

# ECE 372/3

## Lab 5

The objective of this lab is to utilize interrupts for correct timing and frequency control.

Tasks:

Here are some useful functions you might need:

- Use the function you used in lab 4 to ask the user for an entry and set or clear the carry bit if the entry is a number or not.
- Write a function that initializes the RTI interrupt.
- Write an RTI ISR that toggles an output pin.

In this lab you are using the RTI interrupt. Connect two LED's (in serial with resistors) to any two output pins on PORTA or PORTD.

The final program has to:

- Ask the user to select which LED to toggle, 1 or 2.
- Ask the user how many times he wants the LED to blink every second ( 0 to 9).
- Have the LED toggle for 5 seconds as the user specified.

If the user doesn't enter the correct value, ask again. Also, ask again when you are done, i.e. never quit the program.

Be careful when connecting the LED's to the HC11. In series with the LED, use a resistor high enough (like 3.3K) to limit the current drawn from the HC11.

A full report is required for this lab. Make sure to document your code and functions efficiently.