

**Assignment 3 – MSP430 – Large Numbers on the LCD****Due: Before the Start of FRIDAY's class (January 31, 2020)**

Honor Code: _____

Name: _____ Signature: _____

After you instructor finishes the lecture portion, open the LCD Bigger Numbers document (on Blackboard) and follow the instructions. Get answer questions, and do the coding as described in the document and below.

8. What happens when the number increments past 999,999 and reaches 1,000,000?

11. Ok, what happened when we started with a negative number?

**12. Ok. Challenge Time!**

Design a program (make a design flowchart) that can display any number between -999,999 and +999,999.

Recall from the LCD Symbols lab manual that we have a negative sign symbol which can be turned on and off with the following commands:

```
myLCD_showSymbol(LCD_UPDATE , LCD_NEG , 0); // Turn on negative sign
```

```
myLCD_showSymbol(LCD_CLEAR , LCD_NEG , 0); // Turn off negative sign
```

Turn in your final Design Flowchart attached to this sheet.

13. Implement your flowchart design in C in CCS (no assembly!). Revise and edit your design (and your design flowchart) as necessary to get it working. Print out and turn in your final working code and attach.**14. Last Challenge. Let's use the output of the ADC to display the input voltage on the LCD. Connect a 1k or 5k Ohm potentiometer to your LaunchPad; the Pot wiper is connected to Pin P9.2 on your LaunchPad with one side of your Pot connected to a 3.3V pin and the other side of the Pot connected to a GND pin.**

Design a program (make a design flowchart) that every 0.25 seconds will display the voltage being input to the ADC. **Turn in your final Design Flowchart** attached to this sheet.

15. Implement your flowchart design in C in CCS (no assembly!). Revise and edit your design (and your design flowchart) as necessary to get it working. Print out and turn in your final working code and attach.