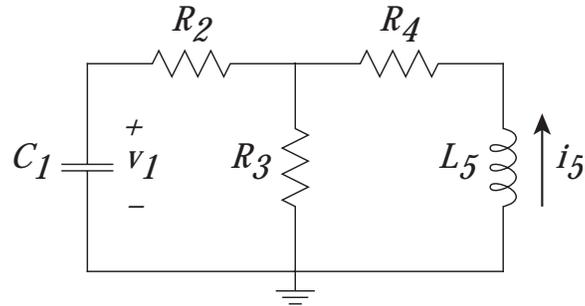


Problem S10 (Signals and Systems)



Consider the circuit above, with

$$C_1 = 0.5 \text{ F}, \quad R_2 = 4 \, \Omega, \quad R_3 = 4 \, \Omega, \quad R_4 = 1 \, \Omega, \quad L_5 = 2 \text{ H}$$

The initial conditions on the capacitor and inductor are

$$v_1(0) = 2 \text{ V}, \quad i_5(0) = 1 \text{ A}$$

Find $v_1(t)$ and $i_5(t)$, using the methods discussed in Lecture S10. Note: If you wish, you may use the loop method instead of the node method.