

U-ERRE

Universidad Regiomontana

Métodos Numéricos

Segundo Parcial

Reporte del método de montante

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metodo montante ejercicio

$$\begin{array}{l} -6x + 4y + 5z = 17 \\ -2x + y + 2z = 6 \\ 5x - 3y - 4z = -13 \end{array} \rightarrow \begin{array}{c|cc|c} \boxed{-6} & 4 & 5 & 17 \\ \hline -2 & 1 & 2 & 6 \\ 5 & -3 & -4 & -13 \end{array}$$

I 1

$$\begin{array}{c|cc|c} -6 & 4 & 5 & 17 \\ \hline 0 & 2 & -2 & -2 \\ 0 & -2 & -1 & -7 \end{array}$$

paso 1 $\frac{(-6)(1) - (4)(-2)}{1} = 2$
 paso 2 $\frac{(-6)(2) - (-2)(5)}{1} = -2$
 paso 3 $\frac{(-6)(6) - (-2)(17)}{1} = -2$

paso 4

$$\frac{(-6)(-3) - (5)(4)}{1} = -2$$

$$\text{paso 6 } \frac{(-6)(-13) - (5)(17)}{1} = -7$$

paso 5

$$\frac{(-6)(-4) - (5)(5)}{1} = -1$$

I 2

$$\begin{array}{c|cc|c} -6 & 4 & 5 & 17 \\ \hline 0 & 2 & -2 & -2 \\ 0 & -2 & -1 & -7 \end{array} \rightarrow \begin{array}{c|cc|c} \boxed{2} & 0 & \boxed{-3} & \boxed{17} \\ \hline 0 & 2 & -2 & -2 \\ \boxed{2} & 0 & \boxed{2} & \boxed{13} \end{array}$$

$$\text{paso 2} = \frac{(2)(-6) - (0)(4)}{6} = 2$$

$$\text{paso 3} = \frac{(2)(17) - (4)(-2)}{-6} = -7$$

$$\text{paso 2} = \frac{(2)(5) - (4)(-2)}{-6} = -3$$

$$\text{paso 4} = \frac{(2)(0) - (0)(-2)}{-6} = 0$$

$$p_{205} = \frac{(2)(-1) + (2)(-2)}{-6} = 1$$

$$p_{206} = \frac{(2)(-7) - (2)(-2)}{-6} = 5$$

$$I_3 \left[\begin{array}{ccc|c} 2 & 0 & -3 & -1 \\ 0 & 2 & -2 & -2 \\ 0 & 0 & 1 & 3 \end{array} \right] \rightarrow \left(\begin{array}{ccc|c} 1 & 0 & 0 & 1 \\ 0 & 1 & 0 & 2 \\ 0 & 0 & 1 & 3 \end{array} \right)$$

$$p_{301} = \frac{(1)(2) - (0)(-3)}{2} = 1$$

$$p_{304} = \frac{(1)(0) - (0)(-2)}{2} = 0$$

$$p_{302} = \frac{(1)(0) - (0)(-3)}{2} = 0$$

$$p_{305} = \frac{(1)(2) - (0)(-2)}{2} = 1$$

$$p_{303} = \frac{(1)(-7) - (3)(-3)}{2} = 1$$

$$p_{306} = \frac{(1)(-2) - (3)(-2)}{2} = 2$$

$$x = 1$$

$$y = 2$$

$$z = 3$$