```c
#include <avr/io.h>
#include <util/delay.h>
#include <avr/interrupt.h>

void initADC(){
        //enable the ADC pins for sensor readings
        ADMUX  |= 1<<REFS0;
        ADCSRA |= 1<<ADEN; //enable ADC feature
        ADCSRA |= 1<<ADPS2; //prescaling of 16

}
uint16_t ReadADC(uint8_t ch){
        // to read sensor values
        // return value between 0-1024 and input from 0-7(port number)
        ch=ch &0b00000111;
   ADMUX &=0b11000000;
   ADMUX|=ch;

        //starting first conversion
        ADCSRA |= 1<<ADSC;
        //wait for conversion to complete
        while(ADCSRA & (1<<ADSC));
        return(ADC);

}
//Start counter
volatile int value;
int main(){
        value = 0;
        sei();
        DDRA = 0x00;
        PORTA = 0x00;
        DDRB |= 0b00011111;
        PORTB &= 0b00000000;
        DDRD = 0b00000111;
        PORTD = 0b00000000;
        // enable timer
        TCCR1B |= 1<<CS12 | 1<<WGM12; // prescale =256, CTC mode
        TIMSK |= 1<<OCIE1A; // compare  interrupt enable
        OCR1A = 31250; //  compare after every 8 seconds
        initADC();
        //_delay_ms(5000);

        while(1){
                        if(ReadADC(1)>400){
                                PORTB = 0b00001001;
                                _delay_ms(100);
                                PORTB = 0b00001010;
```

```
                    _delay_ms(500);
                    PORTB = 0b00000110;
                    //PORTB = 0xff;
            }
            else{
                    PORTB = 0b00000110;
            }
            if(value==1){
                    PORTB = 0b00000000;
                    PORTD = 0b00000010;
                    _delay_ms(17000);
            }
            value=0;
            _delay_ms(10);
    }
}
ISR(TIMER1_COMPA_vect){
        PORTB = 0b00010110;
        PORTD = 0b00000000;
        int count = 0;
        while(count<100){
                PORTD = 0b00000000;
                if(ReadADC(3)>500){value = 1;
                        }
                _delay_ms(10);
                count++;
        }
        if(value==1){PORTB = 0b00010000;
        _delay_ms(500);}
}
```