Optional: Installing, Customizing, and Using ConTEXT Editor

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A. Installing the ConTEXT Editor

The latest version of the ConTEXT editor is available for free and can be downloaded from http://www.context.cx/. Alternatively, version 0.98.2 of ConTEXT can be downloaded from http://www.ccse.kfupm.edu.sa/~mudawar/coe205/lab/index.htm.

Step 1: Download the ConTEXT editor installer.

Step 2: Run **ConTEXTsetup.exe** program. This will install the ConTEXT editor.

B. Customizing ConTEXT

Step 1: Download the MASM syntax highlighter from
http://www.ccse.kfupm.edu.sa/~mudawar/coe205/lab/index.htm.

Step 2: Copy the MASM highlighter to the **C:\Program Files\ConTEXT\Highlighters** directory, assuming that you have ConTEXT in **C:\Program Files\ConTEXT** directory.

Step 3: Start the ConTEXT editor. Select **Environment Options ...** from the **Options** menu. You can customize many options of ConTEXT. Click on **Editor** and select **Line numbers** to display the line numbers in the editor. Select also the default **Highlighter** as MASM. Other options can be customized as shown.
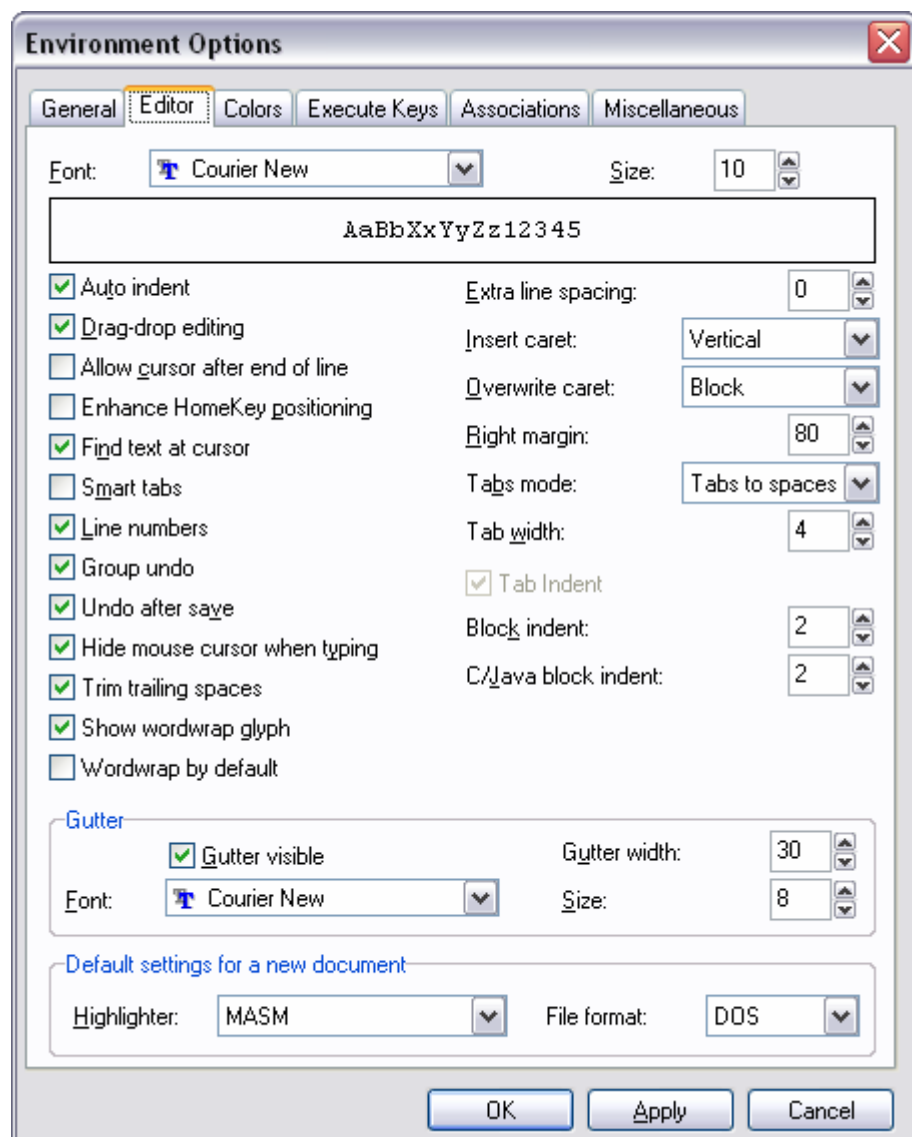
Step 4: Now click on **Execute Keys** to define new execution keys for assembly language programs. Click on the **Add** button. This will open the **Extension edit** dialog box as shown below. Enter **asm** as the extension for assembly language programs and press **OK**. You can now define four execution keys (**F9**, **F10**, **F11**, and **F12**) to execute various commands. We will define these keys to assemble, link, and debug assembly language programs, as described below.
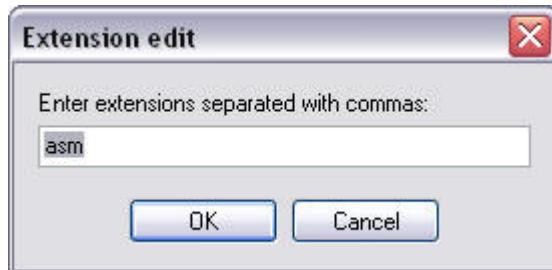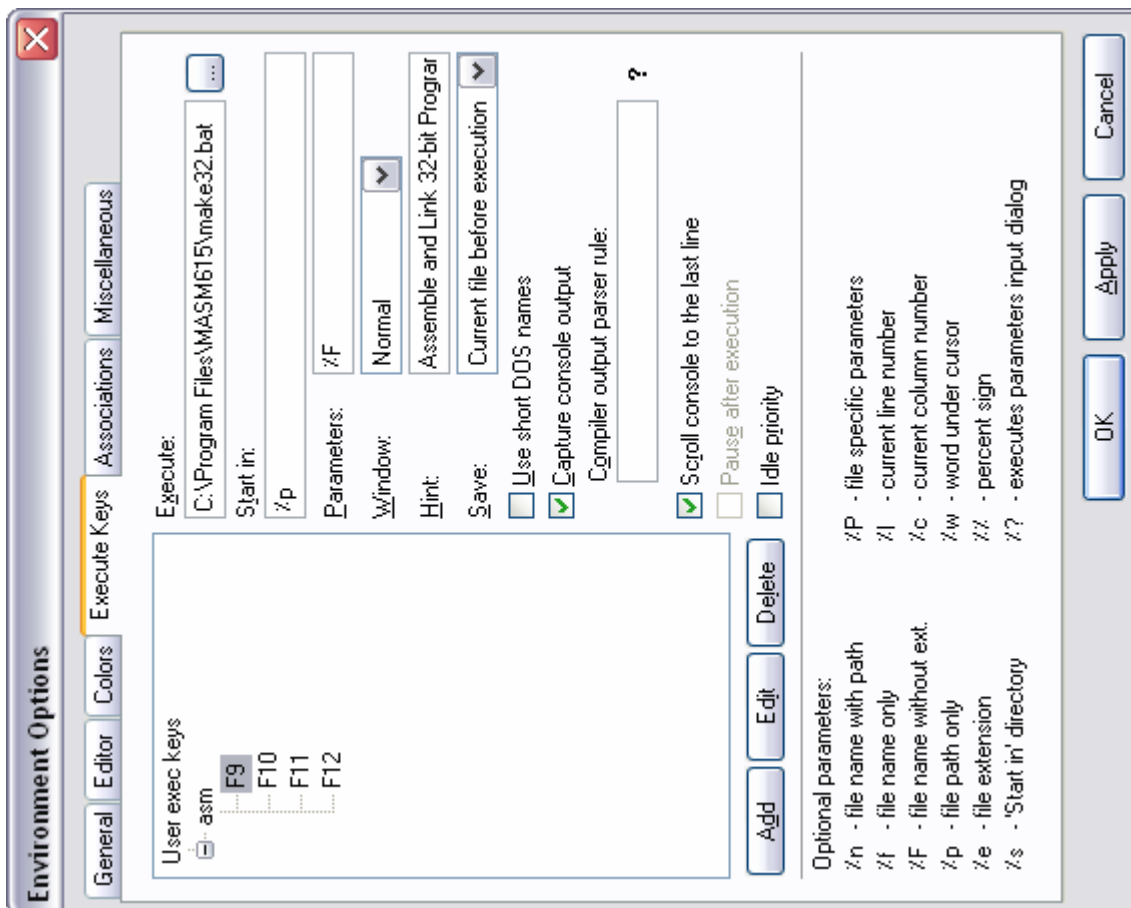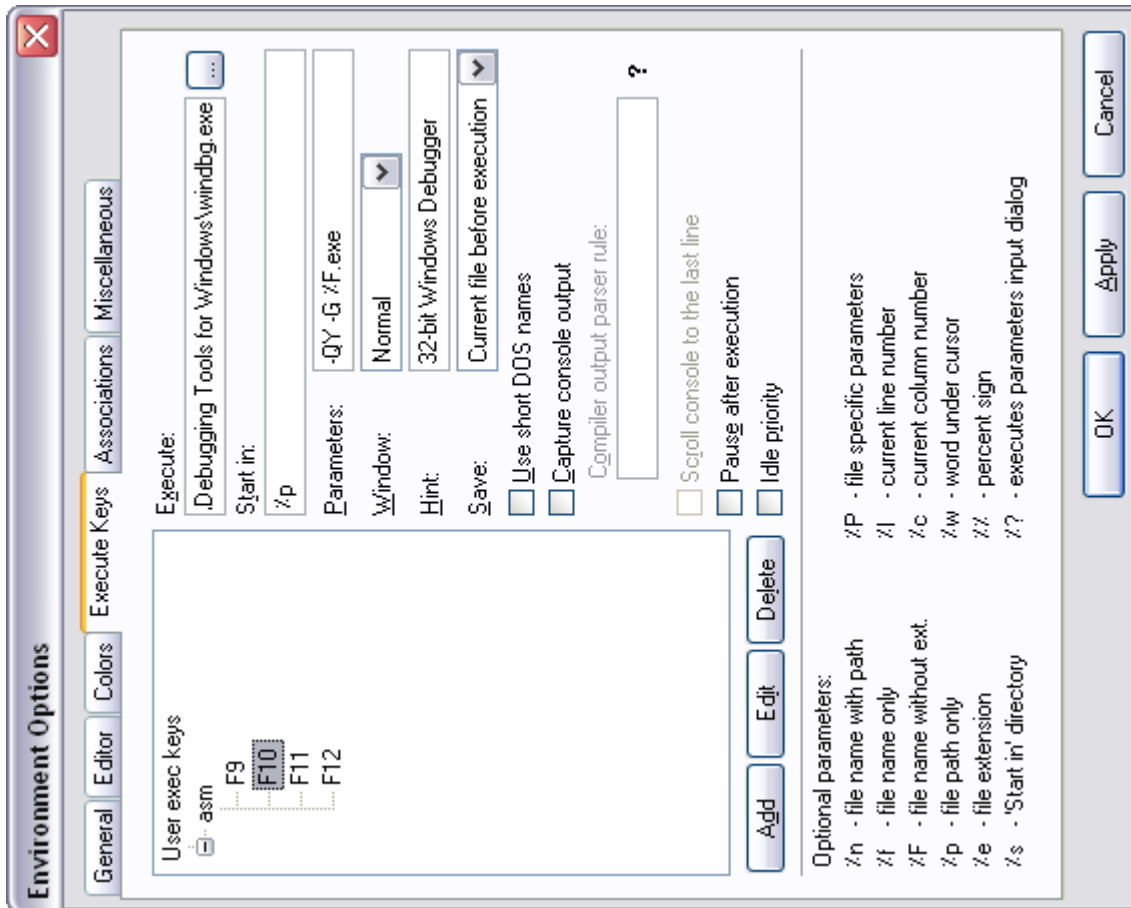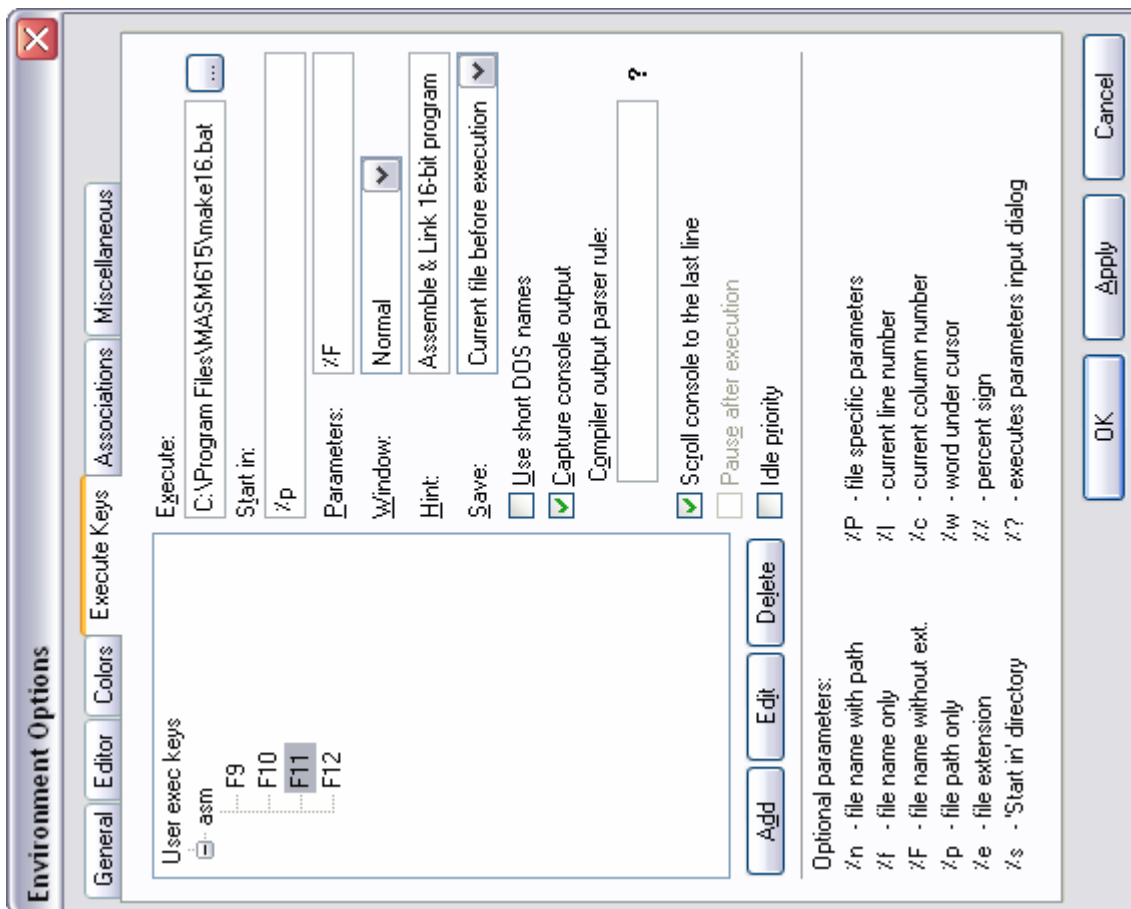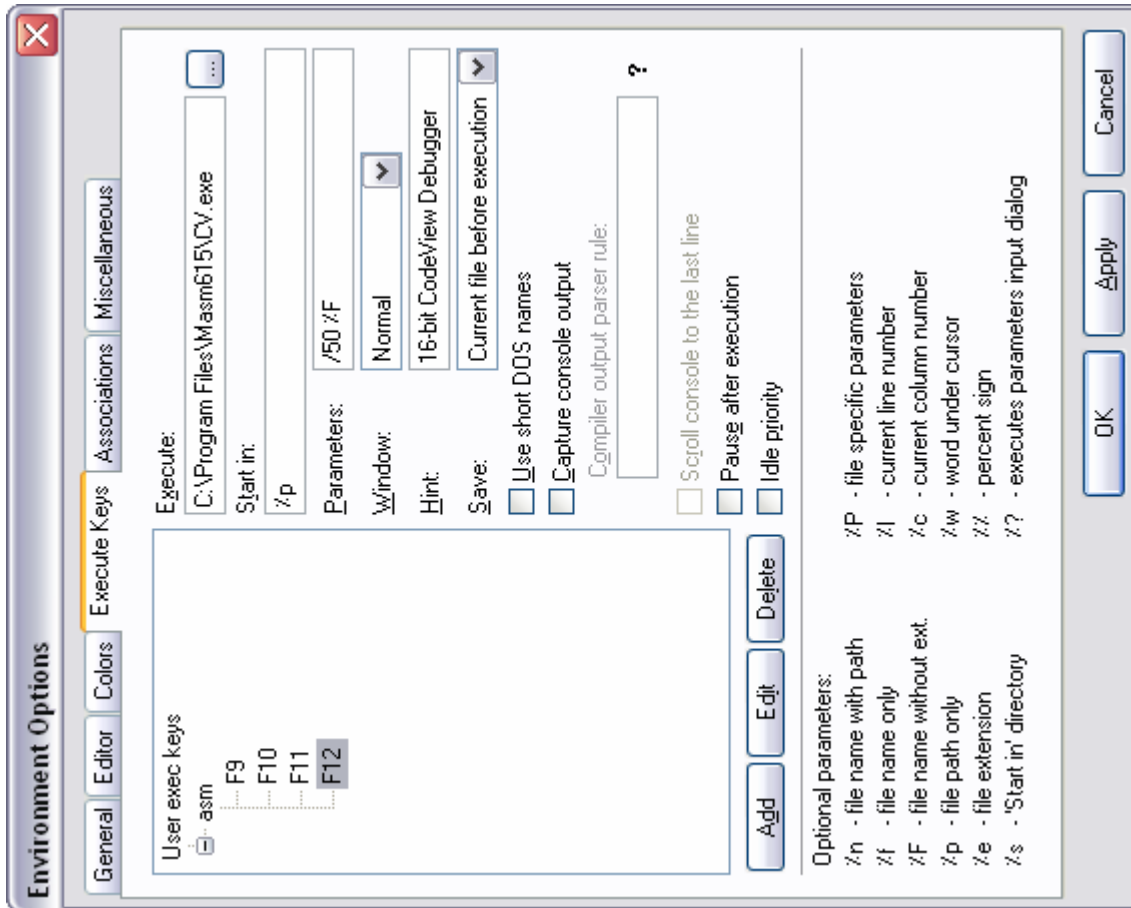

Step 5: Define the **F9** key as shown below. This will execute the **make32.bat** batch file under the "C:\Program Files\MASM615\" directory, where MASM has been installed. This batch file will **Assemble and Link 32-bit Programs**. Write this information in the **Hint** field and fill-in and select the fields as shown below.

Step 6: Define the **F10** key as shown below to use the **32-bit Windows Debugger**. Enter **C:\Program Files\Debugging Tools for Windows\windbg.exe** under the **Execute** field. Enter also **-QY -G %F.exe** under Parameters.

Step 7: Define the **F11** key as shown below. This will execute the **make16.bat** batch file under the **C:\Program Files\MASM615** directory, where MASM has been installed. This batch file will **Assemble and Link 16-bit Programs**. Write this information in the **Hint** field and fill-in and select the fields as shown below.

Step 8: Define the **F12** key as shown below. This key will be used to start the **16-bit CodeView Debugger**. Enter **C:\Program Files\MASM615\CV.exe** under the **Execute** field. Enter also **/50 %F** under Parameters as shown. Now press **OK** to apply the changes and start using the newly defined execution keys.

Environment Options

General | Editor | Colors | Execute Keys | Associations | Miscellaneous

User exec keys
- asm
  - F9
  - F10
  - F11
  - F12

Add | Edit | Delete

Execute:
.\Debugging Tools for Windows\windbg.exe

Start in:
%p

Parameters:
-QY -G %F.exe

Window: Normal

Hint: 32-bit Windows Debugger

Save: Current file before execution

☐ Use short DOS names
☐ Capture console output
Compiler output parser rule:

☐ Scroll console to the last line
☐ Pause after execution
☐ Idle priority

Optional parameters:
%n - file name with path   %P - file specific parameters
%f - file name only   %l - current line number
%F - file name without ext.   %c - current column number
%p - file path only   %w - word under cursor
%e - file extension   %% - percent sign
%s - 'Start in' directory   %? - executes parameters input dialog

OK | Apply | Cancel

Environment Options

General | Editor | Colors | Execute Keys | Associations | Miscellaneous

User exec keys
- asm
  - F9
  - F10
  - F11
  - F12

Add | Edit | Delete

Execute:
C:\Program Files\MASM615\make32.bat

Start in:
%p

Parameters:
%F

Window: Normal

Hint: Assemble and Link 32-bit Program

Save: Current file before execution

☐ Use short DOS names
☑ Capture console output
Compiler output parser rule:

☑ Scroll console to the last line
☐ Pause after execution
☐ Idle priority

Optional parameters:
%n - file name with path   %P - file specific parameters
%f - file name only   %l - current line number
%F - file name without ext.   %c - current column number
%p - file path only   %w - word under cursor
%e - file extension   %% - percent sign
%s - 'Start in' directory   %? - executes parameters input dialog
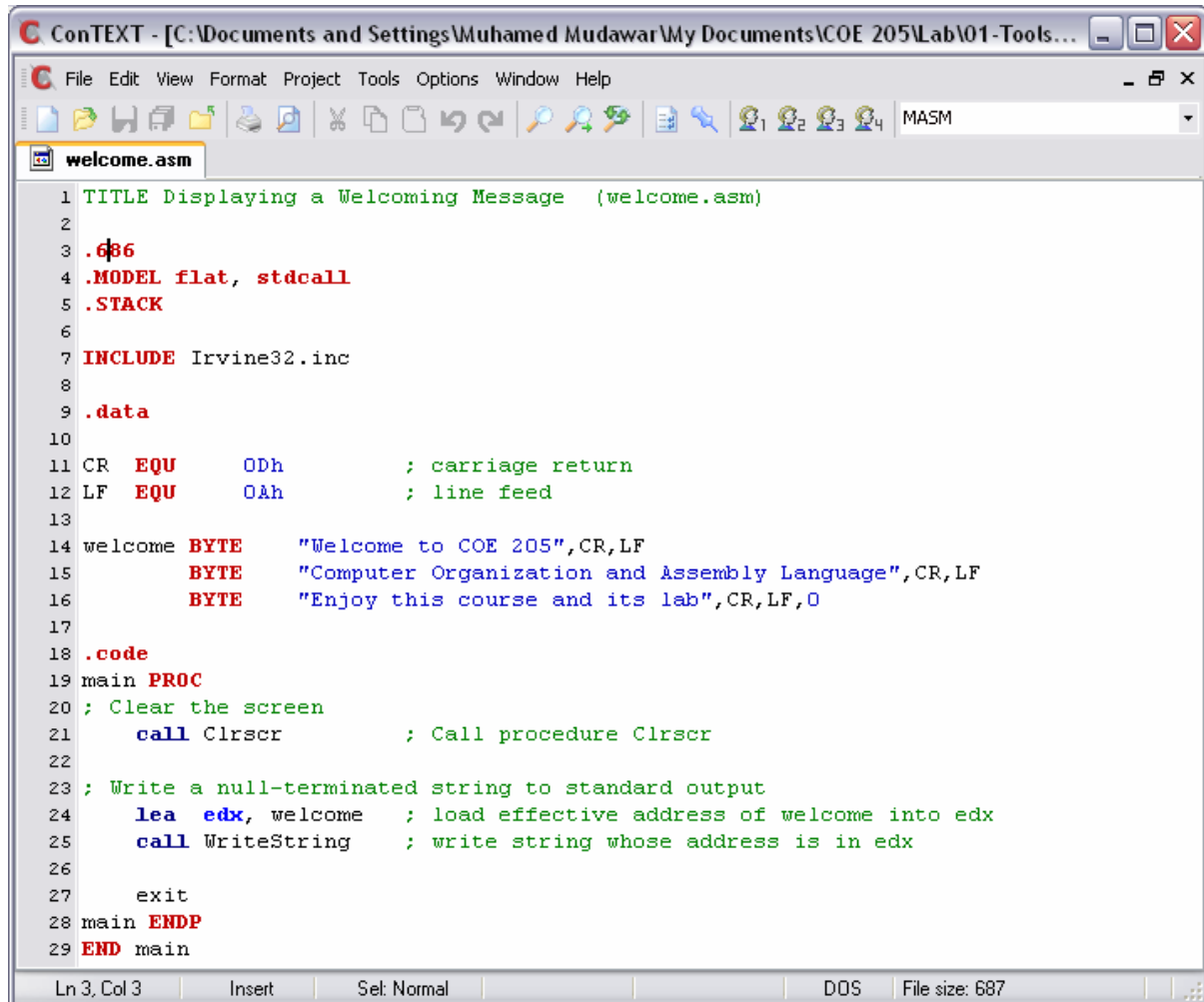
OK | Apply | Cancel

C. Using the ConTEXT Editor

Open program *welcome.asm* file with ConTEXT. You can make this association by clicking on the right mouse-button and select **Open With ...** and selecting ConTEXT. Also select the checkbox: **Always use the selected program to open this kind of file** to make this association permanent.

This is how an assembly language program looks like in ConTEXT. Make sure to select the MASM highlighter. You may change the colors if you don't like them, by selecting the **Colors** tab under **Environment Options**.


To associate the MASM highlighter with all assembly-language source files, go to the **Tools** menu and choose **Set Highlighter ▶Customize Type …**

Select the MASM highlighter and click Edit to specify the extensions for this highlighter. Enter the extensions **asm, inc** and press OK as shown below:
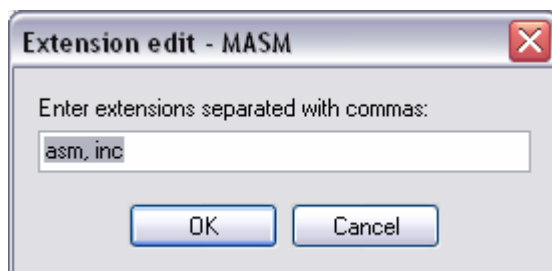
The MASM highlighter is now associated with assembly-language source files with (**.asm**) extension, and include files with (**.inc**) extension. Press OK and you are done.
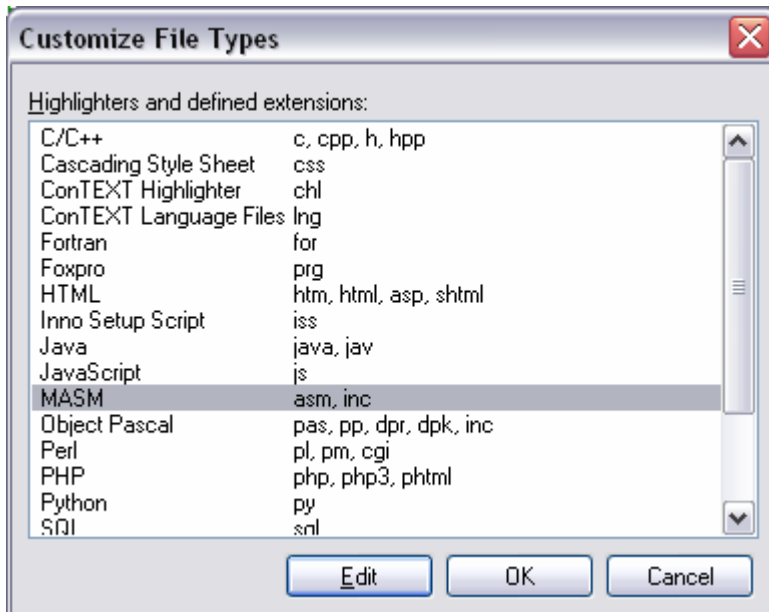
From the **Tools** menu select **Assemble and Link 32-bit Program**. Alternatively, you may press **F9**. This command should work if ConTEXT was configured properly. This will execute the **make32.bat** batch command that assemble and link the *welcome.asm* program. You can also start the **32-bit Windows Debugger** from the **Tools** menu, or by pressing the **F10** key.