

Contoh:

* Susunlah model Ruang Keadaan dengan matrix A berbentuk Kawanan Jordan (Jordan Companion) dari model Nisbuh Alih.

$$G(s) = \frac{s^3 + 2}{10s^7 + 8s^5 + 6s^3 + 4s + 3}$$

Jawab:

$$m=3$$

$$n=7$$

$\rightarrow$ Kasus $m < n \rightarrow D = [0]$

$$\begin{aligned} b_0 &= 2 \\ b_1 &= 0 \\ b_2 &= 0 \\ b_3 &= 1 \end{aligned}$$

$$\begin{aligned} a_0 &= 3 \\ a_1 &= 4 \\ a_2 &= 0 \\ a_3 &= 6 \\ a_4 &= 0 \\ a_5 &= 8 \\ a_6 &= 0 \end{aligned}$$

$$(a_7 = 1)$$

$$A = \begin{bmatrix} 0 & 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 1 \\ -0,3 & -0,4 & 0 & -0,6 & 0 & -0,8 & 0 \end{bmatrix}$$

$[7 \times 7]$

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

$[7 \times 1]$