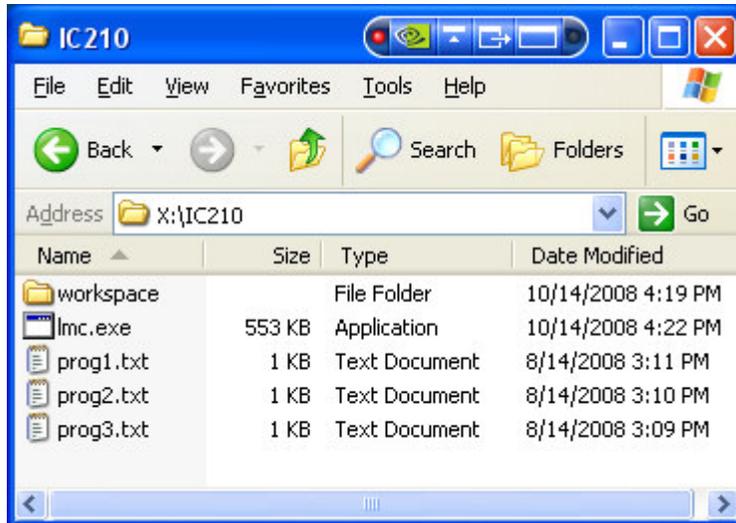


Here's an illustration of what you will accomplish in this homework. You will eventually take all these steps after you have modified the LMC Simulator code. The following is a snapshot of a folder on my X:\ drive:



Notice the executable file named **lmc.exe**, which is our LMC Simulator, and some text files named **prog#.txt** in the same folder as the executable. These are the LMC programs that we will have our LMC execute.

We're going to run our LMC Simulator from the *command-line*. First we need to open a command-line window. This is the same as the console window that our C++ programs *automatically* open for us, except we now need

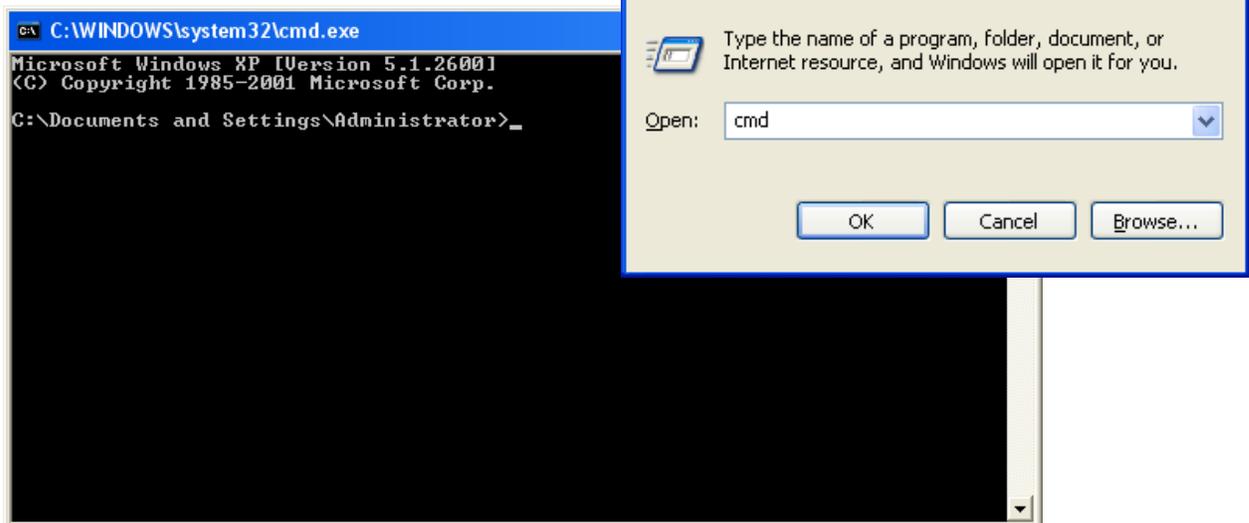
to open it first *ourselves*. You can do it as follows:

Start -> Run ...

Then type in **cmd** in the window titled "Run" that pops up, and press OK.

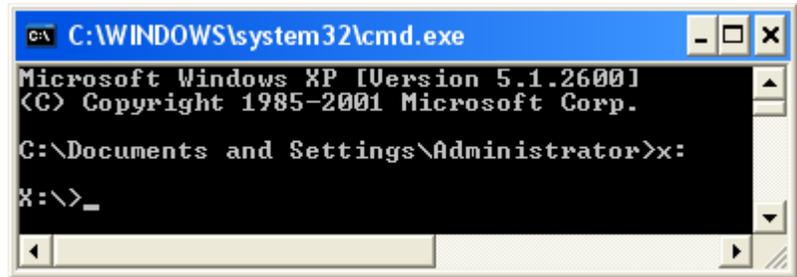


A console window similar to the one below should open.

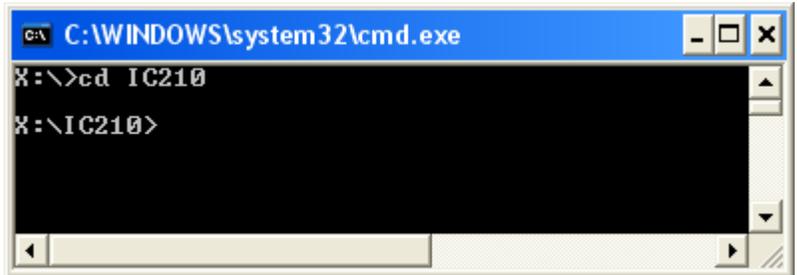


You'll need to go into the folder that has your LMC executable file (lmc.exe). I *first copied mine from the Visual C++ project's Debug folder to the IC210 folder on my X: drive*. I also downloaded the three **.txt** files from this assignment web page into folder **X:\IC210**. Then I did this:

I typed **x:** in the console window, and pressed **ENTER**:

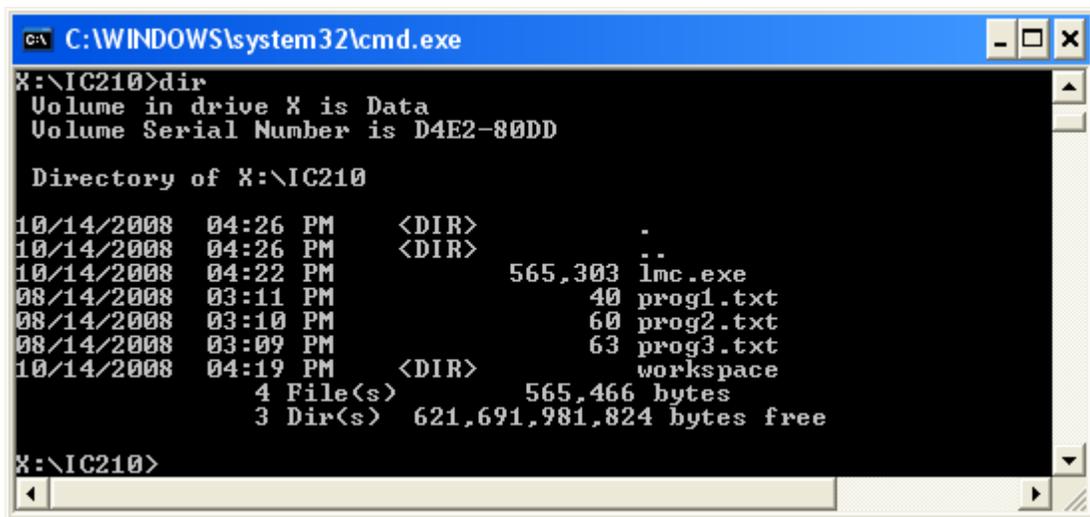


Then I typed **cd IC210** in the console window, and pressed **ENTER**:

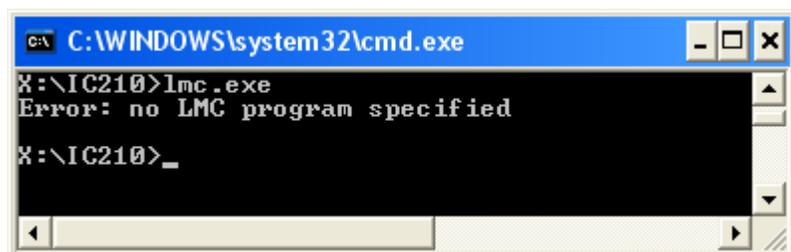


I'm now "working in" the X:\IC210 folder.

Typing **dir** (and pressing **ENTER**) will give a directory listing. It lists the same files as are shown in the first image on page 1 of this homework (your folder listing may differ, but if you copied `lmc.exe` to the X:\IC210 folder, it should be listed):

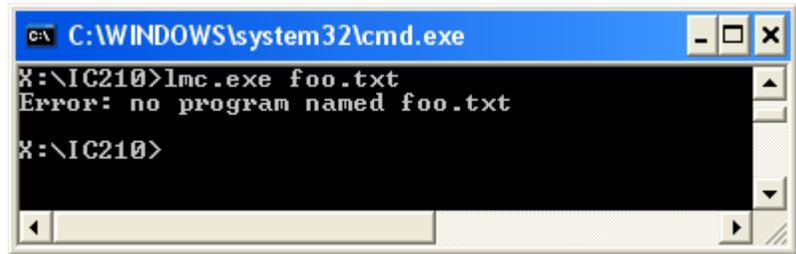


Now I run my solution to this homework by typing in the name of the executable file (`lmc.exe`), and pressing **ENTER** (our command-line has one string on it):



Notice that I ran it incorrectly. Our LMC Simulator expects two strings to be on the command-line. The second one should be the name of the LMC program it should load and run.

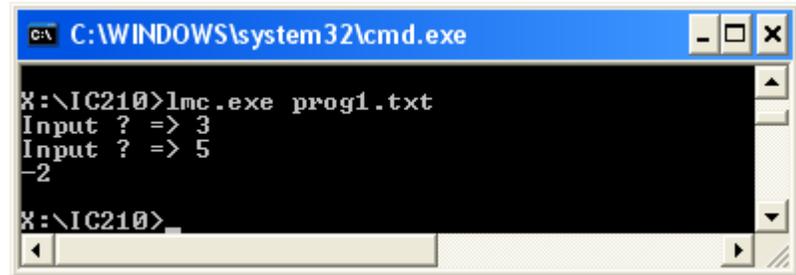
Here's another example: I type in the name of the executable file (`lmc.exe`), followed by the name of an LMC program that our LMC should load into its memory (`foo.txt`), then press **ENTER** (our command-line now has two strings on it).



```
C:\WINDOWS\system32\cmd.exe
X:\IC210>lmc.exe foo.txt
Error: no program named foo.txt
X:\IC210>
```

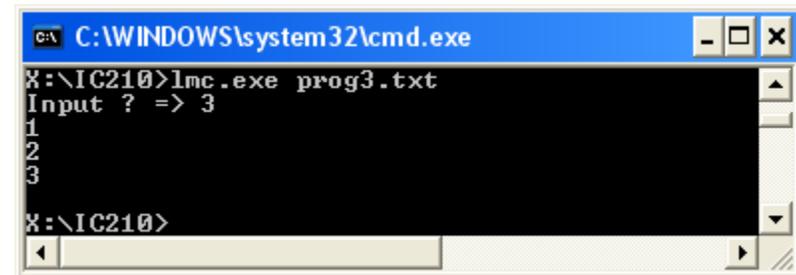
This time we ran the LMC Simulator correctly, but it gave us another error message: the file named "foo.txt" could not be found in this directory.

Here's a correct run with no errors:



```
C:\WINDOWS\system32\cmd.exe
X:\IC210>lmc.exe prog1.txt
Input ? => 3
Input ? => 5
-2
X:\IC210>
```

Here's another one:



```
C:\WINDOWS\system32\cmd.exe
X:\IC210>lmc.exe prog3.txt
Input ? => 3
1
2
3
X:\IC210>
```

Assignment:

1. You are to *start with the code posted on the Class 30 web page* (the solution to HW30). Re-write the Little Man Computer (LMC) Simulator program so it expects two command-line arguments (arguments to function `main`):

- If two command-line arguments aren't entered by the user, your LMC Simulator should quit after printing the error message: **Error: no LMC program specified**
- If two command-line arguments are entered, function `load_program` in your LMC Simulator should try to open that file (Hint: how will `load_program` know what file to open?). If it can't open the named file, it should produce an error message like the one shown at the top of this page, then `return`.
- If the file named on the command-line is successfully opened, function `load_program()` should read from that file.

2. Run your LMC Simulator program *from the command line*. Then submit, stapled together:

- (a) Hardcopy printout of this with your name on it.
- (b) Hardcopy printout of `lmc.h` and `lmc.cpp`
- (c) Screen snapshots of your LMC successfully running `prog1.txt`, `prog2.txt`, and `prog3.txt`
- (d) Screen snapshot of it run with only 1 argument on the command-line
- (e) Screen snapshot of it run with a file that doesn't exist.