Clinton Bess

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TivaC Lab 6

CPE 403

Checklist for Lab 6

- ☑ *A text/word document of the initial code with comments*
- ☑ *In the document, for each task submit the modified or included code (only) with highlights and justifications of the modifications. Also include the comments.*
- ☑ *Provide a permanent link to all main and dependent source code files only (name them as LabXX-TYY, XX-Lab# and YY-task#)Screenshots of debugging process along with pictures of actual circuit*
- ☑ *Video link of demonstration.*

Code for Experiment

Task 1:

```
#include <stdint.h>
#include <stdbool.h>
#include "inc/hw_types.h"
#include "inc/hw_memmap.h"
#include "driverlib/sysctl.h"
#include "driverlib/pin_map.h"
#include "driverlib/debug.h"
#include "driverlib/hibernate.h" // used for hibernation
#include "driverlib/gpio.h"

#ifdef DEBUG
void__error__(char *pcFilename, uint32_t ui32Line)
{}
#endif

int main() {
        // Use 40 MHz clock
        SysCtlClockSet(
                        SYSCTL_SYSDIV_5 | SYSCTL_USE_PLL | SYSCTL_XTAL_16MHZ
                                        | SYSCTL_OSC_MAIN);

        // Enable LEDs
        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, 0x08);

        // Enable hibernation
        SysCtlPeripheralEnable(SYSCTL_PERIPH_HIBERNATE);
        // Define frequency for clock for hibernation module
        HibernateEnableExpClk(SysCtlClockGet());
        HibernateGPIORetentionEnable(); // continue GPIO state during hibernation
        SysCtlDelay(64000000); // delay to allow user to observe the LED.

        HibernateWakeSet(HIBERNATE_WAKE_PIN); // set wake mode to wake_pin

        HibernateRequest(); // request hibernation
        while (1)
                ;e
}
```

Task 2:

Mode	Workbook Step	Reading1	Reading2
Run	17	20 mA	21 mA
VDD3ON (no RTC)	18	4.4 µA	4.9 µA
VDD3ON (RTC)	28	4.8 µA	5 .1µA

Video Link to Demo

NONE