Parcial Computacion

① (30%) $P_1 = (10, 10, 0)$

$P_2 = (40, 10, 0)$

$P_3 = (40, 40, 0)$

$P_4 = (10, 40, 0)$

$$R_1 = \begin{bmatrix} \cos 30 & 0 & \text{sen}30 \\ 0 & 1 & 0 \\ -\text{sen}30 & 0 & \cos 30 \end{bmatrix} \begin{bmatrix} 10 \\ 10 \\ 0 \end{bmatrix} = \begin{bmatrix} 8.66025 \\ 10 \\ -5 \end{bmatrix}$$

$$R_2 = \begin{bmatrix} \cos 30 & 0 & \text{sen}30 \\ 0 & 1 & 0 \\ -\text{sen}30 & 0 & \cos 30 \end{bmatrix} \begin{bmatrix} 40 \\ 10 \\ 0 \end{bmatrix} = \begin{bmatrix} 34.641 \\ 10 \\ -20 \end{bmatrix}$$

$$R_3 = \begin{bmatrix} \cos 30 & 0 & \text{sen}30 \\ 0 & 1 & 0 \\ -\text{sen}30 & 0 & \cos 30 \end{bmatrix} \begin{bmatrix} 40 \\ 40 \\ 0 \end{bmatrix} = \begin{bmatrix} 34,641 \\ 40 \\ -20 \end{bmatrix}$$

$$R_4 = \begin{bmatrix} \cos 30 & 0 & \text{sen}30 \\ 0 & 1 & 0 \\ -\text{sen}30 & 0 & \cos 30 \end{bmatrix} \begin{bmatrix} 10 \\ 40 \\ 0 \end{bmatrix} = \begin{bmatrix} 8.66025 \\ 40 \\ -5 \end{bmatrix}$$

$$T_1 = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 4 \\ 0 & 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} 8,66025 \\ 10 \\ -5 \\ 1 \end{bmatrix} = \begin{bmatrix} 8,66025 \\ 10 \\ -1 \\ 1 \end{bmatrix}$$

$$T_2 = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 4 \\ 0 & 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} 34,641 \\ 10 \\ -20 \\ 1 \end{bmatrix} = \begin{bmatrix} 34,641 \\ 10 \\ -16 \\ 1 \end{bmatrix}$$

$$T_3 = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 4 \\ 0 & 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} 34,641 \\ 40 \\ -20 \\ 1 \end{bmatrix} = \begin{bmatrix} 34,641 \\ 40 \\ -16 \\ 1 \end{bmatrix}$$

$$T_4 = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 4 \\ 0 & 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} 8,66025 \\ 40 \\ -5 \\ 1 \end{bmatrix} = \begin{bmatrix} 8,66025 \\ 40 \\ -1 \\ 1 \end{bmatrix}$$

$$S_1 = \begin{bmatrix} 9 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} 8,66025 \\ 10 \\ -1 \\ 1 \end{bmatrix} = \begin{bmatrix} 77,94225 \\ 10 \\ -1 \\ 1 \end{bmatrix}$$

$$S_2 = \begin{bmatrix} 9 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} 34,641 \\ 10 \\ -16 \\ 1 \end{bmatrix} = \begin{bmatrix} 311,769 \\ 10 \\ -16 \\ 1 \end{bmatrix}$$

$$S_3 = \begin{bmatrix} 9 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} 34,641 \\ 40 \\ -16 \\ 1 \end{bmatrix} = \begin{bmatrix} 311,769 \\ 40 \\ -16 \\ 1 \end{bmatrix}$$

$$S_4 = \begin{bmatrix} 9 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} 8,66025 \\ 40 \\ -1 \\ 1 \end{bmatrix} = \begin{bmatrix} 77,94225 \\ 40 \\ -1 \\ 1 \end{bmatrix}$$