C Code

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\* xlab8\_pt2.c

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#include <avr/io.h>

#include <avr/interrupt.h>

#define *F\_CPU* 16000000 UL

void ADC\_init (void)

{

ADCSRA = (1<<ADEN)|(1<<ADPS2)|(1<<ADPS1)|(1<<ADPS0); //ADC Enable and Prescale 128

ADCSRA |= (1<<ADATE)|(1<<ADIF); //Trigger EN and set Interrupt

ADMUX = (1<<REFS0); // set ref selection bits AVCC pin

ADCSRA |= (1<<ADSC); // Start ADC Conversion

}

int main(void)

{

DDRD= 0xFF; // PORT D IS OUTPUT

DDRC= 0x00; // PORT C IS INPUT

ADC\_init(); // call func

TCNT0=134; // initial value for delay 1 ms

TCCR0A = 0x00;

TCCR0B = (1<<CS00)|(1<<CS02); // prescale 1024

TIMSK0=(1<<TOIE0); // Interrupt timer OV EN

sei(); // set interrupt

while (1) ; // loop

return 0;

}

ISR(TIMER0\_OVF\_vect)

{

TCNT0=134; // initial value

ADCSRA |= (1<<ADSC); // conversion EN

while((ADCSRA & (1<<ADIF))==0); // condition

PORTD=(ADC>>2); // shift 2 bit

}