* Model Ruang Keadaan (State Space)

⇒ State Assignment (penunjukan perubah keadaan / state variables)

$e_a(t) \triangleq u$ (masukan) $\quad \omega(t) \triangleq y$ (keluaran) $\quad i_a(t) = x_1$

$\omega(t) = x_2 \rightarrow y \equiv x_2$

Dari (*): $\frac{dx_1}{dt} = \dot{x}_1 = \frac{1}{L_a}\left(u - R_a x_1 - K_b x_2\right)$

$= -\frac{R_a}{L_a} x_1 - \frac{K_b}{L_a} x_2 + \frac{1}{L_a} u$

(**) $\quad \frac{dx_2}{dt} = \dot{x}_2 = \frac{1}{J}\left(K_m x_1 - B x_2\right)$

⟹ Matrix A, B, C, D