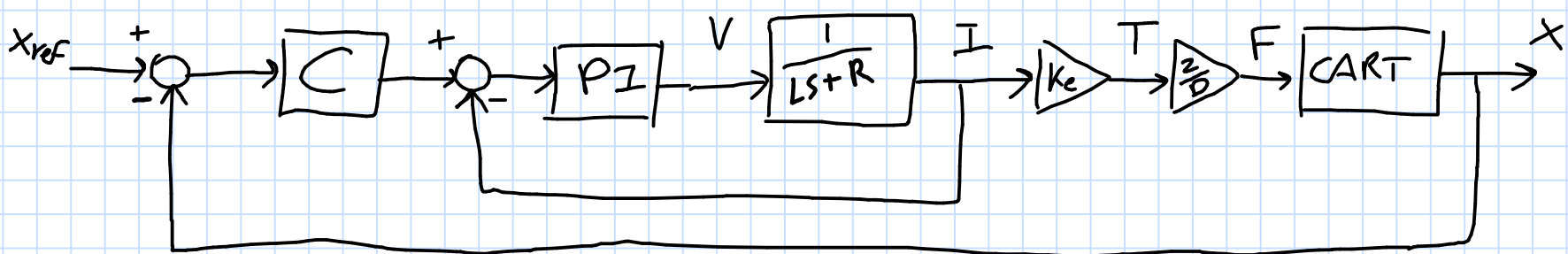
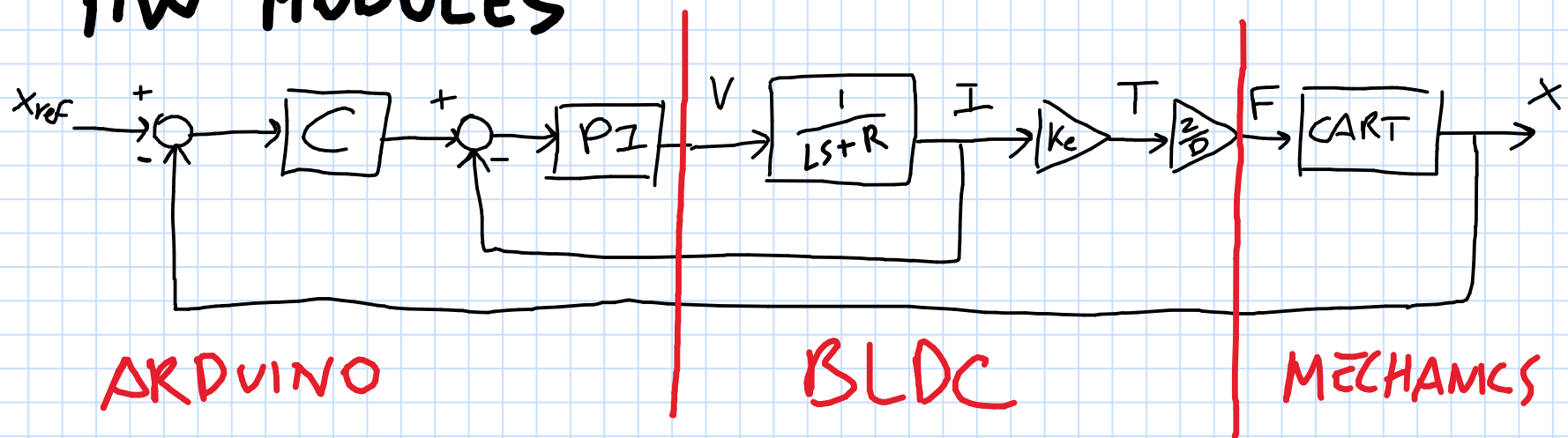


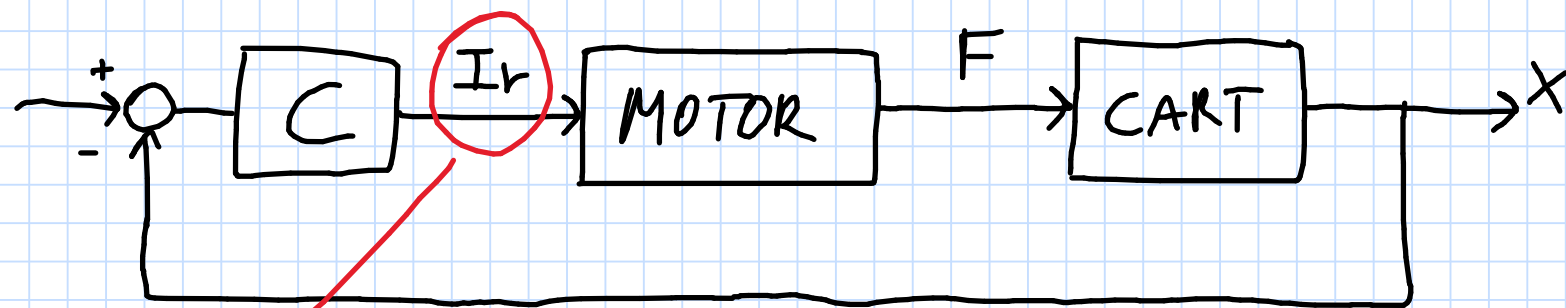
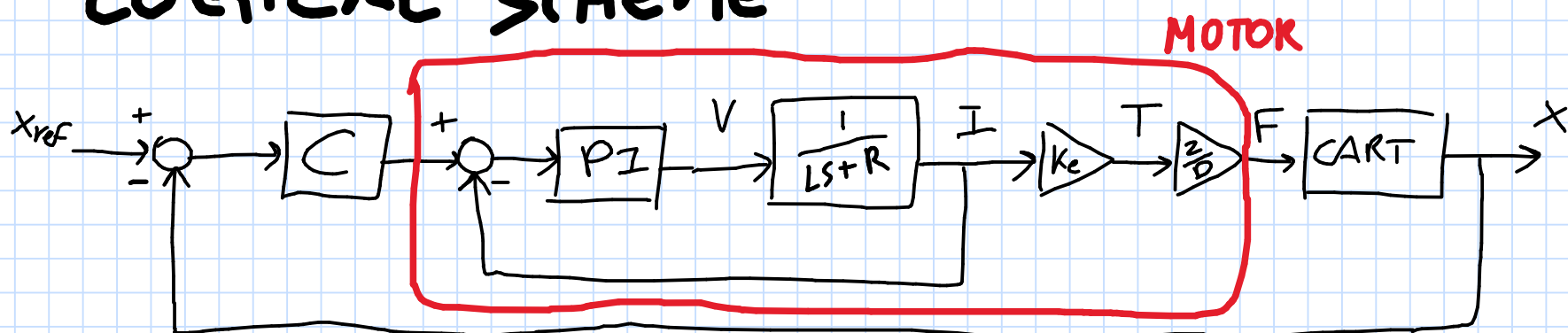
# CONTROL SCHEME



## HW MODULES

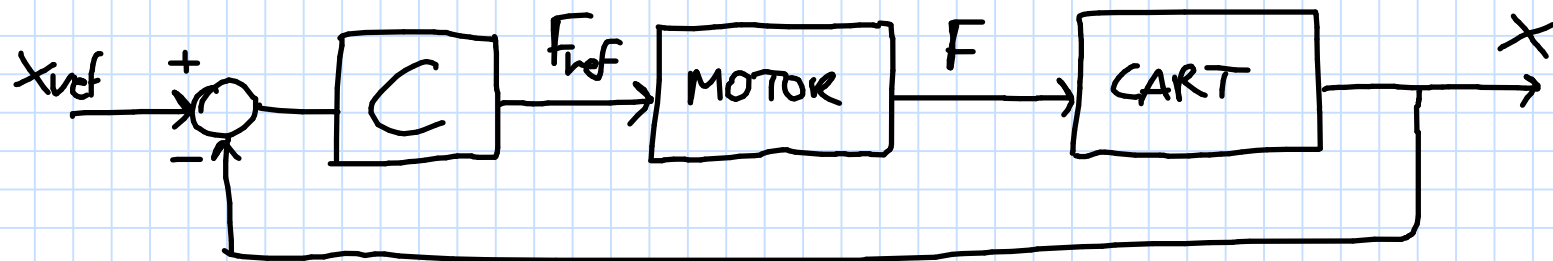
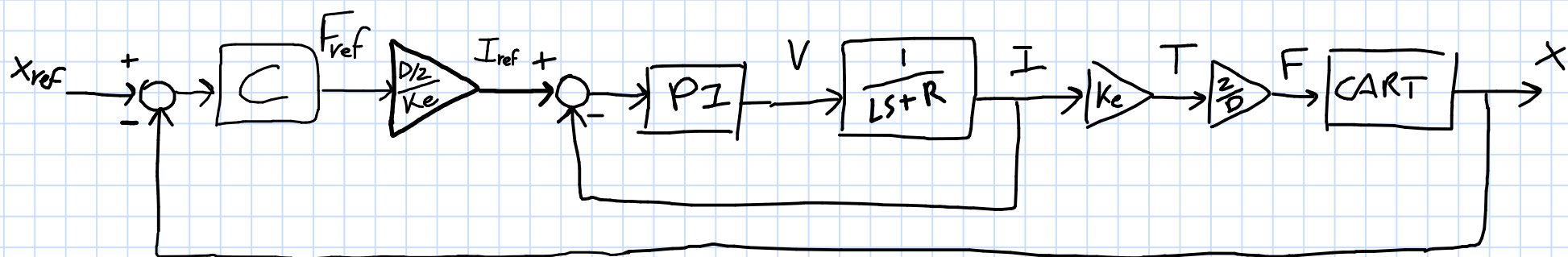


## LOGICAL SCHEME



NOT HANDY TO PILOT CURRENT!

$$T = K_e I, T = F \frac{D}{2}$$



$F_{ref} = F$  since MOTOR has unity gain!

## MOTOR BLOCK

$$PI = K_p + \frac{K_I}{s} = \frac{K_p s + K_I}{s}$$

$$M(s) = \frac{K_p s + K_I}{s} \cdot \frac{1}{sL + R} \cdot \frac{s(sL + R)}{s(sL + R) + K_p s + K_I}$$

$$M(s) = \frac{K_p s + K_I}{L s^2 + (K_p + R)s + K_I}$$