**Austin Sypolt**

**ECE 362**

**Pre-Lab #5**

**Introduction:**

In this lab we will learn how to use logic and bit instructions to change LEDs as well as learning the application of a hex keypad and further lessons in utilizing the stepper motor on our HSC12 boards.

**Lab 5.1.1: Logic Instructions**

Objective/Purpose: Clears bit 6 of VAR\_1 and stores it back into VAR\_1. Then sets bit 4 of VAR\_1 and stores it in VAR\_1. Then using the AND instruction it will wait for bit 1 (switch 2) of the dipswitches to go low then send VAR\_1 to the LEDs. Finally testing for switch 2 to wait until it goes high after going low.

Code:

Variables: SECTION

Var\_1 ds.b $EC

Constants: SECTION

Port\_s dc.b $248

Ldaa #Var\_1

BCLR #$40

Loop: staa #$248

nop

**Lab 5.1.2: Bit Instructions**

Objective/Purpose:

Use BSET and BCLR to initialize and turn off LEDs/DDR in port S.

Code:

**Lab 5.2: Hex Keypad**

Objective/Purpose:

Initializing Port U so that the upper 4 bits are outputs and the lower

Code:

**Lab 5.3: Stepper Motor**

Objective/Purpose:

Use BSET and BCLR to initialize and turn off LEDs/DDR in port S.

Code: