



```
df <- data.frame( Nei=D1[lower.tri(D1)], Euclidean=D2[ lower.tri(D2)] )  
ggplot(df,aes(x=Nei,y=Euclidean)) + geom_point()
```

Mantel Test

$$X = \begin{bmatrix} 0 & x_{12} & x_{13} & \dots & x_{1N} \\ x_{21} & 0 & x_{23} & \dots & x_{2N} \\ x_{31} & x_{32} & 0 & \dots & x_{3N} \\ \vdots & \vdots & \vdots & \ddots & \vdots \\ x_{N1} & x_{N2} & x_{N3} & \dots & 0 \end{bmatrix}$$

$$Y = \begin{bmatrix} 0 & y_{12} & y_{13} & \dots & y_{1N} \\ y_{21} & 0 & y_{23} & \dots & y_{2N} \\ y_{31} & y_{32} & 0 & \dots & y_{3N} \\ \vdots & \vdots & \vdots & \ddots & \vdots \\ y_{N1} & y_{N2} & y_{N3} & \dots & 0 \end{bmatrix}$$