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/iijrr.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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R topics documented:

hosm

simulation1

simulation2

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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


Examples

hosm(simulation1)

hosm(simulation2)

hosm(simulation3)

hosm(simulation4)

hosm(simulation5)
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)

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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)'
  - Abu Dhabi (United Arab Emirates)
  - Abuja (Nigeria)
  - Accra (Ghana)
  - Adamstown (Pitcairn)

Examples
data(simulation2)
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:

<table>
<thead>
<tr>
<th>Location</th>
<th>Name of Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yaren (Nauru)</td>
<td>Yaren City in Nauru</td>
</tr>
<tr>
<td>Yerevan (Armenia)</td>
<td>Yerevan City in Armenia</td>
</tr>
<tr>
<td>Zagreb (Croatia)</td>
<td>Zagreb City in Croatia</td>
</tr>
<tr>
<td>al-'Ayun (Western Sahara)</td>
<td>al-'Ayun City in Western Sahara</td>
</tr>
<tr>
<td>al-Kuwayt (Kuwait)</td>
<td>al-Kuwayt in (Kuwait)</td>
</tr>
</tbody>
</table>

Examples
data(simulation3)

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

Description
Simulation 4 for High Order Spatial Matrix

Usage
```
simulation4
```
**simulation5**

**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**

```r
data(simulation4)
```

---

**Simulation 5 for High Order Spatial Matrix**

**Description**

Simulation 5 for High Order Spatial Matrix

**Usage**

```r
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**

```r
data(simulation5)
```
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