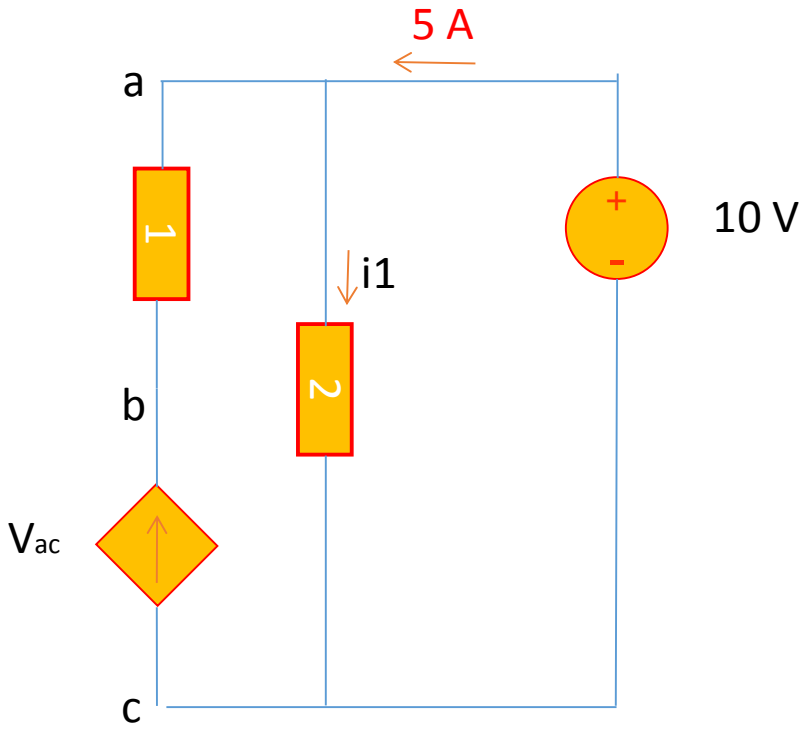
EECS 70A:
Network Analysis Homework #2

The homework is due Thursday 4/16/2014 before 6 pm.

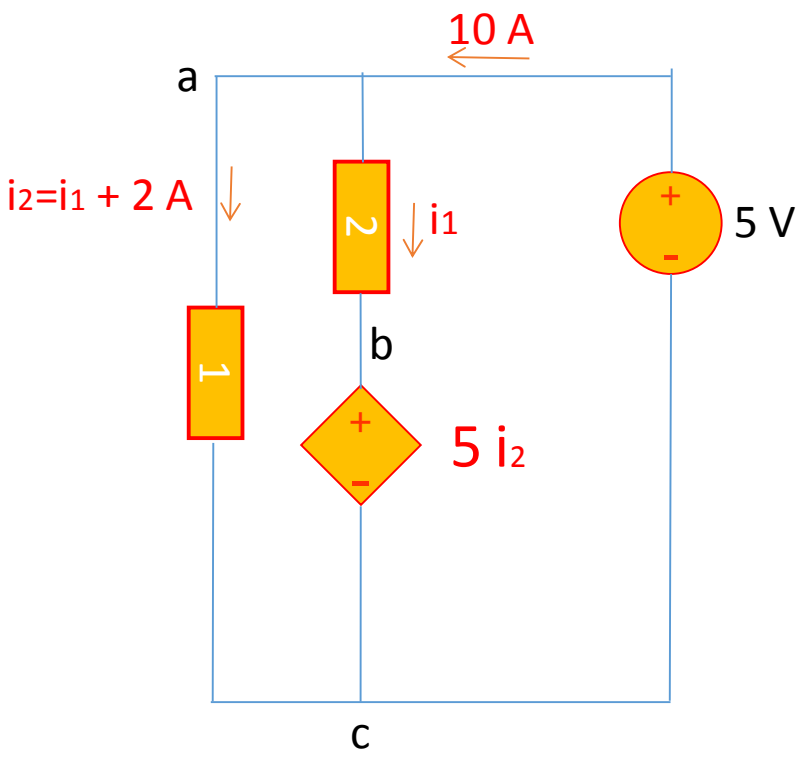
You can choose either way to turn in your homework

1) Turn it in during any of the discussions (Highly recommended)
2) Turn it in during office hour EH 3404 (Thursday 4:00 - 6:00pm)
3) EEE Dropbox

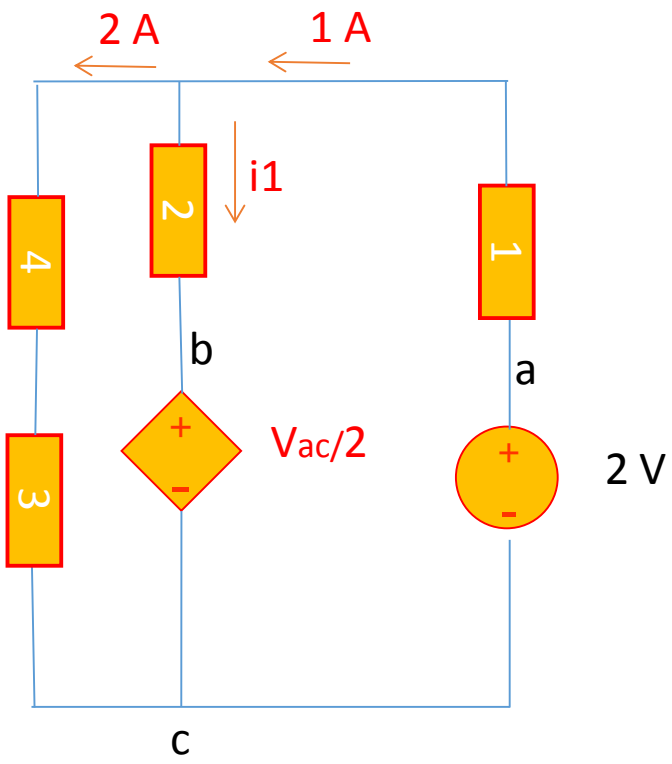
Problem 1: (VCCS) Find i1 . Is current flowing from b to c or from c to b?



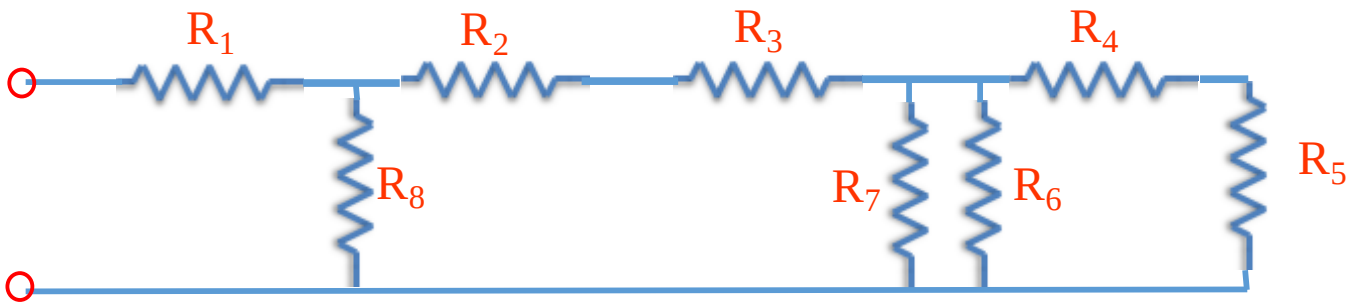
Problem 2 : (CCVS) Find i1 , i2 . Find Vbc



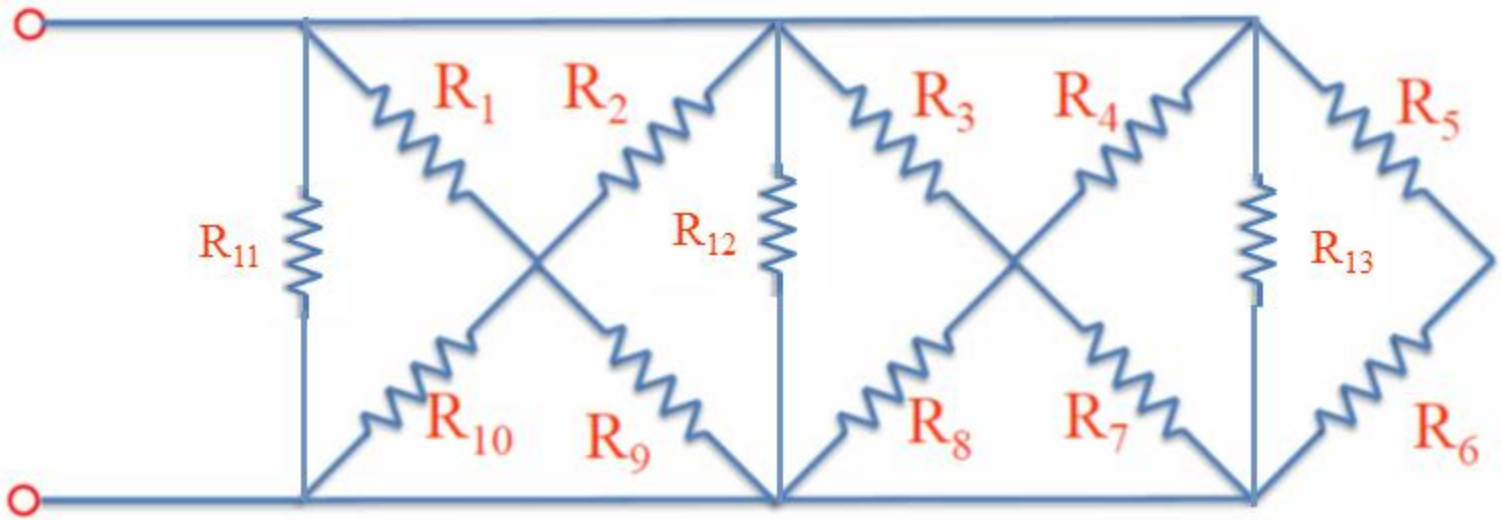
Problem 3: (VCVS) Find V_{bc}, i1.



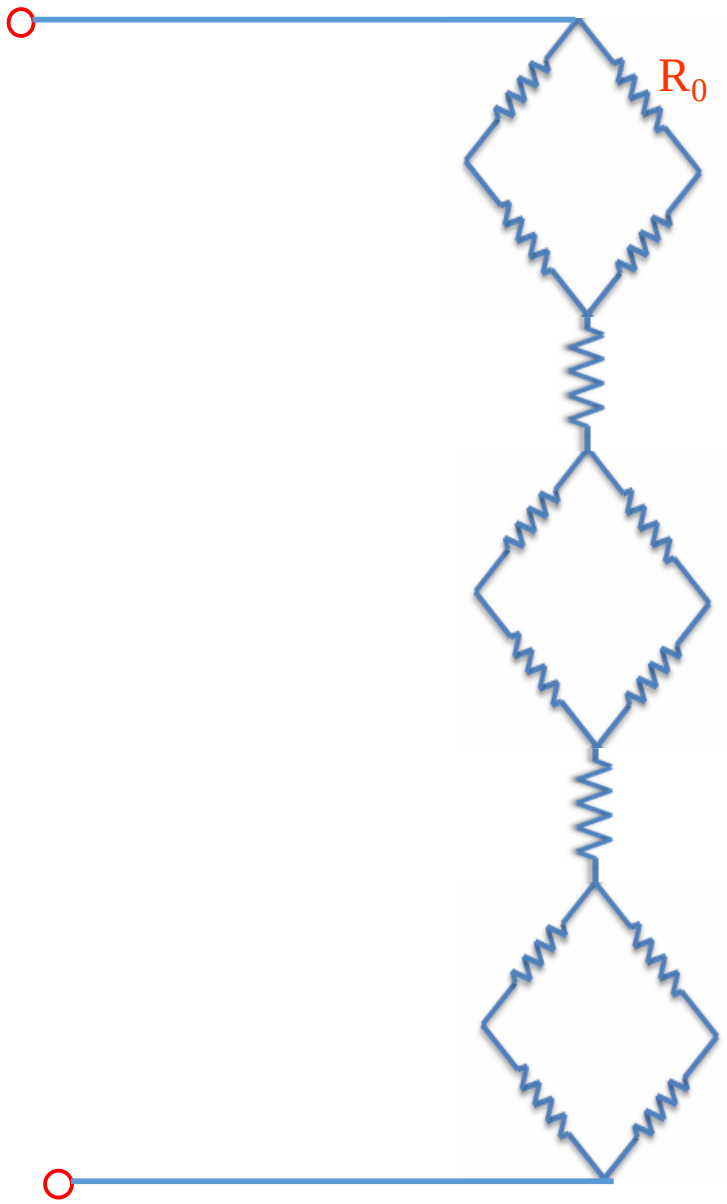
Problem 4: Solve for Req. You may use the parallel notation discussed in class



Problem 5: Solve for Req. You may use the parallel notation discussed in class.

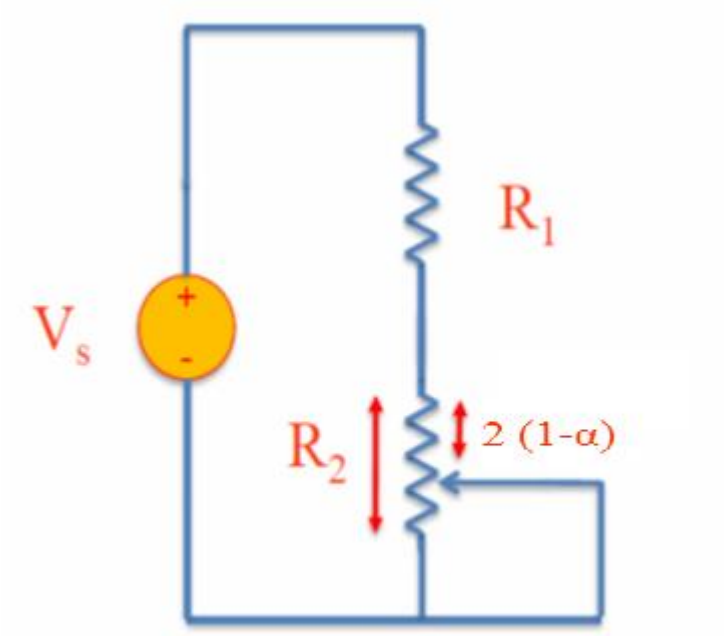


Problem 6: Solve for Req. Each resistor is R_0 ohms.

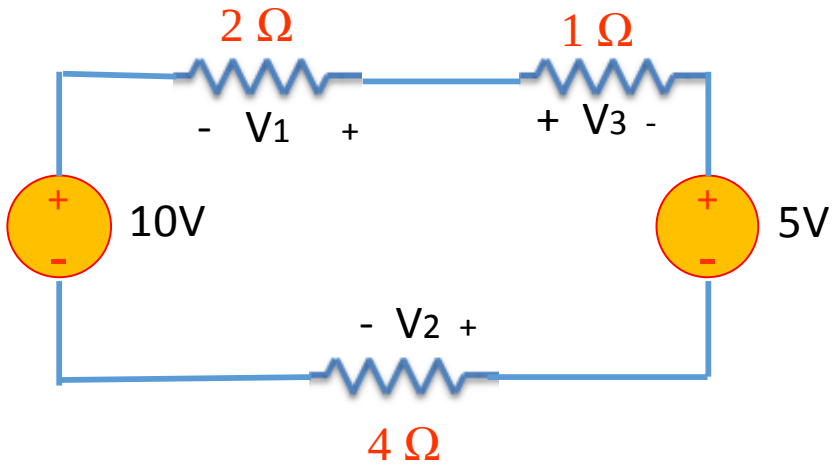


Problem 7: Potentiometer.

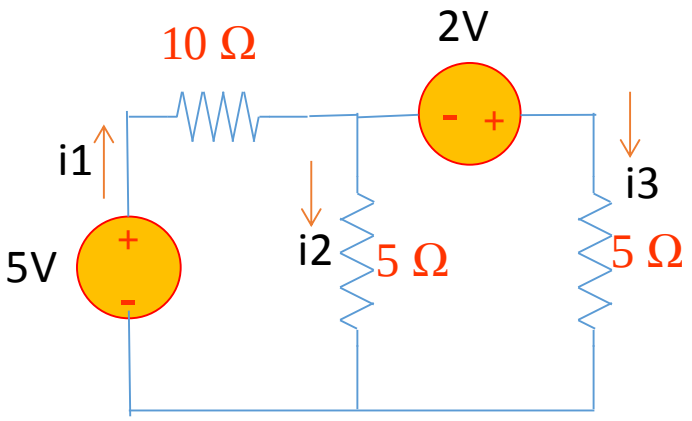
In the circuit below, the wiper divides the potentiometer resistance between $2(1-\alpha)R_2$ and $2\alpha R_2$, where $0<\alpha<1$. Find the ratio of the power dissipated in R_1 to the power supplied by the voltage source (P_1/P_s) as a function of α.



Problem 8: KVL & Ohm law. Find V1 ,V_2 and V_3 and the current flowing in the circuit below



Problem 9: KVL, KCL & Ohm Law .
Find i1 through i3 in the circuit below.



Problem 10: KVL, KCL & Ohm Law.
Find V1 through V4 and i1 through i3 in the circuit below.