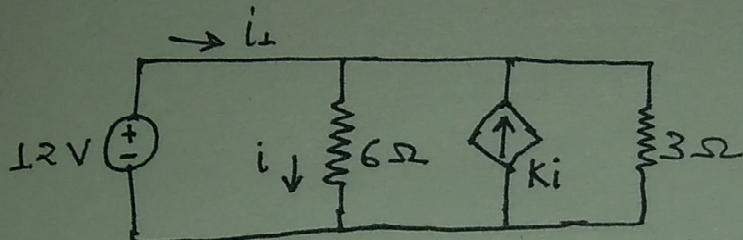
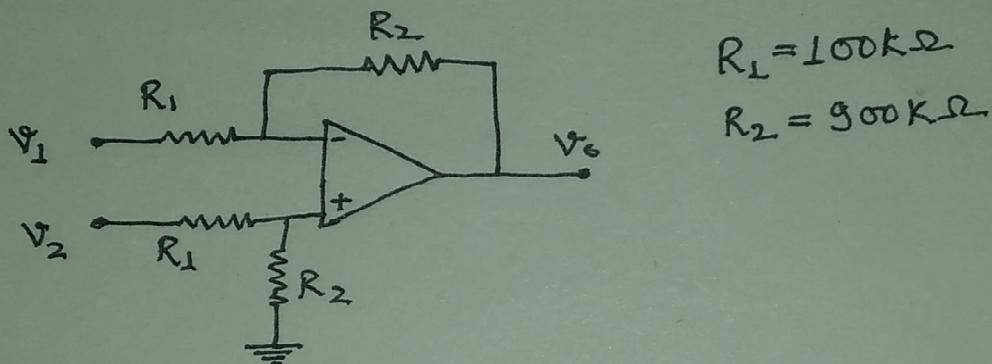


Q1 - For the circuit shown below, find  $i_1$  when  
 (a)  $K=2$  (b)  $K=3$ , (c)  $K=4$



Q2 - For the circuit shown below -



$$R_L = 100\text{k}\Omega$$

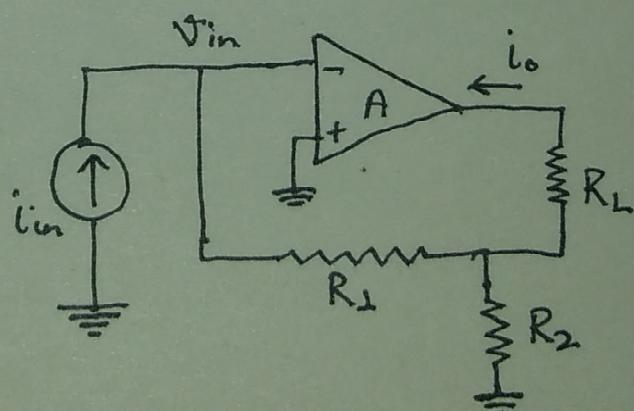
$$R_2 = 900\text{k}\Omega$$

Find  $V_o$  in terms of  $V_1$  and  $V_2$ .

Q3 - The op amp circuit shown in fig. is an example of (non ideal) parallel series feedback. Assume op-amp has  $R_{in} = \infty$ ,  $R_o = 0\Omega$  and finite gain A. Show that -

$$\Rightarrow A_F = \frac{i_o}{i_{in}} = \frac{AR_L + (1+A)R_2}{R_L + (1+A)R_2}$$

$$b) R_{if} = \frac{V_{in}}{i_{in}} = \frac{R_L(R_1+R_2) + R_1R_2}{R_L + (1+A)R_2}$$



Q4) Find out the Thevenin and Norton equivalent for the circuit shown below:

