Package: Tcomp (via r-universe)

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Title Data from the 2010 Tourism Forecasting Competition

Version 1.0.1

Description The 1311 time series from the tourism forecasting competition conducted in 2010 and described in Athanasopoulos et al. (2011) <DOI:10.1016/j.ijforecast.2010.04.009>.

Depends R (>= 3.1.2)

Imports Mcomp, forecast

Suggests knitr, rmarkdown, testthat, dplyr, xtable

BugReports https://github.com/ellisp/Tcomp-r-package/issues

License GPL-3

Encoding UTF-8

LazyData true

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VignetteBuilder knitr

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forecast_comp *Four standard forecasts of a competition dataset*

Description

Applies four modelling strategies (ARIMA, ETS, Theta and naive or seasonally naive) to a dataset with class Mdata, returns accuracy statistics and (optionally) a summary graphic

Usage

```
forecast_comp(the_series, tests = list(the_series$h), plot = FALSE, ...)
```

Arguments

the_series	a list of class Mdata eg from the Mcomp or Tcomp package. Crucially, must include elements x (the training set), xx (the test set) and h (the forecast horizon)
tests	a list of the forecast horizons over which to return the MAPE and MASE, passed to accuracy
plot	whether or not to draw basic plot of the four forecast model
...	other parameters to pass to plot.forecast()

Details

This is just a convenience function for fitting four different standard time series forecasts to an object from an M competition or the tourism competition. Mainly of interest to analysis wishing to re-produce published results or create a benchmark against which other methods can be compared.

Value

A data frame of eight rows and length(tests) + 1 columns with first column as method and each other column containing the Mean Absolute Percentage Error (MAPE, first four rows) and Mean Absolute Scaled Error (MASE, final four rows) at the horizon indicated by the column name

Examples

```
forecast_comp(tourism$Y18, test = list(1, 2, 3, 4, 1:2, 1:4), plot = TRUE)
forecast_comp(tourism$Q4, test = list(1, 2, 3, 4, 5, 6, 7, 8, 1:4, 1:8), plot = FALSE)
```

Tcomp *Tcomp: Data from the Tourism Forecasting competition*

Description

The Tcomp package provides data from the tourism forecasting competition described in George Athanasopolous, Rob J. Hyndman, Haiyan Song, Doris C. Wu (2011) "The tourism forecasting competition", *International Journal of Forecasting* 27 (2011) 822-844.

Tcomp data

tourism A list of class Mdata with 1,311 time series in it, divided into training (`x`) and test (`xx`) sets. The data are subsettable with subset method from Mcomp R package by monthly, quarterly and yearly series.

Tcomp functions

forecast_comp A convenient wrapper function for providing the mean absolute scaled error (MASE) of four common forecasting methodologies for a time series of class Mdata.

Tcomp_reproduction *Reproduction of selected tourism competition results*

Description

Reproduction of selected results from the tourism forecasting competition described in Athanasopoulos et al. 2011 (http://robjhyndman.com/papers/forecompijf.pdf)

Usage

```
Tcomp_reproduction
```

Format

A list of three elements named `monthly`, `quarterly` and `yearly`. These correspond to tables 4, 5 and 6 in the Athanasopoulos et al 2011 article.

Details

Note that only Mean Absolute Percentage Error of the naive forecasts matches exactly that published. All Mean Absolute Scaled Error results are slightly higher than those published due to an unknown difference in MASE method. All results for ARIMA, ETS and Theta method forecasts differ due to changes in the forecasting methods since 2011. See Vignette for details, including the code required to re-create the 'Tcomp_reproduction' object.

Source

http://robjhyndman.com/papers/the-tourism-forecasting-competition

Examples

```
Tcomp_reproduction
```

`tourism` *Tourism competition data*

Description

The data from the tourism forecasting competition described in George Athanasopolous, Rob J. Hyndman, Haiyan Song, Doris C. Wu (2011) "The tourism forecasting competition", *International Journal of Forecasting* 27 (2011) 822-844.

Usage

```
tourism
```

Format

A list of 1311 series, of class `Mcomp`. Each series within `tourism` is of class `Mdata` with the following structure:

sn Name of the series

st Series number and period. For example "Y1" denotes first yearly series, "Q20" denotes 20th quarterly series and so on.

n The number of observations in the time series

h The number of required forecasts

period Interval of the time series. Possible values are "YEARLY", "QUARTERLY" & "MONTHLY"

type The type of series. For data in `tourism`, this is always "TOURISM".

description "No description available". Kept for consistency with the M3 and M1 data.

x A time series of length `n` (the historical data)

xx A time series of length `h` (the future data)

Source

http://robjhyndman.com/papers/the-tourism-forecasting-competition

See Also

`subset.Mcomp`, `plot.Mdata`

Examples

```
plot(tourism$Y1)
```

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