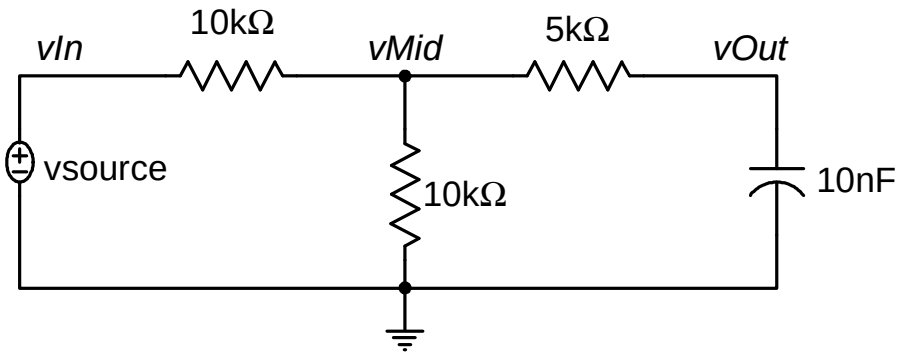
EE434 Section: _____ Name: _____

# Lab 1: Cadence® Custom IC design tools - Setup, Schematic capture and simulation

## Pre-lab (To be completed before start of lab)




For the circuit shown above, answer the following questions:

1. What is the function of the circuit? _____
2. What is the Thévenin equivalent resistance seen by the capacitor? _____
3. (dc analysis) If a dc voltage is applied by vsource, what would be the dc voltage at the vOut node? At the vMid node? _____
4. (ac analysis) What is the -3dB corner frequency of the circuit? For simulations, what start and stop frequencies would you choose in order to observe the frequency response band of interest? _____

   _____
5. (transient analysis) What is the response of the circuit to a step voltage supplied by vsource? _____

   _____
6. (transient analysis)Assume a pulse with finite magnitude, finite rise time, finite fall time, and non-zero pulse width is to be applied to the circuit. Determine these parameters of the input pulse in order to easily observe the response of the circuit to the rising and falling edges. How long would you need to run a transient analysis to get all the information?

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