Sebelum pengendalian

$$\det[\lambda I - A] = \det\left(\begin{bmatrix}\lambda & 0\\ 0 & \lambda\end{bmatrix} - \begin{bmatrix}0 & 1\\ 0 & 0\end{bmatrix}\right)$$

$$= \det\begin{bmatrix}\lambda & -1\\ 0 & \lambda\end{bmatrix} = \lambda^2 = 0 \rightarrow \lambda_{1,2} = 0$$ (unstable)

Tunjukkan dengan matrix P dan Q kendalian ini @0 → stabilizable

Tentukan "gain matrix" K sehingga nilai-eigen matrix $\bar{A} = A + BK$ berada di sebelah kiri sumbu khayal: $a \pm jb$, $a < 0$

$$\bar{A} = [A + BK] = \begin{bmatrix}0 & 1\\ 0 & 0\end{bmatrix} + \begin{bmatrix}0\\ 1\end{bmatrix}\begin{bmatrix}k_1 & k_2\end{bmatrix}$$

$A_{[2\times 2]}$, $B_{[2\times 1]}$ → $K_{[1\times 2]} = [k_1 \;\; k_2]$

$$= \begin{bmatrix}0 & 1\\ 0 & 0\end{bmatrix} + \begin{bmatrix}0 & 0\\ k_1 & k_2\end{bmatrix} = \begin{bmatrix}0 & 1\\ k_1 & k_2\end{bmatrix}$$