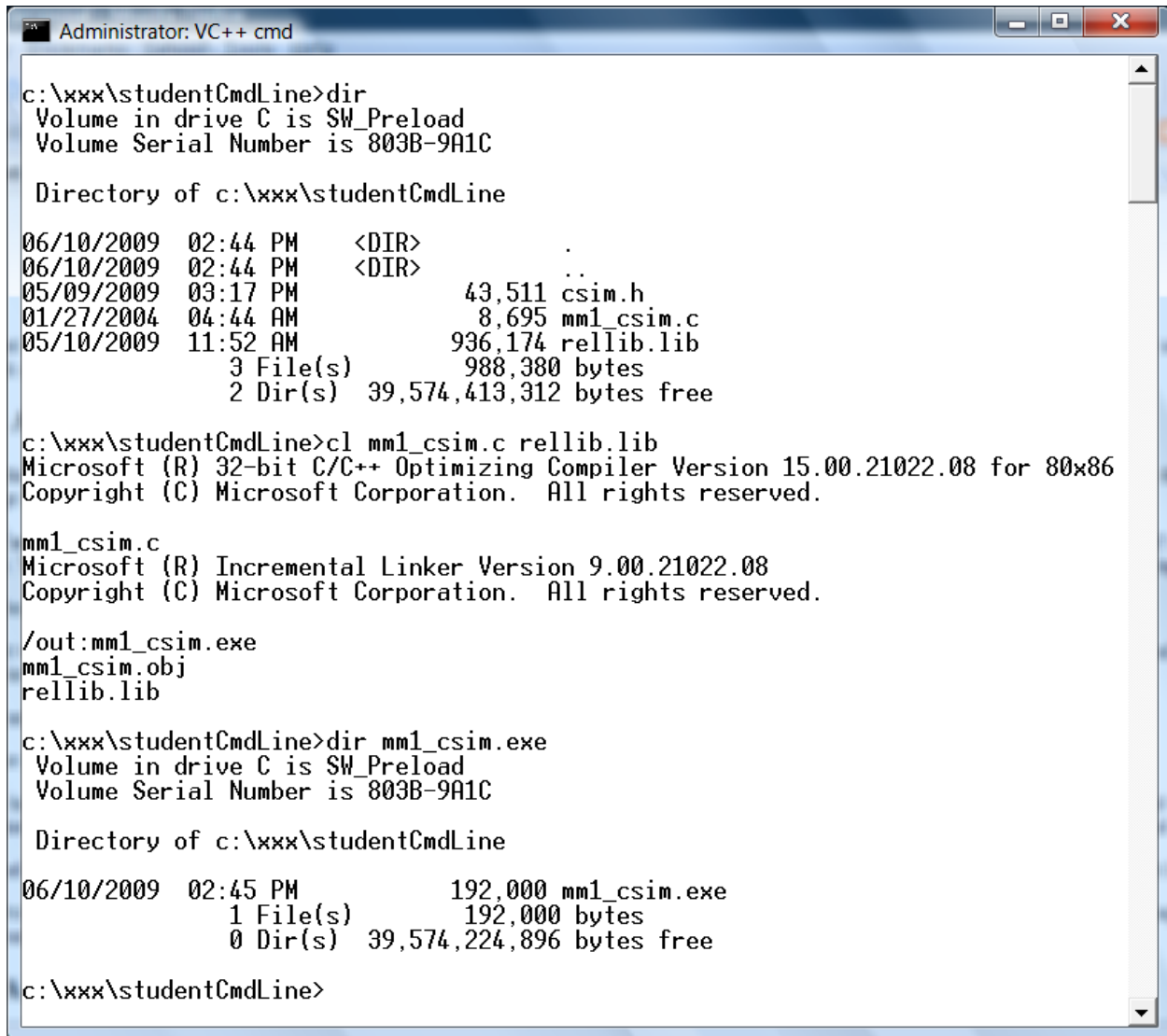# How to build CSIM20 models from the command line

The first step is to get Visual C++ Express Edition 2008 installed and a Visual Studio command prompt set-up. The handout vcCmdLine.pdf describes how to set-up the command prompt. This handout is replicated on the second page here for convenience. The second step is to copy over the CSIM files for Visual C++ Express Edition. In this "mess" of files you need to find `rellib.lib` and `csim.h`, and that is it. Put these files in a directory and you can build models. The below screenshot shows this (the file `mm1_csim.c` you can find here: http://www.csee.usf.edu/~christen/tools/toolpage.html#simulation).

```
Administrator: VC++ cmd

c:\xxx\studentCmdLine>dir
 Volume in drive C is SW_Preload
 Volume Serial Number is 803B-9A1C

 Directory of c:\xxx\studentCmdLine

06/10/2009  02:44 PM    <DIR>          .
06/10/2009  02:44 PM    <DIR>          ..
05/09/2009  03:17 PM            43,511 csim.h
01/27/2004  04:44 AM             8,695 mm1_csim.c
05/10/2009  11:52 AM           936,174 rellib.lib
               3 File(s)        988,380 bytes
               2 Dir(s)  39,574,413,312 bytes free

c:\xxx\studentCmdLine>cl mm1_csim.c rellib.lib
Microsoft (R) 32-bit C/C++ Optimizing Compiler Version 15.00.21022.08 for 80x86
Copyright (C) Microsoft Corporation.  All rights reserved.

mm1_csim.c
Microsoft (R) Incremental Linker Version 9.00.21022.08
Copyright (C) Microsoft Corporation.  All rights reserved.

/out:mm1_csim.exe
mm1_csim.obj
rellib.lib

c:\xxx\studentCmdLine>dir mm1_csim.exe
 Volume in drive C is SW_Preload
 Volume Serial Number is 803B-9A1C

 Directory of c:\xxx\studentCmdLine

06/10/2009  02:45 PM           192,000 mm1_csim.exe
               1 File(s)        192,000 bytes
               0 Dir(s)  39,574,224,896 bytes free

c:\xxx\studentCmdLine>
```
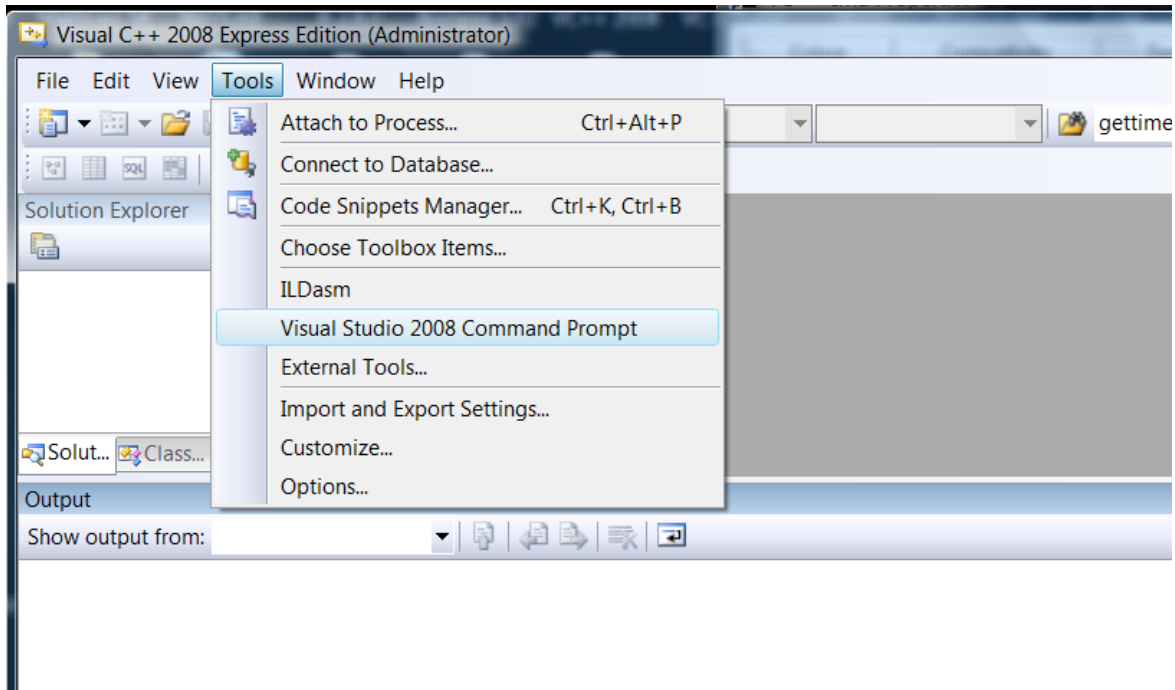

How to get a Visual C++ Express Edition command prompt

Very often it is easier to build C programs using command line tools and not using an IDE. I have found two ways to get Visual C++ Express Edition to work at the command prompt. One way is to open the IDE and select the "Visual Studio 2008 Command Prompt" option as shown below (this is quite simple!):

Another way is to set-up a Command Prompt shortcut on your desktop with the target set to vcvarsall.bat. You will need to enter exactly this (with only the path different if yours is indeed different) in the target field:

%comspec% /k ""C:\Program Files\Microsoft Visual Studio 9.0\VC\vcvarsall.bat"" x86

Here is a partial screenshot to show you where to enter this: