# timeSeries

# Rmetrics Reference Card

The functions listed in this reference card are available from the CRAN server, its development version from the r-forge Server.

## Time Series Functions:

*timeSeries-*.R*

| | |
|---|---|
| timeSeries | Generates a signal or timeSeries from scratch |
| dummy | |
| dummySeries | Creates a dummy monthly timeSeries object |
| dummyDailySeries | Creates a dummy daily timeSeries object |
| getDataPart | Extracts data slot from a timeSeries object |
| setDataPart | Assigns data slot of a timeSeries object |
| isOHLC | |
| .isOHLC | Tests if a series has Open-High-Low-Close columns |
| .isOHLCV | Tests if a series has Open-High-Low-Close-Volume |
| isRegular | Tests if a time series is a regular series |
| isDaily | Tests if a timeSeries is a daily series |
| isMonthly | Tests if a timeSeries is a monthly series |
| isQuarterly | Tests if a timeSeries is a quarterly series |
| frequency | Returns the frequency of a regular time series |
| isUnivariate | Tests if a timeSeries object is univariate |
| isMultivariate | Tests if a timeSeries object is multivariate |
| readSeries | Reads a CSV file and creates a timeSeries |
| signalCounts | |
| .signalCounts | Creates charvec for integer indexed time stamps |
| slotFinCenter | |
| finCenter | Extracts financial center slot from a timeSeries |
| finCenter<- | Assigns financial center slot from a timeSeries |
| getFinCenter | Extracts financial center slot from a timeSeries |
| setFinCenter<- | Assigns new financial center slot from a timeSeries |
| slotSeries | |
| series | Extracts data slot from a timeSeries object |
| series<- | Assigns new data slot to a timeSeries object |
| getSeries | Extracts data slot from a timeSeries object |
| setSeries<- | Assigns new data slot to a timeSeries object |
| slotTime | |
| time | Extracts time stamps from a timeSeries object |
| time<- | Assigns time samps to a timeSeries object |
| getTime | Extracts time stamps from a timeSeries object |
| setTime<- | Assigns time samps to a timeSeries object |
| slotUnits | |
| getUnits | Extracts units slot from a timeSeries |
| setUnits<- | Assigns new units slot to a timeSeries |

## Base Time Series Functions:

*base-*.R*

| | |
|---|---|
| apply | Applies a function to blocks of a timeSeries |
| attach | Attaches a timeSeries to the search path |
| cbind | Binds columns of two timeSeries objects |
| rbind | Binds rows of two timeSeries objects |
| comment | Returns documentation slot of a time series |
| diff | Differences a timeSeries object |
| dim | Returns dimension of a timeSeries object |
| dim<- | Assigns dimension of a timeSeries object |
| dimnames | Returns dimension names of a time series |
| dimnames | Assigns dimension names of a timeSeries object |
| colnames | Returns column names to a timeSeries object |
| rownames | Returns row names to a timeSeries object |
| colnames<- | Assigns column names to a timeSeries object |
| rownames<- | Assigns row names to a timeSeries object |
| names | Returns column names of a timeSeries object |
| names<- | Assigns column names of a timeSeries object |
| merge | Merges two timeSeries objects |
| rank | Returns sample ranks of a timeSeries object |
| rev | Reverts a time series in the time stamps |
| sample | Resamples a time series in its time stamps |
| scale | Centers and/or scales a timeSeries object |
| sort | Sorts a time series in its time stamps |
| start | Extracts start date of a timeSeries object |
| end | Extracts end date of a timeSeries object |

## Subsetting:

*base-*.R:*

| | |
|---|---|
| subset | |
| .subset_ | Subsets timeSeries objects |
| .findIndex | Index search |
| [ | Subsets a timeSeries object |
| [<- | Assigns value to subsets of a time series |
| $ | Subsets a time series by column names |
| $<- | Replaces subset by column names |
| t | Returns the transpose of a timeSeries object |

## Methods:

*methods-*.R*

| | |
|---|---|
| as.timeSeries | Defines method for a timeSeries object |
| as.*.default | Returns the input |
| as.*.ts | Transforms a 'data.frame' into a timeSeries |
| as.*.data.frame | Transforms a 'data.frame' into a timeSeries |
| a.s*.character | Loads and transformas from a demo file |
| as.*.zoo | Transforms a 'zoo' object into a timeSeries |
| as.vector.* | Converts a univariate timeSeries to a vector |
| as.matrix.* | Converts a timeSeries to a 'matrix' |
| as.numeric.* | Converts a timeSeries to a 'numeric' |
| as.data.frame.* | Converts a timeSeries to a 'data.frame' |
| as.ts.* | Converts a timeSeries to a 'ts' |
| as.ts.logical | Converts a timeSeries to 'logical' |
| as.list.* | Converts a timeSeries to 'list' |
| | Note: Replace '*' by 'timeSeries' |
| comment | Gets documentation slot of a timeSeries object |
| comment<- | Set documentation slot of a timeSeries object |
| is | |
| is.timeSeries | Tests for a timeSeries object |
| mathops | |
| Ops,timeSeries | Returns group 'Ops' for a timeSeries object |
| cummax | Returns cumulated maxima from a timeSeries |
| cumin | Returns cumulated minima from a timeSeries |
| cumprod | Returns cumulated products from a timeSeries |
| cumsum | Returns cumulated sums from a timeSeries |
| quantile | Returns sample qunatile of a timeSeries |
| plot | Plots a timeSeries object |
| lines | Adds lines to a timeSeries plot |
| points | Adds points to a timeSeries plot |
| show | Prints a timeSeries object |
| print | Prints a timeSeries object |

## Statistics Time Series Functions:

*statistics-*.R*

| | |
|---|---|
| colCumsums | Computes cumulated sums of a timeSeries by column |
| colCummaxs | Computes cumulated maximum values by column |
| colCummins | Computes cumulated maximum values by column |
| colCumprods | Computes cumulated product values by column |
| colCumreturns | Computes cumulated product values by column |
| colSums | Computes sums of all values in each column |
| colMeans | Computes means of all values in each column |
| colSds | Computes standardard deviation of each column |
| colVars | Computes sample variance by column |
| colSkewness | Computes sample skewness by column |
| colKurtosis | Computes sample kurtosis by column |
| colMaxs | Computes maximum values in each column |
| colMins | Computes minimum values in each column |
| colProds | Computes product of all values in each column |
| colStats | Computes sample statistics by column |
| orderColnames | Returns ordered column names of a timeSeries |
| sortColnames | Returns sorted column names of a timeSeries |
| sampleColnames | Returns sampled column names of a timeSeries |
| pcaColnames | Returns PCA correlation ordered column names |
| hclustColnames | Returns hierarchical clustered column names |
| statsColnames | Returns statistically rearranged column names |
| orderStatistics | Computes order statistics of a timeSeries |
| rollMean | Computes rolling mean of a timeSeries |
| rollMin | Computes rolling minimum of a timeSeries |
| rollMax | Computes rolling maximum of a timeSeries |
| rollMedian | Computes rolling median of a timeSeries |
| rollStats | Computes rolling statistics of a timeSeries |
| rowCumsums | Computes cumulated sums of a time series by row |
| smoothLowess | Smoothes a series with lowess function |
| smoothSupsmu | Smoothes a series with supsmu function |
| smoothSpline | Smoothes a series with smooth.spline function |

## Financial Time Series Functions:

*fin-*.R:*

| | |
|---|---|
| align | Aligns a time series to time stamps |
| Cumulated | Computes cumulated series from financial returns |
| daily | |
| alignDailySeries | Aligns a time series to new positions |
| rollDailySeries | Rolls daily a timeSeries on a given period |
| drawdowns | Generates a time series of drawdown levels |
| drawdownsStats | Computes drawdown statistics from a timeSeries |
| durations | Computes durations from a timeSeries |
| monthly | |
| countMonthlyRecords | Returns a series with monthly counts of records |
| rollMonthlyWindows | Returns start/end dates for rolling time windows |
| rollMonthlySeries | Rolls Monthly a timeSeries on a given period |
| periodical | |
| .endOfPeriodSeries | Returns series back to a given period |
| .endOfPeriodStats | Returns statistics back to a given period |
| .endOfPeriodBenchmarks | Returns benchmarks back to a given period |
| returns | Computes returns from a index/price/value series |
| runlengths | Returns a timeSeries of runlengths |
| splits | |
| outlier | Detects timeSeries splits by outlier detection |
| spreads | Computes spreads between bivariate timeSeries |
| midquotes | Computes mid quotes of bivariate timeSeries |
| turnpoints | |
| turns | Returns peaks and pits from a timeSeries |
| turnsStats | Computes turnpoints statistics for a timeSeries |

## Misc. Time Series Functions:

*stats-*.R:*

| | |
|---|---|
| aggregate | Aggregates a time series by calendarical blocks |
| filter | Applies linear filtering to a timeSeries |
| lag | Computes a lagged version of a timeSeries |
| na.contignous | Finds longest consecutive of non-missing values |
| na.omit | Handles missing values in a timeSeries |
| window | Subtracts a piece or a window from a timeSeries |

## Utility Functions:

*utils-*.R:*

| | |
|---|---|
| Description | Sets default description string |
| getArgs | Extracts arguments from a timeSeries function |
| head | Returns the head of a timeSeries object |
| tail | Returns the tail of a timeSeries object |
| str | Displays the structure of a timeSeries object |

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