8088 Assembler and Tracer Toolkit
Installing and Getting Started
Instructions for Windows 7, 64-bit architecture

If you don't which version of Windows you are running then go to the following link:
http://windows.microsoft.com/en-US/windows7/find-out-32-or-64-bit

1. COPY THE 8088 ASSEMBLER AND TRACER TOOLKIT SOFTWARE TO YOUR HARD DISK

- Make a new directory (folder), say, **tracer**, where all the software will go. This can be any directory but let's assume that this will be a top-level directory, i.e., C:\tracer
- Copy the file **tracer.zip** to the **tracer** directory
- Unzip this file
- Make sure you have the following directories:

        as_src
        bin
        examples
        exercises
        trce_src
    and the following files:
        asinstal.bat
        release
        syscalnr.h

2. CONFIGURE YOUR SYSTEM:

- Download DOSBox for Windows 0.74 Win32 installer from the following link:
  http://www.dosbox.com/download.php?main=1
- Follow the instructions to install DOSBox (this will become an application that can run).
- Goto Start -> All Programs -> DOSBox-0.74 -> Options -> DOSBox 0.74 Options
- go to the very end of the file and find following lines:

        [autoexec]
        # Lines in this section will be run at startup.
        # You can put your MOUNT lines here.
- After the above lines, add the following two lines

        mount C "C:\tracer"
        C:
- Download cwsdpmi.zip from the following link:

extract it and copy the extracted file CWSDPMI in the directory
C:\tracer\examples

3. TEST YOUR CONFIGURATION

- Restart your computer.
- Run DOSBox
- Type **cd examples**
- Type **s88 HlloWrld**
  It should display "Hello World"

4. CREATING BINARIES

- The assembly language source files you write have the extension **.s**.
  For example, **HlloWrld.s**
- Before you can run or trace it, you need to create a binary using the
  assembler **as88.** For example:
  > **as88 HlloWrld**   (The extension **.s** is not needed.)

  This performs the assembly process and generates three files:
  - **HlloWrld.88, HlloWrld.#, HlloWrld.$**
  - Check that all three files have been generated to make sure the
    assembly was correct.
  - DOSBox generates another file, **ASCIIFIL.$$$**, which must
    be renamed if you plan to trace the program (see step 5 below)

5. EXECUTE/TRACE YOUR PROGRAM

- You can execute the program using the command **s88,** e.g.**s88
  HlloWrld**
  This only displays the output of the program
- You can trace the program using the command **t88**, e.g., **t88
  HlloWrld**
  This displays the registers, stack, portions of memory, and other
  information in a set of windows, enabling you to observe execution.
  Each time you hit the Enter key, the tracer executes the next assembler
  language instruction.
  To stop the execution, type the command **q** end hit Enter.
  NOTE: Before running t88, you must rename the ASCIIFIL.$$$ to
  match your program name. For example, if you want to trace
  HlloWrld then issue the following command:
  > RENAME ASCIIFIL.$$$ HlloWrld.$

  You must do this each time you run as88, because as88 changes the
  underlying files.

6. ADDITIONAL INFORMATION

- The three programs that make up the simulator, **as88.exe**, **s88.exe**, and **t88.exe**, are in the tracer directory called **bin**.
- For your convenience, there are also copies of these binaries in the **examples** and **exercise**s directories.
- The source code for the assembler is in the directory **as_src**.
- The source code for the interpreter **s88** and debugger-tracer **t88** is in the directory **trce_src**.