**Date Submitted:**

**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; //Initiates the light up sequence on the color red

int main(void)

{

SysCtlClockSet(SYSCTL\_SYSDIV\_5|SYSCTL\_USE\_PLL|SYSCTL\_XTAL\_16MHZ|SYSCTL\_OSC\_MAIN); // Set the clock

SysCtlPeripheralEnable(SYSCTL\_PERIPH\_GPIOF);

GPIOPinTypeGPIOOutput(GPIO\_PORTF\_BASE, GPIO\_PIN\_1|GPIO\_PIN\_2|GPIO\_PIN\_3); // Other setup lines

while(1)

{

GPIOPinWrite(GPIO\_PORTF\_BASE, GPIO\_PIN\_1|GPIO\_PIN\_2|GPIO\_PIN\_3, ui8PinData); // This line turns on the led, receving the color as input.

SysCtlDelay(2000000);

GPIOPinWrite(GPIO\_PORTF\_BASE, GPIO\_PIN\_1|GPIO\_PIN\_2|GPIO\_PIN\_3, 0x00); // This line turns off the led, receiving a 0x00.

SysCtlDelay(2000000);

if(ui8PinData==8) // If the color code is 8,

{ui8PinData=2;} // then return to 2 (red).

else {ui8PinData=ui8PinData\*2;} // When red, multiply 2 by 2 to receive Green .

}

}**Youtube Link:** <https://youtu.be/2vef04Od4tw>

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**Task 01:**

Youtube Link: <https://youtu.be/sGWaTVWPhE0>

**Modified Schematic (if applicable):**

**Modified Code:**

**// Insert code here**

#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); // Set the clock

SysCtlPeripheralEnable(SYSCTL\_PERIPH\_GPIOF);

GPIOPinTypeGPIOOutput(GPIO\_PORTF\_BASE, GPIO\_PIN\_1|GPIO\_PIN\_2|GPIO\_PIN\_3); // Other setup lines

while(1)

{

GPIOPinWrite(GPIO\_PORTF\_BASE, GPIO\_PIN\_1|GPIO\_PIN\_2|GPIO\_PIN\_3, ui8PinData); // This line turns on the led, receving the color as input.

SysCtlDelay(8000000); // I chose a delay of 8000000 because 1/16MHZ = 62.5ns \* 8000000 = .5 Seconds

GPIOPinWrite(GPIO\_PORTF\_BASE, GPIO\_PIN\_1|GPIO\_PIN\_2|GPIO\_PIN\_3, 0x00); // This line turns off the led, receiving a 0x00.

SysCtlDelay(8000000);

if(ui8PinData==8) // If the color code is 8,

{ui8PinData=2;} // then return to 2 (red).

else {ui8PinData=ui8PinData\*2;} // When red, multiply 2 by 2 to receive Green .

}

}

**------------------------------------------------------------------------------------**

**Task 02A:**

Youtube Link: <https://youtu.be/mcC2zXKU6sw>

**Modified Schematic (if applicable):**

**Modified Code:**

**// Insert code here**

#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); // Set the clock

SysCtlPeripheralEnable(SYSCTL\_PERIPH\_GPIOF);

GPIOPinTypeGPIOOutput(GPIO\_PORTF\_BASE, GPIO\_PIN\_1|GPIO\_PIN\_2|GPIO\_PIN\_3); // Other setup lines

while(1)

{

GPIOPinWrite(GPIO\_PORTF\_BASE, GPIO\_PIN\_1|GPIO\_PIN\_2|GPIO\_PIN\_3, ui8PinData); // This line turns on the led, receving the color as input.

SysCtlDelay(8000000); // I chose a delay of 8000000 because 1/16MHZ = 62.5ns \* 8000000 = .5 Seconds

GPIOPinWrite(GPIO\_PORTF\_BASE, GPIO\_PIN\_1|GPIO\_PIN\_2|GPIO\_PIN\_3, 0x00); // This line turns off the led, receiving a 0x00.

SysCtlDelay(8000000);

if(ui8PinData==8) // The sequence that the LED will take is BGR now. Start at 2, multiply by 2 for blue, then again for green

{ui8PinData=2;}

else {ui8PinData=ui8PinData\*2;}

}

}

**------------------------------------------------------------------------------------**

**Task 02B:**

Youtube Link:  <https://youtu.be/z628t2ii6Sc>

**Modified Schematic (if applicable):**

**Modified Code:**

#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;

//Red 2

//Blue 4

//Green 8

int main(void)

{

SysCtlClockSet(SYSCTL\_SYSDIV\_5|SYSCTL\_USE\_PLL|SYSCTL\_XTAL\_16MHZ|SYSCTL\_OSC\_MAIN); // Set the clock

SysCtlPeripheralEnable(SYSCTL\_PERIPH\_GPIOF);

GPIOPinTypeGPIOOutput(GPIO\_PORTF\_BASE, GPIO\_PIN\_1|GPIO\_PIN\_2|GPIO\_PIN\_3); // Other setup lines

while(1)

{

GPIOPinWrite(GPIO\_PORTF\_BASE, GPIO\_PIN\_1|GPIO\_PIN\_2|GPIO\_PIN\_3, ui8PinData); // This line turns on the led, receving the color as input.

SysCtlDelay(8000000); // I chose a delay of 8000000 because 1/16MHZ = 62.5ns \* 8000000 = .5 Seconds

GPIOPinWrite(GPIO\_PORTF\_BASE, GPIO\_PIN\_1|GPIO\_PIN\_2|GPIO\_PIN\_3, 0x00); // This line turns off the led, receiving a 0x00.

SysCtlDelay(8000000);

// NEW SEQUENCE: – R, G, B, RG, RB, GB, RGB, R, G, …)

if(ui8PinData==2) // Begin at Red

{ui8PinData = 8;} // When Red, turn Green

else

if(ui8PinData == 8) // If Green,

{ui8PinData = 4;} // Turn Blue

else

if(ui8PinData == 4) // If Blue

{ui8PinData = 10;} // Turn RG (10)

else

if(ui8PinData == 10) // If RG

{ui8PinData = 6;} // Turn RB(6)

else

if(ui8PinData == 6) // If RB

{ui8PinData = 12;} // Turn GB

else

if(ui8PinData == 12) //If GB

{ui8PinData = 14;} // Turn RGB

else

ui8PinData = 2; // Back to Red and repeat.