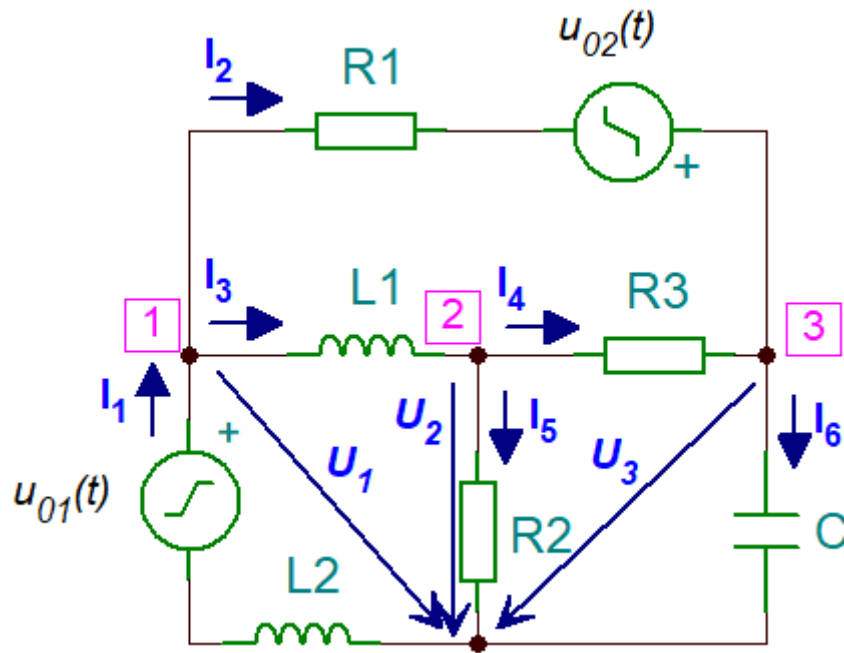


## Exercise 1

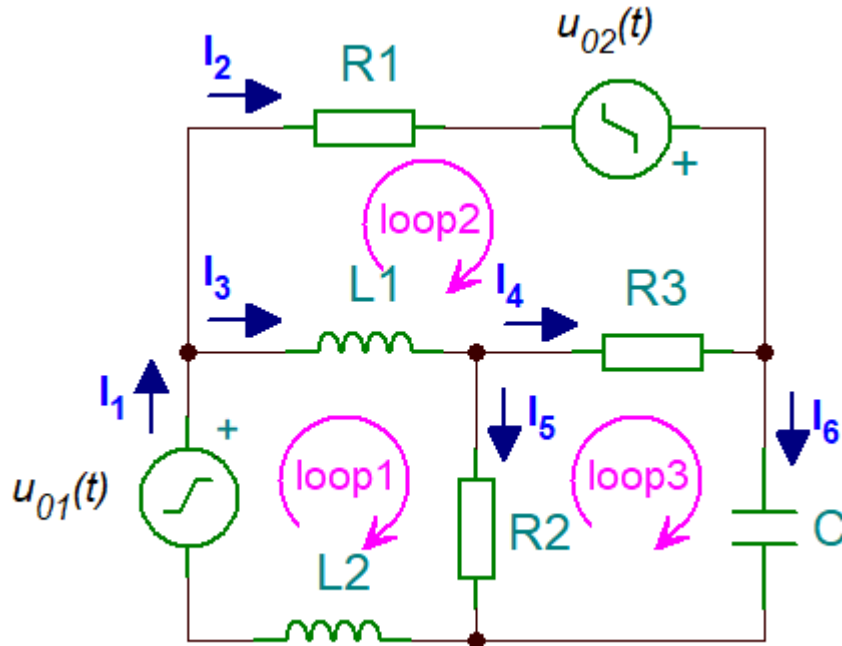
For the circuit shown below find the branch currents  $I_1$  to  $I_6$  (maximum value and phase degree), the nodal voltages  $U_1$  to  $U_3$ . Circuit values are  $R_1 = 40 \Omega$ ,  $R_2 = 100 \Omega$ ,  $R_3 = 50 \Omega$ ,  $L_1 = 100 \text{ mH}$ ,  $L_2 = 50 \text{ mH}$ ,  $C = 150 \mu\text{F}$ ,  $f = 50 \text{ Hz}$ ,  $u_{01}(t) = 20 \sin(\omega t + 30^\circ) \text{ V}$  and  $u_{02}(t) = 40 \sin(\omega t + 20^\circ) \text{ V}$ .



*Circuit for Exercise 1*

## Exercise 2

For the circuit shown below find the branch currents  $I_1$  to  $I_6$  (maximum value and phase degree), the loop currents  $I_{l1}$  to  $I_{l3}$ . Circuit values are  $R_1 = 40 \Omega$ ,  $R_2 = 100 \Omega$ ,  $R_3 = 50 \Omega$ ,  $L_1 = 100 \text{ mH}$ ,  $L_2 = 50 \text{ mH}$ ,  $C = 150 \mu\text{F}$ ,  $f = 50 \text{ Hz}$ ,  $u_{01}(t) = 20 \sin(\omega t + 30^\circ) \text{ V}$  and  $u_{02}(t) = 40 \sin(\omega t + 20^\circ) \text{ V}$ .



Circuit for Exercise 2