

## سپهر رضایی - سوال ۱ :

$$\frac{100 \text{ Hz}}{\Delta} = 100 \text{ kHz} \Rightarrow T = \frac{1}{f} = 0.01 \mu\text{s}$$

$\frac{0.01 \mu\text{s}}{0.001 \mu\text{s}} = 100 = 100 \leftarrow \text{TCNT0}$

$\frac{0.01 \mu\text{s}}{0.001 \mu\text{s}} = 100 \leftarrow \text{interrupt}$

 Scanned with CamScanner

```
#include <mega16.h>

int countedTime;

Interrupt [TIM0_OVF] void timer0_ovf_isr(void) {
    TCCR0=0x00;
    TCNT0=155;
    countedTime++;
    If (countedTime == 7575) {
        PORTC0 = PORTC0 ^ 1;
        countedTime = 0;
    }
}

void main(void)
{
    DDRC = 0x01;
    TCCR0 = 0x02;
    TIMSK = 0x01;
    #asm("sei")

    while (1) {
    }
}
```