

$$10x_2 + 10.604x_3 = 10$$

$$\Rightarrow x_2 = \frac{10 - 10.604x_3}{10}$$

x_2 into eq 1: $9.604x_1 + 8x_2 - x_3 = 2$

$$9.604x_1 + 8\left(\frac{10 - 10.604x_3}{10}\right) - x_3 = 2$$

$$9.604x_1 + \frac{80 - 84.832x_3}{10} - x_3 = 2$$

$$9.604x_1 + 8 - 8.4832x_3 - x_3 = 2$$

$$9.604x_1 = 9.4832x_3 - 6$$

$$x_1 = \frac{9.4832x_3 - 6}{9.604}$$

$$-2x_1 - 3.396x_2 - 2x_3 = 4$$

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$$\underline{x_1 = 9.483x_3 - 6}$$

9.604

$$\underline{x_2 = 10 - 10.604x_3}$$

10

$$-2 \left[\frac{9.483x_3 - 6}{9.604} \right] - 3.396 \left(\frac{10 - 10.604x_3}{10} \right) . 2x_3 = 4.$$

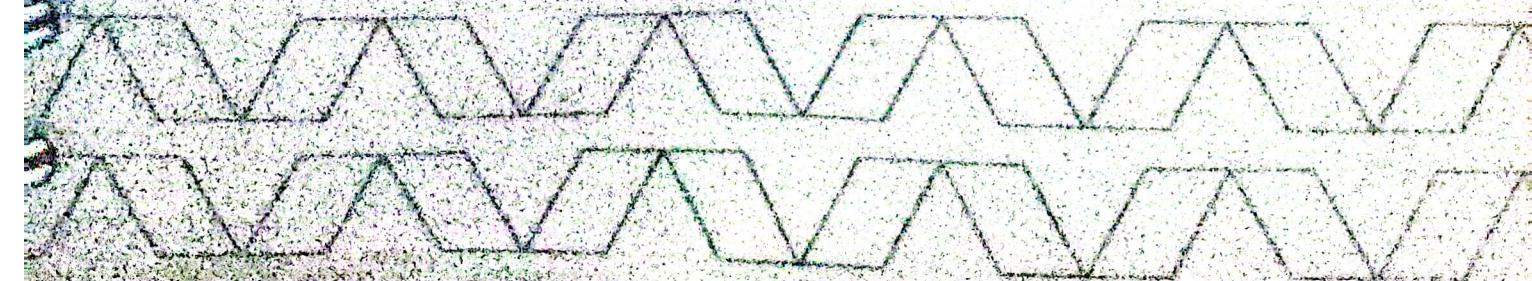
$$\frac{-2 \times 9.483x_3 - 12}{9.604} = \frac{-18.966x_3 + 12}{9.604}$$

$$\frac{-3.396 \times 10 - 10.604x_3}{10} = \frac{-33.96 + 3.599x_3}{10}$$

$$\frac{80 - 18.966x_3 + 12 - 33.96 + 3.599x_3 - 2x_3}{9.604} = 4$$

$$-18.966x_3 + 12 + 9.604(-3.396 + 3.599x_3 - 2x_3) = 38.44$$

$$-18.966x_3 + 12 - 32.626 + 34.562x_3 - 19.208x_3 = 38.44$$



Date:

$$\begin{aligned} -20.626 + (-18.966 + 34.562 - 19.208)x_3 &= 38.416 \\ -20.626 - 3.612x_3 &= 38.416 \\ -3.612x_3 &= 38.416 + 20.626 = 59.042 \end{aligned}$$

$$x_3 = \frac{59.042}{-3.612}$$

$$x_3 \approx -16.35$$

$$\begin{aligned} x_2 &= \frac{10 - 10.604x_3}{10} = \frac{10 - 10.604 \times (-16.35)}{10} \\ &= \frac{10 + 173.396}{10} = \frac{183.396}{10} \end{aligned}$$

$$x_2 = 18.34$$

$$\begin{aligned} x_1 &= \frac{9.483 - 6}{9.604} = \frac{9.483 \times (-16.35) - 6}{9.604} \\ &= \frac{-154.96 - 6}{9.604} = \frac{-160.96}{9.604} \approx -16.76 \end{aligned}$$

$$x_2 = \begin{bmatrix} -16.76 \\ 18.34 \\ -16.35 \end{bmatrix} \text{ for } x_1 = -5.604$$

for $\lambda_3 = 2.675$

$$\text{A-D} = \begin{bmatrix} -1.325 & 8 & -1 & -2 \\ -2 & -11.675 & -2 & -4 \\ 0 & 10 & 2.325 & -10 \\ -1 & -13 & -14 & -15.675 \end{bmatrix}$$

let $x_4 = 1$

$$\left\{ \begin{array}{l} 1.32x_1 + 8x_2 - x_3 - 9 = 0 \\ -2x_1 - 11.675x_2 - 2x_3 - 4 = 0 \\ 10x_2 + 2.325x_3 - 10 = 0 \\ -1x_1 - 13x_2 - 14x_3 - 15.675 = 0 \end{array} \right.$$

$$\left\{ \begin{array}{l} 1.325x_1 + 8x_2 - x_3 = 2 \\ -2x_1 - 11.675x_2 - 2x_3 = 4 \\ 10x_2 + 2.325x_3 = 10 \\ -1x_1 - 13x_2 - 14x_3 = 15.675 \end{array} \right.$$

$$10x_2 + 2 \cdot 32.325x_3 = 10$$

$$x_2 = \frac{10 - 2 \cdot 32.325x_3}{10}$$

$$x_2 \text{ into eq 1: } 1.325x_1 + 8x_2 - x_3 = 2$$

$$1.325x_1 + 8\left(\frac{10 - 2 \cdot 32.325x_3}{10}\right) - x_3 = 2$$

$$1.325x_1 + 8 - 1.86x_3 - x_3 = 2$$

$$1.325x_1 + 8 - 2.86x_3 = 2$$

$$1.325x_1 = 2.86x_3 - 6$$

$$x_1 = \frac{2.86x_3 - 6}{1.325}$$

$$\text{into eq 2: } -2x_1 - 11.675x_2 - 2x_3 = 4$$

$$-2\left(\frac{2.86x_3 - 6}{1.325}\right) - 11.675\left(\frac{10 - 2 \cdot 32.325x_3}{10}\right) = 4$$

$$2 \times \frac{2.86x_3 - 6}{1.325} = \frac{-5.72x_3 + 12}{1.325}$$

Date:

$$-11.675 + 2.325x_3 = -11.675 + 2.715x_3$$

10

$$\underline{-5.72x_3 + 12 - 11.675 + 2.715x_3 - 2x_3 = 4}$$

-1.325

$$\Rightarrow -5.72x_3 + 12 + 1.325(-11.675 + 2.715x_3 - 2x_3) = 5.3$$

$$-5.72x_3 + 12 - 15.465 + 3.598x_3 - 2.65x_3 = 5.3$$

$$(12 - 15.465) + (-5.72x_3 + 3.598x_3 - 2.65x_3) = 5.3$$

$$-3.465 + (-5.72 + 3.598 - 2.65)x_3 = 5.3$$

$$-3.465 - 4.772x_3 = 5.3$$

$$-4.772x_3 - 5.3 + 3.465 = 8.765$$

$$\Rightarrow x_3 = \frac{8.765}{-4.772} \approx -1.837$$

$$\Rightarrow x_2 = \frac{10 - 2.325x_3}{10} = \frac{10 - 2.325(-1.837)}{10}$$

$$\Rightarrow x_2 = \frac{14.774}{10} \approx 1.427$$