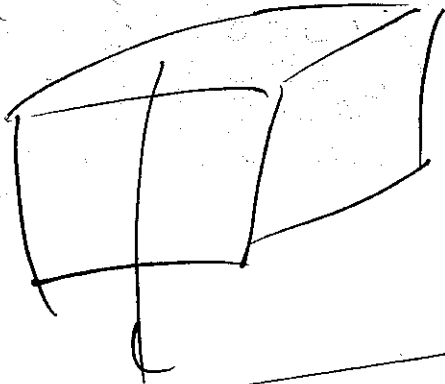
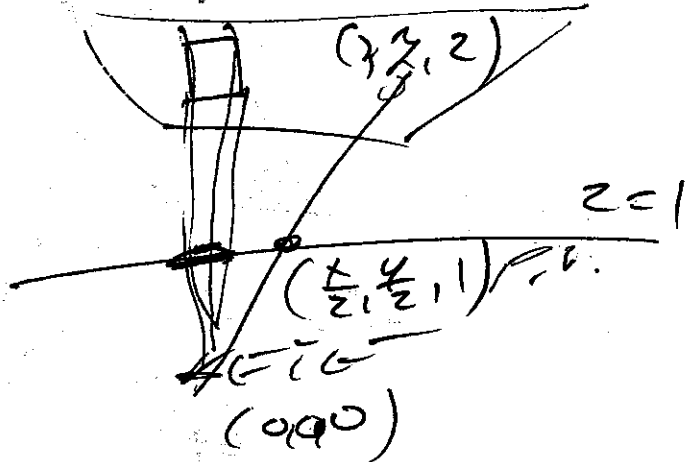


11 PROJ



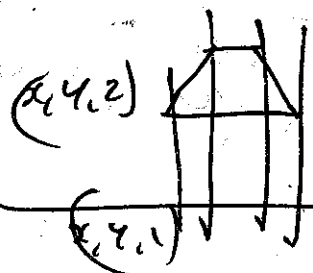
$(1,1)$

PERSPECTIVE 1



E_{1-1}

604c DISTORT SCENE SO WE CAN DO A STANDARD PROJ. AFTER NORMALIZATION



OBJECT THAT WAS THE SOURCE

$$(x, y, 2) \rightarrow \left(\frac{x}{2}, \frac{y}{2}, \frac{1}{2}\right)$$

$$(1, 1, 1), (2, 1, 1) = \left(\frac{1}{2}, \frac{1}{2}, \frac{1}{2}\right)$$

$$y=1 \quad (1, 0, 0)$$

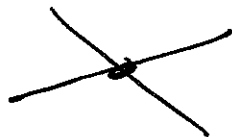
$$y=0 \quad (1, 0, 0)$$

$$(0, 0, 1), (1, 0, 1), (2, 0, 1)$$

$$(0, 0, 1), (1, 0, 1)$$

$$\left(1, 0, \frac{1}{2}\right), \left(1, 0, \frac{1}{3}\right), \dots$$

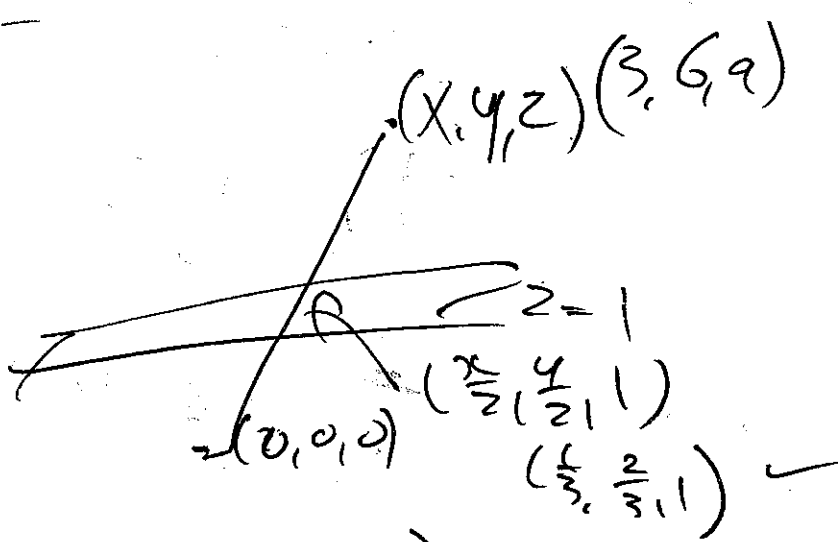
$$\begin{pmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{pmatrix}$$



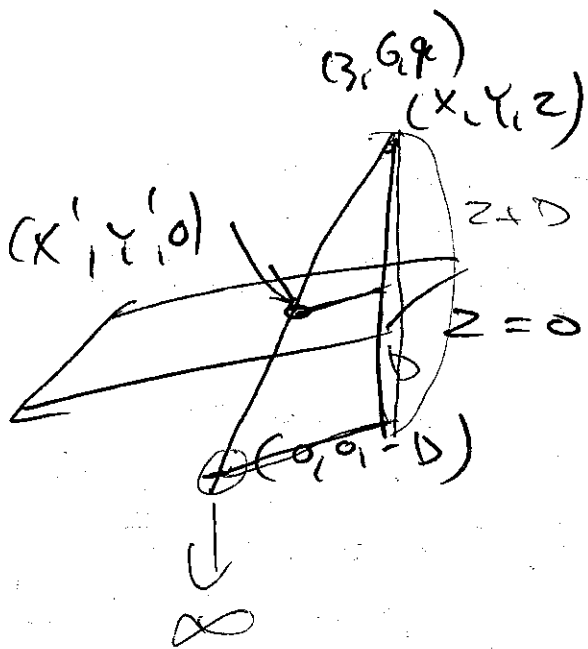
TO TRANSLATE $(0, 1, 2)$ BY $(1, 2, 3) \rightarrow (1, 3, 5)$

$$\begin{pmatrix} 1 & 0 & 0 & 1 \\ 0 & 1 & 0 & 2 \\ 0 & 0 & 1 & 3 \\ 0 & 0 & 0 & 1 \end{pmatrix} \begin{pmatrix} 0 \\ 1 \\ 2 \\ 1 \end{pmatrix} = \begin{pmatrix} 1 \\ 3 \\ 5 \\ 1 \end{pmatrix}$$

$$\begin{pmatrix} 2 & 0 & 0 & 2 \\ 0 & 2 & 0 & 4 \\ 0 & 0 & 2 & 6 \\ 0 & 0 & 0 & 2 \end{pmatrix} \begin{pmatrix} 1 \\ 3 \\ 5 \\ 1 \end{pmatrix} = \begin{pmatrix} 4 \\ 10 \\ 16 \\ 2 \end{pmatrix}$$



$$\begin{pmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{pmatrix} \begin{pmatrix} 3 \\ 6 \\ 9 \\ 1 \end{pmatrix} = \begin{pmatrix} 3 \\ 6 \\ 9 \\ 1 \end{pmatrix}$$

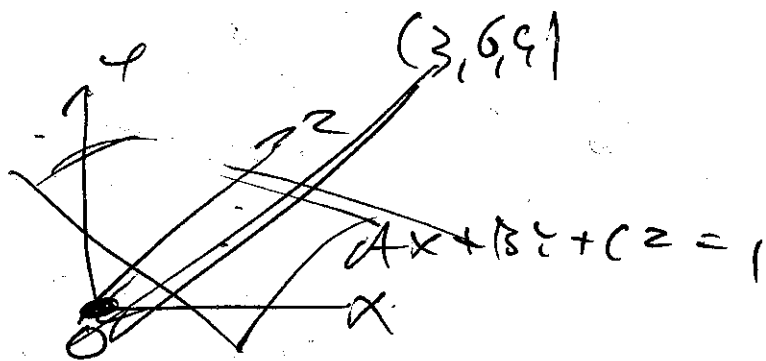


$$z = 0$$

$$x' = \frac{1}{10}$$

$$y' = 6 \left(\frac{1}{10} \right) = \frac{6}{10}$$

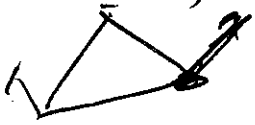
$$\begin{pmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 \end{pmatrix} \begin{pmatrix} 3 \\ 6 \\ 9 \\ 1 \end{pmatrix} = \begin{pmatrix} 3 \\ 6 \\ 0 \\ 1 \end{pmatrix} \rightarrow \begin{pmatrix} 3/10 \\ 6/10 \\ 0 \\ 1 \end{pmatrix}$$



$$x + y + z = 1$$

$$\begin{pmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 1 & 1 & 1 & 0 \end{pmatrix} \begin{pmatrix} 3 \\ 6 \\ 9 \\ 1 \end{pmatrix} = \begin{pmatrix} 3 \\ 6 \\ 9 \\ 18 \end{pmatrix} \rightarrow \begin{pmatrix} 1/6 \\ 1/3 \\ 1/2 \end{pmatrix}$$

ex. 1.2)



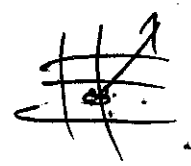
VERTEX PROC



→ RASTERIZ



↑
VERTEX SHADER



↑
FRAGMENT SHADER

