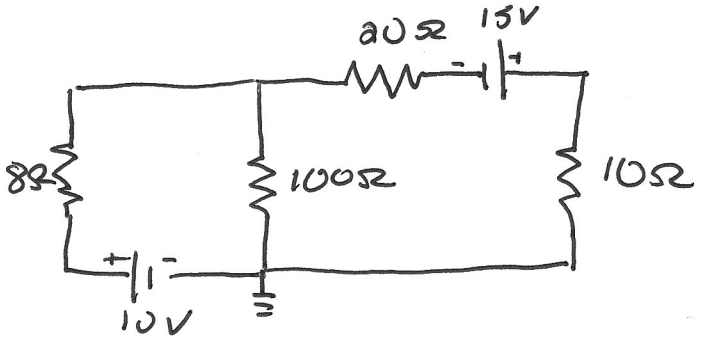
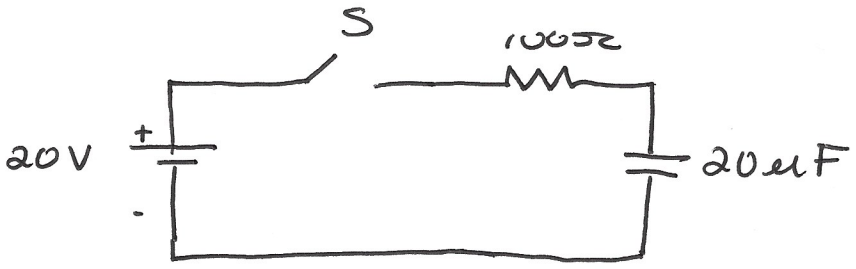
EE471 Pspice Practice Work Fall 2021

1. Draw or create the circuit in Microcap Pspice or pspice on your Mac. Use the dynamic DC analysis to find the the currents and voltages in the circuit. Show your results.



2. Create the following RC circuit. Use transient analysis for this circuit. Plot out the current and voltage waveforms in the capacitor and the resistor. Plot the charge on the capacitor as a function of time. Calculate the RC time constant, does this match the time constant you can measure from the waveforms. Calculate the max charge on the capacitor, does this agree with the charge waveform. Write Sentences to answer these questions.



3. Create the simple rectifier circuit using the generic diode model. Use a sine voltage source operating at 60 Hz and 120 volts. Plot the voltage and current waveforms across and through the diode. Does the diode completely turn off during its off mode? Place a capacitor across the diode, What does this do to the output voltage waveform? Increase the capacitance value, how does this change the waveform. Use a transisent analysis.