// Purpose : Demonstrate (16-bit) Timer/Counter1 in Normal Mode

// See : ATmega328P Datasheet, Chapter 16

// Consult AVR Timer Calculator:

// https://www.easycalculation.com/engineering/electrical/avr-timer-calculator.php

// prescale constants

uint8\_t clkDivNone = 1 << CS10;

uint8\_t clkDiv8 = 1 << CS11;

uint8\_t clkDiv64 = 1 << CS11 | 1 << CS10;

uint8\_t clkDiv256 = 1 << CS12;

uint8\_t clkDiv1024 = 1 << CS12 | 1 << CS10;

volatile uint8\_t ovfCount;

// Timer 1 Interrupt Service Routine

ISR(TIMER1\_OVF\_vect) {

//  ovfCount++;

//  if (!ovfCount)

  PORTB ^= (1 << PB5);

}

int main() {

  DDRB |= (1 << PB5);

  **Serial**.begin(9600);

  ovfCount = 0;

  cli();

  // Normal Mode

  TCCR1A = 0;

  // set up timer with (no) prescaler

  TCCR1B = clkDivNone;

  // initialize counter

  TCNT1 = 0;

  // Enable Timer1 interrupt ability

  TIMSK1 = 1 << TOIE1;

  // Enable global interrupt ability...

  sei();

  // stand down and let ISR respond to interrupts

  while (1);

}