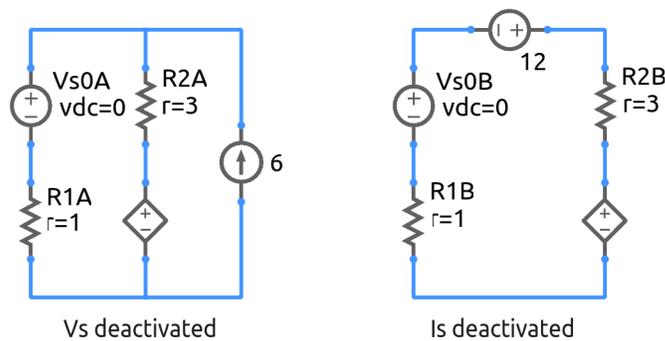
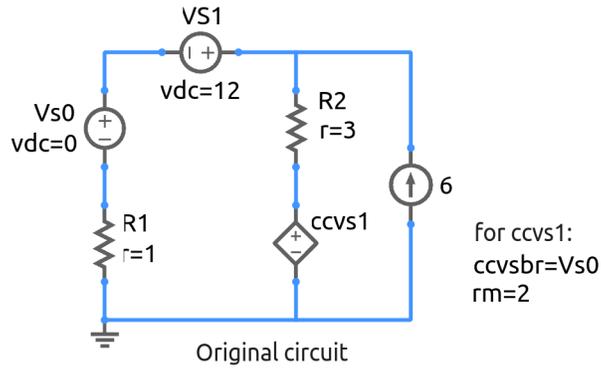


ee101_superposition_2.sqproj



To obtain the response (voltages/currents) of a circuit with more than one *independent* sources, the superposition theorem can be used. The procedure is as follows.

1. Identify the *independent* sources, S_1, S_2, S_3 , etc.
2. Deactivate all independent sources except S_1 . Compute the quantity (quantities) of interest. Call it $x^{(1)}$.
3. Repeat with S_2, S_3 , etc., and obtain $x^{(2)}, x^{(3)}$, etc.
4. Finally, the net result is given by, $x = \sum x^{(i)}$, with i going over all independent sources.

Exercise Set

1. Compute the currents I_{R1} and I_{R2} in the circuit shown in the figure by superposition. Note that the voltage source V_{S0} is a “dummy” source. The current through V_{S0} is the controlling current for the CCVS.
2. Check your answers against simulation results.