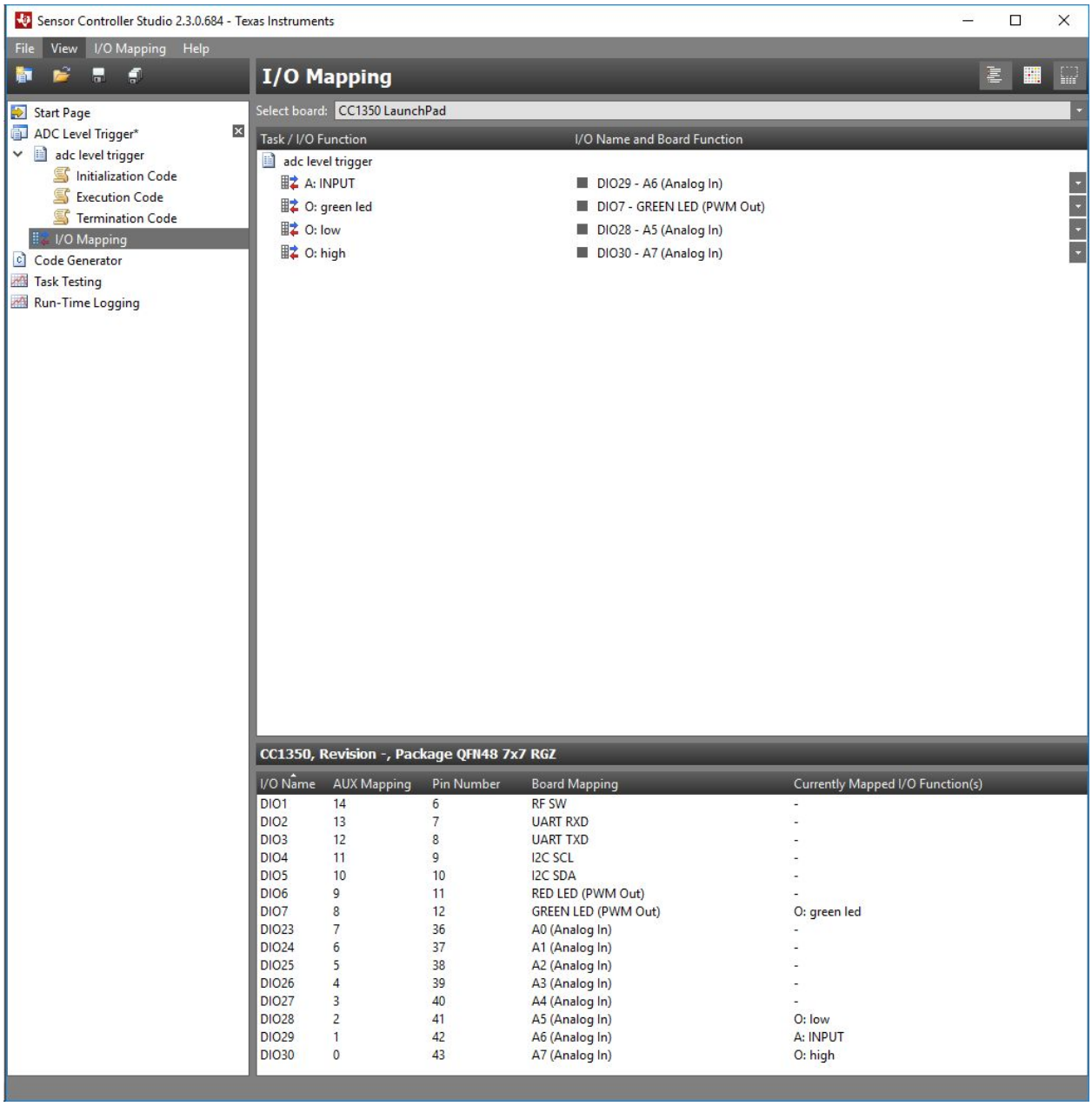
Joseph Sharp Halpin
CpE 403 Section 1001
Date Submitted: 11/21/2018

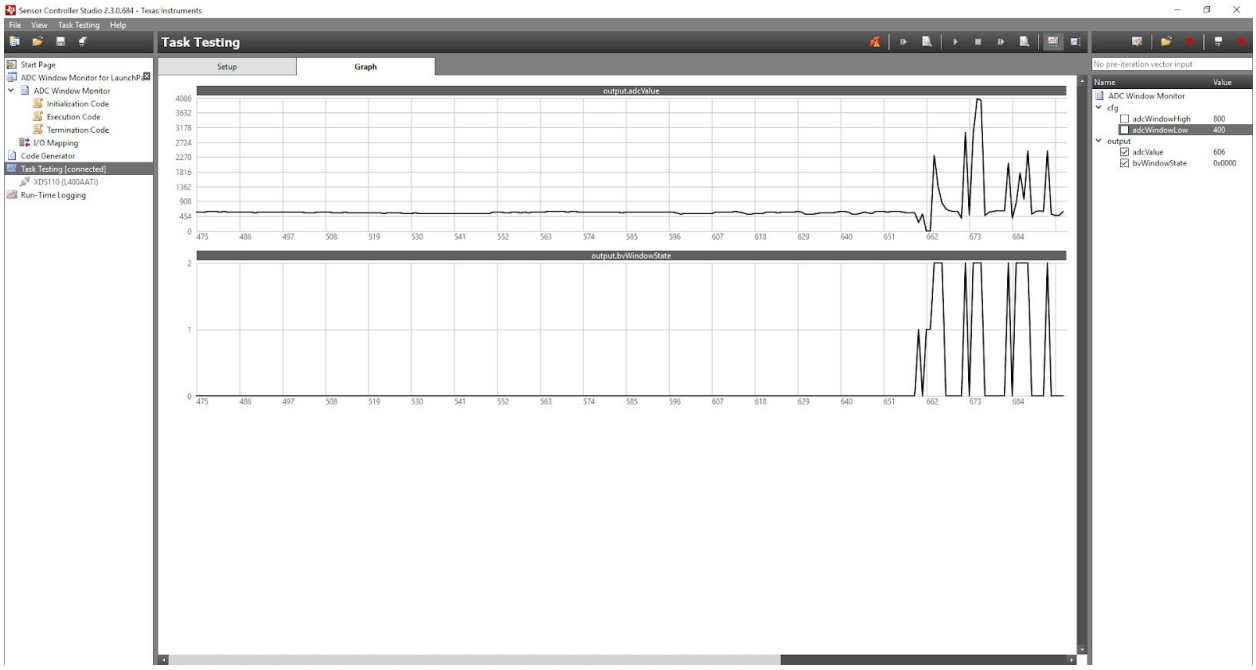
Youtube Link Task 1: https://youtu.be/DYjWn7Hyed8
Youtube Link Task 3: https://youtu.be/n-Me-LxXcR8
Youtube Link Task 4: https://youtu.be/MdbNl2ZlgCc

Task 2:
Sensor Controller Studio:

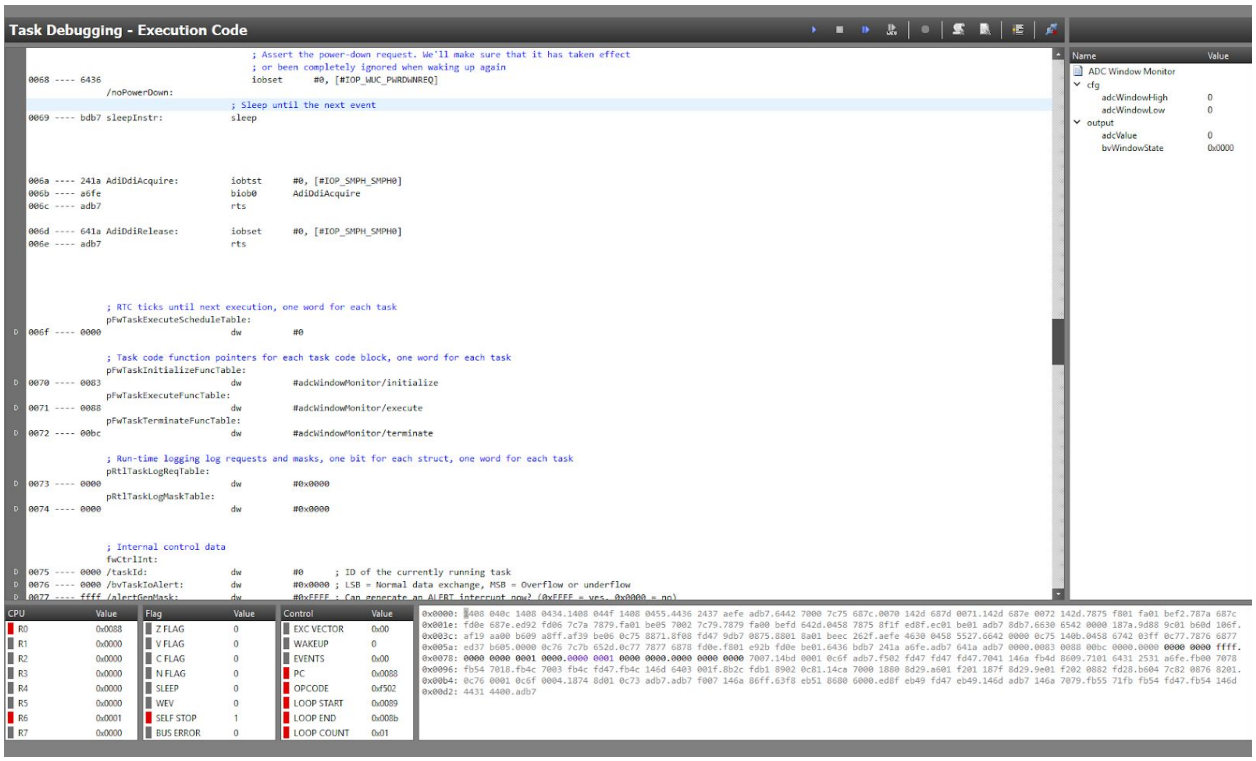


Task 3:

Sensor Controller Studio Graph:



Sensor Controller Studio Assembly:



Task 5:

main_tirtos.c:

```
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 */

/*
 *  ======== main_tirtos.c ========
 */
#include <stdint.h>

/* POSIX Header files */
#include <pthread.h>

/* RTOS header files */
#include <ti/sysbios/BIOS.h>

/* Example/Board Header files */
#include "Board.h"

extern void *tirtosScThread(void *arg0);

/* Stack size in bytes */
#define THREADSTACKSIZE    1024
```

```c

/*
 *  ======== main ========
 */
int main(void)
{
    pthread_t           thread;
    pthread_attr_t      attrs;
    struct sched_param  priParam;
    int                 retc;

    /* Call driver init functions */
    Board_initGeneral();

    /* Initialize the attributes structure with default values */
    pthread_attr_init(&attrs);

    /* Set priority, detach state, and stack size attributes */
    priParam.sched_priority = 1;
    retc = pthread_attr_setschedparam(&attrs, &priParam);
    retc |= pthread_attr_setdetachstate(&attrs, PTHREAD_CREATE_DETACHED);
    retc |= pthread_attr_setstacksize(&attrs, THREADSTACKSIZE);
    if (retc != 0) {
        /* failed to set attributes */
        while (1) {}
    }

    retc = pthread_create(&thread, &attrs, tirtosScThread, NULL);
    if (retc != 0) {
        /* pthread_create() failed */
        while (1) {}
    }

    BIOS_start();

    return (0);
}
```