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GITHUB LINK : https://github.com/Suhas44MC/MCA_LAB

Q1. Implement using Proteus and Keil for the following:

Connect two switches (SW1 and SW2)and two LED. On press of first switchSW1, the led1should on andoff with a delay of 1sec and other switch SW2, LED2 should be on and off at 500 ms

SOURCE CODE:

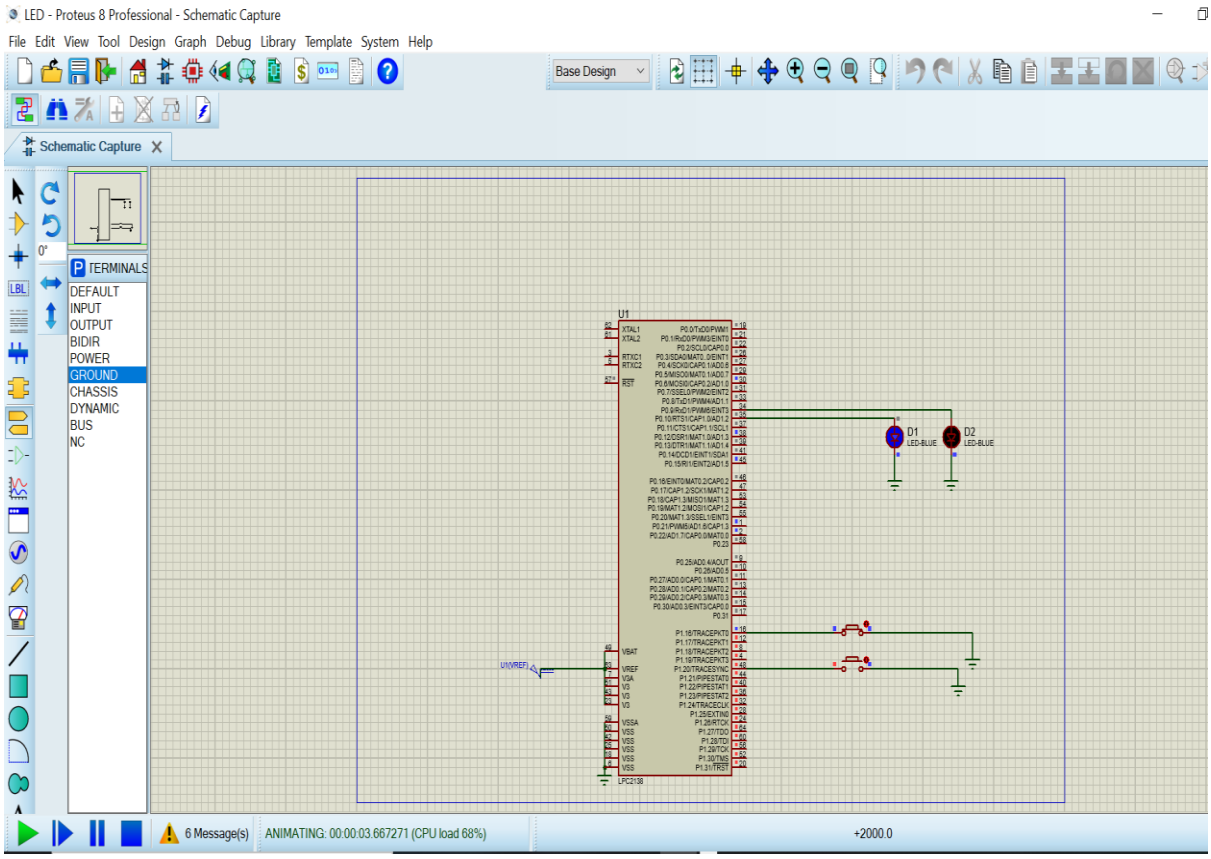
```
#include<lpc214x.h>


void delay(unsigned int z);
void pll();
int main(void)
{
   IO0DIR|= (1 << 9)|(1 << 10); //connecting two LEDs for P0.9 and P0.10
         IO1DIR |=0X0;
   pll();
   while(1) {

   if ((IO1PIN & (1<<16)) == 0)
  {
      IO0SET=(1 << 10); // making P0.10 high
      delay(1000);      // delay of 1 sec for LED 1
      IO0CLR=(1 << 10); // making P0.10 low
      delay(1000);
        }
```

```
if ((IO1PIN & (1<<20)) == 0)
{
        IO0SET=(1 << 9); // making P0.10 high
        delay(500);  // delay of 500ms for LED 2
        IO0CLR=(1 << 9); // making P0.10 low
        delay(500);
}
}
}
void pll()
{
    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;
    T0TCR=0x00;
    T0PR=59999; // prescalar value
    T0TCR=0x02;
```

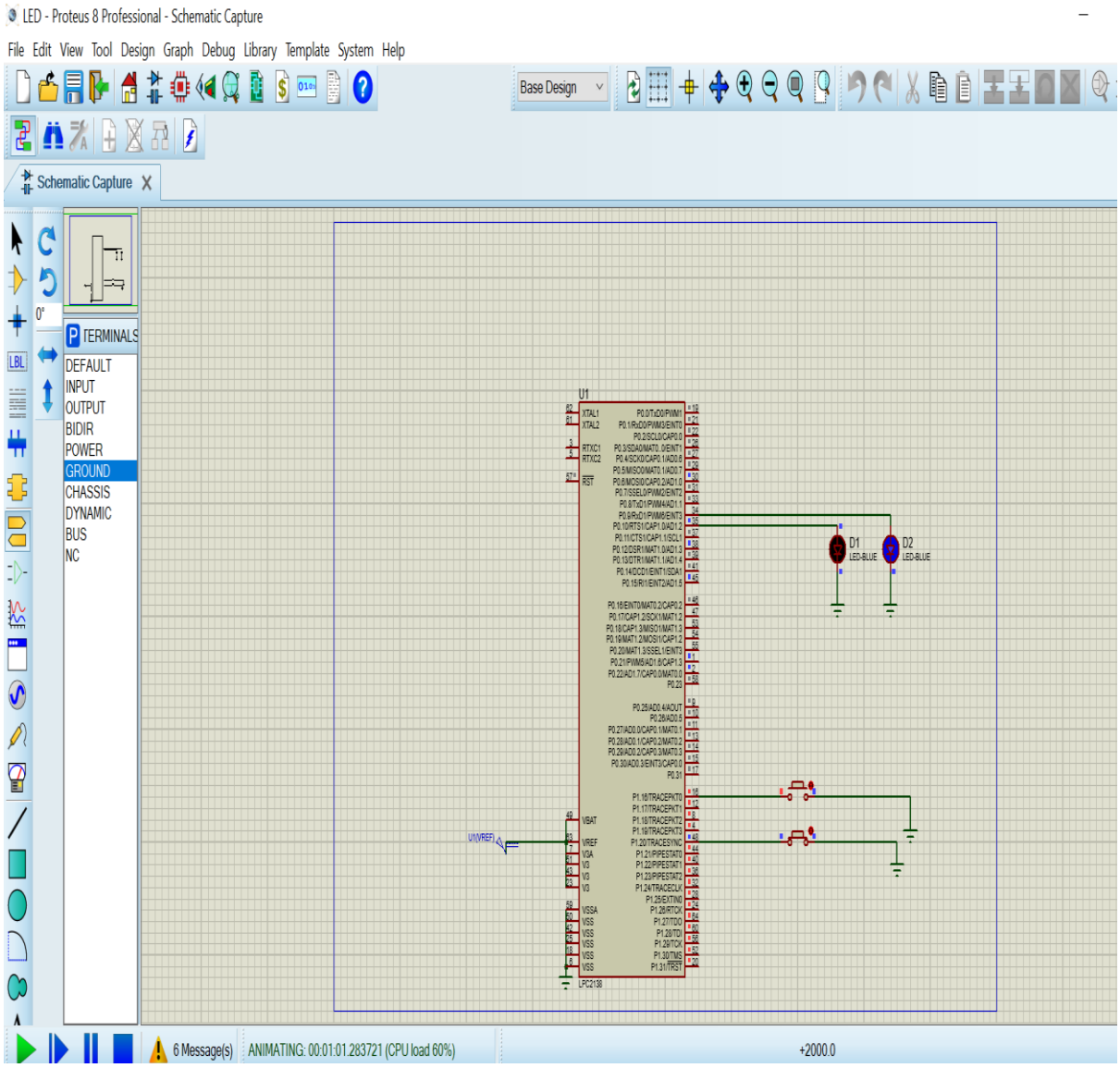
```
    T0TCR=0x01;
    while(T0TC<z);
    T0TCR=0x00;
    T0TC=0;
}
```

OUTPUT:

On press of SWITCH1, LED1 will ON and OFF with delay of 1sec.



On press of SWITCH2, LED2 will ON and OFF with delay of 500milisec.



Q2. Implement using Proteus and Keil, for the following:

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

SOURCE CODE:

```
# include<lpc214x.h>

 unsigned char test [] ={0x3f,0x06,0x5b,0x4f,0x66,0x7d,0x07,0x7f,0x6f};
 void delay()
 {
        int k;
        for(k =0;k<1000;k++);
 }
 void main()
 {
        int j, j1;
        IO0DIR = 0xff;
        IO1DIR = 0x30000;
        while(1)
        {
              for(j =0;j<100;j++){
                    for(j1 =0;j<500;j1++){
                                IO0CLR = 0XFF;
                                IO1CLR = 0X30000;
                                IO1SET = 0x20000;
                    IO0SET = test[j/10];
                    delay();
```

```
                                        IO0CLR = 0XFF;
                                    IO1CLR = 0X30000;
                                    IO1SET = 0x10000;
                                IO0SET = test[j&10];
                            delay();


        }
}}}
```

OUTPUT: