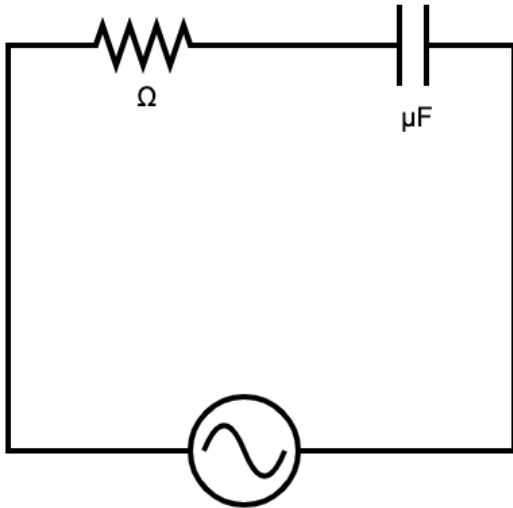


RC Circuit Powered by AC

Step 1: Fill in the voltage and frequency of the power supply, the resistance of the resistor, and the capacitance of the capacitor. Neatly calculate the impedance of the capacitor for this frequency in the space to the right of the circuit



Step 2: Calculate the effective impedance of the circuit. Show your work below.

Step 3: Calculate the root mean square current for this circuit and then the root mean square voltage of each of the components. Put your currents and voltages into the picture above. Enter your answers into your program to check that you did everything properly

Step 4: Explain why it looks like the voltage rule for series circuits is being violated in this problem, but then tell why this is not actually a violation of this rule.