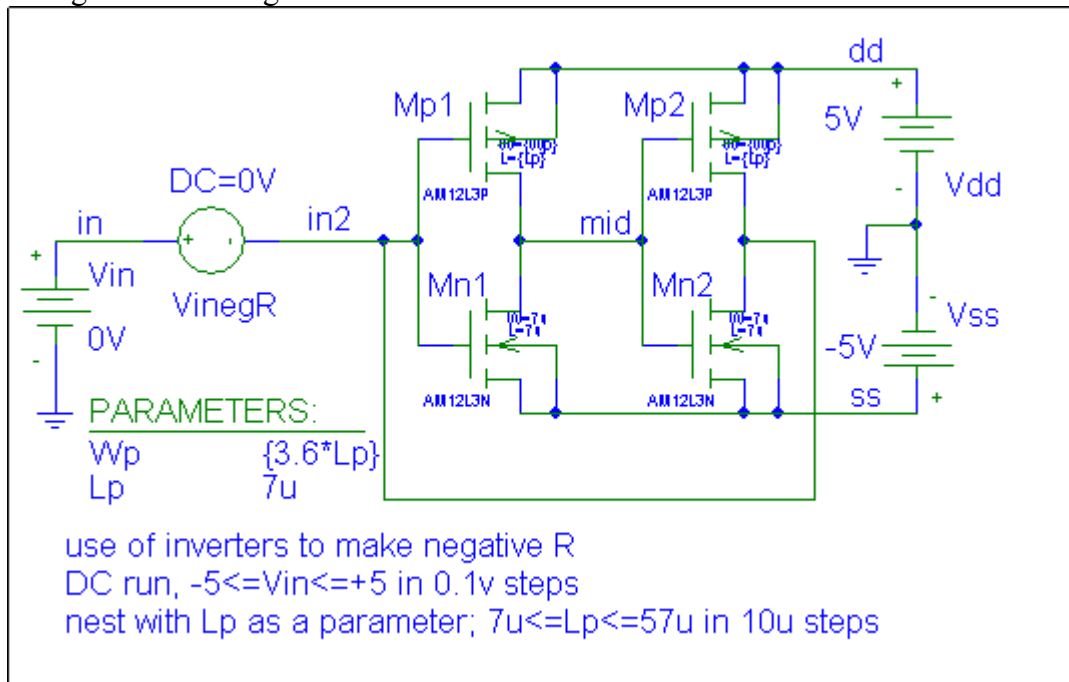


1. Download the transistor file bicmos12.olb (or for PSpice 8 the two equivalent files bicmos12.lib & bicmos12.slb) from the web. Install these on the computers or folders from which you will run Spice.
2. Draw and run the following circuit in Spice and, in two separate plots to be turned in, plot in one the voltage at the node mid and in the other the current in the voltage source VinegR.



3. Turn off the nest and repeat the above circuit for the default value of Lp. For this circuit calculate the voltage gain, $\Delta V_{mid} / \Delta V_{in}$ at $V_{mid} = 0$ (that is find the slope of the voltage transfer curve at the output origin). Comment on the linearity of this circuit.
4. Since different transistors give different results there are different models for them. Print out the models for the mnmosis and for the mam12l3n and compare; repeat for the mpmosis and the mam12l3p. Some of the parameters, such as KP, have the same name; create a table of these parameters for these four transistors for comparison purposes. Note differences.