ECE 4760: Homework 1

1. Read the policy page. This is the implicit contract you are agreeing to by taking the course.
2. Read all of Lab 1. You should come to lab with a good first draft of the code assignment, but the code is not part of this homework.
3. Estimate the value of R required to make the time of charging of the capacitor greater than 100 timer counts and less than 60,000.
   Your estimate will depend on the timer prescalar that you choose, but the value must be consistent with the constraint from the
   lab writeup of `R>100*(100ohms)`.
4. What is the maximum current you can draw from any i/o pin? What is the maximum current you can source from the sum of all pins.
5. Estimate the Thevinin equvalent output resistance of an i/o pin from the PIC32 data sheet. Use table 29-9.
   There will be **two separate estimates** corresponding to whether the output is logic-high or logic-low.
6. There is a 5-step procedure for measuring the capacitance given in lab 1.
   Estimate the time required in step 2 to discharge the capacitor 99%.
7. Since the internal reference has 5% possible error, you will need to measure the internal reference voltage for your chip.
   How will you do this?

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