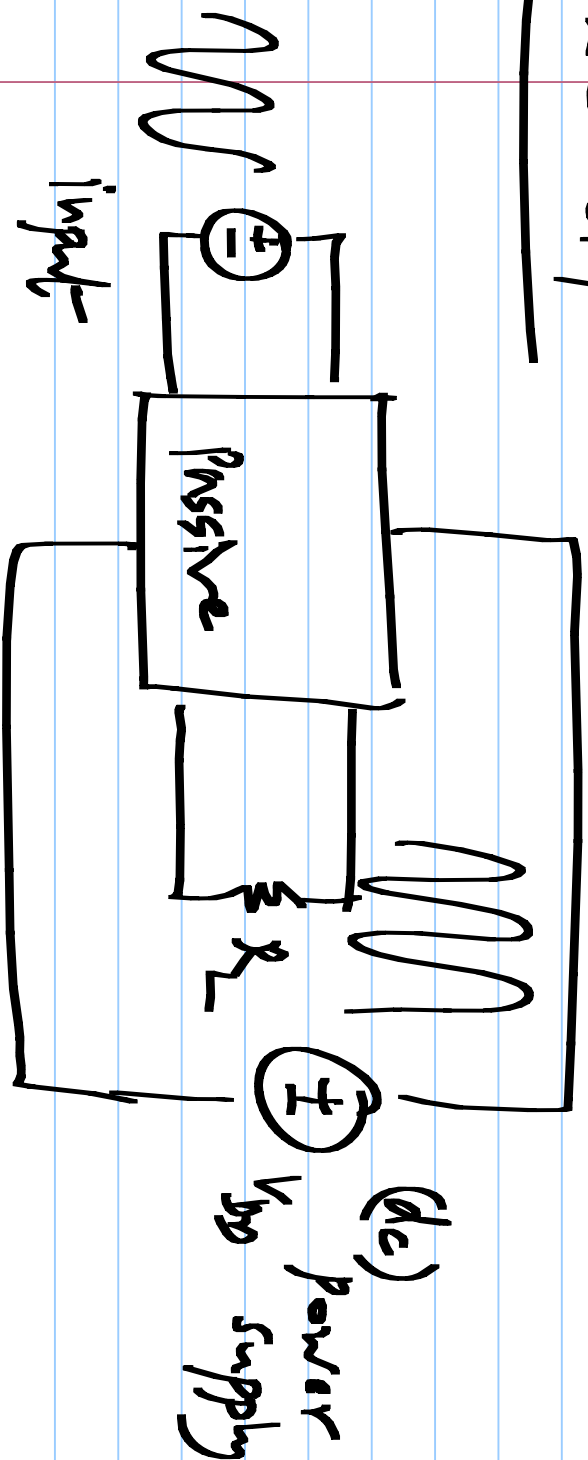
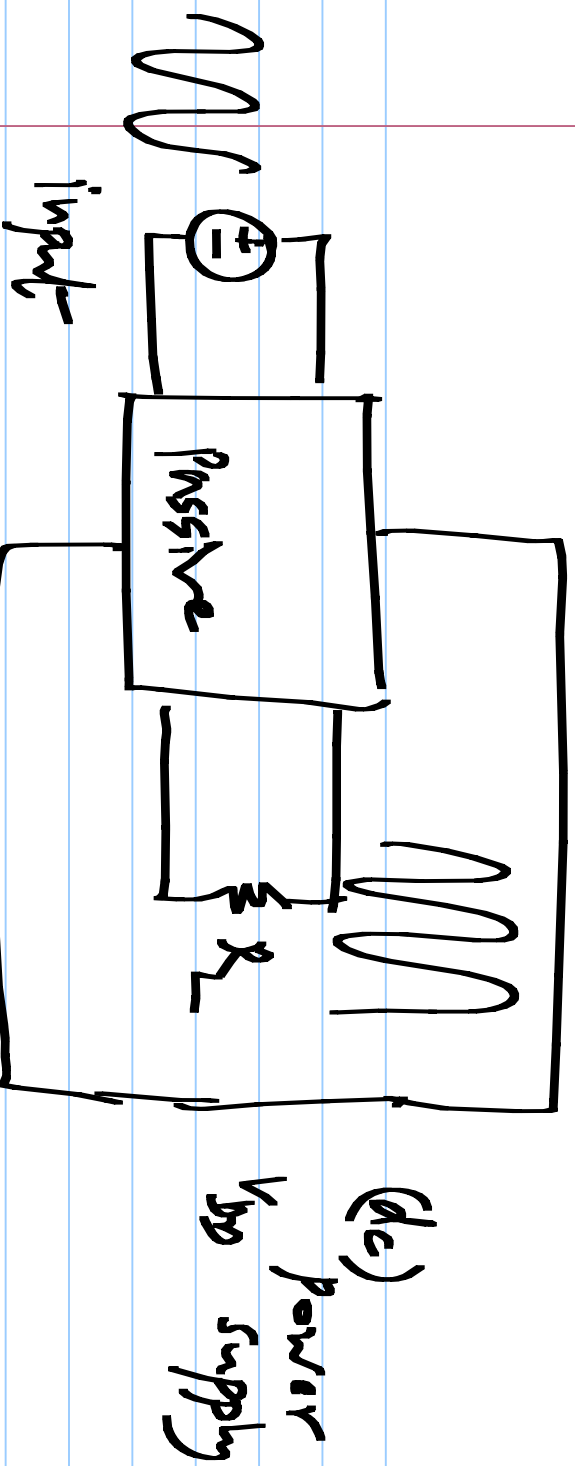


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18/1/2018



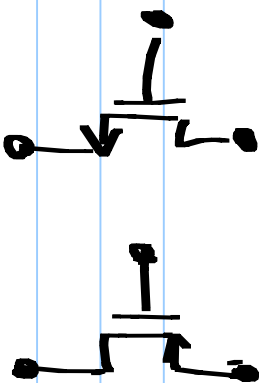


Need
nonlinearity
for power
gain

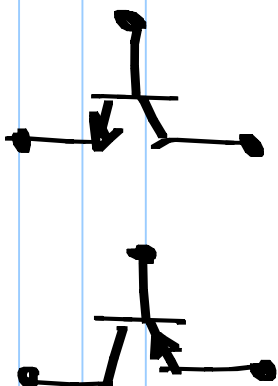
analog,

Digital
circuits

MOS

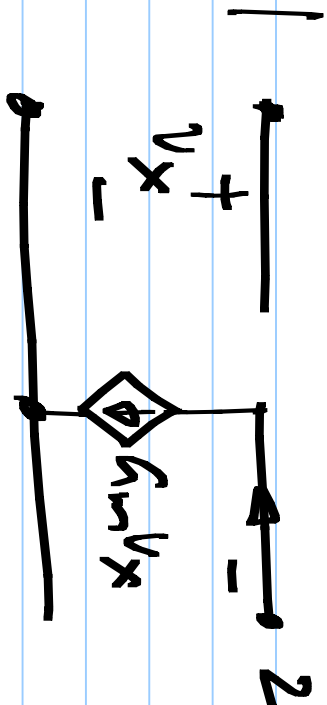


BJT



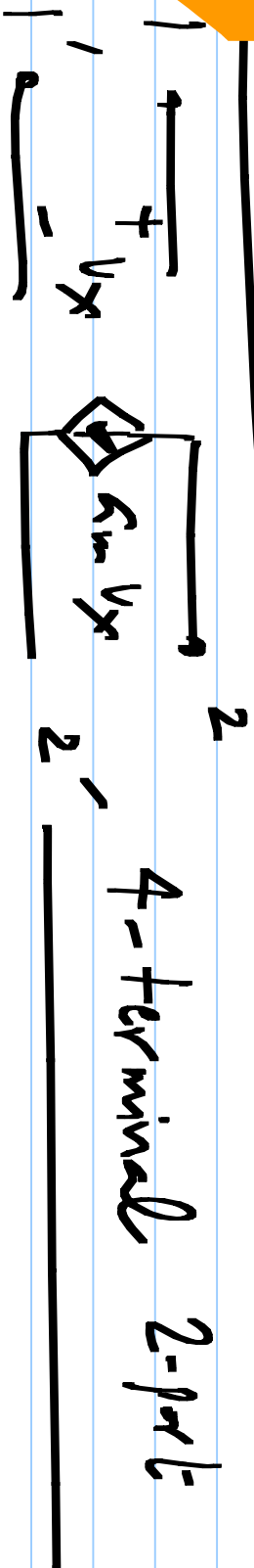
other

type of
control



g_m varies a lot sources

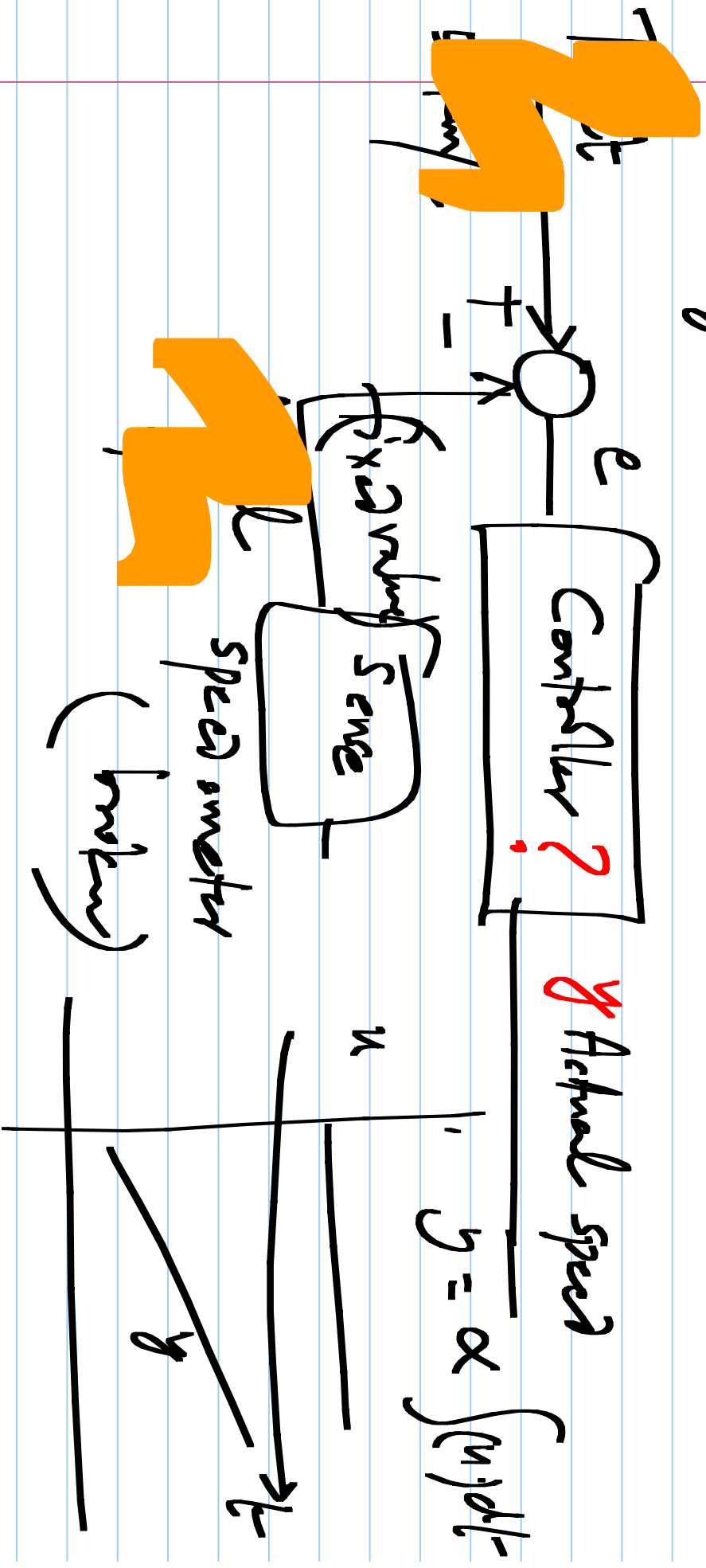
3-terminal 2-port with temperature

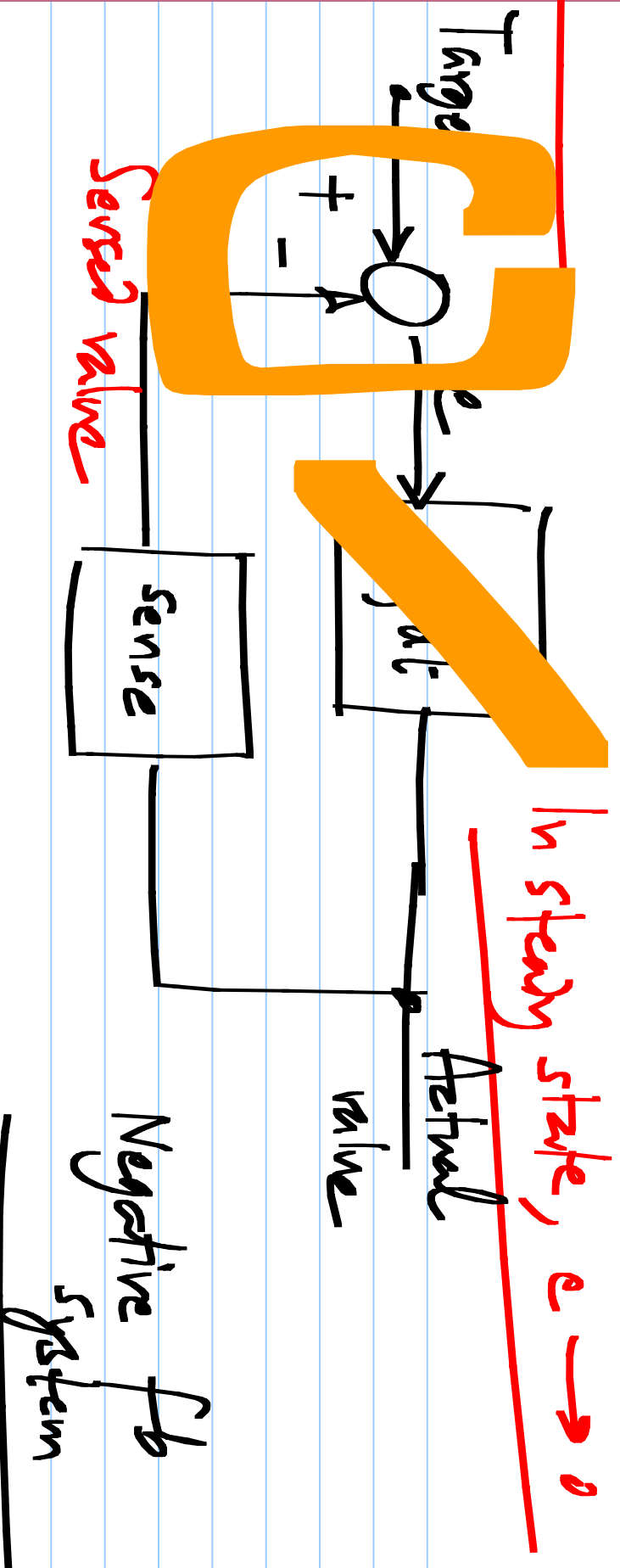


4-terminal 2-port

Realizing precisely controlled gain $V_o = K \cdot V_i$

Use negative feedback to control the output-



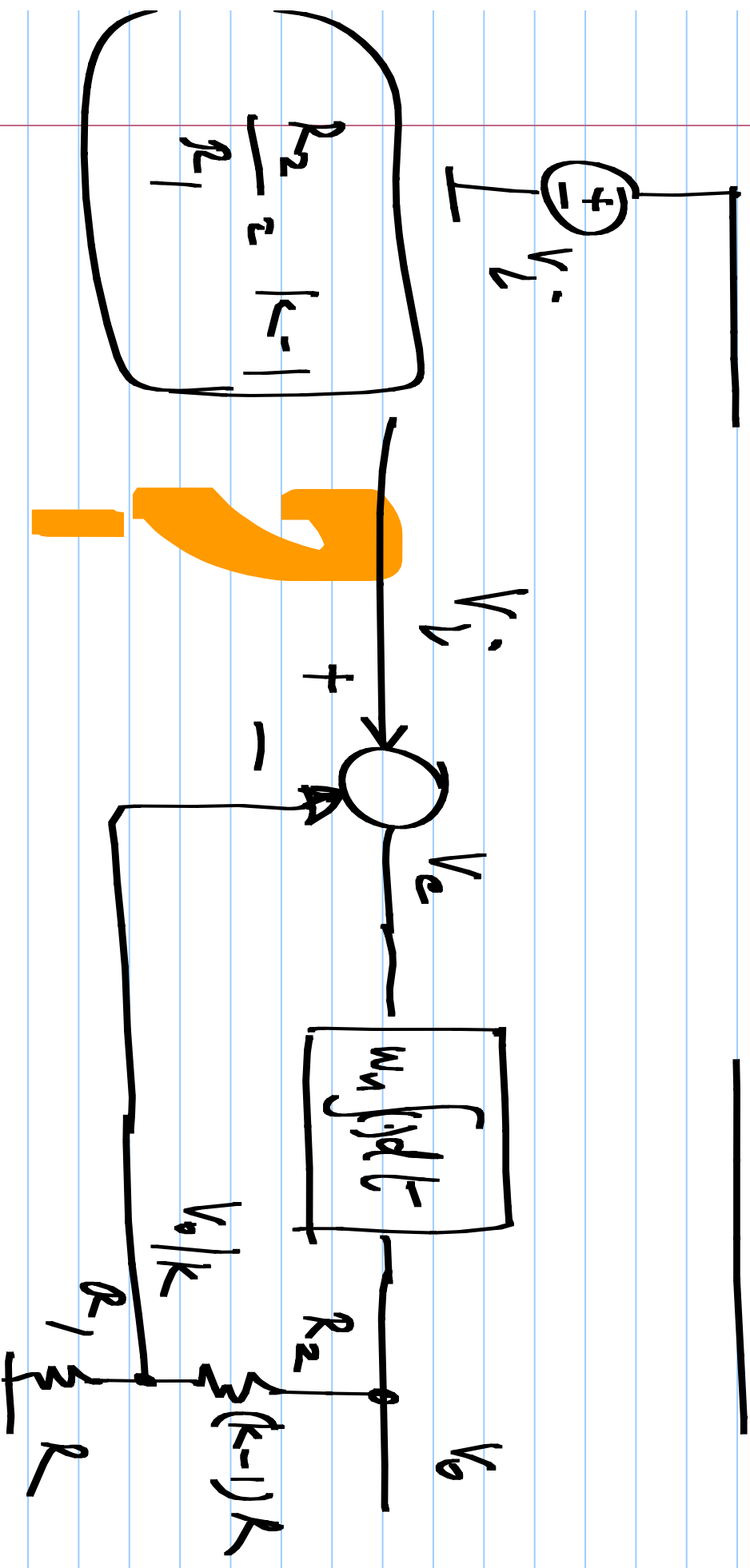


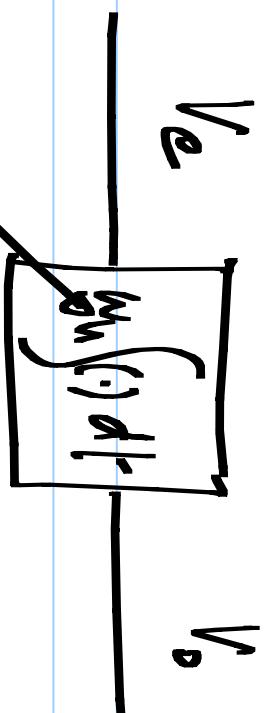
Continuously change the output (actual value)
in a direction that reduces error " e "

VCVS:

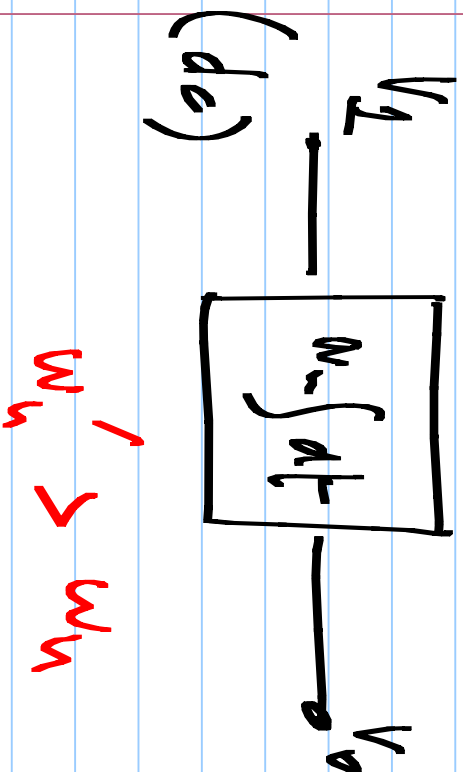
$$V_o = k \cdot V_i$$

$$V_o = V_i - V_o/k$$





unity gain frequency of the integrator



$$\omega_n' > \omega_n$$

