countrycode: An R package to convert country names and country codes

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Summary

International organizations, statistical agencies, and research labs use different codes to represent countries. For example, the ISO standard code for Algeria is "DZA", but Eurostat uses "DZ", the International Civil Aviation Organization uses "DA", the Correlates of War project uses "ALG", and the International Monetary Fund uses "612". When researchers merge and analyze data from several sources, incompatible country codes can be a major source of frustration.

The `countrycode` package for `R` alleviates this problem by making four main contributions. First, it allows bidirectional conversion between more than 30 country code schemes. Second, it includes a set of well-tested regular expressions which can be used to convert long-form English or German country names into country codes. Third, `countrycode` can convert codes into the names of countries in almost any spoken language. Finally, the package allows users to define custom dictionaries to facilitate the conversion of other identifiers (e.g., provinces or cities).

These functions can support a variety of scientific activities. For instance, `countrycode` has been used to draw maps (Coene 2018); to acquire data from sources like the US Census Bureau (Walker 2018) or the World Bank (Arel-Bundock 2018); to extract historical weather data from online APIs (Shum 2018); and to process bird sightings records (Strimas-Mackey, Miller, and Hochachka 2017). In our own practice as researchers, `countrycode` has proven to be an invaluable tool to merge datasets produced by organizations which use different country identifiers.

Examples

```r
library(countrycode)

# ISO codes to Correlates of War codes
countrycode(c('DZA', 'USA'),
            origin = 'iso3c', destination = 'cowc')
[1] "ALG" "USA"

# English names to GENC3 codes
countrycode(c('Antigua and Barbuda', 'Russia'),
            origin = 'country.name', destination = 'genc3c')
[1] "ATG" "RUS"

# ISO codes to long-form Finnish names
```

```
countrycode(c('DOM', 'CAN'),
            origin = 'iso3c', destination = 'cldr.name.fi')
[1] "Dominikaaninen tasavalta" "Kanada"
```

Acknowledgements

References

Arel-Bundock, Vincent. 2018. *WDI: World Development Indicators (World Bank)*. https://CRAN.R-project.org/package=WDI.

Coene, John. 2018. *Datamaps: Create Interactive Web Maps with the 'Javascript Datamaps' Library*. https://CRAN.R-project.org/package=datamaps.

Shum, Alex. 2018. *Rwunderground: R Interface to Weather Underground Api*. https://CRAN.R-project.org/package=rwunderground.

Strimas-Mackey, Matthew, Eliot Miller, and Wesley Hochachka. 2017. *Auk: EBird Data Extraction and Processing with Awk*. https://cornelllabofornithology.github.io/auk/.

Walker, Kyle. 2018. *Idbr: R Interface to the Us Census Bureau International Data Base Api*. https://CRAN.R-project.org/package=idbr.