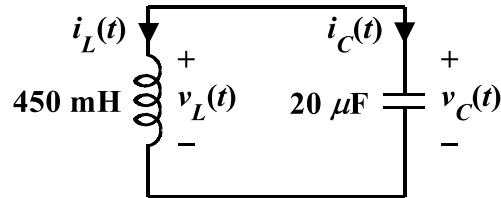


EE 2240
Problem #60

- a. Find an ordinary differential equation that describes the circuit shown below.



- b. Classify this circuit as *undamped*, *underdamped*, *critically damped* or *overdamped*.
- c. Given $v_C(0) = 10 \text{ V}$ and $i_L(0) = 0 \text{ A}$, use PSpice and PROBE to plot $v_L(t)$ and $i_C(t)$ for $0 \leq t \leq 100 \text{ ms}$, on separate plots, but on the same page.

Hint: To get smooth curves (traces) in your plots, use the following command line to specify your transient analysis characteristics:

```
.TRAN 1m 100m 0 0.1m UIC
```

- d. Does the PROBE plot verify your answer in part (b)? Explain.