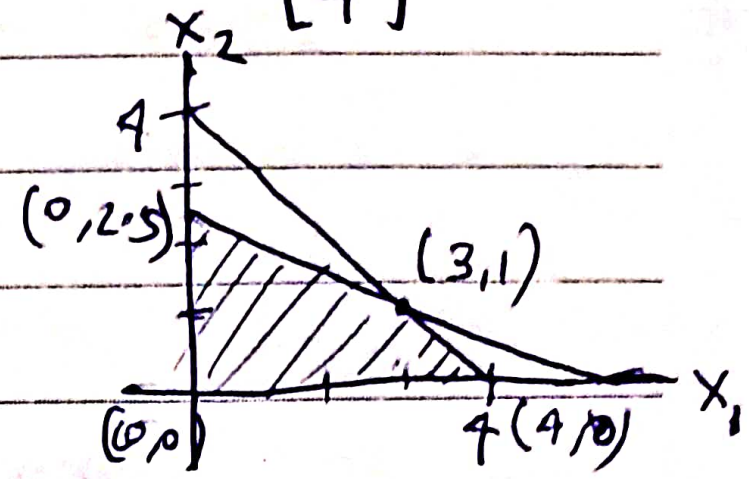
a) $A = \begin{bmatrix} 1 & 2 \\ 1 & 1 \end{bmatrix}$ $b = \begin{bmatrix} 5 \\ 4 \end{bmatrix}$



$Z = 2x_1 + 4x_2$

So, $C = \begin{bmatrix} 2 \\ 4 \end{bmatrix}$

By trial n error : $Z_{min} = 10$ is opt val. at $(0, 2.5)$ or $(3,1)$

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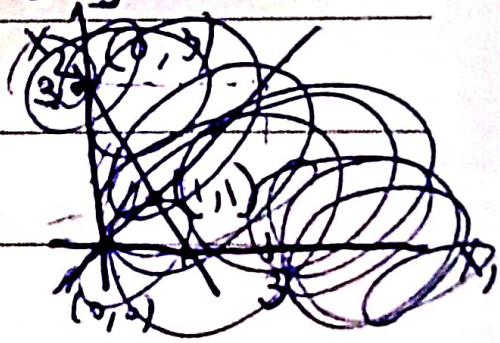
b) $A = \begin{bmatrix} -2 & -1 \\ 1 & -1 \end{bmatrix}$ $b = \begin{bmatrix} -3 \\ 0 \end{bmatrix}$



$Z = 6x_1 + x_2$

$C = \begin{bmatrix} 6 \\ 1 \end{bmatrix}$

By trial n error : Z is opt val at (1,1)

No soln possible as feasible soln region is unbounded