// PROJECT  :Timer1NormalOverflow

// PURPOSE  :Register Level implementation of T1 Mode 0 Interrupt

// COURSE   :ICS4U-E

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// MCU      :328P

// STATUS   :Working

// REFERENCE:

#include  "prescalers.h"

volatile uint8\_t state = 0;   //maintains state of (blinking) LED

void setup() {

  cli();                      //disable global interrupts

  DDRB |= (1 << PB5);         // aka pinMode(13, OUTPUT);

  configureTimer1Mode0();     // Timer 1: Normal Mode 0

  sei();                      //enable global interrupts

}

ISR(TIMER1\_OVF\_vect) {

  state = !state;                   //toggle LED logic

  state ? PORTB |= (1<<PB5) : PORTB &= ~(1<<PB5);

  //digitalWrite(LED\_BUILTIN, state);

}

void configureTimer1Mode0() {

  TCCR1A = 0;               //default settings

  TCCR1B = T1ps256;         //Fovf = Fclk/PS

  TIMSK1 = (1 << TOIE1);    //Timer Overflow Interrupt Enable

}

void loop() {}