**Date Submitted: 09/23/2019**

**Task 00:**

**Youtube Link:**

<https://youtu.be/fAVzdywteio>

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**Task 01:**

Youtube Link:

<https://youtu.be/5vFLR61I3fI>

**Calculation for 0.5s Delay:**

**Current Period:**

**Calculation for 0.5s Delay:**

**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);

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);

SysCtlDelay(6666666); // 0.5 Second Delay

GPIOPinWrite(GPIO\_PORTF\_BASE, GPIO\_PIN\_1 | GPIO\_PIN\_2 | GPIO\_PIN\_3, 0x00);

SysCtlDelay(2000000);

if (ui8PinData == 8) { ui8PinData = 2; }

else { ui8PinData = ui8PinData \* 2; }

}

}

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**Task 02A:**

Youtube Link:

<https://youtu.be/MKyVs3Q5CHw>

**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 = 4;

int main(void)

{

SysCtlClockSet(SYSCTL\_SYSDIV\_5 | SYSCTL\_USE\_PLL | SYSCTL\_XTAL\_16MHZ | SYSCTL\_OSC\_MAIN);

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);

SysCtlDelay(6666666);

GPIOPinWrite(GPIO\_PORTF\_BASE, GPIO\_PIN\_1 | GPIO\_PIN\_2 | GPIO\_PIN\_3, 0x00);

SysCtlDelay(2000000);

// Turning RGB ---> BRG

if (ui8PinData == 4)

{

ui8PinData = 8;

}

else if (ui8PinData == 8)

{

ui8PinData = 2;

}

else if (ui8PinData == 2)

{

ui8PinData = 4;

}

}

}

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

**Task 02B:**

Youtube Link:

<https://youtu.be/1cUVdUaaDBI>

**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 ui8PinData1 = 2; //red

uint8\_t ui8PinData2 = 4; //blue

uint8\_t ui8PinData3 = 8; //green

int main(void)

{

SysCtlClockSet(SYSCTL\_SYSDIV\_5 | SYSCTL\_USE\_PLL | SYSCTL\_XTAL\_16MHZ | SYSCTL\_OSC\_MAIN);

SysCtlPeripheralEnable(SYSCTL\_PERIPH\_GPIOF);

GPIOPinTypeGPIOOutput(GPIO\_PORTF\_BASE, GPIO\_PIN\_1 | GPIO\_PIN\_2 | GPIO\_PIN\_3);

while (1)

{

//Red

GPIOPinWrite(GPIO\_PORTF\_BASE, GPIO\_PIN\_1, ui8PinData1); //Red

SysCtlDelay(6666666);

GPIOPinWrite(GPIO\_PORTF\_BASE, GPIO\_PIN\_1, 0x00);

SysCtlDelay(6666666);

//Green

GPIOPinWrite(GPIO\_PORTF\_BASE, GPIO\_PIN\_3, ui8PinData3); //Green

SysCtlDelay(6666666);

GPIOPinWrite(GPIO\_PORTF\_BASE, GPIO\_PIN\_3, 0x00);

SysCtlDelay(6666666);

//Blue

GPIOPinWrite(GPIO\_PORTF\_BASE, GPIO\_PIN\_2, ui8PinData2); //Blue

SysCtlDelay(6666666);

GPIOPinWrite(GPIO\_PORTF\_BASE, GPIO\_PIN\_2, 0x00);

SysCtlDelay(6666666);

//Red Green

GPIOPinWrite(GPIO\_PORTF\_BASE, GPIO\_PIN\_1, ui8PinData1); //Red

GPIOPinWrite(GPIO\_PORTF\_BASE, GPIO\_PIN\_3, ui8PinData3); //Green

SysCtlDelay(6666666);

GPIOPinWrite(GPIO\_PORTF\_BASE, GPIO\_PIN\_1, 0x00);

GPIOPinWrite(GPIO\_PORTF\_BASE, GPIO\_PIN\_3, 0x00);

SysCtlDelay(6666666);

//Red Blue

GPIOPinWrite(GPIO\_PORTF\_BASE, GPIO\_PIN\_1, ui8PinData1); //Red

GPIOPinWrite(GPIO\_PORTF\_BASE, GPIO\_PIN\_2, ui8PinData2); //Blue

SysCtlDelay(6666666);

GPIOPinWrite(GPIO\_PORTF\_BASE, GPIO\_PIN\_1, 0x00);

GPIOPinWrite(GPIO\_PORTF\_BASE, GPIO\_PIN\_2, 0x00);

SysCtlDelay(6666666);

//Green Blue

GPIOPinWrite(GPIO\_PORTF\_BASE, GPIO\_PIN\_3, ui8PinData3); //Green

GPIOPinWrite(GPIO\_PORTF\_BASE, GPIO\_PIN\_2, ui8PinData2); //Blue

SysCtlDelay(6666666);

GPIOPinWrite(GPIO\_PORTF\_BASE, GPIO\_PIN\_3, 0x00);

GPIOPinWrite(GPIO\_PORTF\_BASE, GPIO\_PIN\_2, 0x00);

SysCtlDelay(6666666);

GPIOPinWrite(GPIO\_PORTF\_BASE, GPIO\_PIN\_1, ui8PinData1); //Red

GPIOPinWrite(GPIO\_PORTF\_BASE, GPIO\_PIN\_2, ui8PinData2); //Blue

GPIOPinWrite(GPIO\_PORTF\_BASE, GPIO\_PIN\_3, ui8PinData3); //Green

SysCtlDelay(6666666);

GPIOPinWrite(GPIO\_PORTF\_BASE, GPIO\_PIN\_1, 0x00);

GPIOPinWrite(GPIO\_PORTF\_BASE, GPIO\_PIN\_2, 0x00);

GPIOPinWrite(GPIO\_PORTF\_BASE, GPIO\_PIN\_3, 0x00);

SysCtlDelay(6666666);

}

}

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