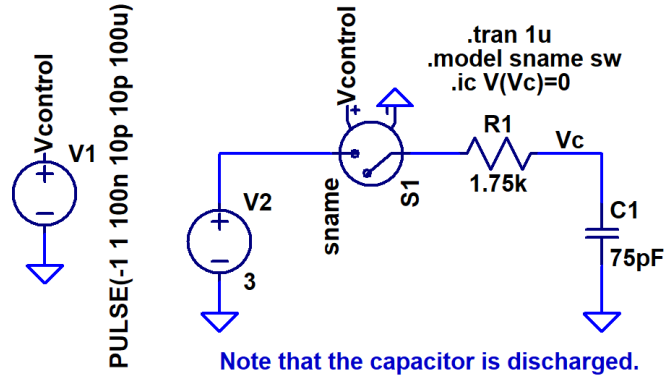


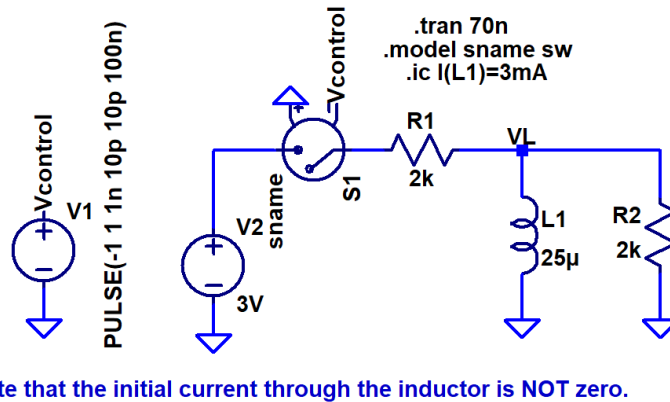
H.W. #13 EE 221 Spring 2023

Show your work for credit and put a box around each of your answers (follow the hw guidelines!)

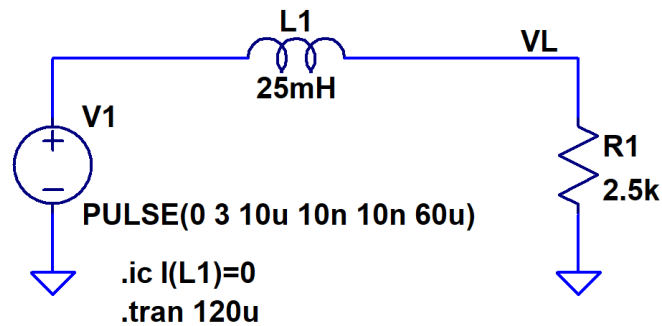
1. Write an equation for  $V_c$  in the following circuit. Verify your hand calculations with LTspice. (3 points)



2. Write the equation describing the voltage across, and current through, the inductor in the following circuit. Use LTspice to verify your answer. (3 points)



3. Repeat problem 2 if the inductor and resistor ( $R_1$ ) positions are swapped. (3 points)
4. Write the equations describing the voltage across, and the current through, the inductor in the following circuit for both the rising and falling edges of the input pulse. Again, use LTspice to verify your answer. (3 points)



5. Repeat problem 4 if the inductor and resistor positions are swapped. (3 points)