

$$\begin{pmatrix} 1 & \sigma \\ \sigma & 1 \end{pmatrix} \text{ autovalori?}$$

$$Ax = \lambda x$$

$$\det(A - \lambda I) = \det \begin{pmatrix} 1-\lambda & \dots & 0 \\ & 1-\lambda & \\ & & \ddots \\ 0 & & & 1-\lambda \end{pmatrix} \rightarrow \text{ordine } n$$

$$= (1-\lambda) \det \begin{pmatrix} 1-\lambda & \dots & 0 \\ & \ddots & \\ & & 1-\lambda \end{pmatrix} \rightarrow \text{ordine } n-1$$

$$= \dots = (1-\lambda)^{n-2} \det \begin{pmatrix} 1-\lambda & \sigma \\ \sigma & 1-\lambda \end{pmatrix}$$

$$= (1-\lambda)^{n-2} [(1-\lambda)^2 - \sigma^2]$$

$$\text{autovalori: } (1-\lambda)^{n-2} [(1-\lambda)^2 - \sigma^2] = 0$$

$$1-\lambda = 0 \Leftrightarrow \lambda = 1 \quad \sigma = n-1$$

$$(1-\lambda)^2 - \sigma^2 = 0 \Leftrightarrow (1-\lambda - \sigma)(1-\lambda + \sigma) = 0$$

$$1-\lambda - \sigma = 0 \Leftrightarrow \lambda = 1 - \sigma$$

$$1 - \lambda + \theta z = 0 \quad (z=1) \quad \lambda = 1 + \theta$$

Substituting λ

$$\lambda = 1$$

$$\lambda = 1 - \theta$$

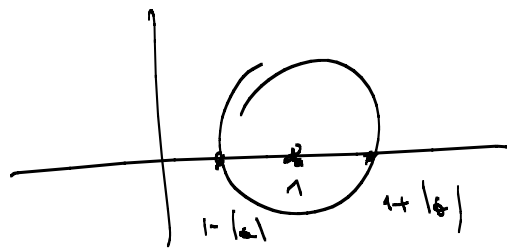
$$\lambda = 1 + \theta$$

If $\theta = 0$ $\lambda = 1$ $\sigma = n = T$

If $\theta \neq 0$ $\lambda = 1$ $\sigma = n - 2 = T$

$$\lambda = 1 + \theta \quad \sigma = \sigma = 1$$

$$\lambda = 1 - \theta \quad \sigma = T = 1$$



$$|\theta| < 1$$