Package: SpatialPOP (via r-universe)

<div align="center">October 23, 2024</div>

Type Package

Title Generation of Spatial Data with Spatially Varying Model
Parameter

Version 0.1.0

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Depends R(>= 2.10)

Suggests knitr, rmarkdown, testthat (>= 3.0.0)

VignetteBuilder knitr

Description A spatial population can be generated based on spatially
varying regression model under the assumption that observations
are collected from a uniform two-dimensional grid consist of (m
* m) lattice points with unit distance between any two
neighbouring points. For method details see Chao, Liu.,
Chuanhua, Wei. and Yunan, Su.
(2018).<DOI:10.1080/10485252.2018.1499907>. This spatially
generated data can be used to test different issues related to
the statistical analysis of spatial data. This generated
spatial data can be utilized in geographically weighted
regression analysis for studying the spatially varying
relationships among the variables.

License GPL (>= 2.0)

Encoding UTF-8

RoxygenNote 7.1.2

Imports base,MASS,stats, qpdf, numbers

NeedsCompilation no

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Repository https://nobinstat.r-universe.dev

RemoteUrl https://github.com/cran/SpatialPOP

RemoteRef HEAD

RemoteSha c268de3e9fbf162a2f5ec0ff96a7e6c888f5fac3

Contents

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spatialPOP	*Generation of Spatial Data with Spatial Coordinates and Spatially Varying Model Parameters*

Description

Generation of Spatial Data with Spatial Coordinates and Spatially Varying Model Parameters

Usage

```
spatialPOP(N, m, xlat, ylong)
```

Arguments

N	integer; population size i.e. N= (m * m)
m	integer
xlat	numeric vector
ylong	numeric vector

Value

returns a dataframe of spatially generated population consist of simulated response variable (i.e. Y) along with their spatial coordinates, spatially varying model parameters and one explanatory variable (i.e. X)

References

1. Leung, Y., Mei, C. L. and Zhang, W. X. (2000). Statistical tests for spatial non-stationarity based on the geographically weighted regression model. Environment and Planning A, 32(1), 9-32.

2. Chao, Liu., Chuanhua, Wei. and Yunan, Su. (2018). Geographically weighted regression model-assisted estimation in survey sampling. Journal of Nonparametric Statistics. <DOI:10.1080/10485252.2018.1499907>.

Examples

```
lattice_points<-spatial_grid(c(1:10),c(1:10))
spatial_data<-spatialPOP(100,10,c(1:10),c(1:10))
```

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spatial_grid	*a uniform two dimensional grid of lattice points*

Description

a uniform two dimensional grid of lattice points

Usage

```
spatial_grid(lat, long)
```

Arguments

lat	numeric vector
long	numeric vector

Value

returns a dataframe of lattice points

Examples

```
spatial_grid(c(1:10),c(1:10))
```

Index