Misalnya kendalian di atas akan distabiltkan dengan menempatkan nilai-eigen matrix $\bar{A}$ pada $\lambda_1 = \lambda_2 = -1$

$\xi = 1 \rightarrow$ critically damped

$$\bar{A} = [A + BK] = \begin{bmatrix} 0 & 0 \\ 1 & 0 \end{bmatrix} + \begin{bmatrix} 1 \\ 0 \end{bmatrix} \begin{bmatrix} K_1 & K_2 \end{bmatrix}$$

$$= \begin{bmatrix} 0 & 0 \\ 1 & 0 \end{bmatrix} + \begin{bmatrix} K_1 & K_2 \\ 0 & 0 \end{bmatrix} = \begin{bmatrix} K_1 & K_2 \\ 1 & 0 \end{bmatrix}$$

$$[\lambda I - \bar{A}] = \begin{bmatrix} \lambda - K_1 & -K_2 \\ -1 & \lambda \end{bmatrix} \rightarrow \det[\lambda I - \bar{A}) = 0$$

$$\lambda(\lambda - K_1) - K_2 = 0 \qquad \lambda^2 - K_1\lambda - K_2 = 0$$

$$(\lambda + 1)^2 = 0$$

$$K_1 = -2 \quad K_2 = -1 \qquad \lambda^2 + 2\lambda + 1 = 0$$