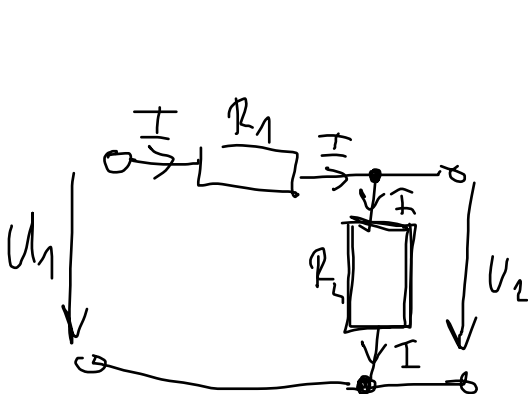
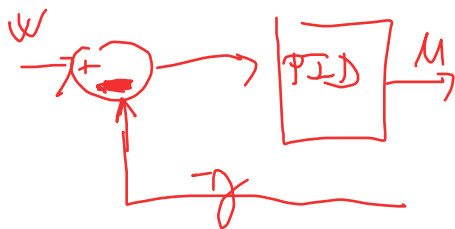
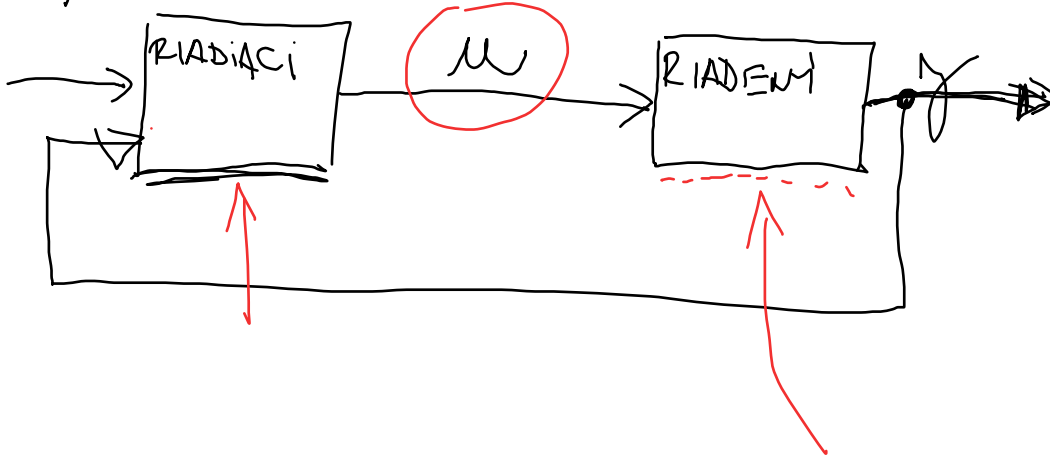


W setpoint v

?



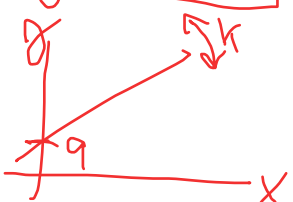
$$U_2 = F(U_1)$$

$$U_2 = R_2 I$$

$$I = \frac{U_1}{R_1 + R_2}$$

$u(k)$

$$y = kx + q$$



$$U_2(k) = \frac{R_2}{R_1 + R_2} U_1(k)$$

4

$$\frac{U_2}{U_1} = ?$$

$$\boxed{\frac{dy(t)}{dt} = ?}$$

$\dot{y}(t)$

$y(t)$

$$\left[\frac{dy(t)}{dt} = F(t, y(t), u(t)) \right]$$

$y(t)$

$$\boxed{\text{"ode"}} \rightarrow y(t)$$

$$\frac{dy}{dt} = F(y(t))$$

$$\dot{y} = y(t)$$

$$\boxed{\frac{dy(t)}{dt} = y(t)}$$

$$y(0) = y_0$$

$$\int \frac{1}{y(t)} dy(t) = \int dt$$

$$\ln(y) + c_1 = t + c_2$$

$$\ln(y) = t + c_3$$

$$\begin{array}{c} \downarrow \\ 2x=3 \\ \uparrow \\ \frac{3}{2} \end{array}$$

$$y(t) = e^{(t+c_3)}$$

$$y(0) = y_0 = e^{(0+c_3)}$$

$$y(t) = e^t e^{c_3}$$

$$y(0) = e^0 e^{c_3}$$

$$y(0) = e^{c_3} = y_0$$

$$y(t) = y_0 e^t$$