Package ‘Tcomp’

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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**

```r
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**

```r
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**

**Description**


**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**

**Description**


**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

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tourism  Tourism competition data

Description


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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