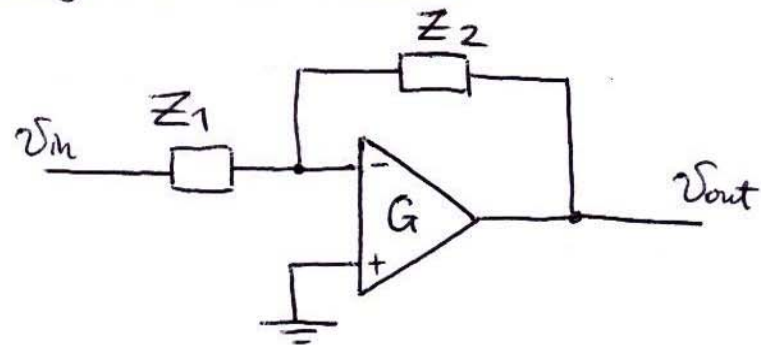
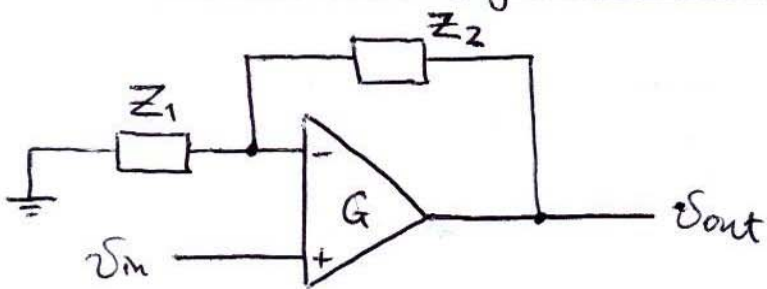


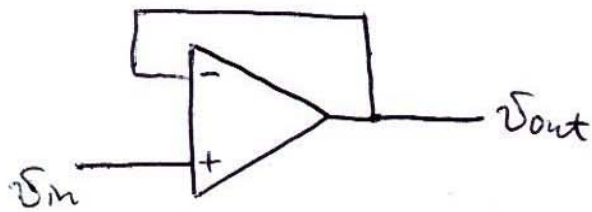
Lecture 11

Two basic configurations with negative feedback

Applications of neg. feedback

(2)

① voltage follower

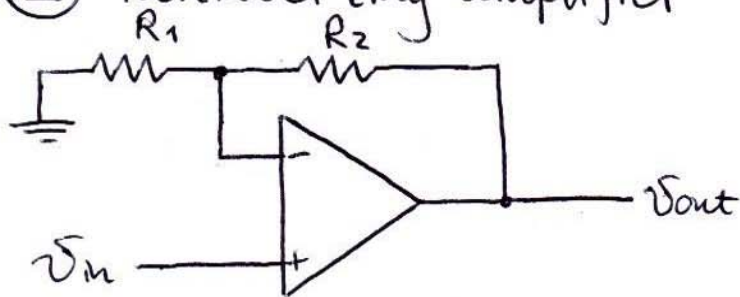


$$V_{in} \text{ ————— } V_{out}$$

$$G_{CL} = \frac{G}{1+GH} \approx 1, \quad G \gg 1$$

- draws no current
- drive low Z load with high Z source

② noninverting amplifier



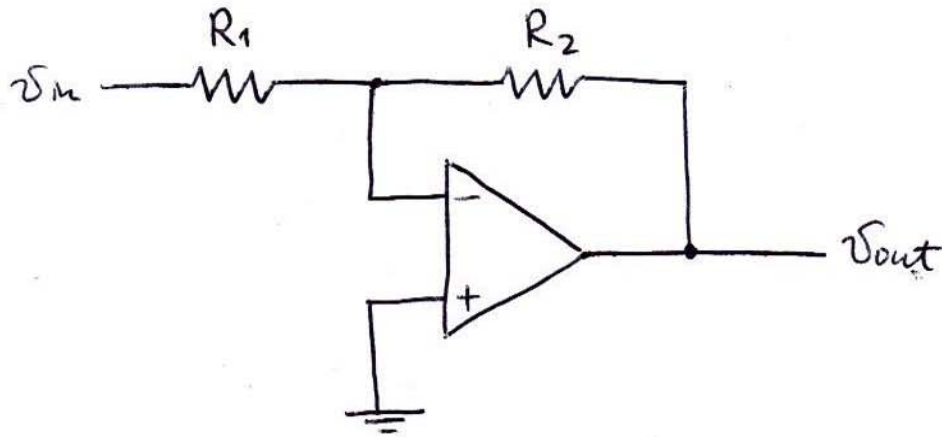
$$G_{CL} = \frac{R_1 + R_2}{R_1}$$

$$R_{n,CL} = R_n (1 + GH)$$

$$R_{out,CL} = \frac{R_{out}}{1 + GH}$$

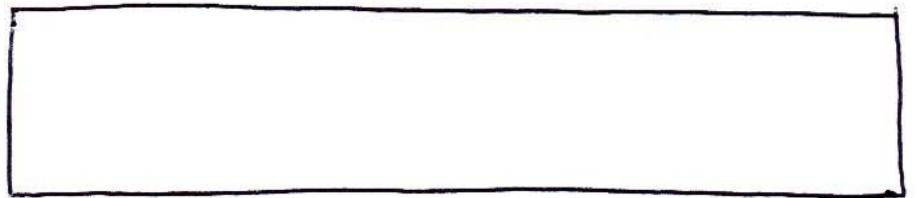
③ inverting amplifier

③



$$G_{CL} = -\frac{1}{H'} = -\frac{R_2}{R_1}$$

④ summing circuit



Active filters

Feedback network contains $Z(\omega)$

Pros :

—

—

—

Cons :

—

Q: ideal integrator & differentiator : poles & zeros of $G(s)$?