Package 'TimeSeries.OBeu'

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Type Package

Title Time Series Analysis OpenBudgets.eu

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Description Time Series Analysis for OBeu datasets

URL https://github.com/okgreece/OBeU

BugReports https://github.com/okgreece/OBeU/issues

License GPL-3

LazyData TRUE

Suggests testthat

Imports forecast, jsonlite, trend, tseries

RoxygenNote 5.0.1

R topics documented:

Athens_approved_ts — *Time series of Approved Expenditure Budget Phase of Municipality of Athens*

Description

Time series data with the Approved Budget phase expenditure amounts of Municipality of Athens from 2004-2015

- The years of the recorded approved budget phase amounts.
- The approved budget phase amounts of this time range.

Usage

```
Athens_approved_ts
```

Format

A ts object with 12 approved amounts from 2004-2015

Source

add #url#

Athens_draft_ts — *Time series of Draft Expenditure Budget Phase of Municipality of Athens*

Description

Time series data with the Draft Budget phase expenditure amounts of Municipality of Athens from 2004-2015

- The years of the recorded draft budget phase amounts.
- The draft budget phase amounts of this time range.

Usage

```
Athens_draft_ts
```

Format

A ts object with 12 draft amounts from 2004-2015

Source

add #url#

Athens_executed_ts — *Time series of Executed Expenditure Budget Phase of Municipality of Athens*

Description

Time series data with the Executed Budget phase expenditure amounts of Municipality of Athens from 2004-2015

- The years of the recorded executed budget phase amounts.
- The executed budget phase amounts of this time range.

Usage

```
Athens_executed_ts
```

Format

A ts object with 12 draft amounts from 2004-2015

Source

add #url#

Athens_reserved_ts — *Time series of Reserved Expenditure Budget Phase of Municipality of Athens*

Description

Time series data with the Reserved Budget phase expenditure amounts of Municipality of Athens from 2004-2015

- The years of the recorded reserved budget phase amounts.
- The reserved budget phase amounts of this time range.

Usage

```
Athens_reserved_ts
```

Format

A ts object with 12 reserved amounts from 2004-2015

Source

add #url#

Athens_revised_ts — *Time series of Revised Expenditure Budget Phase of Municipality of Athens*

Description

Time series data with the Revised Budget phase expenditure amounts of Municipality of Athens from 2004-2015

- The years of the recorded revised budget phase amounts.
- The revised budget phase amounts of this time range.

Usage

```
Athens_revised_ts
```

Format

A ts object with 12 revised amounts from 2004-2015

Source

add #url#

babbage.tsa.obeu — *Reading and analyze babbage time series data*

Description

Extract and analyze the time series data from babbage api, using the tsa.obeu function.

Usage

```
babbage.tsa.obeu(json_data,time,amount,prediction_steps)
```

Arguments

json_data	The json string, URL or file from babbage api.
time	Specify the time label of the json time series data.
amount	Specify the amount label of the json time series data.
prediction_steps	The number of prediction steps.

Details

This function extracts the time series data from a json file resulted from the babbage api and then analyze it using the tsa.obeu function.

Value

A json string with the resulted parameters with the time series data, trend, season, error terms and forecasts of the input time series data using tsa.obeu and ts.decomposition.obeu functions.

Author(s)

Kleanthis Koupidis

References

add

See Also

tsa.obeu

Examples

```
#Not YET an OBeu Example
```

---

forecast.ts.obeu *Time series forecast results for OBEU Time series*

Description

Univariate time series forecasts for short and long time series data using the appropriate model.

Usage

```
forecast.ts.obeu(ts_model, h=1)
```

Arguments

ts_model	The input univariate time series data
h	The number of prediction steps

Details

This function automatically selects the appropriate arima model that fits the input data using the auto.arima function(see forecast package). The model selection depends on the results of some diagnostic tests (acf,pacf,pp adf and kpss). For short time series the selected arima model is among various orders of the AR part using 1st differences and MA(1), with the lower AIC.

Value

A json string with the parameters: data_year The time that time series data were sampled. data The time series values. predict_time The time that defined by the prediction_steps parameter. predict_values The predicted values that defined by the prediction_steps parameter. up80 The upper limit of the 80 low80 The lower limit of the 80 up95 The upper limit of the 95 low95 The lower limit of the 95

Author(s)

Kleanthis Koupidis

References

add

See Also

add

`stationary.test` ...

Description

...

Usage

```
stationary.test(tsdata)
```

Arguments

`tsdata`	The input univariate time series data

Author(s)

Kleanthis Koupidis

References

add

See Also

add

`ts.acf.obeu` *Extract the acf and pacf parameters of time series and their model's residuals*

Description

This function is included in tsa.obeu function and aims to extract the acf and pacf details of the input time series data and the acf and pacf of the residuals after fitting an Arima model.

This function is included in tsa.obeu function and aims to extract the acf and pacf details of the input time series data and the acf and pacf of the residuals after fitting an Arima model.

Usage

```
ts.acf.obeu<-function(tsdata,model_residuals,a=0.95)
```

Arguments

`tsdata`	The input univariate time series data
`model_residuals`	The model's residuals after fitting a model to the time series
`a`	The significant level
`tsdata`	The input univariate time series data
`model_residuals`	The model's residuals after fitting a model to the time series
`a`	The significant level

Details

The output of this function is a list with all the parameters needed for graphical purposes.

The output of this function is a list with all the parameters needed for graphical purposes.

Value

A list with the parameters:

acf The estimated acf values acf.lag The lags at which the acf is estimated pacf The estimated pacf values pacf.lag The lags at which the pacf is estimated ci.up The upper limit of the confidence interval ci.low The lower limit of the confidence interval acf.res The estimated acf values of the modelß€™s residuals acf.res.lag The lags at which the acf is estimated of the modelß€™s residuals pacf.res The estimated pacf values of the modelß€™s residuals pacf.res.lag The lags at which the pacf is estimated of the modelß€™s residuals ci.res.up The upper limit of the confidence interval ci.res.low The lower limit of the confidence interval

A list with the parameters:

acf The estimated acf values acf.lag The lags at which the acf is estimated pacf The estimated pacf values pacf.lag The lags at which the pacf is estimated ci.up The upper limit of the confidence interval ci.low The lower limit of the confidence interval acf.res The estimated acf values of the modelß€™s residuals acf.res.lag The lags at which the acf is estimated of the modelß€™s residuals pacf.res The estimated pacf values of the modelß€™s residuals pacf.res.lag The lags at which the pacf is estimated of the modelß€™s residuals ci.res.up The upper limit of the confidence interval ci.res.low The lower limit of the confidence interval

Author(s)

Kleanthis Koupidis

Kleanthis Koupidis

References

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See Also

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`ts.non.seas.decomp` ...

Description

...

Usage

```
ts.non.seas.decomp(tsdata)
```

Arguments

`tsdata`	The input univariate time series data

Details

...

Value

...

Author(s)

Kleanthis Koupidis

References

add

See Also

add

ts.non.seas.model ...

Description

...

Usage

```
ts.non.seas.model(tsdata)
```

Arguments

tsdata	The input univariate time series data

Details

...

Value

...

Author(s)

Kleanthis Koupidis

References

add

See Also

add

ts.seasonal.obeu ...

Description

...

Usage

```
ts.seasonal.obeu(tsdata)
```

Arguments

tsdata	The input univariate time series data

Details

...

Value

...

Author(s)

Kleanthis Koupidis

References

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See Also

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`tsa.obeu` *Time series forecast results for OBEU Time series*

Description

Univariate time series forecasts for short and long time series data using the appropriate model.

Usage

```
tsa.obeu(tsdata, h)
```

Arguments

`tsdata`	The input univariate time series data
`h`	The number of prediction steps

Details

This function automatically selects the appropriate arima model that fits the input data using the auto.arima function(see forecast package). The model selection depends on the results of some diagnostic tests (acf,pacf,pp adf and kpss). For short time series the selected arima model is among various orders of the AR part using 1st differences and MA(1), with the lower AIC.

Value

A json string with the parameters: data_year The time that time series data were sampled. data The time series values. predict_time The time that defined by the h parameter. predict_values The predicted values that defined by the h parameter. up80 The upper limit of the 80 low80 The lower limit of the 80 up95 The upper limit of the 95 low95 The lower limit of the 95

Author(s)

Kleanthis Koupidis

References

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See Also

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