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#include <TimerOne.h>

int ledPin = 13; //pin for the led

unsigned long Timer2 = 0;

const long Timer2Interval = 10;          //values for the timer

unsigned long currentMillis = millis();

const long DutyCycle = 551;              //value for the PWM, has been edited for parts of lab

void setup() {
  pinMode(9,OUTPUT);
  pinMode(12,OUTPUT);                    //pin modes for the reading

  Timer1.pwm(9, DutyCycle, 100);         //setup for the sampling
  Timer1.initialize(5);

  // Serial.begin(9600);                  //was used as a test to check timer
  // Serial.available();

}

void loop() {
  if( millis() - Timer2 >= Timer2Interval) //keeps the program in a 10ms interval
  {
    Timer2 = Timer2 + Timer2Interval;

    digitalWrite(ledPin, HIGH);          //Turn on LED

    analogRead(A0);

    bitSet(PORTB,5);                      //saves the frequency

    Timer1.pwm(9, analogRead(A0));        //reads the frequency

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

    bitClear(PORTD,5);

    // Serial.print("hello");             // test for the timer
  }
}

```