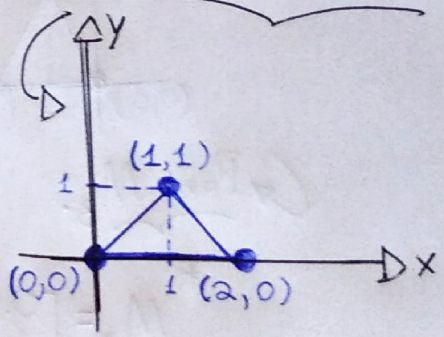
* ALUNO: JOÃO GABRIEL CARNEIRO MEDEIROS - PROF. AJALMAR

i) COM BASE NO QUE FOI ENSINADO NA AULA ASSÍNCRONA DO DIA "14/05" IREMOS REALIZAR AS TRANSFORMAÇÕES EM ESCALA 2D COM BASE NO QUE SE SEGUE:

$$T(x) \rightarrow \begin{bmatrix} x_1' \\ x_2' \end{bmatrix} = \begin{bmatrix} Sx & 0 \\ 0 & Sy \end{bmatrix} \cdot \begin{bmatrix} x_1 \\ x_2 \end{bmatrix}$$

"NOVO PONTO" (NOVO) $\rightarrow P_1'$; M ↳ "MATRIZ DE TRANSFORMAÇÃO" ; P_1 ← "PONTO ANTIGO" (ANTES)

ii) AGORA, PARA AS TRANSFORMAÇÕES: O=[0 0;2 0;1 1]

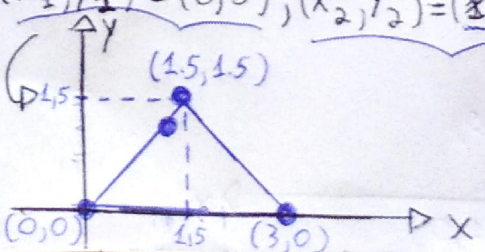


PARA M_1:

* $$M_1 = \begin{bmatrix} 1.5 & 0.0 \\ 0.0 & 1.5 \end{bmatrix} \rightarrow \begin{bmatrix} x_1' & x_2' & x_3' \\ y_1' & y_2' & y_3' \end{bmatrix} = \begin{bmatrix} 1.5 & 0.0 \\ 0.0 & 1.5 \end{bmatrix} \cdot \begin{bmatrix} 0 & 2 & 1 \\ 0 & 0 & 1 \end{bmatrix} =$$

$$= \begin{bmatrix} 0 & 3 & 1.5 \\ 0 & 0 & 1.5 \end{bmatrix}$$

* $(x_1', y_1') = (0,0)$; $(x_2', y_2') = (3,0)$; $(x_3', y_3') = (1.5, 1.5)$



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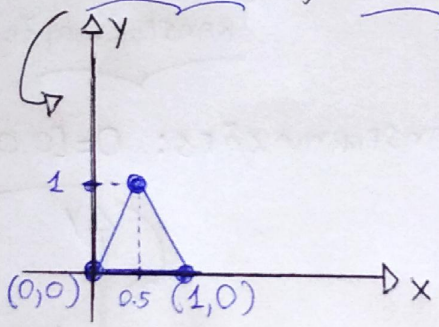
↳ Para M_2:

* $M_2 = \begin{bmatrix} 0.5 & 0.0 \\ 0.0 & 1.0 \end{bmatrix} \rightarrow \begin{bmatrix} x'_1 & x'_2 & x'_3 \\ y'_1 & y'_2 & y'_3 \end{bmatrix} = \begin{bmatrix} 0.5 & 0.0 \\ 0.0 & 1.0 \end{bmatrix} \cdot \begin{bmatrix} 0 & 2 & 1 \\ 0 & 0 & 1 \end{bmatrix} =$

$$= \begin{bmatrix} 0 & 1 & 0.5 \\ 0 & 0 & 1 \end{bmatrix}$$

* $(x'_1, y'_1) = (0,0)$; $(x'_2, y'_2) = (1,0)$; $(x'_3, y'_3) = (0.5, 1)$



↳ Para M_3:

* $M_3 = \begin{bmatrix} 0.5 & 0.0 \\ 0.0 & 0.5 \end{bmatrix} \rightarrow \begin{bmatrix} x'_1 & x'_2 & x'_3 \\ y'_1 & y'_2 & y'_3 \end{bmatrix} = \begin{bmatrix} 0.5 & 0.0 \\ 0.0 & 0.5 \end{bmatrix} \cdot \begin{bmatrix} 0 & 2 & 1 \\ 0 & 0 & 1 \end{bmatrix} =$

$$= \begin{bmatrix} 0 & 1 & 0.5 \\ 0 & 0 & 0.5 \end{bmatrix}$$

* $(x'_1, y'_1) = (0,0)$; $(x'_2, y'_2) = (1,0)$; $(x'_3, y'_3) = (0.5, 0.5)$