](#)

[apply_xmap](#), [2](#)

[as_xmap_tbl](#), [3](#)

demo, [4](#)

[diagnose_apply_xmap](#) ([apply_xmap](#)), [2](#)

[diagnose_as_xmap_tbl](#) ([as_xmap_tbl](#)), [3](#)