Package ‘tawny.types’

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Type  Package
Title  Common types for tawny
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         futile.options, zoo, xts, quantmod
Suggests  RUnit
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Author  Brian Lee Yung Rowe
Maintainer  Brian Lee Yung Rowe <r@zatonovo.com>
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AssetReturns  

Description

AssetReturns contains some meta-data for asset returns objects.

Examples

```r
## Not run:
p <- TawnyPortfolio(c('AAPL','GOOG','IBM'), 150,200)
m <- BenchmarkPortfolio('^GSPC', 150,200)
## End(Not run)
```
Usage

AssetReturns(…)

Arguments

... Used by lambda.r

Details

This is a thin wrapper around a zoo object containing portfolio returns. It is used to type the zoo object based on the business domain, as opposed to the programming mechanics.

AssetReturns(symbols, obs = NULL, start = NULL, end = Sys.Date(), fun = function(x) Delt(Cl(x)), reload = FALSE, na.value = NA, …)

Value

An AssetReturns object

Additional Usage

symbols - A vector of symbols to load
obs - Number of total observations to load
start - Start date of data to load
end - End date of data to load
fun - Function to apply to calculate returns
reload - Should existing downloaded data be reloaded?
na.value - Value to use for NAs
... Additional arguments

Author(s)

Brian Lee Yung Rowe

Examples

## Not run: returns <- AssetReturns(c('BAC','JPM','C','GS','MS'), 90)

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EquityIndex Create an EquityIndex object

Description

A wrapper around equity indices.

Usage

EquityIndex(…)

Arguments

... Used by lambda.r

Value

An EquityIndex object
TODO: Consolidate with BenchmarkPortfolio

Additional Usage

This type takes an index and will download all constituent returns (assuming the index composition exists). This uses quantmod as a back-end.
EquityIndex(ticker = "^GSPC", hint = NA, src = "yahoo")
ticker - The ticker representing the index
hint - Used to determine number of elements in index for paging
src - Placeholder for data source. Currently only supports yahoo

Author(s)

Brian Lee Yung Rowe

Examples

```r
## Not run: index <- EquityIndex()
```

TawnyPortfolio Create a TawnyPortfolio object

Description

Represents a portfolio. Contains information about the portfolio composition, returns, window, etc.

Usage

TawnyPortfolio(...)
BenchmarkPortfolio(...)

## S3 method for class 'TawnyPortfolio'
start(x, ...)

## S3 method for class 'TawnyPortfolio'
end(x, ...)

## S3 method for class 'TawnyPortfolio'
rollapply(x, fun, ...)

window_at(...)

TawnyPortfolio
Arguments

- x: A TawnyPortfolio
- fun: A function to apply against the TawnyPortfolio
- ...: Arguments to the constructor. See below for details

Details

This type is governed by futile.paradigm. Below are the supported function variants.

- `TawnyPortfolio(returns, window = 90)`
- `TawnyPortfolio(symbols, window = 90, obs = 150)`

Creates a benchmark portfolio to compare with the actual portfolio.

- `BenchmarkPortfolio(symbol, window = 90, obs = 150, end = Sys.Date(), ...)`

Calculates portfolio returns based on the weights calculated.

- `PortfolioReturns(p, weights), p is a TawnyPortfolio`
- `PortfolioReturns(h, weights), h is an AssetReturns object or zoo`

`'start' and 'end'` operate on a TawnyPortfolio to return the start and end dates, respectively, of the portfolio.

`'rollapply'` is the implementation of the zoo function for a TawnyPortfolio. The `window_at` function supports this by providing a window of the portfolio for the given index.

Value

The type constructor returns a TawnyPortfolio.

The `’start’ and ’end’` functions return dates.

`’window_at’` returns a modified TawnyPortfolio that only contains returns for the given window. All other data is the same, and the original object is unchanged.

Author(s)

Brian Lee Yung Rowe

Examples

```r
## Not run:
p <- TawnyPortfolio(c('BAC','JPM','C','GS','MS'))

start(p)
end(p)

window_at(p, 2)
rollapply(p, function(x) colSums(x$returns))
```

## End(Not run)
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