**Date Submitted: 10/2**

**Task 00: Execute provided code**

**Youtube Link:**

**#include** <stdint.h>

**#include** <stdbool.h>

**#include** "inc/hw\_memmap.h"

**#include** "inc/hw\_types.h"

**#include** "driverlib/debug.h"

**#include** "driverlib/sysctl.h"

**#include** "driverlib/adc.h"

**#define** TARGET\_IS\_BLIZZARD\_RB1

**#include** "driverlib/rom.h"

**#ifdef** DEBUG

void\_\_error\_\_(**char** \*pcFilename, uint32\_t ui32Line)

{

}

**#endif**

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

{

uint32\_t ui32ADC0Value[4];

**volatile** uint32\_t ui32TempAvg;

**volatile** uint32\_t ui32TempValueC;

**volatile** uint32\_t ui32TempValueF;

// f = 40 MHz

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

// Enables the ADC

ROM\_SysCtlPeripheralEnable(SYSCTL\_PERIPH\_ADC0);

ROM\_ADCHardwareOversampleConfigure(ADC0\_BASE, 64);

// ADC0, sample sequencer 1, processor triggers, highest priority

ROM\_ADCSequenceConfigure(ADC0\_BASE, 1, ADC\_TRIGGER\_PROCESSOR, 0);

ROM\_ADCSequenceStepConfigure(ADC0\_BASE, 1, 0, ADC\_CTL\_TS);

ROM\_ADCSequenceStepConfigure(ADC0\_BASE, 1, 1, ADC\_CTL\_TS);

ROM\_ADCSequenceStepConfigure(ADC0\_BASE, 1, 2, ADC\_CTL\_TS);

ROM\_ADCSequenceStepConfigure(ADC0\_BASE,1,3,ADC\_CTL\_TS|ADC\_CTL\_IE|ADC\_CTL\_END);

ROM\_ADCSequenceEnable(ADC0\_BASE, 1);

**while**(1)

{

ROM\_ADCIntClear(ADC0\_BASE, 1); // Clear ADC interrupt flag

ROM\_ADCProcessorTrigger(ADC0\_BASE, 1); // Trigger the ADC conversion

**while**(!ROM\_ADCIntStatus(ADC0\_BASE, 1, **false**)); // Poll until conversion completes

ROM\_ADCSequenceDataGet(ADC0\_BASE, 1, ui32ADC0Value); // Store the temperature value

ui32TempAvg = (ui32ADC0Value[0] + ui32ADC0Value[1] // Average the sampled temperatures

+ ui32ADC0Value[2] + ui32ADC0Value[3]

+ 2) / 4;

// Convert to Celsius

ui32TempValueC = (1475 - ((2475 \* ui32TempAvg)) / 4096)/10;

// Convert to Fahrenheit

ui32TempValueF = ((ui32TempValueC \* 9) + 160) / 5;

}

}

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

**Task 01:**

Youtube Link:

**Modified Schematic (if applicable):**

**Modified Code:**

**// Insert code here**

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

{

.

.

.

**SysCtlClockSet**(SYSCTL\_SYSDIV\_11|SYSCTL\_USE\_PLL|SYSCTL\_XTAL\_16MHZ|SYSCTL\_OSC\_MAIN);

.

.

.

}

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

**Task 02:**

Youtube Link:

**Modified Schematic (if applicable):**

**Modified Code:**

**// Insert code here**

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

**Task 03:**

Youtube Link:

**Modified Schematic (if applicable):**

**Modified Code:**

**// Insert code here**

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