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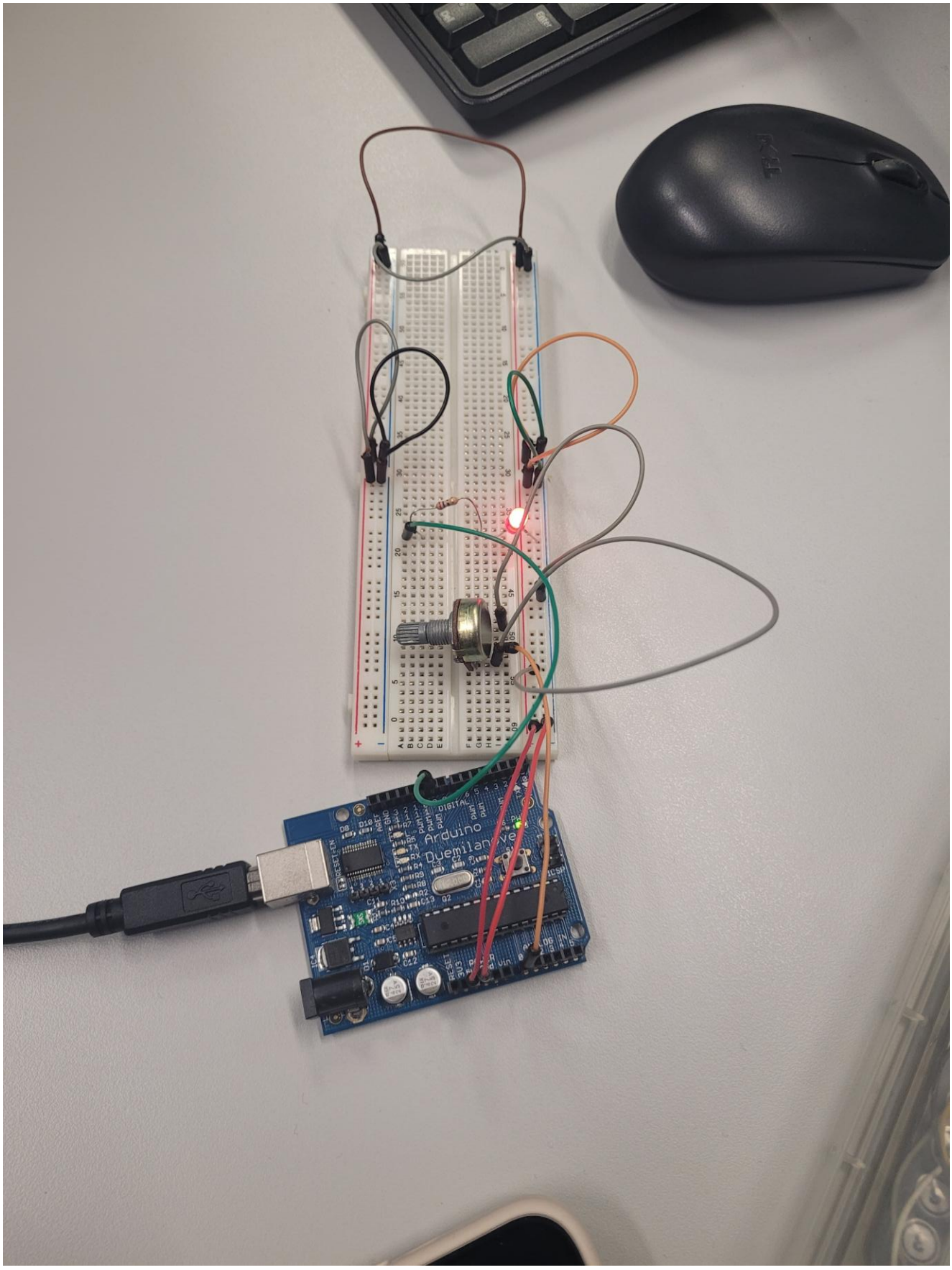
16 million prescaling to 64.

$\frac{16000000}{64}$

= 1/4 million Hz

2500000/10 = 25000 counts

↳ So 12500 for high & 12500 for low, needing 1 for reset


Arduino
Duemilanove

```
#define LEDPIN 9
#define INPIN A0

void setup() {
  DDRB |= (1<<LEDPIN); //ledpin as output
  cli(); // disable global interrupts
  TCCR1A = 0;
  TCCR1B = 0; // timer1 off
  OCR1A = (16000000/(64*2*10))-1;
  TCCR1B |= (1 << WGM12); // turn on ctc mode
  TCCR1B |= (1 << CS10);
  TCCR1B |= (1 << CS11); // set prescaler to 64
  TIMSK1 |= (1 << OCIE1A); //enable timer compare interrupt
  sei(); //enable global interrupts
}

  ISR (TIMER1_COMPA_vect) {
    PORTB ^= (1<<LEDPIN); //toggle ledpin
  }

void loop() {
  int POTENTIOMTR = map(analogRead(INPIN),0, 1023, 2, 10);
  OCR1A = (16000000/(64*2*POTENTIOMTR))-1;
}
```