$$A = \begin{bmatrix} 0 & 1 \\ 0 & 0 \end{bmatrix}$$

$\text{DET}(A - \lambda I) = \emptyset$

$\text{DET} \begin{bmatrix} -\lambda & 1 \\ 0 & -\lambda \end{bmatrix} = \emptyset$

$\lambda^2 \qquad = \emptyset$

$\lambda = \emptyset$

$\rho(A) = \emptyset$

$\|A\|_\infty = 1 \qquad \therefore$