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MCA LAB EXAM

1. Implement using Proteus and Keil for the following:

Connect two switches (SW1 and SW2) and two LED. On press of first switch SW1, the led1 should on and off with a delay of 1sec and other switch SW2, LED2 should be on and off at 500 ms.

SOURCE CODE 1:

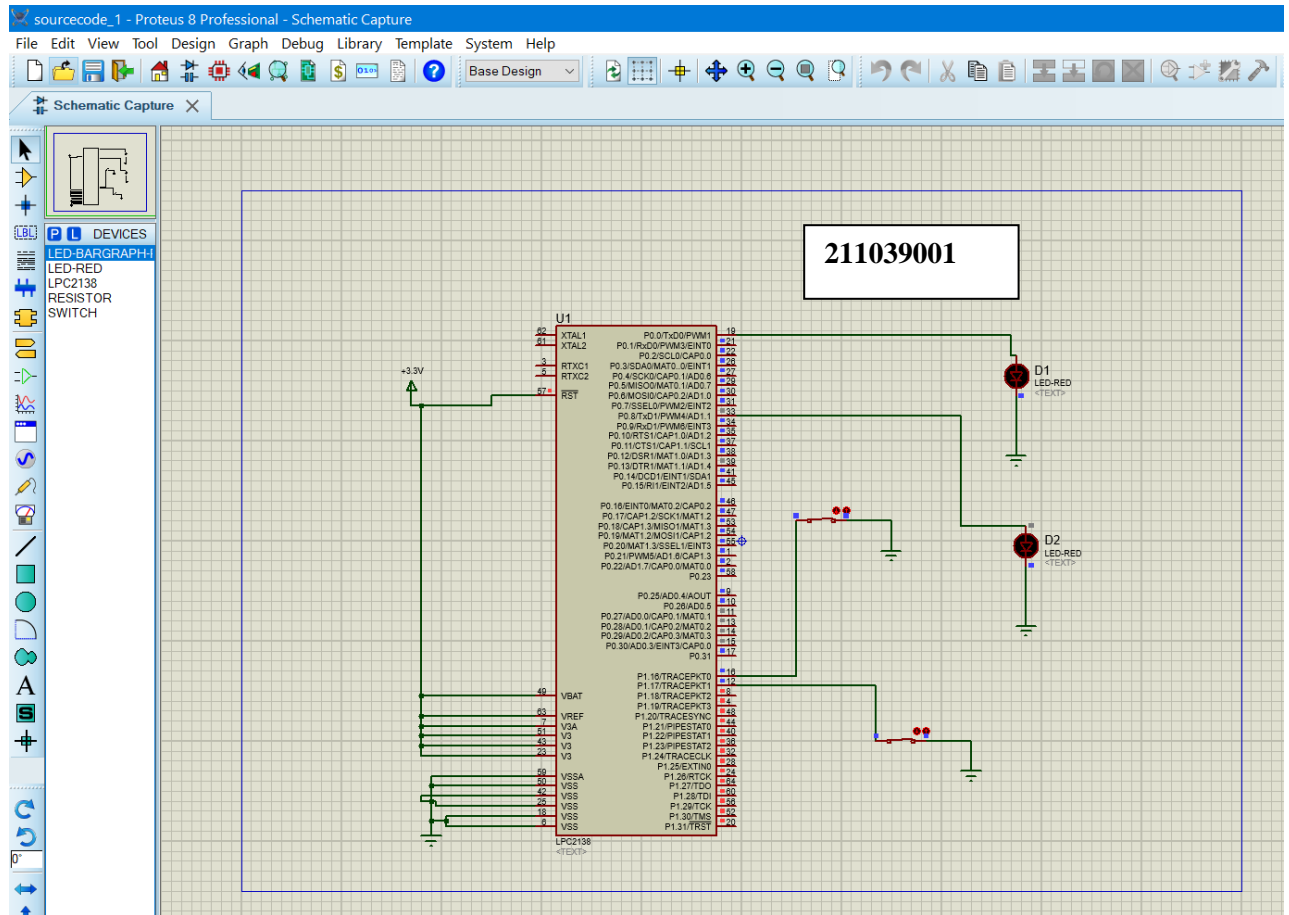
```
#include<lpc214x.h>
void delay(unsigned int z);
void pll();
int main(void)
{
    IO0DIR=0xffffffff;
    IO1DIR = 0x0;
    pll();                //Fosc=12Mhz,CCLK=60Mhz,PCLK=60MHz
    while(1) {
        if((IO1PIN & (1<<16)) ==0)
        {
            IO0SET=0x000000ff;
            delay(1000);        //1sec delay
            IO0CLR=0x000000ff;
            delay(1000);
        }
        if((IO1PIN & (1<<17)) ==0)
        {
            IO0SET=0x0000ff00;
            delay(500);        //500msec delay
            IO0CLR=0x0000ff00;
            delay(500);
        }
    }
}
```

```

    }
}
}
void pll()                                //Fosc=12Mhz,CCLK=60Mhz,PCLK=60MHz
{
    PLL0CON=0x01;
    PLL0CFG=0x24;
    PLL0FEED=0xaa;
    PLL0FEED=0x55;
    while(!(PLL0STAT&(1<<10)));
        PLL0CON=0x03;
        PLL0FEED=0xaa;
        PLL0FEED=0x55;
        VPBDIV=0x01;
}
void delay(unsigned int z)
{
    T0CTCR=0x0;                          //Select Timer Mode
    T0TCR=0x00;                          //Timer off
    T0PR=59999;                          //Prescaler value for 1ms
    T0TCR=0x02;                          //Timer reset
    T0TCR=0x01;                          //Timer ON
    while(T0TC<z);
        T0TCR=0x00;                      //Timer OFF
        T0TC=0;                          //Clear the TC value. This is Optional.
}

```

OUTPUT 1:



2. Implement using Proteus and Keil, for the following:

Implement a 00-99 counter (up counter) using two 7 segment displays.

SOURCE CODE 2:

```
#include<lpc21xx.h>
void delay(unsigned int c)
{
    unsigned int a;
    for(a=1;a<=60000;a++);}

int main()
{
    PINSEL0=0x00000000;    //Configure P0.0 to P0.15 as GPIO
    PINSEL1=0x00000000;
    PINSEL2=0x00000000;
    IO0DIR|=0xffffffff;    //Setting the direction as output
```

```

while(1){
unsigned long int j;
int i,a[]={0x3f,0x06,0x5B,0x4F,0x66,0x6D,0x7D,0x07,0x7F,0x6F};

    for(j=0; j<10;j++)          //10 times rotation
    {
        IO0SET=IO0SET|a[j];
        for(i=0; i<10;i++)
        {
            IO0SET= IO0SET|(a[i]<<8);
            delay(100000);          //Delay
            IO0CLR= IO0CLR|(a[i]<<8); //Clear
        }
        IO0CLR=a[j];
    }
}
}

```

OUTPUT 2 :

