# Package ‘passport’

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**Type** Package  
**Title** Travel Smoothly Between Country Name and Code Formats  
**Version** 0.3.0  
**Description** Smooths the process of working with country names and codes via powerful parsing, standardization, and conversion utilities arranged in a simple, consistent API. Country name formats include multiple sources including the Unicode Common Locale Data Repository (CLDR, [http://cldr.unicode.org/](http://cldr.unicode.org/)) common-sense standardized names in hundreds of languages.

**Depends** R (>= 3.1.0)  
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**License** GPL-3 | file LICENSE  
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as_country_code

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as_country_code  Convert standardized country names to country codes

Description

as_country_code converts a vector of standardized country names or codes to country codes

Usage

as_country_code(x, from, to = "iso2c", factor = is.factor(x))

Arguments

x A character, factor, or numeric vector of country names or codes
from Format from which to convert. See Details for more options.
to Code format to which to convert. Defaults to "iso2c"; see codes for more options.
factor If TRUE, returns factor instead of character vector.

Details

as_country_code takes a character, factor, or numeric vector of country names or codes to translate into the specified code format. The default for to is "iso2c", the ISO 3166-1 Alpha-2 character codes, but many alternatives are available.

Several non-unique codes are available as well, including "continent", "is_independent", ISO 4217 currency codes, etc. Backwards conversion will not work for such cases.

See codes for all options, or run DT::datatable(codes) for a searchable widget.

Value

A vector of country codes. Warns if new NA values are added.

See Also

For converting to country names, use as_country_name(), which offers control of short and variant forms. For parsing non-standardized country names to codes, use parse_country().
Examples

# Codifies standardized names
as_country_code(c("US", "Taiwan", "Myanmar", "Kosovo", "South Korea"), from = "en")

# Translates codes; if passed a factor, returns a releveled one
as_country_code(factor(c("SAH", "PCN", "OMA", "JPN")),
from = "fifa", to = "iso4217_3c")

as_country_name

Convert standardized country codes to country names

Description

as_country_name converts a vector of standardized country codes to country names.

Usage

as_country_name(
  x,
  to = "en",
  from = "iso2c",
  short = TRUE,
  variant = FALSE,
  factor = is.factor(x)
)

Arguments

x A character, factor, or numeric vector of country codes or names
to Language code of country names desired. Defaults to "en"; see codes for more options.
from Code format from which to convert. Defaults to "iso2c"; see codes for more options.
short Whether to use short alternative name when available. Can be length 1 or the same length as x.
variant Whether to use variant alternative name when available. Can be length 1 or the same length as x.
factor If TRUE, returns factor instead of character vector. If not supplied, defaults to is.factor(x)
Details

`as_country_name` takes a character, factor, or numeric vector of country codes (or names in another standardized format) and converts them to country names in the specified format. If you are trying to standardize an existing set of names, see `parse_country()`.

The default "en" is from Unicode Common Locale Data Repository (CLDR), which aspires to use the most customary name e.g. "Switzerland" instead of official ones, which are frequently awkward for common usage, e.g. "Swiss Confederation". CLDR also supplies names in a huge variety of languages, allowing for easy translation. Short and variant alternates are available for some countries; if not, the function will fall back to the standard form. See LICENSE file for terms of use.

Other name sets are available from

- the UN Statistics Division (UNSD), which maintains standardized names in English, Chinese, Russian, French, Spanish, and Arabic, here named as "en_un" etc.
- the ISO, "en_iso" and "fr_iso", and
- the CIA World Factbook:
  - "en_cia", which include many longer official forms and shorter practical forms,
  - "en_cia_local", which includes transliterations, and
  - "en_cia_abbreviation", which includes commonly-used abbreviations.

See `codes` for all options, or run `DT::datatable(codes)` for a searchable widget.

Value

A character or factor vector of country names. Warns if new NA values are added.

See Also

For converting standardized names to codes, use `as_country_code()`. For standardizing names to codes, use `parse_country()`.

Examples

# Usable names for tough-to-standardize places
as_country_name(c("US", "TW", "MM", "XK", "KR"))

# If passed a factor, will return a releveled one
as_country_name(factor(c("US", "NF", "CD", "SJ")), short = FALSE, variant = TRUE)

# Speaks a lot of languages, knows a lot of codes
as_country_name(c("SAH", "PCN", "QMA", "JPN"), from = "fifa", to = "cy")  # to Welsh
Description

A codebook data.frame of codes and details for country code and name conversions available. Contains Internet Engineering Task Force (IETF) language tags (e.g. "en-nz" for New Zealand English) for Unicode Common Locale Data Repository (CLDR) names, similar approximations for institutional names (e.g. "en-iso"), and short names (e.g. "iso2c") for country codes.

Usage

codes

Format

A data.frame of 427 rows and 9 variables.

Variables:

column  The column name in the internal passport:::countries data.frame. Valid for use in from and to parameters.

code    column with hyphens for underscores, which is a valid IANA language tag for Unicode CLDR country names. Valid for use in from and to parameters.

name    Full name or code name for non-CLDR options.

notes   Things to note, including deprecations, oddities, etc.

language Full language name parsed from code.

region  Full country or region name parsed from code.

script  Full language script name parsed from code.

variant Full variant parsed from code. Also used for organization-standardized names.

extension Further specification of name type.

Details

All functions can accept codes separated with underscores _, hyphens -, or periods ..

Examples

# A searchable widget to find a code or name
if (requireNamespace("DT", quietly = TRUE)) {
  DT::datatable(codes)
}
country_format  

Construct formatter function to format country codes as country names

Description

country_format is a constructor function that returns a function to format country codes as country names suitable for passing to ggplot2’s scale functions’ label parameters.

Usage

country_format(
  from = "iso2c",
  to = "en",
  short = TRUE,
  variant = FALSE,
  factor
)

Arguments

from     Code format from which to convert. Defaults to "iso2c"; see codes for more options.
to       Language code of country names desired. Defaults to "en"; see codes for more options.
short    Whether to use short alternative name when available. Can be length 1 or the same length as x.
variant  Whether to use variant alternative name when available. Can be length 1 or the same length as x.
factor   If TRUE, returns factor instead of character vector. If not supplied, defaults to is.factor(x)

Details

A frequent reason to convert country codes back to country names is to make data visualizations more readable. While both a code and name could be stored in a data frame, the computation and extra storage required can be avoided by transforming codes to names directly within the visualization via a formatter function. as_country_name() could be used without parentheses to format ISO 2-character codes as English names, but format_country allows greater flexibility, returning a formatter function with the specified parameters set.

Value

A function that accepts a vector of country codes and returns them as country names.
See Also

For controlling the order of a discrete scale, pass the results of `order_countries()` to `limits`.

Examples

```r
if (require(ggplot2, quietly = TRUE)) {
  ggplot(data.frame(country = c("KOR", "MMR", "TWN", "COG"),
                   y = 1:4),
         aes(x = country, y = y)) +
  geom_col() +
  scale_x_discrete(labels = country_format(from = "iso3c"))
}
```

---

**nato**

* **NATO Member Defense Expenditures**

Description

A sample dataset of NATO/OTAN member defense expenditures.

Usage

```r
nato
```

Format

A data.frame of 232 rows and 14 variables.

Variables:

- `country_stanag`  Country code in NATO STANAG format
- `year` Year, from 2012 to 2019. 2018-2019 numbers may be estimates.
- Defense expenditure annual real change (% GDP) Annual change in defense expenditure as a percentage of real gross domestic product. Based on 2015 prices.
Military personnel  Number of military personnel
Equipment expenditure (%) Percent of defense expenditure spent on equipment. Includes major
equipment expenditure and R&D devoted to major equipment.
Personnel expenditure (%) Percentage of defense expenditure spent on personnel. Includes
both military and civilian expenditure and pensions.
Infrastructure expenditure (%) Percentage of defense expenditure spent on infrastructure.
Includes NATO common infrastructure and national military construction.
Other expenditure (%) Percentage of defense expenditure spent on other categories besides
equipment, personnel, and infrastructure. Includes operations and maintenance expenditure,
other R&D expenditure, and other expenditure not otherwise captured.

Source

Examples
as_country_name(nato$country_stanag, from = 'stanag')

---

order_countries  
Order a vector of countries

Description
order_countries reorders a vector of countries, returning a result useful for passing to ggplot2's
scale functions' limits parameters.

Usage
order_countries(
  x,
  by,
  ...,
  from = "iso2c",
  short = TRUE,
  variant = FALSE,
  factor = is.factor(x)
)

Arguments

x  A character, factor, or numeric vector of country codes or names
by  Either a length-one country code from codes or a vector the same length as x by
    which to order x
...  Parameters passed on to order(), including addition vectors by which to sort,
     decreasing, and na.last.
order_countries

from Code format from which to convert. Defaults to "iso2c"; see codes for more options.
short Whether to use short alternative name when available. Can be length 1 or the same length as x.
variant Whether to use variant alternative name when available. Can be length 1 or the same length as x.
factor If TRUE, returns factor instead of character vector. If not supplied, defaults to is.factor(x)

Details

order_countries orders a vector of countries by

- itself converted to a country code or name if by is a code from codes to which to convert
- a sortable vector if by is a vector of the same length as x
- x itself if neither is supplied.

Value

The original vector of countries, ordered according to the parameters passed. Note that factors are not releveled, but are reordered. To relevel, pass the results to levels<-()

See Also

To change labels of a discrete scale, pass the results of country_format() to the labels parameter.

Examples

countries <- c("FR", "CP", "UZ", "BH", "BR")
order_countries(countries)
order_countries(countries, "ja")
order_countries(countries, rnorm(5))
order_countries(countries, grepl("F", countries), 1:5, decreasing = TRUE)

if (!require(ggplot2, quietly = TRUE)) {
  df_countries <- data.frame(country = countries,
   y = exp(1:5))

  ggplot(df_countries, aes(country, y)) +
   geom_col() +
   scale_x_discrete(
     limits = order_countries(df_countries$country,
                                df_countries$y)[df_countries$y > 5],
     labels = country_format(to = "en-cia-local")
   )
}

parse_country

Parse country names to standardized form

Description

parse_country parses irregular country names to the ISO 3166-1 Alpha-2 code or other standardized code or name format.

Usage

parse_country(
  x,
  to = "iso2c",
  how = c("regex", "google"),
  language = c("en", "de"),
  factor = is.factor(x)
)

Arguments

x               A character or factor vector of country names to standardize
to              Format to which to convert. Defaults to "iso2c"; see codes for more options.
how             How to parse; defaults to "regex". "google" uses the Google Maps geocoding API. See "Details" for more information.
language        If how = "regex", the language from which to parse country names. Currently accepts "en" (default) and "de". Ignored if how = "google".
factor          If TRUE, returns factor instead of character vector. If not supplied, defaults to is.factor(x)

Details

parse_country tries to parse a character or factor vector of country names to a standardized form: by default, ISO 3166-1 Alpha-2 codes.

When how = "regex" (default), parse_country uses regular expressions to match irregular forms.
If regular expressions are insufficient, how = "google" will use the Google Maps geocoding API instead, which permits a much broader range of input formats and languages. The API allows 2500 calls per day, and should thus be called judiciously. parse_country will make one call per unique input. For more calls, see options that allow passing an API key like ggmap::geocode() with output = "all" or googleway::google_geocode().

Note that due to their flexibility, the APIs may fail unpredictably, e.g. parse_country("foo", how = "google") returns "CH" whereas how = "regex" fails with a graceful NA and warning.

Value

A character vector or factor of ISO 2-character country codes or other specified codes or names. Warns of any parsing failure.
Examples

parse_country(c("United States", "USA", "U.S.", "us", "United States of America"))

## Not run:
# Unicode support for parsing accented or non-Latin scripts
parse_country(c("\u65e5\u672c", "Japon", "\u0698\u0627\u067e\u0646"), how = "google")
#> [1] "JP" "JP" "JP" "JP"

# Parse distinct place names via geocoding APIs
parse_country(c("1600 Pennsylvania Ave, DC", "Eiffel Tower"), how = "google")
#> [1] "US" "FR"

## End(Not run)
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