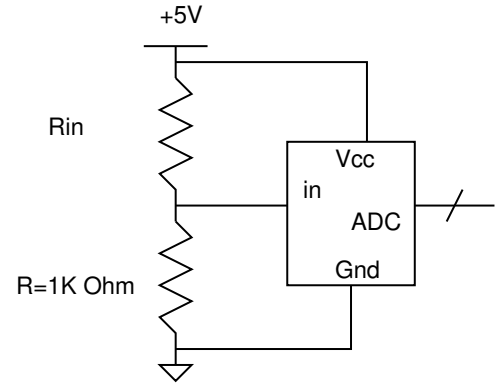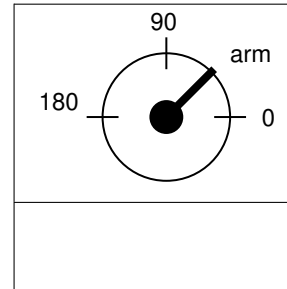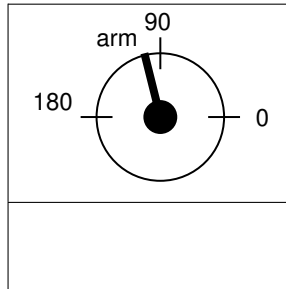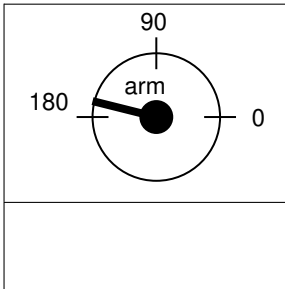1. Consider a voltage divider:

   What is the voltage at the input to the ADC when:
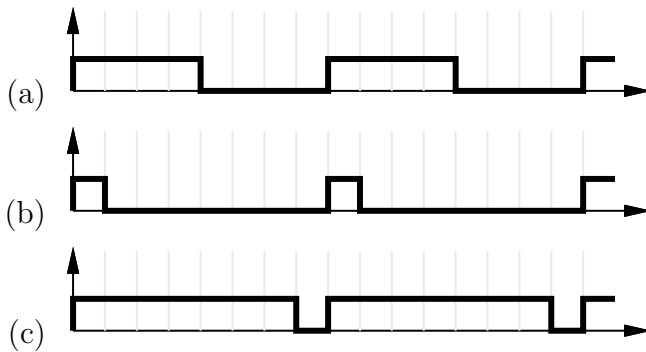
   (a) Rin is 10 Ω?

   (b) Rin is 10K Ω?

2. Assuming the mootor arm is only allowed to move between 0 and 180°, for each of the cases below, which way must the motor arm rotate to reach the target 90 degree point? (Clockwise or Counter-clockwise)

3. For each of the following, what percentage of the time is the pulse high?

   (a)

   (b)

   (c)

4. Using the combinational, arithmetic, and sequential building blocks you learned earlier (and used on the Lab 8), how would you generate waveforms like the ones above from a 3b binary input? (percentage of time high = (binary input)/8)

5. Using similar building blocks, given an input waveform of this type, how would you convert it back to a 3b binary number?