$\alpha_1 = \min\{0, 1-1\} = -1$

$\alpha_2 = -1$

$\alpha_3 = -1$

$\underline{W} = -1$

$\overline{W} = 1$

$-1 = \underline{W} \leq W \leq \overline{W} = 1$

$W \in [-1, 1]$

$\hat{W} = W + 2$

$$\hat{C} = C + 2 = \begin{pmatrix} 2 & 3 & 1 \\ 1 & 2 & 3 \\ 3 & 1 & 2 \end{pmatrix}$$

Minimize $u_1 + u_2 + u_3$

$$\begin{cases} 2u_1 + 1u_2 + 3u_3 \geq 1 \\ 3u_1 + 2u_2 + 1u_3 \geq 1 \\ 1u_1 + 3u_2 + 2u_3 \geq 1 \end{cases}$$

(P2) $\begin{cases} \text{Maximize } v_1 + v_2 + v_3 \\ 2v_1 + 3v_2 + v_3 \leq 1 \\ 1v_1 + 2v_2 + 3v_3 \leq 1 \\ 3v_1 + 1v_2 + 2v_3 \leq 1 \end{cases}$

(P1) $\begin{cases} u_1 + u_2 + u_3 \\ -2u_1 - u_2 - 3u_3 + u_4 = 1 \\ -3u_1 - 2u_2 - u_3 + u_5 = 1 \\ -u_1 - 3u_2 - 2u_3 + u_6 = 1 \\ u_1, \ldots, u_6 \geq 0 \end{cases}$

$$A \begin{pmatrix} -2 & -1 & -3 \\ -3 & -2 & -1 \\ -1 & -3 & -2 \end{pmatrix} \begin{pmatrix} 1 \\ 0 \\ 0 \end{pmatrix} \begin{pmatrix} 0 \\ 1 \\ 0 \end{pmatrix} \begin{pmatrix} 0 \\ 0 \\ 1 \end{pmatrix}$$

A^1

$$\ell = \begin{pmatrix} -1 \\ -1 \\ -1 \end{pmatrix}$$

	0	0	0		
1	A^1	A^4	A^5	A^6	
1	A^1	-2	-3	-1	-1
1	A^2	-1	-2	-3	-1
1	A^3	-3	-1	-2	-1
		-1	-1	-1	0

$D \leq A$

$\frac{1}{2}$

1

$\frac{1}{3}$ *

$\times$

2	A^3	A^5	A^6	
A^1	$\frac{2}{3}$	$-\frac{7}{3}$	$+\frac{7}{3}$	$\frac{-1}{3}$
A^2	$\frac{1}{3}$	$-\frac{5}{3}$	$-\frac{7}{3}$	$-\frac{2}{3}$
A^4	$-\frac{1}{3}$	$-\frac{1}{3}$	$-\frac{2}{3}$	$-\frac{1}{3}$
	$\frac{1}{3}$	$-\frac{2}{3}$	$-\frac{1}{3}$	$\frac{1}{3}$

$\frac{1}{4}$ ✱ $\frac{2}{5}$ 1

3	A^3	A^1	A^6	
A^5	$\frac{2}{7}$	$-\frac{3}{7}$	$\frac{1}{7}$	$-\frac{1}{7}$
A^2	$-\frac{1}{7}$	$\frac{5}{7}$	$\frac{18}{7}$	$-\frac{3}{7}$
A^4	$-\frac{3}{7}$	$\frac{1}{7}$	$-\frac{15}{21}$	$-\frac{2}{7}$
	$\frac{1}{7}$	$\frac{2}{7}$	$-\frac{3}{7}$	$\frac{3}{7}$

$\frac{1}{6} = 0,16$ ✱ $\frac{6}{15} > 0,4$

	A^3	A^1	A^2	
A^5				
A^6			$\frac{-4}{18}$	
A^4				
	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{2}$

$$\hat{w} = \frac{1}{\frac{1}{6}+\frac{1}{6}+\frac{1}{6}} = \frac{1}{\frac{1}{2}} = 2$$

$$\hat{x}^0 = \hat{w}\, m^0 = 2 \cdot \left(\frac{1}{6}, \frac{1}{6}, \frac{1}{6}\right) = \left(\frac{1}{3}, \ldots\right)$$

$$W = \hat{w} - k = 2 - 1 = 1$$