Certainly!

1. Moran's I and Geary's C:

- Hotspots are indicated when Moran's I or Geary's C values are significantly positive. This suggests that nearby locations have similar attribute values, indicating spatial clustering or hotspots.

- Outliers are indicated when Moran's I or Geary's C values are significantly negative. This implies that nearby locations have dissimilar attribute values, suggesting the presence of outliers or spatial heterogeneity.

2. Filters for Weight Matrix in Lattice Data:

- Two common filters used for the weight matrix in lattice data are:

1) Queen's Contiguity: This filter considers any shared edge or vertex as neighbors.

2) Rook's Contiguity: This filter considers only shared edges as neighbors.

Here's how you can create the weighting matrix according to the Queen's Contiguity filter in R:

[Rstudio code:

library(spdep)

# For spatial weights matrix functions

# Assuming 'lattice\_data' is your spatial lattice data object

# Create Queen's Contiguity weight matrix

queen\_weights <- poly2nb(lattice\_data, queen = TRUE)

queen\_weight\_matrix <- nb2mat(queen\_weights, style = "B")

] ```

In this code:

- ‘poly2nb()’ function is used to compute a neighbor list based on the Queen's criterion.

- ‘nb2mat()’ function converts the neighbor list to a binary spatial weights matrix. The `style = "B"` argument specifies that the matrix should be binary, indicating whether or not pairs of locations are neighbors.