Programming Assignment 1

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Program 1 - Affine Map

We have the following affine map:

$$\begin{bmatrix} x1 \\ x2 \end{bmatrix} \rightarrow \begin{bmatrix} 1 & 1 \\ 1 & 3 \end{bmatrix} \begin{bmatrix} x1 \\ x2 \end{bmatrix} + \begin{bmatrix} 4 \\ 0 \end{bmatrix}$$

This affine map can be converted into homogenous coordnates in 3 Dimensions to include the translation:

$$\begin{bmatrix} 1 & 1 & 4 \\ 1 & 3 & 0 \\ 0 & 0 & 1 \end{bmatrix}$$

This can then be decomposed into the following transformation matricies