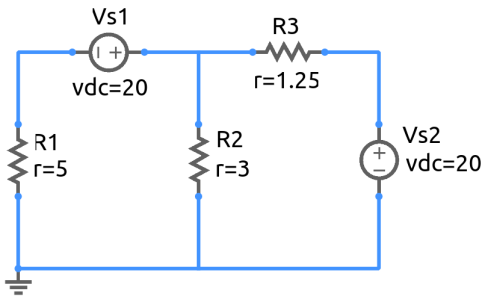
ee101_mesh_anaylsis_1.sqproj



Description

In mesh analysis, the following steps are carried out:

1. Identify loops, define loop currents ("mesh currents") I_1, I_2, etc.
2. Write KVL for each loop in terms of I_1, I_2, etc.
3. Solve the resulting system of equations to obtain I_1, I_2, etc.
4. Compute any other quantities (currents, voltages, powers) of interest using the mesh currents.

Exercise Set

1. For the circuit shown in the figure, carry out mesh analysis, and find the following: (a) currents through R_1, R_2, R_3, (b) power delivered by the two sources, V_{s1} and V_{s2}.
2. Repeat using superposition theorem.
3. Verify that power balance is satisfied, i.e., the total power absorbed is equal to the total power delivered.
4. Check your values against simulation results.