

# **MICROPROCESSOR BASED SYSTEM DESIGN LAB**

## **LAB 7**



**Spring 2021**

**CSE307L MBSD Lab**

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“On my honor, as student of University of Engineering and Technology, I have neither given nor received unauthorized assistance on this academic work.”

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Submitted to:

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**Task:**

Write a program, there are two buttons for interrupts if we press one button up-counting is started and the second button press the seven segment number is paused.

**Code:**

```
#include <reg51.h>
#include <stdio.h>

int number = 0;
sbit OS = P3^0;
int i = 0;

void ext0() interrupt 0
{
    TR0 = 1;
}

void ext1() interrupt 2
{
    TR0 = 0;
}

void timer() interrupt 1
{
    i++;
    if(i == 19)
    {
        OS = ~OS;
        number = (number + 1) % 10;
        i = 0;
        TH0 = 0x3C;
        TL0 = 0xAF;
    }
}

void init()
{
    TMOD = 0x1;
    EA = 1;
    ET0 = 1;
    EX0 = 1;
    EX1 = 1;
    IT1 = 1;
    IT0 = 1;
    TH0 = 0x3C;
```

```

    TL0 = 0xAF;
}

void main(void)
{
    init();
    while (1)
    {
        P2 = number;
    }
}

```

**Output / Graphs / Plots / Results:**  
**Schematic:**

