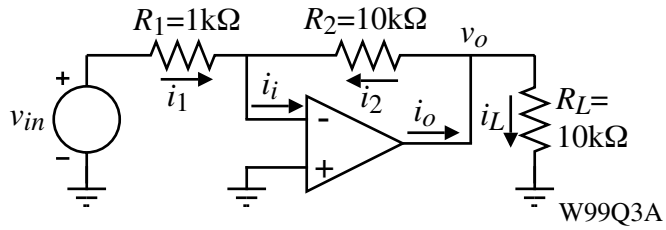


Homework Assignment No. 3

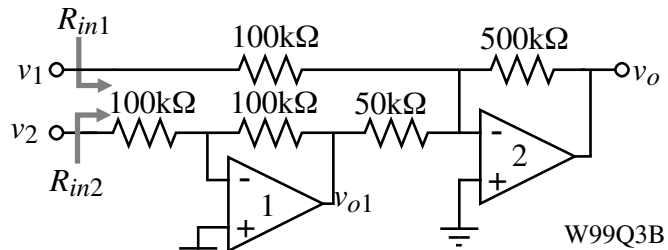
Due on Wednesday, January 29, 2003

1.) The op amps in this problem are ideal.

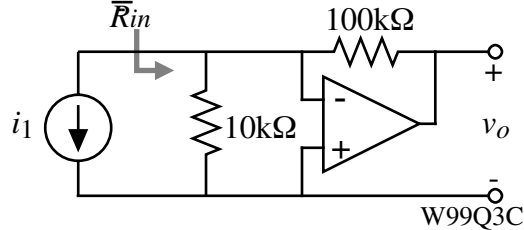
a.) If $v_{in} = +1V$, find the value the currents $i_1, i_i, i_2, i_o,$ and i_L including the sign.



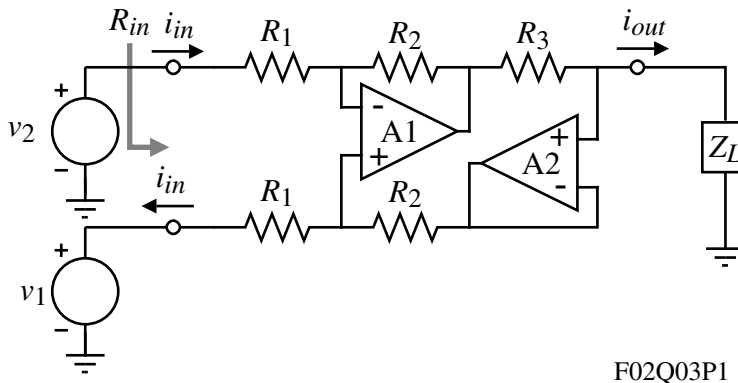
b.) Express v_o as a function of v_1 and v_2 and find R_{in1} and R_{in2} .



c.) Find R_{in} and v_o if $i_1 = 0.1mA$.



2.) Assume that the op amps are ideal and find i_{out} as a function of the inputs, v_1 and v_2 . Find the input resistance defined as $R_{in} = (v_2 - v_1)/i_{in}$.



3.) Problem 12.24 of the text [Ans. $v_{o2} = -\frac{R_2}{R_1} v_s$, and $v_{o1} = -\left(\frac{R_2}{R_1} + \frac{R_3}{R_1}\right) v_s$]

4.) Problem 12.29 of the text.

5.) Problem 12.74 of the text.