Package ‘fy’

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Title Utilities for Financial Years
Version 0.2.0
Description In Australia, a financial year (or fiscal year) is the period from 1 July to 30 June of the following calendar year. As such, many databases need to represent and validate financial years efficiently. While the use of integer years with a convention that they represent the year ending is common, it may lead to ambiguity with calendar years. On the other hand, string representations may be too inefficient and do not easily admit arithmetic operations. This package tries to make validation of financial years quicker while retaining clarity.
License GPL-2
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Author Hugh Parsonage [aut, cre]
Maintainer Hugh Parsonage <hugh.parsonage@gmail.com>
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Description

Convenience functions for dealing with financial years

Usage

```r
yr2fy(yr_ending, assume1901_2100 = .getOption("fy.assume1901_2100", .getOption("grattan.assume1901_2100", TRUE)))

.yr2fy(yr_ending)

fy2yr(x, validate = TRUE)

fy2date(x, validate = TRUE)

date2fy(date)

qtr2fy(yq)
```

Arguments

- `yr_ending`: An integer representing a year.
- `assume1901_2100`: For `yr2fy`, assume that `yr_ending` is between 1901 and 2100, for performance. By default, set to `getOption("fy.assume1901_2100", TRUE)`.
- `x`: A character vector suspected to be a financial year.
- `validate`: If TRUE, the default, inputs that are expected to be financial years are first validated. Validation should be very fast, though some use-cases may require this be skipped.
- `date`: A string or date for which the financial year is desired. Note that `yr2fy` does not check its argument is an integer.
- `yq`: A character vector representing year quarters in 1066-Q2 format.

Details

See `valid-fys` for allowed forms of `x`.

Value

For `is_fy`, a logical, whether its argument is a financial year. The following forms are allowed: `2012-13`, `201213`, `2012 13`, as well as `2012<dash>13` for some dash symbols. For `fy.year`, `yr2fy`, and `date2fy`, the financial year. For the inverses, a numeric corresponding to the year.

`fy.year` was an alias for `yr2fy`, and is now defunct.
Next and previous financial years

**Description**
Next and previous financial years

**Usage**

```r
next_fy(fy, h = 1L)
prev_fy(fy, h = 1L)
```

**Arguments**

- **fy**
  A financial year as a character vector.
- **h**
  An integer, the "horizon" to go forward (for `next_fy`) or backward (for `prev_fy`).

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Verifying validity of financial years

**Description**

Many functions expect financial years. Determining that they are validly entered is often quite computationally costly, relative to the core calculations. These internal functions provide mechanisms to check validity quickly, while still providing clear, accurate error messages.
validate_fys_permitted

Usage

validate_fys_permitted(to_verify, permitted_fys = NULL, min.yr = NULL, max.yr = NULL, deparse = deparse(substitute(to_verify)), allow.projection = TRUE, earliest_permitted_financial_year = "earliest permitted financial year", latest_permitted_financial_year = "latest permitted financial year", .retain_fmatches = FALSE)

Arguments

to_verify A user-provided value, purporting to be character vector of financial years.
permitted_fys A character vector of valid financial years.
min.yr, max.yr Integers specifying the range of to_verify. If NULL, no restriction on the upper or lower bound of the range.
deparsed A string indicating the argument that the user provided. Should generally be provided explicitly as the default is unlikely to be user-friendly.
allow.projection If FALSE emit a different error message.
earliest_permitted_financial_year, latest_permitted_financial_year Text for earliest/latest permitted financial year when min.yr/max.yr condition is violated.
.retain_fmatches If TRUE, the function may retain an attribute fy_fmatches an integer vector of the matches against the financial years "1900-01" to "2099-00". A trade-off between memory and runtime from not recalculating matches.

Details

The preferred form is "2012-13", and this function returns all elements of to_verify in this form. That is, it does not preserve the input form.

Other forms that are recognized (and converted) are:

- "201213"
- "2012 13"
- "2012\u201113"
- "2012\u201213"
- "2012\u201313"
- "2012\u201413"

Value

If to_verify contains valid financial years they are returned all in the form 2013-14. If they were already in that form, they obtain the following attributes:

ty_all_fy TRUE if all the financial years are valid.
ty_min_yr An integer, the earliest year ending in to_verify.
ty_max_yr An integer, the latest year ending in to_verify.
ty_fmatches An integer vector, the matches with the prebuilt financial years.
Benchmarks

```r
x <- rep_len(yr2fy(2004L), 1e9)
bench::system_time(validate_fys_permitted(x))
#> process   real
#>  3.578s   3.576s
x <- rep_len(yr2fy(1980:2016), 1e9)
bench::system_time(validate_fys_permitted(x))
#> process   real
#>  3.766s   3.753s
```
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