first box:

input:

$$\begin{bmatrix}\delta x\\ \delta y\end{bmatrix} = \left(\begin{bmatrix}x_{in}\\ y_{in}\end{bmatrix} - \begin{bmatrix}320 & 240\end{bmatrix}\right) \cdot \begin{bmatrix}{}^{89.5}/_{640}\\ {}^{71.5}/_{480}\end{bmatrix}$$

second box:
calculate current lengths:

$$\vec{l_t} = Pos2Len\left(\vec{p_t} + 0.3533 + tension\right) + startingLength$$

third box:
calculate current position:

$$(x_t, y_t) = forwardKinematics\left(\vec{l_t}\right)$$

forth box:
check boundaries

fifth box:
proportional control:

$$g = \begin{bmatrix}\delta x_t\\ \delta y_t\end{bmatrix} \cdot \begin{bmatrix}\delta x_t & \delta y_t\end{bmatrix} \cdot 0.03944444$$

sixth box:
calculate new changes in length:

$$\delta\vec{l}_t = inverseKinematics\left(\begin{bmatrix}x_t\\ y_t\end{bmatrix} + \begin{bmatrix}\delta x_t\\ \delta y_t\end{bmatrix}\right) - \vec{l_t}$$

seventh box:
calculate new speeds:

$$x = \max\left(\delta\vec{l}_t\right)$$

$$\vec{s} = \frac{g}{x} \cdot \vec{l}$$

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eighth box:
set speeds.

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ninth box:
calculate new positions:

$$\vec{p}_{t+1} = Len2Pos\left(\delta\vec{l}_t\right) + \vec{p_t} - tension$$

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tenth box:
set new positions
