Aplique el método de potencia para estimar el valor propio dominante de la matriz $A = \begin{pmatrix} 10 & -12 & -6 \\ 5 & -5 & -4 \\ -1 & 0 & 3 \end{pmatrix}$ hasta un término $|\mu^{(n)} - \mu^{(n-1)}| < 0.001$

$X^{(0)} = \begin{pmatrix} 1 \\ 1 \\ 1 \end{pmatrix}$

$X^{(1)} = \begin{pmatrix} 10 & -12 & -6 \\ 5 & -5 & -4 \\ -1 & 0 & 3 \end{pmatrix} \begin{pmatrix} 1 \\ 1 \\ 1 \end{pmatrix} = \begin{pmatrix} -8 \\ -4 \\ 2 \end{pmatrix}$

$Y_{p_0}^{(1)} = -8$

$\lambda^{(0)} = \frac{-8}{1} = -8$

$\mu_1^{(1)} = y_{p_0}^{(1)} \qquad \rho_1 = 1 \qquad \mu^{(1)} = \frac{1}{-8}\begin{pmatrix} -8 \\ -4 \\ 2 \end{pmatrix} = \begin{pmatrix} 1 \\ 1/2 \\ -1/4 \end{pmatrix}$

$\begin{pmatrix} 10 & -12 & -6 \\ 5 & -5 & -4 \\ -1 & 0 & 3 \end{pmatrix} \begin{pmatrix} -8 \\ -4 \\ 2 \end{pmatrix} = \begin{pmatrix} -44 \\ -18 \\ 14 \end{pmatrix}$

$\lambda^{(1)} = \frac{-44}{-8} = 5.5$

$\begin{pmatrix} 10 & -12 & -6 \\ 5 & -5 & -4 \\ -1 & 0 & 3 \end{pmatrix} \begin{pmatrix} -44 \\ -18 \\ 14 \end{pmatrix} = \begin{pmatrix} -188 \\ -136 \\ 86 \end{pmatrix}$

$\lambda^{(2)} = \frac{-188}{-44} = 4.27$

$AX^{(6)} = \begin{pmatrix} -44748 \\ -44736 \\ 40406 \end{pmatrix}$

$\begin{pmatrix} \end{pmatrix} = \begin{pmatrix} -764 \\ -604 \\ 446 \end{pmatrix}$

$\lambda^{(3)} = \frac{-764}{-188} = 4.06$

$\lambda^{(6)} = 4.00097$

$AX^{(7)} = \begin{pmatrix} -46609 \\ -48389 \\ 170866 \end{pmatrix}$

$\begin{pmatrix} \end{pmatrix} = \begin{pmatrix} -3068 \\ -2889 \\ 2702 \end{pmatrix}$

$\lambda^{(4)} = 4.0157$

$\lambda^{(7)} = 4.00024$

$\begin{pmatrix} \end{pmatrix} = \begin{pmatrix} -12284 \\ -10828 \\ 9374 \end{pmatrix}$

$\lambda^{(5)} = 4.0039$