

# \* Perintah "place"

$$>>> [K] = \text{place}(A, B, t)$$

$\uparrow$        $\uparrow$   
 $A$        $B$        $t$

$$t = \text{nilai eigen} = \begin{bmatrix} \lambda_1 \\ \lambda_2 \\ \lambda_3 \\ \lambda_4 \end{bmatrix}$$

Model hasil linearisasi:

$$\sin \theta \rightarrow \theta = x_1$$

$$\cos \theta \rightarrow 1$$

$$x \approx 0, \quad \frac{dx}{dt} = 0$$

$$\frac{d\theta}{dt} \rightarrow 0$$

$$A = \begin{bmatrix} 0 & 1 & 0 & 0 \\ \frac{(M+m)g}{Ml} & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 \\ -mg & 0 & 0 & 0 \\ \frac{1}{M} & 0 & 0 & 0 \end{bmatrix}$$

$$B = \begin{bmatrix} 0 \\ -1 \\ 0 \\ 1 \\ 0 \end{bmatrix}$$