ENGR-384
HW # 4

1) Assume you are using a 10-bit A/D convertor that has an input voltage range 0 to 5v. If the right hand digit of the binary number coming out of the convertor changes
    from   0 0 0 0 0 1 0 1 1 0   to   0 0 0 0 0 1 0 1 1 1   (a 1-bit change)
    how much voltage change does this represent? (this is the convertor voltage resolution)

2) A12 bit A/D convertor has an input range of 0 to 3v.
    a) What is the resolution of this A/D in volts?
    b) If a temperature sensor is directly connected to this A/D and if this sensor outputs a voltage that changes linearly with temperature with a sensitivity of 200 uV per degree C, what is the resolution of a measurement, in units of degree C, made with this sensor-A/D combination?

3) If the A/D convertor in problem 2 had an input range of -3v to +3v what would its voltage resolution be?

Also, if you have not read sections 1.11 to 1.14, pages 40 to 53, in the text book do so.