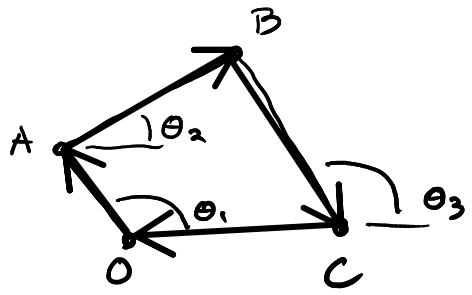
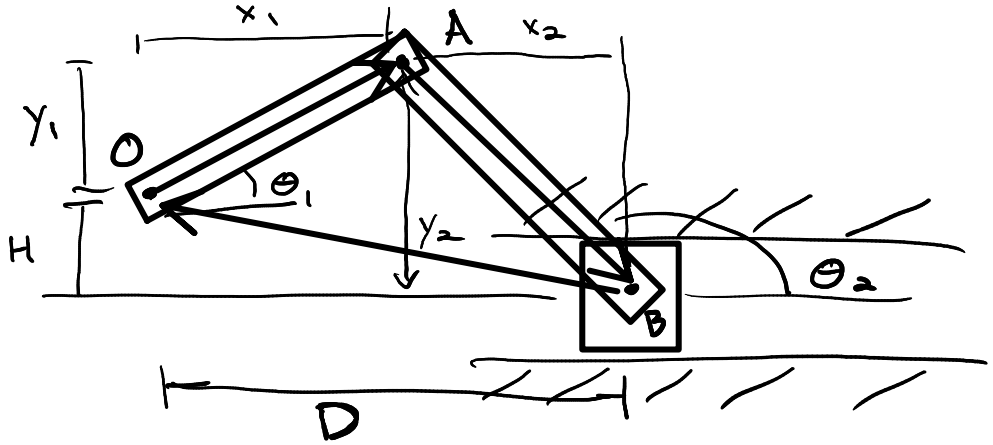
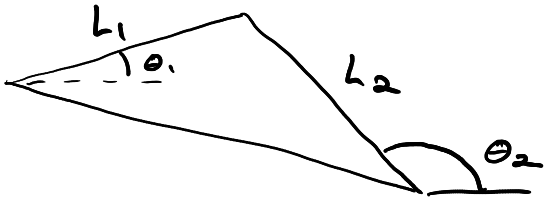



$$\bar{r}_A + \bar{r}_{B/A} + \bar{r}_{C/B} + \bar{r}_{O/C} = \bar{0}$$

$$\bar{v}_A + \bar{v}_{B/A} + \bar{v}_{C/B} + \bar{0} = \bar{0}$$




$$\bar{r}_A + \bar{r}_{B/A} = \bar{r}_B$$




$$L_1(\cos\theta_1\,\hat{i} + \sin\theta_1\,\hat{j}) + L_2(\cos\theta_2\,\hat{i} + \sin\theta_2\,\hat{j}) = D\,\hat{i} - H\,\hat{j}$$

$$x_1 + x_2 = D$$

$$y_2 - y_1 = H$$

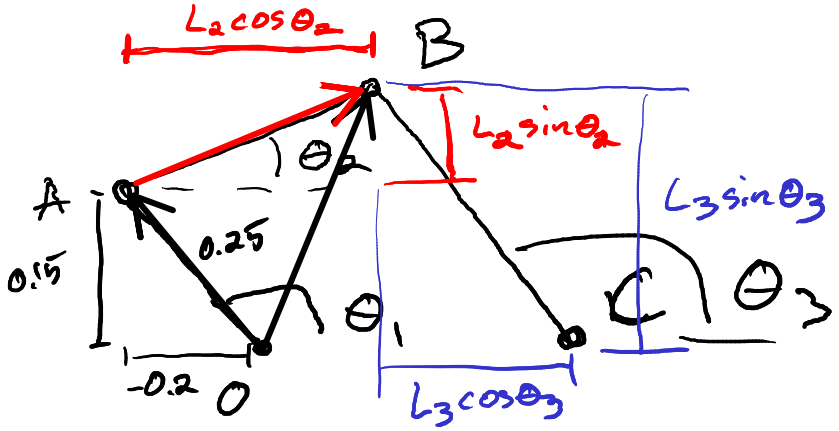
$\bar{r}_O = \bar{0}$

$\bar{r}_A = -0.203\hat{i} + 0.15\hat{j}$ m

$\bar{r}_B = 0.494\hat{i} + 0.863\hat{j}$ m

$\bar{r}_C = 1\hat{i} + 0\hat{j}$

$\dot{\theta}_1 = 10 \frac{rad}{s}$




$\bar{r}_A = L_1\cos\theta_1\hat{i} + L_1\sin\theta_1\hat{j}$

$\bar{r}_{B/A} = L_2\cos\theta_2\hat{i} + L_2\sin\theta_2\hat{j}$

$\bar{r}_{B/C} = L_3\cos\theta_3\hat{i} + L_3\sin\theta_3\hat{j}$

$\theta_1 = \longrightarrow$ $\cos\theta_1 = \frac{-0.2\,m}{0.25\,m}$ $\sin\theta_1 = \frac{0.15\,m}{0.25\,m}$

$\theta_2 = \longrightarrow$ $\cos\theta_2 = \frac{0.494+0.2\,m}{1m}$ $\sin\theta_2 = \frac{0.863-0.15\,m}{1m}$

$\theta_3 = \longrightarrow$ $\cos\theta_3 = \frac{0.494-1\,m}{1m}$ $\sin\theta_3 = \frac{0.863-0\,m}{1m}$

position

$L_1\cos\theta_1 + L_2\cos\theta_2 - L_3\cos\theta_3 = 1$

$L_1\sin\theta_1 + L_2\sin\theta_2 - L_3\sin\theta_3 = 0$

velocity

$L_1\dot{\theta}_1\sin\theta_1 + L_2\dot{\theta}_2\sin\theta_2 - L_3\dot{\theta}_3\sin\theta_3 = 0$

$L_1\dot{\theta}_1\cos\theta_1 + L_2\dot{\theta}_2\cos\theta_2 - L_3\dot{\theta}_3\cos\theta_3 = 0$

① $\left(0.25 \cdot 10 \frac{rad}{s}\right)\left(\frac{0.15}{0.25}\right) + \dot{\theta}_2\left(\frac{0.863-0.85}{1}\right) - \dot{\theta}_3\left(\frac{0.863}{1}\right) = 0$

② $\left(0.25 \cdot 10 \frac{rad}{s}\right)\left(\frac{-0.2}{0.25}\right) + \dot{\theta}_2\left(\frac{0.49+0.2}{1}\right) - \dot{\theta}_3\left(\frac{0.494-1}{1}\right) = 0$