Package 'hosm'

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Type Package

Title High Order Spatial Matrix

Version 0.1.0

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Description Automatically displays the order and spatial weighting matrix of the distance between locations. This concept was derived from the research of Mubarak, Aslanargun, and Siklar (2021) <doi:10.52403/ijrr.20211150> and Mubarak, Aslanargun, and Siklar (2022) <doi:10.17654/0972361722052>. Distance data between locations can be imported from 'Ms. Excel', 'maps' package or created in 'R' programming directly. This package also provides 5 simulations of distances between locations derived from fictitious data, the 'maps' package, and from research by Mubarak, Aslanargun, and Siklar (2022) <doi:10.29244/ijsa.v6i1p90-100>.

License GPL-3

URL https://github.com/mubarakfadhlul/hosm

Encoding UTF-8

LazyData true

RoxygenNote 7.2.3

Depends R (>= 2.10)

Imports maps, sf, tidyverse, units, tibble, readxl

NeedsCompilation no

Repository CRAN

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Contents

`hosm` *Creates high order spatial matrix of the distance between locations*

Description

Creates high order spatial matrix of the distance between locations

Usage

```
hosm(data)
```

Arguments

`data`	dataframes from distances between locations

Value

A list the order and spatial weighting matrix of the distance between locations

References

Mubarak, F., Aslanargun, A., & Sıklar, I. (2022). GSTARIMA Model with Missing Value for Forecasting Gold Price. Indonesian Journal of Statistics and Its Applications, 6(1), 90–100. https://doi.org/10.29244/ijsa.v6i1p90-100

Mubarak, F., Aslanargun, A., & Sıklar, I. (2021). High order spatial weighting matrix using Google Trends. Int J Res Rev, 8(11), 388–396. https://doi.org/10.52403/ijrr.20211150

Mubarak, F., Aslanargun, A., & Sıklar, İ. (2022). Higher-order spatial classification using Google trends data during covid-19. Adv. Appl. Stat., 78, 93–103. https://doi.org/10.17654/0972361722052

Examples

```
hosm(simulation1)
hosm(simulation2)
hosm(simulation3)
hosm(simulation4)
hosm(simulation5)
```

simulation1 *Simulation 1 for High Order Spatial Matrix*

Description

Simulation 1 for High Order Spatial Matrix

Usage

```
simulation1
```

Format

A data frame with 4 locations:

X Name of Location

X1 1st Location

X2 2nd Location

X3 3rd Location

X4 4th Location

Examples

```
data(simulation1)
```

simulation2 *Simulation 2 for High Order Spatial Matrix*

Description

Simulation 2 for High Order Spatial Matrix

Usage

```
simulation2
```

Format

A data frame with 5 locations:

Location Name of Location

'Amman (Jordan) 'Amman City in Jordan

Abu Dhabi (United Arab Emirates) Abu Dhabi City in United Arab Emirates

Abuja (Nigeria) Abuja City in Nigeria

Accra (Ghana) Accra City in Ghana

Adamstown (Pitcairn) Adamstown City in Pitcairn

Examples

```
data(simulation2)
```

`simulation3` *Simulation 3 for High Order Spatial Matrix*

Description

Simulation 3 for High Order Spatial Matrix

Usage

```
simulation3
```

Format

A data frame with 5 locations:

Location Name of Location

Yaren (Nauru) Yaren City in Nauru

Yerevan (Armenia) Yerevan City in Armenia

Zagreb (Croatia) Zagreb City in Croatia

al-'Ayun (Western Sahara) al-'Ayun City in Western Sahara

al-Kuwayt (Kuwait) al-Kuwayt in (Kuwait)

Examples

```
data(simulation3)
```

`simulation4` *Simulation 4 for High Order Spatial Matrix*

Description

Simulation 4 for High Order Spatial Matrix

Usage

```
simulation4
```

Format

A data frame with 4 locations:

Location Name of Location

Ankara (Turkey) Ankara City in Turkey

Jakarta (Indonesia) Jakarta City in Indonesia

London (UK) London City in UK

Washington (USA) Washington in USA

Examples

```
data(simulation4)
```

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simulation5 *Simulation 5 for High Order Spatial Matrix*

Description

Simulation 5 for High Order Spatial Matrix

Usage

```
simulation5
```

Format

A data frame with 4 locations:

Location Name of Location

Banda Aceh (Indonesia) Banda Aceh City in Indonesia

Edison (USA) Edison City in USA

Hakkari (Turkey) Hakkari City in Turkey

London (UK) London City in UK

Examples

```
data(simulation5)
```

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