Lab 4

# Purpose

The purpose of this lab is to familiarize yourself with assembly programming. This is the lowest level of programming that we can do to be able to control and manage a piece of hardware.

# Objectives

You will familiarize yourself with:

* The MC9S08G60 development board
* The CodeWarrior Development environment
* Assembling your code and downloading it to the actual 6808 on the board
* Interactively stepping through the program and watching what happens

# Procedure

1. Set up your development environment by turning on your lab machine and booting it into “Windows XP”.
2. Open up Metrowerks CodeWarrior 3.1 from the desktop and start a new project

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| IOSetup:  CLRA  STA $03  LDA #$FF  STA $01  STA $43  MainLoop:  LDA $00  NSA  STA $40  JMP MainLoop |

1. Using the “Create Project” wizard, give your project a name, set your board derivative, and, when prompted for the type of connection, select “Motorola Serial Monitor”
2. Open up your “main.asm” file in your editor and copy in the code from figure.
3. Plug your development board to power and connect a serial cable with DB-9 connectors to your computer and on the board using the plug closest to the power jack.
4. Back in the IDE with your code copied in, press the green arrow button to run your code. You should see a new progress bar dialog box appear containing the progress of your current upload. It should say things like “Erasing EEPROM”.
5. When the dialog disappears, a new window should pop up underneath it called the serial debugger. It allows you to see 6808 registers, the full memory map, and even step through instructions by hand.
6. Become familiar with the code editor and serial debugger by repeating these steps a couple times.