

TIMER VS DELAY

```
1  #pragma config FOSC = EXTRC      // Oscillator Selection bits (RC oscillator)
2  #pragma config WDTE = OFF        // Watchdog Timer Enable bit (WDT disabled)
3  #pragma config PWRT = OFF        // Power-up Timer Enable bit (PWRT disabled)
4  #pragma config BOREN = OFF       // Brown-out Reset Enable bit (BOR disabled)
5  #pragma config LVP = OFF         // Low-Voltage (Single-Supply) In-Circuit Serial Programming Enable bit (RB3 is d
6  #pragma config CPD = OFF         // Data EEPROM Memory Code Protection bit (Data EEPROM code protection off)
7  #pragma config WRT = OFF         // Flash Program Memory Write Enable bits (Write protection off; all program memo
8  #pragma config CP = OFF          // Flash Program Memory Code Protection bit (Code protection off)
9
10 #include <xc.h>
11 #define _XTAL_FREQ 6000000 // Define system clock frequency for delay functions
12 #define LED1 0x01
13 #define LED2 0x02
14 #define LED3 0x04
15
16 unsigned int a,b,c,count = 0;
17 void main(void) {
18     TRISC = 0x00;
19     PORTC = 0x00;
20
21     T1CON = 0x01;
22
23     INTCON |= 0xC0; // GIE AND PIE ENABLED
24     PIR1 |= 0x01;
25     PIR1 &= 0xFE; //
26     while(1);
27     return;
28 }
29
30 void __interrupt() ISR()
31 {
32     if (PIR1 & 0x01)
33     {
34         a++;
35         b++;
36         c++;
37
38         if(c == 15) //0.69
39         {
40             PORTC ^= (1 << 2); //0000 0000 ^ 0000 0100 = 0000 0100
41             c=0;
42         }
43         if(a == 30) //1.308
44         {
45             PORTC ^= (1 << 0); // 0000 0100 ^ 0000 0101 = 0000 0001
46             a=0;
47         }
48         if(b == 45) //1.962
49         {
50             PORTC ^= (1 << 1); // 0000 0001 ^ 0000 0011 = 0000 0010
51             b=0;
52         }
53         PIR1 &= (~0x01); // flag reset
54     }
55 }
56
```