

Instructions for Installing the MASM Assembler

These instructions assume you have already followed the CSC 236 instructions for setting up DOSBox. You should have a shared directory (probably named P23X) and there should be a MASM611 subdirectory under it.

Download and Install

Start the installation process without DOSBox running. You'll be starting it after the first step. Remember that, while it's running, DOSBox doesn't see changes to its shared directory that you make via the host computer. So, it's best to copy any files you need into the shared directory first, then start up DOSBox and mount the shared directory after that.

First, go to the class Moodle site. Under the section named MASM Installation and Information, you should see a file named **masm611.exe**. Download a copy of this file and move it to the MASM611 subdirectory of your shared, P23X directory. It's a binary file, so you'll probably want to right-click on it and choose to download it from a menu. Or, you can change directory to your MASM611 subdirectory and download it using the following curl command:

```
curl -O https://people.engr.ncsu.edu/dbsturgi/236/files/masm611.exe
```

On our Moodle site, there's also a file named **hellom.asm**. It's in the Homeworks section of our page, under TOOLS. We'll use this for testing your MASM installation once you're done. Download a copy of this file and put it under the HELLO subdirectory of your shared P23X directory. You can download this file using your web browser, or you can change directory to your P23X/HELLO directory and then enter the following curl command to download it there.

```
curl -O https://people.engr.ncsu.edu/dbsturgi/236/files/hellom.asm
```

Then, start up DOSBox as usual. Mount your shared directory using the mount command you normally use. It's probably something like: **mount e ~/P23X**

In DOSBox, change to your E drive and set up the your environment variables and then change to the MASM611 directory:

```
e:  
dbset  
cd masm611
```

If you enter the **dir** command, you should see a copy of the **masm611.exe** file you copied to this directory earlier.

Type in the following command to install MASM using this executable. Don't forget the **-d** option. It will create some subdirectories it needs, unpack about 50 files and put them in the right subdirectories. This took about a minute when I did it.

```
masm611 -d
```

Test Your Installation

Change directory to the HELLO subdirectory. If you've already switched to your E: drive (you should have done that above), you should be able to give the path to HELLO relative to the top of your current drive. The (optional) dir command after the cd should show you the hellom.asm file that you put there earlier.

```
cd \HELLO  
dir
```

Then, run the assembler and tell it to assemble the program in hellom.asm. After you run the (optional) dir command at the end, you should see a new file named HELLOM.OBJ. This is the object file created by the assembler

```
ml /c hellom.asm  
dir
```

Then, link the program to get an executable. Notice that there's no filename extension given with this command. The link command will prompt you for some file names. You can just press enter to take the default names. When you run the (optional) dir command at the end, you should see a new file named HELLOM.EXE. This is the executable program the linker created.

```
link hellom  
dir
```

Finally, try running your program by entering its name. It should print a single line of output with the message, **Hello World**.

```
hellom
```