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Task 00: Execute the provided code, no submission is required.

LAB03 Task00 : https://www.youtube.com/watch?v=XZR5IBrrbQo

Task 01: Determine the current period and on-time of the LED blinking. Change the delay of the LED blink (approx. 0.425 sec) by changing the delay and clock source and configuration – determine the CLK frequency – verify the delay to be approx. 0.425 sec.

LAB03 Task01 : https://www.youtube.com/watch?v=H6GVE0jz4qU

Current Period = 1/40MHz = 25ns
On- time of LED blinking = 25 ns x ($2*10^6$) = 0.05 sec.
In order to change the delay to 0.425 sec we need a clock of 4.7 MHz.
400MHz/2/42.5 = 4.7MHz
1/4.7MHz =0.213ns
0.213ns x ($2*10^6$) = 0.426 sec.

```
#include <stdint.h>
#include <stdbool.h>
#include "inc/hw_memmap.h"
#include "inc/hw_types.h"
#include "driverlib/sysctl.h"
#include "driverlib/gpio.h"

uint8_t ui8PinData=2;

int main(void)
{
    //Set clock to 4.7 MHz
        SysCtlClockSet(SYSCTL_SYSDIV_42_5|SYSCTL_USE_PLL|SYSCTL_XTAL_16MHZ|SYSCTL_OSC_MAIN);

        //Enable clock for peripheral
        SysCtlPeripheralEnable(SYSCTL_PERIPH_GPIOF);
        //Configure LED's as outputs
        GPIOPinTypeGPIOOutput(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3);

        while(1)
        {
            //Turn on LED
               GPIOPinWrite(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3, ui8PinData);
               SysCtlDelay(2000000);
               //Turn off LED
               GPIOPinWrite(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3, 0x00);
               SysCtlDelay(2000000);
               //Cycle through R, B, G, R, B, G ...
               if(ui8PinData==8) {ui8PinData=2;} else {ui8PinData=ui8PinData*2;}
        }
}
```

Task 02: Change the a) sequence of LED blinking(from BGR sequence to RGB), and b) blink one LED, two LED, and three LED at an instance and with a sequence (sequence of blinking with delay –R,G, B, RG, RB, GB, RGB, R, G, ...).

LAB03 Task02 Part A : https://www.youtube.com/watch?v=yGTKc6yYIgo

LAB03 Task02 Part B : https://www.youtube.com/watch?v=F--EYas9H48

Part A:

```
#include <stdint.h>
#include <stdbool.h>
#include "inc/hw_memmap.h"
#include "inc/hw_types.h"
#include "driverlib/sysctl.h"
#include "driverlib/gpio.h"

//Integer variable used in LED's
uint8_t ui8PinData=2;

int main(void)
{
    //Set clock to 4.7MHz
       SysCtlClockSet(SYSCTL_SYSDIV_42_5|SYSCTL_USE_PLL|SYSCTL_XTAL_16MHZ|SYSCTL_OSC_MAIN);

       //Enable clock for peripheral
       SysCtlPeripheralEnable(SYSCTL_PERIPH_GPIOF);
       //Configure LED's as outputs
       GPIOPinTypeGPIOOutput(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3);

       while(1)
       {
           //Turn on LED
              GPIOPinWrite(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3, ui8PinData);
              SysCtlDelay(2000000);
              //Turn off LED
              GPIOPinWrite(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3, 0x00);
              SysCtlDelay(2000000);
              //Cycle through B, R, G, B, R, G...
              if(ui8PinData==2) {ui8PinData=8;} else {ui8PinData=ui8PinData/2;}
       }
}
```

Part B:

```
//Integer Variable used in LED's
uint8_t ui8PinData=2;

int main(void)
{
    //Set clock to 4.7 MHz
    SysCtlClockSet(SYSCTL_SYSDIV_42_5|SYSCTL_USE_PLL|SYSCTL_XTAL_16MHZ|SYSCTL_OSC_MAIN);

    //Enable clock for peripheral
    SysCtlPeripheralEnable(SYSCTL_PERIPH_GPIOF);
    //Configure LED's as outputs
    GPIOPinTypeGPIOOutput(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3);
```

```
    while(1)
    {
        //Turn on LED
        GPIOPinWrite(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3, ui8PinData);
        SysCtlDelay(2000000);
        //Turn off LED
        GPIOPinWrite(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3, 0x00);
        SysCtlDelay(2000000);
        //Cycle through R, G, B, RG, RB, GB, RGB...
        if(ui8PinData==2) {ui8PinData=8;}
        else if (ui8PinData==8) {ui8PinData=4;}
            else if (ui8PinData==4) {ui8PinData=10;}
                else if (ui8PinData==10) {ui8PinData=6;}
                    else if (ui8PinData==6) {ui8PinData=12;}
                        else if (ui8PinData==12) {ui8PinData=14;}
                            else {ui8PinData=2;}
    }
}
```