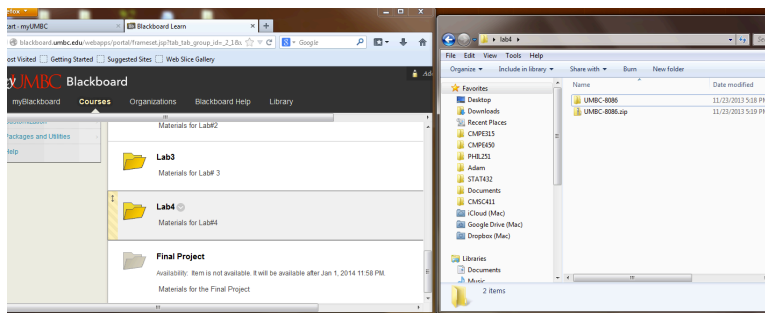The UMBC trainer board takes Intel Hex program files over serial (RS232). Unfortunately, the files needed to convert the NASM .asm files into Intel .hex files are 16-bit DOS executables and will not run on Windows natively. The following shows a work-around to enable you to successfully produce .hex files given an .asm file. Essentially, a DOS emulator, DOSBox, is used to run the 16-bit DOS EXEs. Producing the hex files on your own will be helpful since it will give you warnings if it finds errors in your assembly file.

Step 1: Downloading UMBC-8086 files

Download the UMBC-8086.zip from lab4 folder in the laboratory section on blackboard. Place the folder (and contents) contained in the zip file somewhere meaningful and take note of its path for a later step.

Step 2: Downloading DOSBox

Download DOSBox (http://www.dosbox.com).
The following is the link for the windows version.
http://sourceforge.net/projects/dosbox/files/dosbox/0.74/DOSBox0.74-win32-installer.exe/download
(The remainder of this tutorial assumes you are using the windows version. Linux and Mac should be similar.)

Step 3: Installing DOSBox

Install DOSBox onto your machine.

Step 4 (optional): Setting up DOSBox

Locate and open DOSBox configuration file (dosbox-.74.conf). It should be in Windows -> All Programs -> DOSBox-0.74 -> Options.
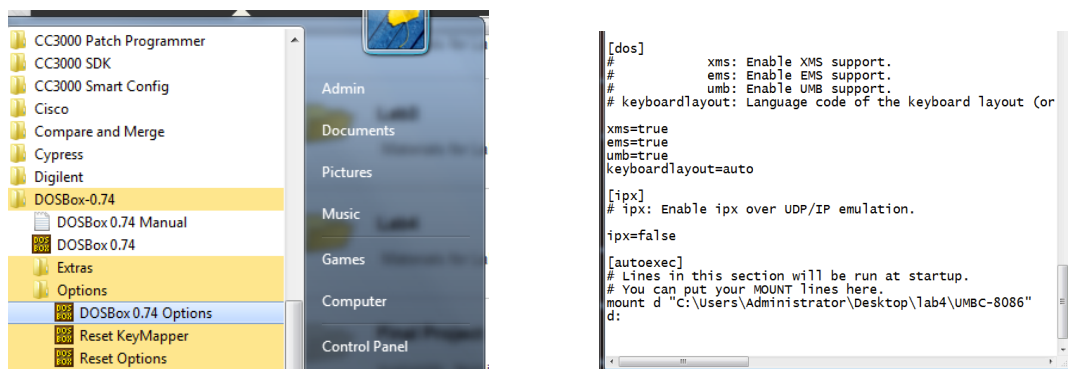
Add the following lines to the end of the file under [autoexec]:
>   *mount d " UMBC-8086_directory "*
>   *d:*

where UMBC-8086_directory is the full path to the UMBC-8086 directory (keep the quotations).

This will automatically change the starting directory when DOSBox is launched.

Step 5: Running DOSBox

Launch DOSBox. Two windows should appear. One simply gives the state of DOSBox and the other should give you a DOS command prompt. We will only be working with the DOS command prompt.

If you are not already in UMBC-8086 directory, then move to that directory.

List the contents of the directory using dir command.

The important files you care about are nasm.exe, LINK86.exe, OH86.exe, LOC86.exe, and run.bat.

Step 6: Compiling .asm to Intel .hex file

To compile an .asm file, enter
    RUN.BAT LAB4
where lab4 is the name of your NASM assembly file. (Do not include the .asm
extension or else it will fail to compile). A simple .asm file is included named
lab4.asm.

If there are no errors with your program you should get a *No Errors* message;
otherwise, it will inform you of the errors it came across.