1. Construct the circuit shown in the Figure below. (You can just lift and lower one end of the capacitor from the breadboard to simulate opening and closing the switch.) Connect a voltmeter across the capacitor.
2. Close the switch to the left and let the capacitor voltage reach a steady state value. Measure this value and mark it as $v(0)$.
3. Move the switch to the right and use a voltmeter to measure the time constant. Determine the final value of the capacitor voltage. Mark this as $v(\infty)$.
4. Use $v(0)$ and $v(\infty)$ and the time constant to write the equation for the capacitor voltage for $t > 0$.
5. Do a theoretical analysis of your circuit and verify your results.