Executing the Assembly Language Programs Using MASM Under Windows XP

This document describes in detail how you can assemble and run the assembly language programs given in the text under Windows XP using the MASM assembler. (These programs should also work with the TASM assembler.)
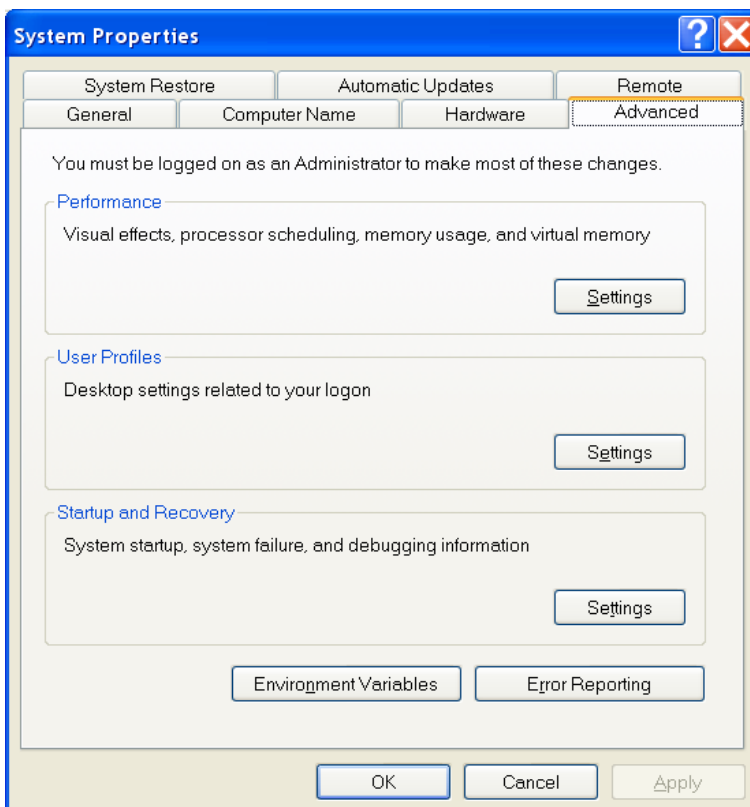
Step 1: Getting MASM

To get MASM 6.14, download `m32v82r.zip` from: **http://www.masm32.com/**
Unzip and run **install.exe**. It creates the **masm32** directory. The MASM files
(**ml.exe** and **ml.err**) are in the **masm32/bin** directory. Copy these two files into a
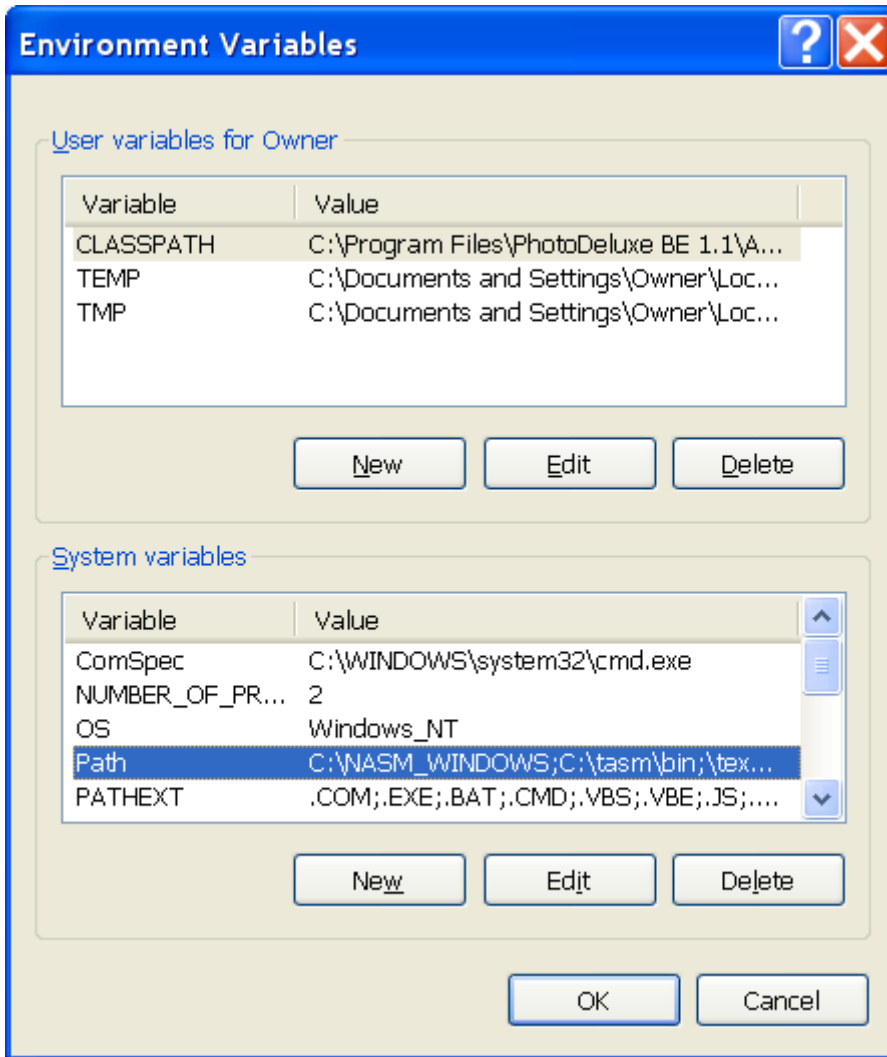directory and add it to your search path (see below).

NOTE: Do NOT use the linker **link.exe** (32 bit) in the masm32/bin directory. For the
right linker, see Step 2.
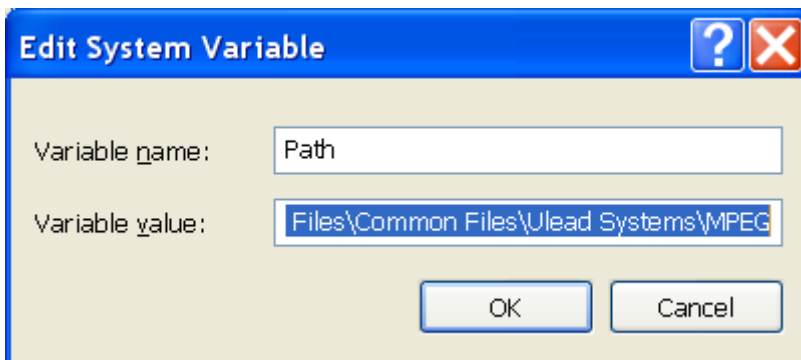
Updating the PATH variable

Click start and select Control Panel. In the Control Panel, select System. It pops the
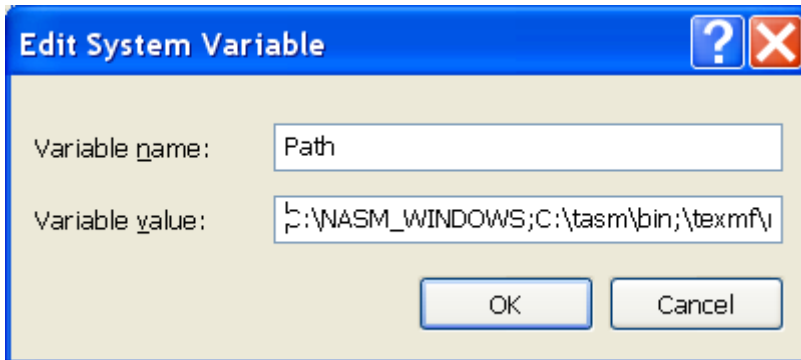System Properties window. Press the Advanced tab to get access to Environment
Variables (see below).

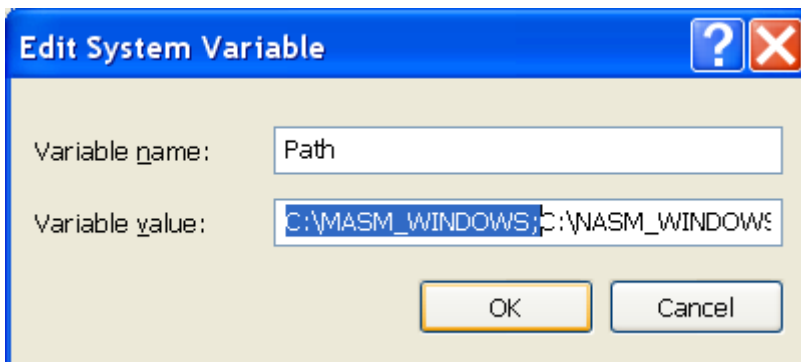Click Environment Variables button to open system and user environment variables (see below).

Doubleclick Path (shown highlighted in the above screenshot) or select Path and click the Edit button to edit the system variables (see below).

Place cursor in the Variable value field and press Home key on your keyboard. This takes you to the beginning of the path variable list as shown below.

Enter the path of the directory that contains the `nasm.exe` file. For example, if it is in C:\NASM_WINDOWS, add `C:\NASM_WINDOWS;` (don't forget the semicolon) as shown below:

Press OK several times to exit all the popped up windows.
That's it. Now open a command prompt window (if you already opened one, close it and reopen) and try typing
`ml /?`
You should see the MASM help information.

Step 2: Getting the Linker

Download **lnk563.exe** from the following URL:

http://download.microsoft.com/download/vc15/Update/1/WIN98/EN-US/Lnk563.exe

Execute this self-extracting file in the Command Prompt window. This gets the linker **link.exe** we want. For convenience, keep this file in the same directory as **ml.exe**.

Now you are ready to execute assembly language programs under Windows XP using the MASM assembler.

Step 3: Running Assembly Programs under Windows XP

First, you need to copy the MASM/Windows versions of the programs in the text. You can get them from the book's Web site
http://www.scs.carleton.ca/~sivarama/asm book/.

Do not use the Linux I/O files (**io.mac** and **io.obj**). Make sure to use the I/O files that come with the MASM/Windows version. Now you are ready!

USING MASM

You can use MASM to assemble and link in a single step.

For example, to assemble and link ADDIGITS.ASM, use

```
ml addigits.asm io.obj
```

To assemble only (as in NASM), use /c option

```
ml /c addigits.asm
```

Then link using

```
link addigits io
```

This should produce the executable file.

Good luck!