Date Submitted: 9/24/2019

Task 00: Execute provided code

Youtube Link: https://youtu.be/i8q0Ee71RJI

```c
//Task 00
#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)
{
        SysCtlClockSet(SYSCTL_SYSDIV_5|SYSCTL_USE_PLL|SYSCTL_XTAL_16MHZ|SYSCTL_OSC_MAIN);
//clock initialization

        SysCtlPeripheralEnable(SYSCTL_PERIPH_GPIOF);
        GPIOPinTypeGPIOOutput(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3);

        while(1)
        {
                GPIOPinWrite(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3,
ui8PinData);   //GPIO
                SysCtlDelay(2000000);
//delay
                GPIOPinWrite(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3, 0x00);
//LED off
                SysCtlDelay(2000000);
//delay
                if(ui8PinData==8) {ui8PinData=2;} else {ui8PinData=ui8PinData*2;}
//condition for LED sequence
        }
}
```

Task 01:

Youtube Link: https://youtu.be/g8ORIYpEYj8

Modified Code:

```c
//Task 01
#include <stdint.h>
#include <stdbool.h>
#include "inc/hw_memmap.h"
#include "inc/hw_types.h"
#include "driverlib/sysctl.h"
#include "driverlib/gpio.h"
```

Grading scheme: 30% Coding, 30% Documentation, 40% Execution/Video.

```c
uint8_t ui8PinData=2;

int main(void)
{
        SysCtlClockSet(SYSCTL_SYSDIV_5|SYSCTL_USE_PLL|SYSCTL_XTAL_16MHZ|SYSCTL_OSC_MAIN);
//clock intialization

        SysCtlPeripheralEnable(SYSCTL_PERIPH_GPIOF);
        GPIOPinTypeGPIOOutput(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3);

        while(1)
        {

                GPIOPinWrite(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3,
ui8PinData); //GPIO
                SysCtlDelay(4000000);
//delay
                GPIOPinWrite(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3, 0x00);
//LED off
                SysCtlDelay(4000000);
//delay
                if(ui8PinData==8) {ui8PinData=2;} else {ui8PinData=ui8PinData*2;}
//condition for LED sequence
        }
}
```

Task 02 A:

Youtube Link: https://youtu.be/mdL4miEND74

Modified Code A:

```c
//Task 02 A BGR Sequence
#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)
{
        SysCtlClockSet(SYSCTL_SYSDIV_5|SYSCTL_USE_PLL|SYSCTL_XTAL_16MHZ|SYSCTL_OSC_MAIN);
//clock initialization

        SysCtlPeripheralEnable(SYSCTL_PERIPH_GPIOF);
        GPIOPinTypeGPIOOutput(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3);

        while(1)
```

Grading scheme: 30% Coding, 30% Documentation, 40% Execution/Video.

```
      {

            GPIOPinWrite(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3,
ui8PinData); //GPIO
            SysCtlDelay(4000000);
//delay
            GPIOPinWrite(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3, 0x00);
//LED off
            SysCtlDelay(4000000);
//delay
            if(ui8PinData==8)
                  {ui8PinData=2;}
                  else {ui8PinData=ui8PinData*2;}    //BGR LED sequence
      }
}
```

Task 02 B:

Youtube Link: https://youtu.be/QG_9cEv-IdU

Modified Code B:

```
//Task 02 B
#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)
{
      SysCtlClockSet(SYSCTL_SYSDIV_5|SYSCTL_USE_PLL|SYSCTL_XTAL_16MHZ|SYSCTL_OSC_MAIN);
//clock initialization

      SysCtlPeripheralEnable(SYSCTL_PERIPH_GPIOF);
      GPIOPinTypeGPIOOutput(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3);

      while(1)
      {

            //RED LED blink
            GPIOPinWrite(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3,
ui8PinData);
            SysCtlDelay(4000000);
            ui8PinData=2; //red
            GPIOPinWrite(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3, 0x00);
            SysCtlDelay(4000000);
```

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```
        //GREEN LED blink
        GPIOPinWrite(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3,
ui8PinData);
        SysCtlDelay(4000000);
        ui8PinData=8; //green
        GPIOPinWrite(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3, 0x00);
        SysCtlDelay(4000000);

        //BLUE LED blink
        GPIOPinWrite(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3,
ui8PinData);
        SysCtlDelay(4000000);
        ui8PinData=4; //blue
        GPIOPinWrite(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3, 0x00);
        SysCtlDelay(4000000);

        //RED & GREEN LED blink   2+8=10
        GPIOPinWrite(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3,
ui8PinData);
        SysCtlDelay(4000000);
        ui8PinData=10;
        GPIOPinWrite(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3, 0x00);
        SysCtlDelay(4000000);

        //RED & BLUE LED blink  2+4=6
        GPIOPinWrite(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3,
ui8PinData);
        SysCtlDelay(4000000);
        ui8PinData=6;
        GPIOPinWrite(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3, 0x00);
        SysCtlDelay(4000000);

        //GREEN & BLUE LED blink 8+4=12
        GPIOPinWrite(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3,
ui8PinData);
        SysCtlDelay(4000000);
        ui8PinData=12;
        GPIOPinWrite(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3, 0x00);
        SysCtlDelay(4000000);

        //RED GREEN BLUE LED blink 8+4+2=14
        GPIOPinWrite(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3,
ui8PinData);
        SysCtlDelay(4000000);
        ui8PinData=14;
        GPIOPinWrite(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3, 0x00);
        SysCtlDelay(4000000);

    }
}
```

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