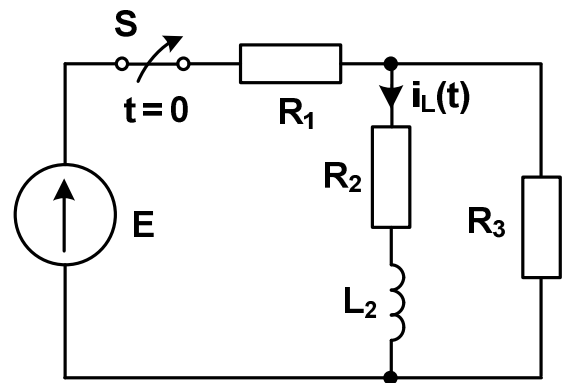


Module name: **Electrical Circuits 2**
Module ID: **IS-FEE-10085S**
Module type: **Workshop**
Semester: **summer 2023/2024**
Instructor: **Jarosław Forenc, j.forenc@pb.edu.pl**

Workshop 6 (28.05.2024)

1. The circuit shown in the figure has been in a steady-state. The switch was open at $t = 0$. Using the PSpice program, observe the waveforms of $i_L(t)$ and $u_L(t)$ for $t < 0$, $t = 0$, and $t > 0$.

$E = 80 \text{ V}$, $R_1 = 120 \text{ }\Omega$, $R_2 = 50 \text{ }\Omega$, $R_3 = 200 \text{ }\Omega$,
 $L_2 = 0.75 \text{ H}$.



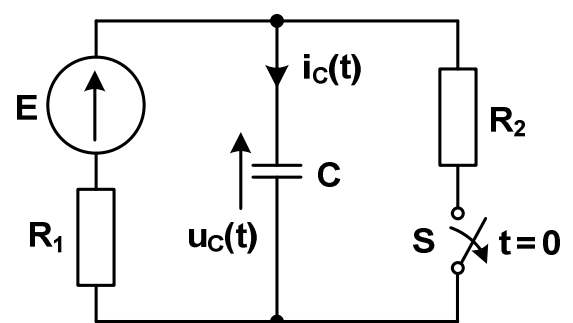
The report should include:

- the electrical circuit diagram (from PSpice),
- waveforms of $i_L(t)$ and $u_L(t)$ for $t < 0$, $t = 0$, and $t > 0$,
- conclusions (comparison of the obtained results with the results from the classes).

Note: To copy waveforms, use: *Window* → *Copy to Clipboard* (ensure the „change white to black” option is selected)

2. The circuit shown in the figure has been in a steady-state. The switch was open at $t = 0$. Using the PSpice program, observe the waveforms of $i_C(t)$ and $u_C(t)$ for $t < 0$, $t = 0$ and $t > 0$.

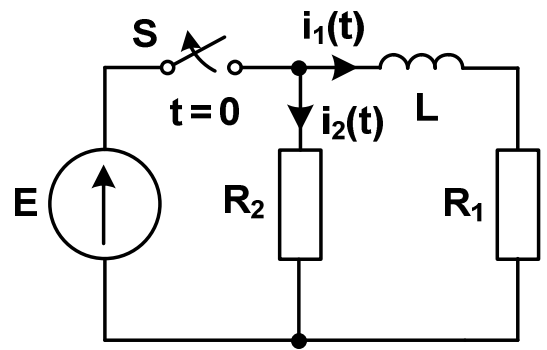
$E = 100 \text{ V}$, $R_1 = 20 \text{ }\Omega$, $R_2 = 40 \text{ }\Omega$, $C = 10 \text{ mF}$.



The report should include:

- the electrical circuit diagram (from PSpice),
- waveforms of $i_C(t)$ and $u_C(t)$ for $t < 0$, $t = 0$, and $t > 0$,
- conclusions (comparison of the obtained results with the results from the classes).

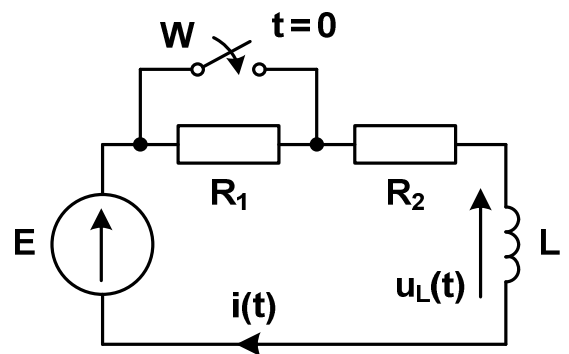
3. The circuit shown in the figure has been in a steady-state. The switch was open at $t = 0$. Using the PSpice program, observe the waveforms of $i_1(t)$ and $i_2(t)$ for $t < 0$, $t = 0$ and $t > 0$. $E = 100 \text{ V}$, $L = 0.1 \text{ H}$, $R_1 = 25 \text{ } \Omega$, $R_2 = 75 \text{ } \Omega$.



The report should include:

- the electrical circuit diagram (from PSpice),
- waveforms of $i_1(t)$ and $i_2(t)$ for $t < 0$, $t = 0$, and $t > 0$,
- conclusions (comparison of the obtained results with the results from the classes).

4. The circuit shown in the figure has been in a steady-state. The switch was close at $t = 0$. Using the PSpice program, observe the waveforms of $i(t)$ and $u_L(t)$.



The report should include:

- values of the elements used and the electrical circuit diagram (from PSpice),
- waveforms of $i(t)$ and $u_L(t)$ for $t < 0$, $t = 0$, and $t > 0$,
- conclusions (comparison of the obtained results with the results from the classes).

28.05.2024

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