EE3703: Analog Circuits Laboratory
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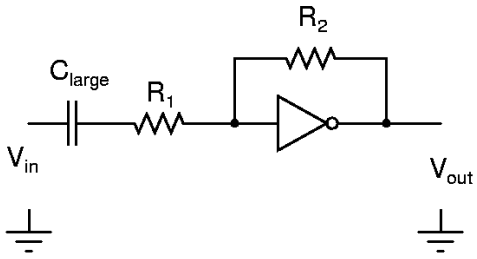
Experiment 2: Amplifier compensation

1) If R1 = 5kΩ in all the experiments, what is the constraint on C_{large}?

2) If you use a polarized capacitor for C_{large}, which side should be the positive terminal? You have to decide this based on the total voltage across the capacitor.

3) What is the expected total voltage at the junction of R_1 and R_2 assuming that the amplifiers are stable?

4) What is the transfer function of the circuit below? Model the inverter as a voltage controlled current source of value g_m and assume that C_{large} is infinite.



5) What is the transfer function of the circuit below? What is the dc gain? Model the inverters as voltage controlled current sources of value gm and assume that C_{large} is infinite. Also find the transfer function when R_c=0. (Think about what difference you would see in the step response experiments between these two cases)