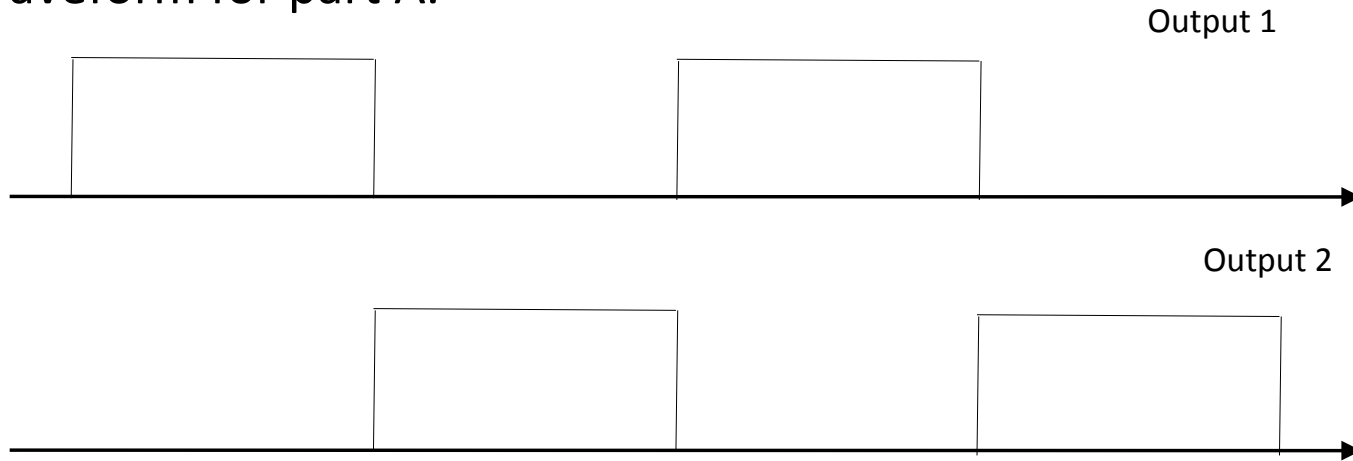# Project 4

Arduino Astable

Astable

Let's assume that for the frog experiment in Dr. Mantilla's class, he wants you to build a device which will stimulate each frog leg muscle separately and alternatively. So that's two separate signal square waves separately by 180 degrees.

PART A.

1. First build a sketch to provide two outputs such that each output produces a pulse but each output alternates.

2. Use LEDs with 220 ohm resistors to simulate the output signals.

3. Choose a frequency of 1 second.

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Waveform for part A.

Output 1

Output 2

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PART B.

1. Modify PART A sketch to allow for different frequencies by adding a potentiometer to determine the frequency of oscillation

PART C

1. Modify PART B sketch to allow for different duty cycles/pulse widths (see the waveform on the following page) by adding a potentiometer to determine the duty cycle. Use a frequency of 0.5 Hz.

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Waveform for part C.