

$$\underbrace{\begin{bmatrix} h_d[0] \\ h_d[1] \\ h_d[2] \\ h_d[3] \\ h_d[4] \end{bmatrix}}_B = \underbrace{\begin{bmatrix} \underbrace{\begin{bmatrix} 0 \\ -h_d[0] \\ -h_d[1] \\ -h_d[2] \\ -h_d[3] \end{bmatrix}}_{\text{order}} & \underbrace{\begin{bmatrix} 0 \\ 0 \\ -h_d[0] \\ -h_d[1] \\ -h_d[2] \end{bmatrix}}_{\text{order}+1} & \underbrace{\begin{bmatrix} \underline{1} & \underline{0} & \underline{0} \\ 0 & 1 & 0 \\ 0 & 0 & 1 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{bmatrix}}_{\text{eye}(3)} \end{bmatrix}}_A \cdot \underbrace{\begin{bmatrix} a_1 \\ a_2 \\ b_0 \\ b_1 \\ b_2 \end{bmatrix}}_X$$

Annotations:
 - The first two columns of matrix A are grouped under "order" and "order+1" respectively.
 - The third column is labeled "eye(3)".
 - The bottom two rows of the third column are labeled "zero(2,3)".
 - The vector X is partitioned into two parts: $\begin{bmatrix} a_1 \\ a_2 \end{bmatrix}$ (labeled "2 order") and $\begin{bmatrix} b_0 \\ b_1 \\ b_2 \end{bmatrix}$ (labeled "2+1").
 - The total dimension of X is indicated as "2 order + 4".

$$[x \ y] = \boxed{x \mid y}$$

$$[x \ i] = \begin{bmatrix} x \\ y \end{bmatrix}$$

2 order + 1

$s-i$

$$i = 1 \rightarrow 4$$

$$i = 2 \rightarrow 3$$

$$i = 3 \rightarrow 2$$

order = 2
of
system