

①

$$C = \begin{bmatrix} 1 \\ 0 \\ 0 \end{bmatrix} \quad H = \begin{bmatrix} 0 \\ 0 \\ 0 \end{bmatrix} \quad d = \begin{bmatrix} 0 \\ 0 \\ 1 \end{bmatrix} \quad C_2H_6 = \begin{bmatrix} 2 \\ 6 \\ 0 \end{bmatrix}$$

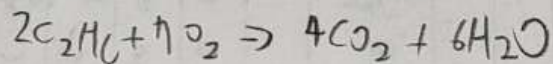
$$\begin{aligned} 2x_1 + 0x_2 - x_3 + 0x_4 &= 0 \\ 6x_1 + 0x_2 - 0x_3 - 2x_4 &= 0 \\ 0x_1 + 2x_2 - x_3 - x_4 &= 0 \end{aligned}$$

$$\begin{bmatrix} 2 & 0 & -1 & 0 & 1 & 0 \\ 6 & 0 & 0 & -2 & 1 & 0 \\ 0 & 2 & -2 & -1 & 1 & 0 \end{bmatrix}$$

$$x_1 = \frac{1}{3}x_4, \quad x_2 = \frac{7}{6}x_4, \quad x_3 = \frac{2}{3}x_4 \quad \begin{bmatrix} 1 & 0 & 0 & -\frac{1}{3} & 1 & 0 \\ 0 & 1 & 0 & -\frac{1}{2} & 1 & 0 \\ 0 & 0 & 1 & -\frac{2}{3} & 1 & 0 \end{bmatrix}$$

$$x_4 = 6,$$

$$x_1 = 2, \quad x_2 = 7, \quad x_3 = 4, \quad x_4 = 6$$



②

$$\begin{cases} x_1 + x_4 = 500 \\ x_1 + x_2 = 800 \\ x_2 + x_3 = 1100 \\ x_3 + x_4 = 800 \end{cases}$$

$$\begin{cases} x_1 + x_4 = 500 \\ x_2 - x_4 = 300 \\ x_2 + x_3 = 1100 \\ x_3 + x_4 = 800 \end{cases}$$

$$\begin{cases} x_1 + x_4 = 500 \\ x_2 - x_4 = 300 \\ x_3 + x_4 = 800 \\ x_3 + x_4 = 800 \end{cases}$$

$$\begin{cases} x_1 = 500 - x_4 \\ x_2 = 300 + x_4 \\ x_3 = 800 - x_4 \end{cases}$$

무엇인가? 하가 문제.

$$\begin{aligned} \textcircled{3} \quad & x_1 - x_2 + x_3 = 0 \\ & -x_1 + x_2 - x_3 = 0 \\ & 4x_1 + 2x_2 = 16 \\ & 2x_2 + 5x_3 = 18 \end{aligned}$$

$$\begin{bmatrix} 1 & -1 & 1 & 0 \\ -1 & 1 & -1 & 0 \\ 4 & 2 & 0 & 16 \\ 0 & 2 & 5 & 18 \end{bmatrix}$$

$$\begin{bmatrix} 1 & -1 & 1 & 0 \\ 0 & 0 & 0 & 0 \\ 0 & 6 & 4 & 16 \\ 0 & 2 & 5 & 18 \end{bmatrix}$$

$$\begin{bmatrix} 1 & -1 & 1 & 0 \\ 0 & 6 & -4 & 16 \\ 0 & 2 & 5 & 18 \\ 0 & 0 & 0 & 0 \end{bmatrix}$$

$$\begin{bmatrix} 1 & -1 & 1 & 0 \\ 0 & 3 & -2 & 18 \\ 0 & 2 & 5 & 18 \\ 0 & 0 & 0 & 0 \end{bmatrix}$$

$$\begin{bmatrix} 1 & -1 & 1 & 0 \\ 0 & 3 & -2 & 18 \\ 0 & 0 & \frac{19}{3} & 1 \frac{36}{3} \\ 0 & 0 & 0 & 0 \end{bmatrix}$$

$$x_1 = 2, x_2 = 4, x_3 = 2.$$