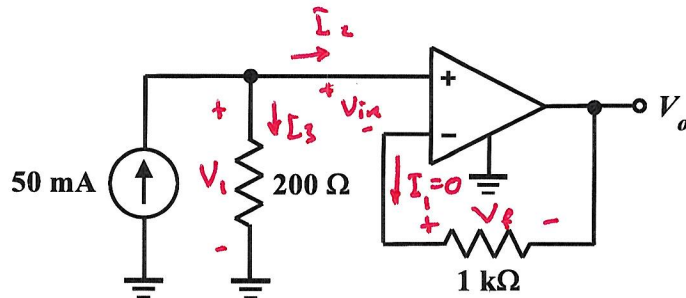


EE 2240
Homework Problem #050



The OpAmp is ideal. Determine the value of V_o .

$$I_1 = 0 \Rightarrow V_f = 0$$

$$V_{in} = 0$$

$$\begin{aligned} \therefore V_1 &= V_{in} + V_f + V_o \\ &= 0 + 0 + V_o \\ &= V_o \end{aligned}$$

$$I_2 = 0 \Rightarrow I_3 = 50 \text{ mA}$$

$$\begin{aligned} \therefore V_1 &= (200 \Omega) I_3 \\ &= 10 \text{ V} \end{aligned}$$

$$\text{Since } V_1 = V_o, \quad V_o = 10 \text{ V}$$