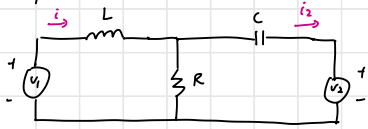


# Block diagrams for electrical systems

Example:



$$\begin{cases} V_1 - L \frac{di_1}{dt} - Ri_3 = 0 \\ -V_2 - \frac{1}{C} \int i_2 dt + Ri_3 = 0 \\ i_1 = i_3 + i_2 \end{cases}$$

$$\begin{cases} V_1(s) - Ls I_1 - RI_3 = 0 & \rightarrow V_1(s) = sL I_1 + RI_3 \\ RI_3 - V_2 + \frac{1}{Cs} I_2 & LI_1 = \frac{1}{s} (V_1(s) - RI_3) \\ I_2 = I_1 - I_3 & I_1 = \frac{1}{L} \frac{1}{s} [V_1(s) - RI_3] \end{cases}$$

