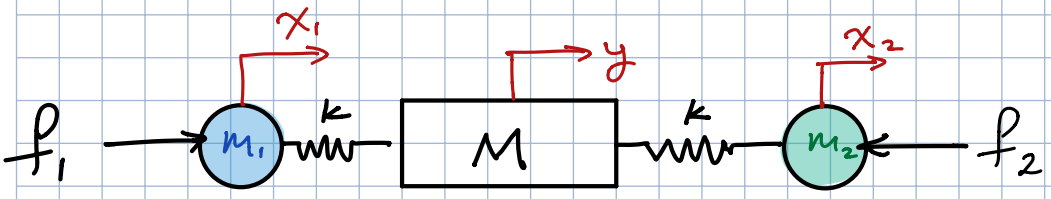

$$M\ddot{y} = k(x_2 - y) + k(x_1 - y) - b\dot{y}$$

$$m\ddot{x}_1 = f_1 - k(x_1 - y) \qquad f_{N1} = -k(x_1 - y)$$

$$m\ddot{x}_2 = -f_2 + k(x_2 - y) \qquad f_{N2} = k(x_2 - y)$$

You have to keep track of $x_1, x_2, \& y$.
But only y is used to compute error.