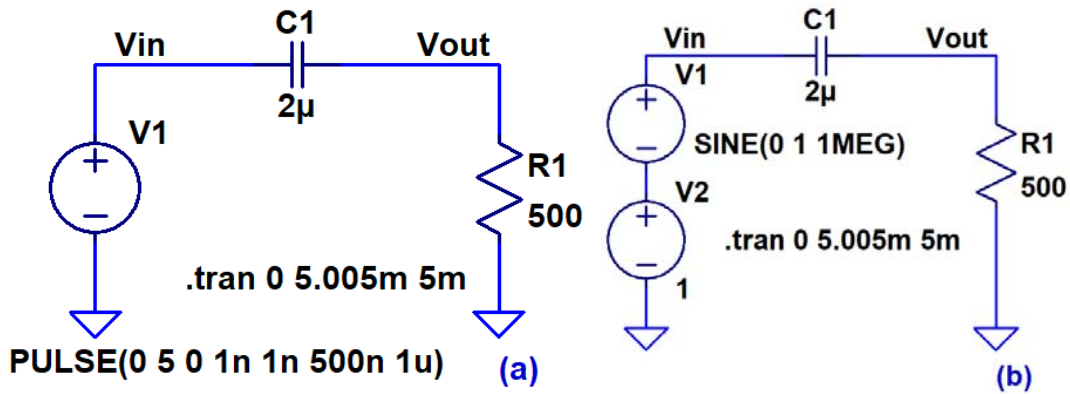


Show your work for credit!

- In steady-state conditions what is  $V_{out}$ ? When the input signal first starts, what is  $V_{out}$ ? Why? Verify your answers with four LTspice simulations (one for each case, that is, when the simulation starts saving data at 0 and at 5 ms [5 time constants]). These circuits are practically important and demonstrate AC coupling an input signal. (4 points)



- Determine  $V_{out}$  for each of the following circuits. Sketch  $V_{out}$  and  $V_{in}$  on the same plot. Show your hand calculations for credit. Verify your answers using LTspice. (8 points)

