R packages glossary (Monte Carlo simulations).

1. **spdep (Spatial Dependence: Weighting Schemes, Statistics)**

Functions to create spatial weights matrix objects from **polygon** ‘contiguities’ (The ones who are next to each other), from point patterns by distance and tessellations, for summarizing these objects, and for permitting their use in spatial data analysis, including regional aggregation by minimum spanning tree (minimum extension).

1. **Spsample (Sample Point Locations In A Spatial Object)**

Sample point locations with a square **area**, a **grid**, a **polygon**, or on a **spatial line**, **using regular or random sampling methods**; the methods used assume that the geometry used is not spherical, so **objects should be in planar coordinates**.

**ARGUMENTS.**

* Type:
  + “random”: completely spatial random
  + “regular”: for regular (systematically aligned) sampling
  + “stratified”: for stratified random (one single random location in each “cell”)
  + “nonaligned”: for nonaligned systematic sampling (nx random y coordinates, ny random x coordinates)
  + “hexagonal”: for sampling hexagonal lattice
  + “clustered”: for clustered sampling
  + “Fibonacci”: for Fibonacci sampling on the sphere

**METHODS.**

x = “Spatial” sample in the bbox of x

x = “Line” sample on a line

x = “Polygon” sample in a Polygon

x = “Polygons” sample in a Polygons object, consisting of possibly multiple Polygon objects (holes must be correctly defined, use checkPolygonsHoles if need be)

x = “SpatialPolygons” sample in an SpatialPolygons object; sampling takes place over all Polygons objects present, use subsetting to vary sampling intensity (density); holes must be correctly defined, use checkPolygonsHoles if need be

x = “SpatialGrid” sample in an SpatialGrid object

x = “SpatialPixels” sampe in an SpatialPixels object