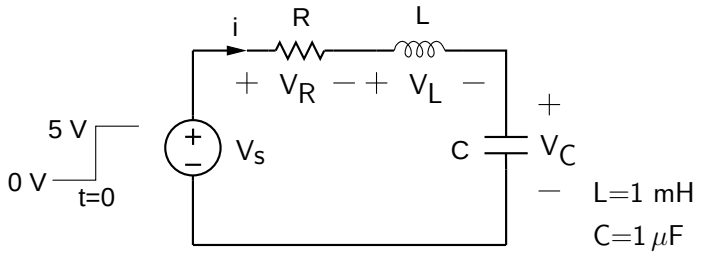
ee101_rlc_2.sqproj

Description



For the circuit shown in the figure,

1. Show that the condition for critically damped response is $R = 63.2\,\Omega$.
2. For $R = 20\,\Omega$, derive expressions for $i(t)$ and $V_L(t)$ for $t > 0$ (Assume that $V_C(0^-) = 0\,V$ and $i_L(0^-) = 0\,A$). Plot them versus time.
3. Repeat (2) for $R = 100\,\Omega$.
4. Compare your answers with simulation results.