

Week 12 Lab Assignment

Problem 2:

$$x - y + z = 4$$

$$2x + y + z = 7$$

$$-x - 2y + 2z = -1$$

$$D = \begin{vmatrix} 1 & -1 & 1 \\ 2 & 1 & 1 \\ -1 & -2 & 2 \end{vmatrix}$$

$$D = [1(2 - (-2))] - [(-1)(4 - (-1))] + [1((-4) - (-1))]$$

$$D = 4 + 5 - 3$$

$$D = 6$$

$$D_x = \begin{vmatrix} 4 & -1 & 1 \\ 7 & 1 & 1 \\ -1 & -2 & 2 \end{vmatrix}$$

$$D_x = 18$$

$$x = \frac{D_x}{D} = \frac{18}{6} = 3$$

$$D_y = \begin{vmatrix} 1 & 4 & 1 \\ 2 & 7 & 1 \\ -1 & -1 & 2 \end{vmatrix}$$

$$D_y = 0$$

$$y = \frac{D_y}{D} = \frac{0}{6} = 0$$

$$D_z = \begin{vmatrix} 1 & -1 & 4 \\ 2 & 1 & 7 \\ -1 & -2 & -1 \end{vmatrix}$$

$$D_z = 6$$

$$z = \frac{D_z}{D} = \frac{6}{6} = 1$$

$$x=3, y=0, z=1$$