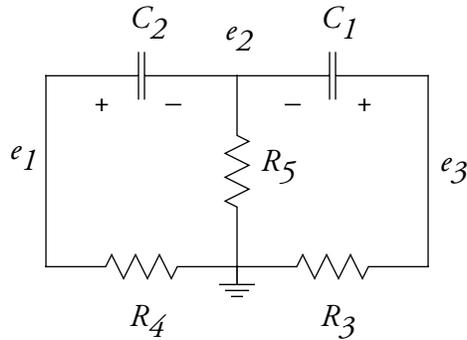


Problem S9 (Signals and Systems)



Consider the network above, with

$$C_1 = 1 \text{ F}, \quad C_2 = 2 \text{ F}, \quad R_3 = 2 \, \Omega, \quad R_4 = 1 \, \Omega, \quad R_5 = 1 \, \Omega$$

The capacitor voltages at time $t = 0$ are

$$v_1(0) = 10 \text{ V}, \quad v_2(0) = 0 \text{ V}$$

Find the capacitor voltages ($v_1(t)$, $v_2(t)$) as a function of time.