**Date Submitted: September 24, 2019**

**Task 00: Execute provided code**

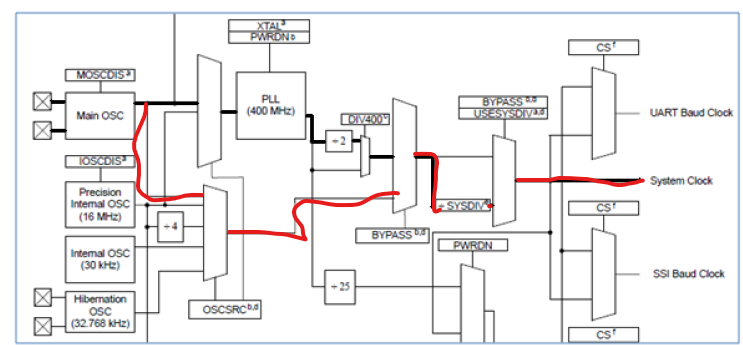
**Youtube Link:**

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**Task 01:**

Youtube Link:

**Modified Schematic (if applicable):**

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**Modified Code:**

**int** **main**(**void**)

{

**SysCtlClockSet**(SYSCTL\_SYSDIV\_1|SYSCTL\_USE\_OSC|SYSCTL\_XTAL\_20MHZ|SYSCTL\_OSC\_MAIN);

//Running a 20MHz crystal on main oscillator and using the oscillator as our clock with a divider of 1 for a frequency of 20MHz

**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**(1000000);

//F=20MHz, To get delay of 0.5s use 20e6/1s \* 0.5s = 10e6

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

**SysCtlDelay**(1000000);

**if**(ui8PinData==8) {ui8PinData=2;} **else** {ui8PinData=ui8PinData\*2;}

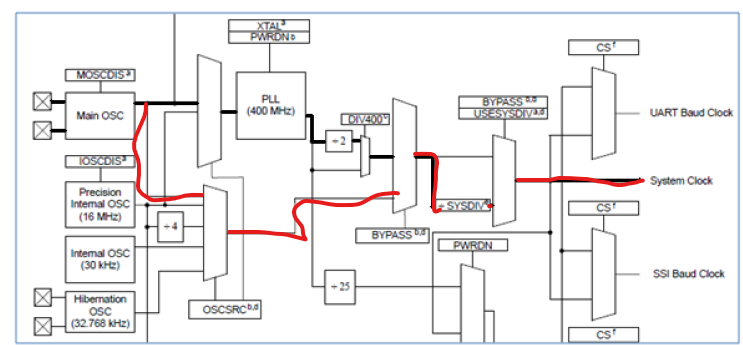
}

}**------------------------------------------------------------------------------------**

**Task 02:**

Youtube Link:

**Modified Schematic (if applicable):**

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**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;

**void** **blink**();

**int** **main**(**void**)

{

**SysCtlClockSet**(SYSCTL\_SYSDIV\_1|SYSCTL\_USE\_OSC|SYSCTL\_XTAL\_20MHZ|SYSCTL\_OSC\_MAIN); //Setting clock to 20MHz

**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**(2000000); //Delay of 1 sec to more easily see sequence

**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;} //The sequence of colors is RBG when ui8PinData is initialized at 2

//if(ui8PinData==2) {ui8PinData=8;} else {ui8PinData=ui8PinData/2;} //The sequence of colors is RGB when ui8PinData is initialized at 2

}

//\*/

/\*

while(1)

{

ui8PinData = 2; //R

blink();

ui8PinData = 8; //G

blink();

ui8PinData = 4; //B

blink();

ui8PinData = 10; //RG

blink();

ui8PinData = 6; //RB

blink();

ui8PinData = 12; //GB

blink();

ui8PinData = 14; //RGB

blink();

}

\*/

}

**void** **blink**() { //Since ui8PinData is a global variable, I don't to include it in the arguments

//blink will turn the pins on and off with the current ui8PinData value

**GPIOPinWrite**(GPIO\_PORTF\_BASE, GPIO\_PIN\_1|GPIO\_PIN\_2|GPIO\_PIN\_3, ui8PinData);

**SysCtlDelay**(2000000);

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

**SysCtlDelay**(2000000);

}

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**Task 03:**

Youtube Link:

**Modified Schematic (if applicable):**

**Modified Code:**

**// Insert code here**

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