Problem 1
The differential equation that describes the voltage in an RLC network is
\[
d^2v \frac{dt^2}{dt^2} + 5 \frac{dv}{dt} + 4v = 0
\]
given that \(v(0) = 0\); and \(\frac{dv(0)}{dt} = 5V/s\)

1. Find \(v(t)\)
2. Draw the response using MATLAB

Problem 2
For the given circuit, find the value of \(R\) that makes a critically damped response

Problem 3
In the circuit shown, the switch moves from A to B at \(t=0\),

1. Find \(v(t)\) for \(t>0\).
2. Draw the response using MATLAB
3. Check the response using Multi-Sim

Recommended problems: 8.1 to 8.10, 8.24 to 8.30, 8.39 to 8.45