#include <TimerOne.h>

#include <MsTimer2.h>

#define ANALOGWRITE

// Pins used

#define AnalogPin 0

#define AnalogOutputPin 10

float Time;

float Frequency = .5;

float Period = 1.0 / Frequency;

float x = 0;

//Interupt service routine

void pwm\_ISR()

{

digitalWrite(13, HIGH); //Turns LED on

Time += 5e-3; //Advance time by sample interval

if (Time > Period)

{

Time -= Period; //Keeping check on Time so it won't grow too large

} //end if

x = 511\*sin(6.2831853\*Frequency\*Time) + 512;

Timer1.setPwmDuty(10, x);

digitalWrite(13, LOW); //Turns LED off

} //end ISR function

void setup()

{

MsTimer2::set(5, pwm\_ISR); //sets the time in ms

MsTimer2::start(); //Enables the interrupt

Timer1.initialize(250); //Initializes a timers period in microseconds

Timer1.pwm(10, 512); //Generates a PWM waveform on pin 10

pinMode(13, OUTPUT); //Set pin 13 to ouput for LED

pinMode(10, OUTPUT); //Set pin 10 to output for PWM

}

void loop()

{

// put your main code here, to run repeatedly:

}