

SHANKAR S
ROLL NUM : 211039003

1. Implement using Proteus and Keil for the following: (15 marks) Connect two switches (SW1 and SW2) and two LED. On press of first switch SW1, the led 1 should on and off with a delay of 1 sec and other switch SW2, LED2 should be on and off at 500 ms.

CODE :

```
#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) {

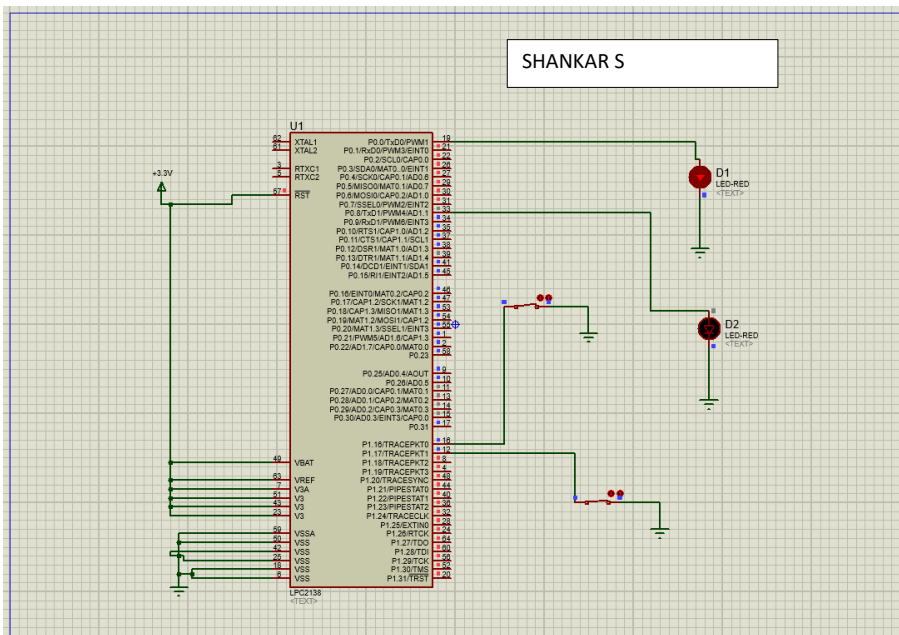
        // IF SWITCH ON IS ON //

        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;
```

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```
PLLOFEED=0x55;  
VPBDIV=0x01;  
}  
void delay(unsigned int z)  
{  
    T0TCR=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.  
}
```

SIMULATION:



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2. Implement using Proteus and Keil, for the following: (15 marks) Implement a 00-99 counter(up counter) using two 7 segment display.

CODE:

```
#include<lpc21xx.h>
```

```
void delay(unsigned int c)
```

```
{unsigned int a;
```

```
for(a=1;a<=60000;a++);}
```

```
int main()
```

```
{
```

```
    PINSEL0=0x00000000;
```

```
    PINSEL1=0x00000000;
```

```
    PINSEL2=0x00000000;
```

```
    IO0DIR |=0xffffffff;
```

```
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++)
```

```
{ IO0SET=IO0SET|a[j];
```

```
    for(i=0;i<10;i++)
```

```
    {
```

```
        IO0SET= IO0SET| (a[i]<<8);
```

```
        delay(100000);
```

```
        IO0CLR= IO0CLR| (a[i]<<8);
```

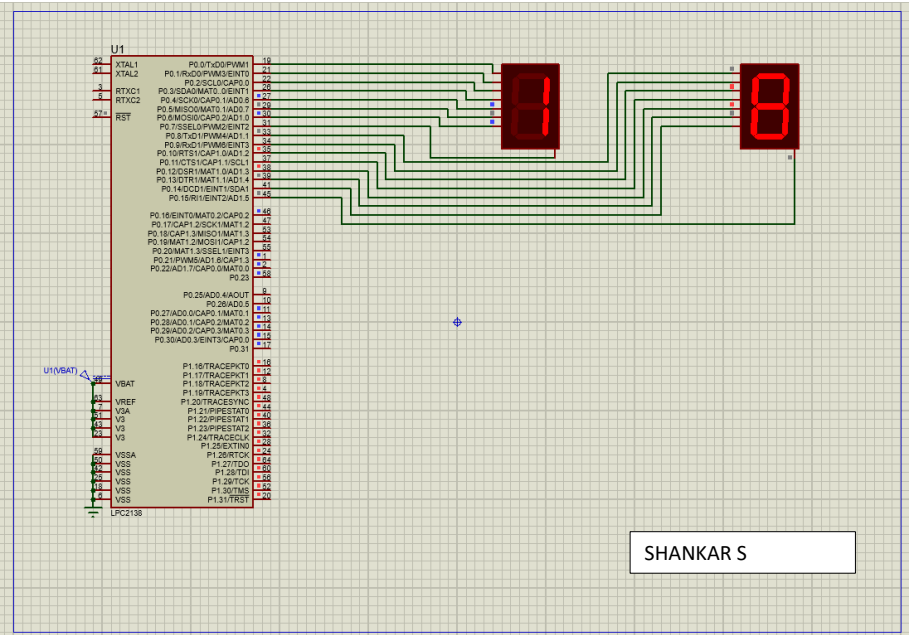
```
    }
```

```
    IO0CLR=a[j];
```

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}
}
}

SIMULATION :



Commented [SS1]:

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