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Github root directory: https://github.com/nhanuscin/HappyFunStuff

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Task 00: Execute provided code

Youtube Link: N/A

Task 01:

Youtube Link: https://www.youtube.com/watch?v=OQw5zRJ0xQA

Modified Schematic (if applicable): N/A
Delay Calculation:
(1/40MHz) * 3x = .5seconds (3x because in SysCltDelay every count takes 3 clock cycles)
X = 6,666,667

Modified Code:

```
int main(void)
{
    SysCtlClockSet(SYSCTL_SYSDIV_5|SYSCTL_USE_PLL|SYSCTL_XTAL_16MHZ|SYSCTL_OSC_MAIN);
    //set clock to 40MHz
    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(6666667); //500ms delay
        GPIOPinWrite(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3, 0x00);
        SysCtlDelay(6666667); //500ms delay
        if(ui8PinData==8)
        {
            ui8PinData=2;
        }
        else
        {
            ui8PinData=ui8PinData*2;
        }
    }

}
```

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

Task 02:

Youtube Link: https://www.youtube.com/watch?v=agF6_JSienU

Modified Schematic (if applicable): N/A

Modified Code:

```c
int main(void)
{
    SysCtlClockSet(SYSCTL_SYSDIV_5|SYSCTL_USE_PLL|SYSCTL_XTAL_16MHZ|SYSCTL_OSC_MAIN);
    //set clock to 40MHz
    SysCtlPeripheralEnable(SYSCTL_PERIPH_GPIOF);
    GPIOPinTypeGPIOOutput(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3);

    GPIOPinWrite(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3, 0x00); //All off
    SysCtlDelay(6666667); //500ms delay

    while(1)
    {
        ui8PinData = 2;        //Red
        GPIOPinWrite(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3, ui8PinData);
        SysCtlDelay(6666667); //500ms delay
        ui8PinData = 8;        //Green
        GPIOPinWrite(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3, ui8PinData);
        SysCtlDelay(6666667); //500ms delay
        ui8PinData = 4;        //Blue
        GPIOPinWrite(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3, ui8PinData);
        SysCtlDelay(6666667); //500ms delay
        ui8PinData = 10;       //RG
        GPIOPinWrite(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3, ui8PinData);
        SysCtlDelay(6666667); //500ms delay
        ui8PinData = 6;        //RB
        GPIOPinWrite(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3, ui8PinData);
        SysCtlDelay(6666667); //500ms delay
        ui8PinData = 12;       //GB
        GPIOPinWrite(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3, ui8PinData);
        SysCtlDelay(6666667); //500ms delay
        ui8PinData = 14;       //RGB
        GPIOPinWrite(GPIO_PORTF_BASE, GPIO_PIN_1|GPIO_PIN_2|GPIO_PIN_3, ui8PinData);
        SysCtlDelay(6666667); //500ms delay
    }

}
```

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