the Mantel Test

Test statistic, z, denotes magnitude of correspondence.

$$Z = \sum_{i=1}^{N} \sum_{j=i+1}^{N} x_{ij} y_{ij}$$

 $(x_{ij} - \bar{x})^2$

 $\sum \sum (x_{ij} - \bar{x})$

 SS_{XY}

 $i = 1 \ j = 1$

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 $SS_{XY} = Z - N\bar{x}\bar{y}$

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$$\rho = \frac{SS_{XY}}{\sqrt{SS_X}\sqrt{SS_Y}}$$

Mantel Significance

Based upon the magnitude of the z statistic.

 Assuming H_O is true, permute Y and recalculate distribution of z values.

75 - 75th Percentile 0 - 75th Percentile 52500 55000 57500 60000 62500 Z

Ho: Euclidean separation independent of Nei's Distance



$$\rho = 0.039$$