**Date Submitted:**

**Task 00: Execute provided code**

**Youtube Link:**

<https://www.youtube.com/watch?v=nFliIjVSeRg>

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

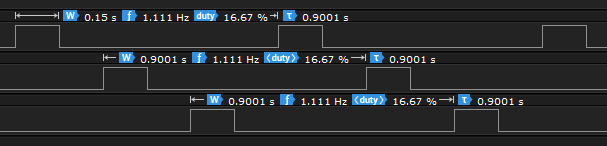
**Task 01:**

Current period and on-time using provided code:

SysCtlDelay of 2M is equal to 6M CPU Cycles  
6M/40MHz = 0.15s

Period of LED blinking = .3s  
On-Time of LEDs = .15s

Verification:



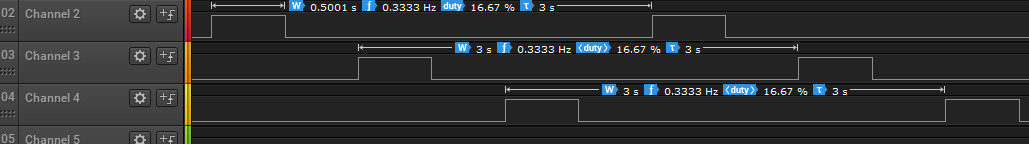
Calculating New Delay:

Using SYSCTL\_SYSDIV\_10|SYSCTL\_USE\_PLL|SYSCTL\_XTAL\_16MHZ|SYSCTL\_OSC\_MAIN

400MHz/2/10 = 20MHz is the new Clock Frequency

20MHz\*0.5s/3 = 3.3M is the new value for SysCtlDelay  
\*In the code, SysClockGet() is used instead of raw values

Verification:



Youtube Link:

<https://www.youtube.com/watch?v=fUpzNutyolo>

**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;

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

{

**SysCtlClockSet**(SYSCTL\_SYSDIV\_10|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**(0.5\*(**SysCtlClockGet**() / 3));

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

**SysCtlDelay**(0.5\*(**SysCtlClockGet**() / 3));

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

}

}

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

**Task 02:**

\*The provided code was already in BGR sequence, so I changed it to RGB instead.

Youtube Link:

Task 02 A: <https://youtu.be/VEQOMwYCFYo>

Task 02 B: <https://youtu.be/uJpkTpOKcLw>

**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;

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

{

**SysCtlClockSet**(SYSCTL\_SYSDIV\_10|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**(0.5\*(**SysCtlClockGet**() / 3));

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

**SysCtlDelay**(0.5\*(**SysCtlClockGet**() / 3));

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

**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** **if** (ui8PinData==14){ui8PinData=2;}

**else**{ui8PinData=ui8PinData/2;}

}

}