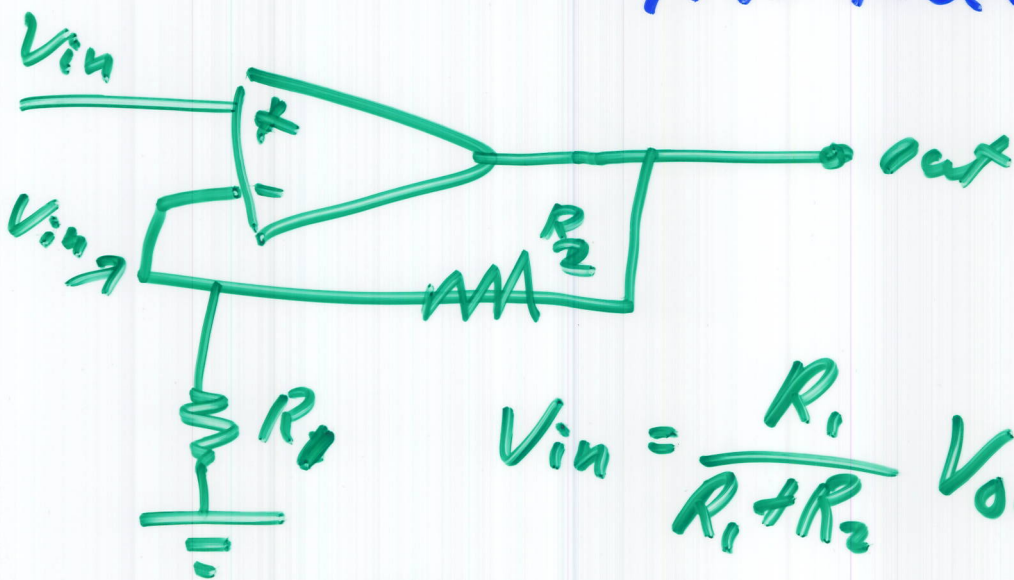


$$Z_{in} = \frac{\Delta V}{\Delta I} = \infty$$

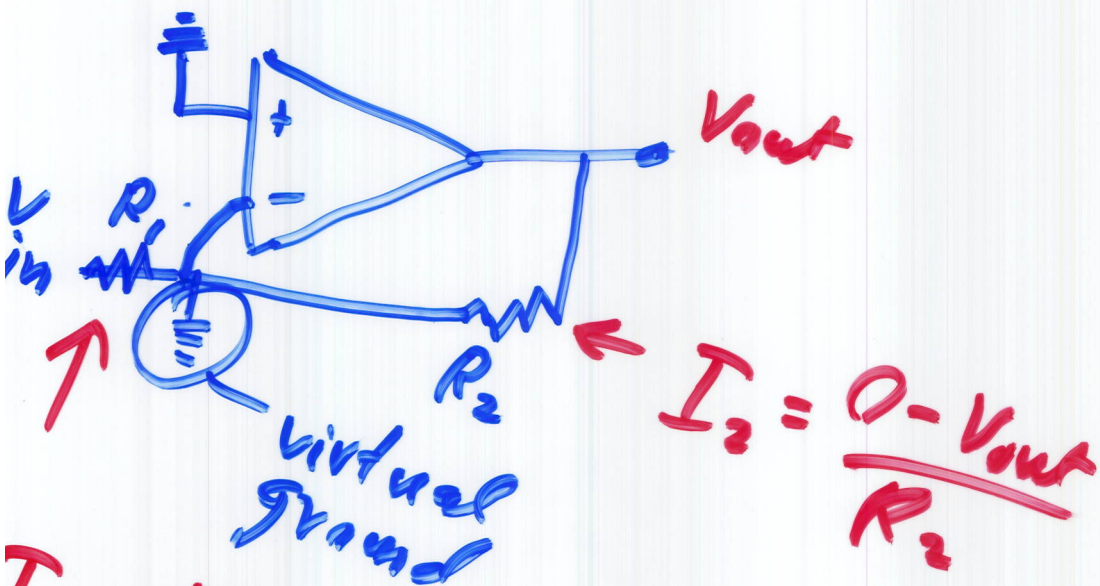
Non-inverting Amp



$$V_{in} = \frac{R_1}{R_1 + R_2} V_{out}$$

$$\begin{aligned} \text{gain} = g &= \frac{V_{out}}{V_{in}} = \frac{R_1 + R_2}{R_1} \\ &= 1 + \frac{R_2}{R_1} \end{aligned}$$

Inverting Amp



$$I_1 = \frac{V_{in}}{R_1}$$

$$\frac{V_{in}}{R_1} = -\frac{V_{out}}{R_2}$$

$$G = \frac{V_{out}}{V_{in}} = -\frac{R_2}{R_1}$$