

Handling Programs

This section shows the most important steps for handling programs, including testing and debugging.

For more information, see Program Editor in the Natural for Windows User's Guide.

For detailed information on the debugger and remote debugging, see Debugger in the Natural for Windows documentation.

The following topics are covered below:

- Creating a New Program
 - Stowing a Program
 - Executing a Program
 - Debugging a Program
-

Creating a New Program

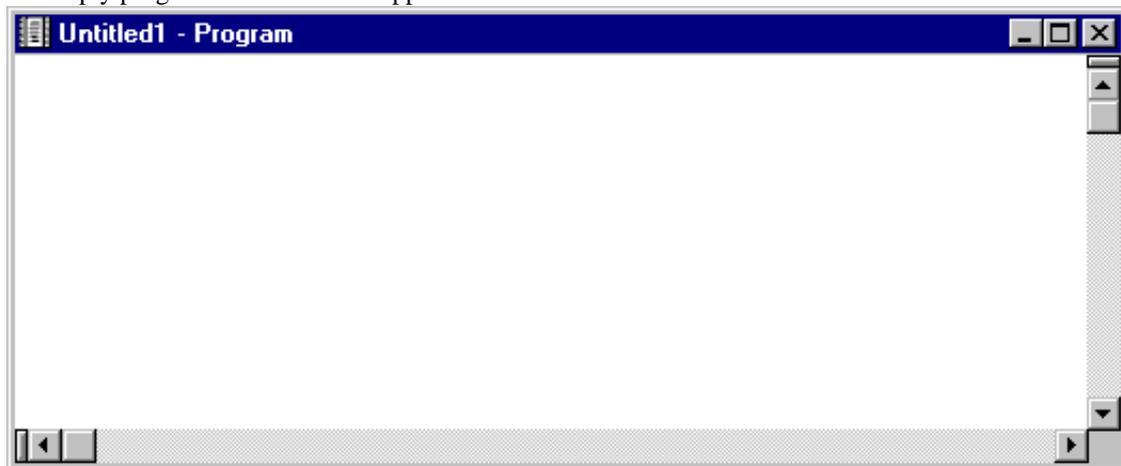
You will now create a small program which prompts the user for input and displays this input. You can create this program in any library that you are allowed to use.

▶ To create a program

1. Click the name of the library in which you want to store the new program.
2. From the **Object** menu, choose **New > Program**.
Or click the right mouse button and from the resulting context menu, choose **New Source > Program**.
Or press CTRL+N.
Or click the following toolbar button:

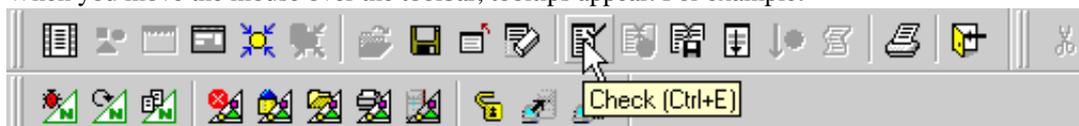


An empty program editor window appears.



The status line at the bottom of the Natural Studio window now shows additional information (line and column in which the cursor is currently positioned and the current size of the program).

When the program editor window is the active window, all toolbar buttons that apply to a program are activated. When you move the mouse over the toolbar, tooltips appear. For example:



3. In the program editor, enter the following code:

```
DEFINE DATA LOCAL
1 A (A5)
END-DEFINE
INPUT 'Enter' A
DISPLAY A
END
```

Stowing a Program

You will now stow the program you have just created.

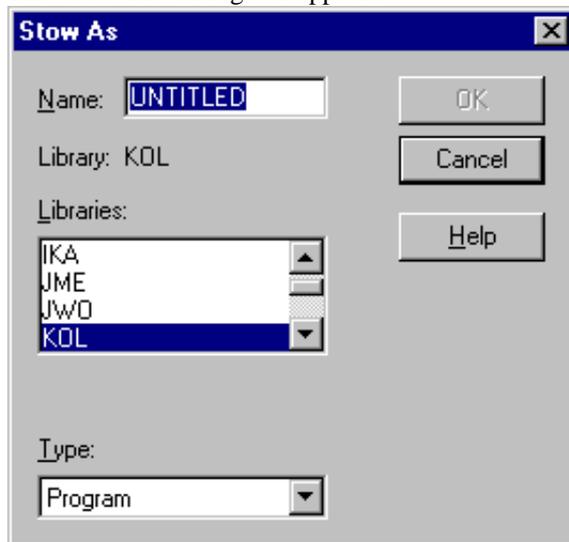
Since it is possible to edit several programs at the same time (this is not possible on the mainframe), you have to make sure that the editor window for the program that you want to stow is the active window. To activate a window, you simply have to click it.

▶ To stow a program

1. Make sure that the editor window containing your new program is active.
2. From the **Object** menu, choose **Stow**.
Or click the following toolbar button:



The "Stow As" dialog box appears.



3. In the "Name" text box, enter "DEMO" as the name of your program.
4. To stow the program in the current library, choose the **OK** button.
If you have not switched off the success messages, a dialog box appears, informing you that the stow operation was successful. When this dialog box appears, press ENTER to close it.
The new program is now shown in the library workspace. The title bar of the program editor window now shows the program name, the library in which it is stored, and the name and port number of the current development server.
5. Close the program editor by clicking the standard close button at the top right of the program editor window.

Executing a Program

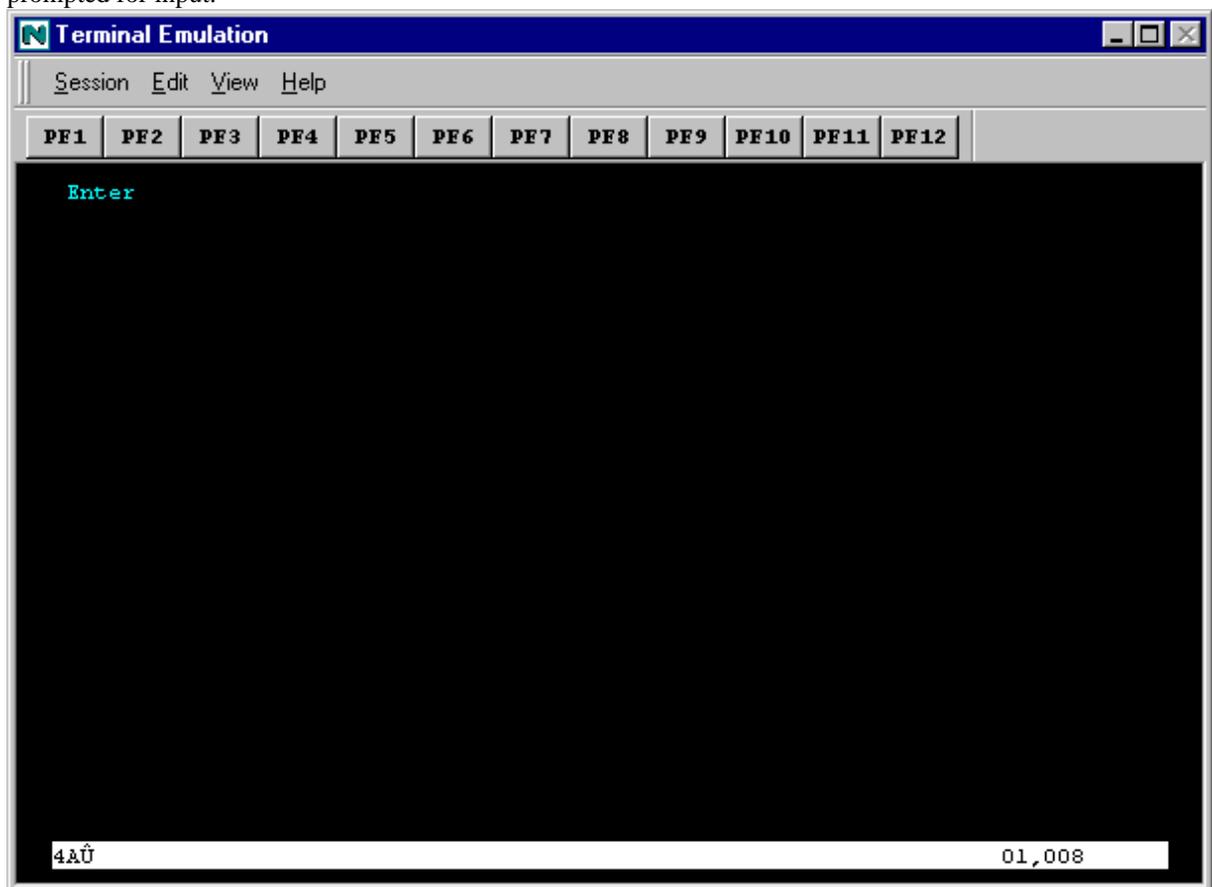
You will now execute your DEMO program.

▶ To execute a program

1. In the library workspace, select the program DEMO.
2. Click the right mouse button and from the resulting context menu, choose **Execute**.
Or click the following toolbar button:



The INPUT statement from the above example program invokes a terminal emulation window. You are prompted for input.



3. Enter the string "Demo" at the "Enter" prompt and press ENTER.
The DISPLAY statement from the above example program now shows the string you have just entered.



4. Press ENTER.
The example program is ended and the terminal emulation window is automatically closed.

Debugging a Program

You will now debug your DEMO program.

Note:

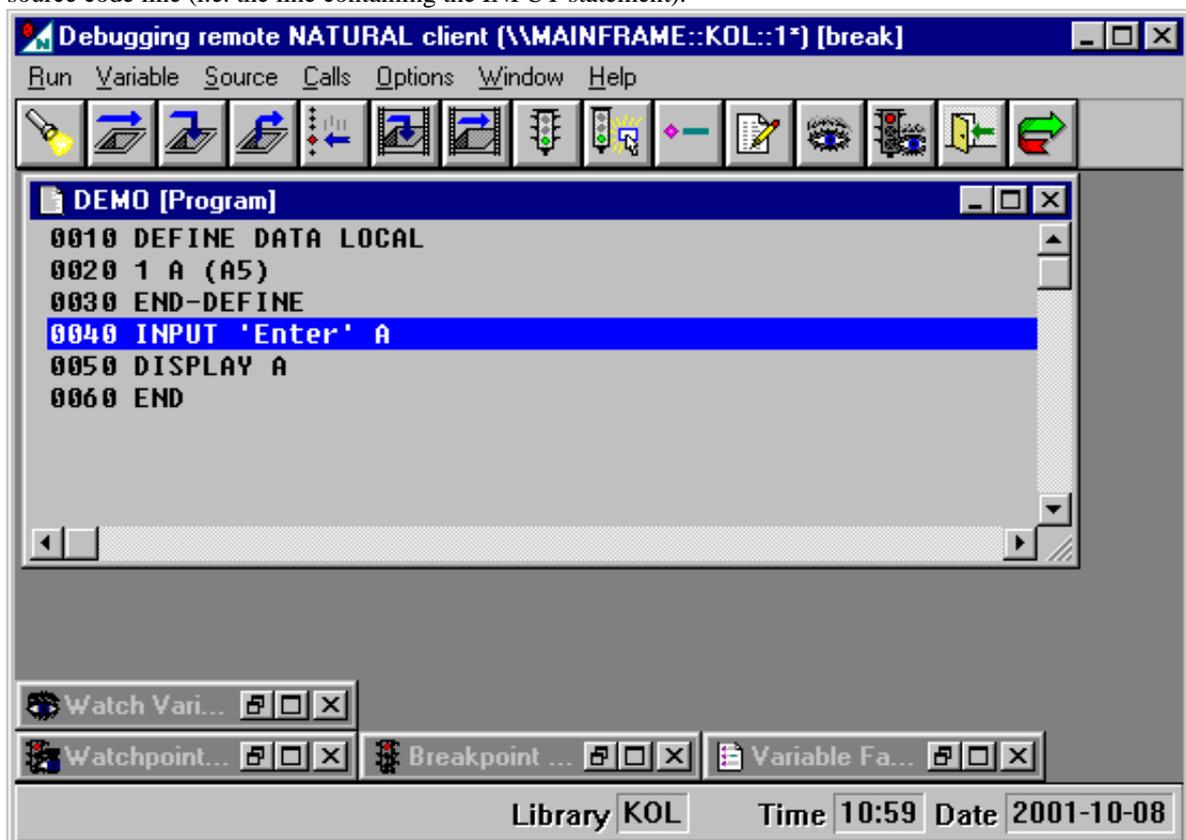
As long as the debugger is active, you cannot work with Natural Studio.

▶ To debug a program

1. In the library workspace, select the program DEMO.
2. From the **Tools** menu, choose **Development Tools > Debugger**.
Or click the right mouse button and from the resulting context menu, choose **Debug**.
Or click the following toolbar button:



The Natural Debugger is invoked in a window of its own. The trace bar is positioned in the first executable source code line (i.e. the line containing the INPUT statement).



3. From the **Run** menu, choose **Animated step into**.

Or press CTRL+A.

Or click the following toolbar button:

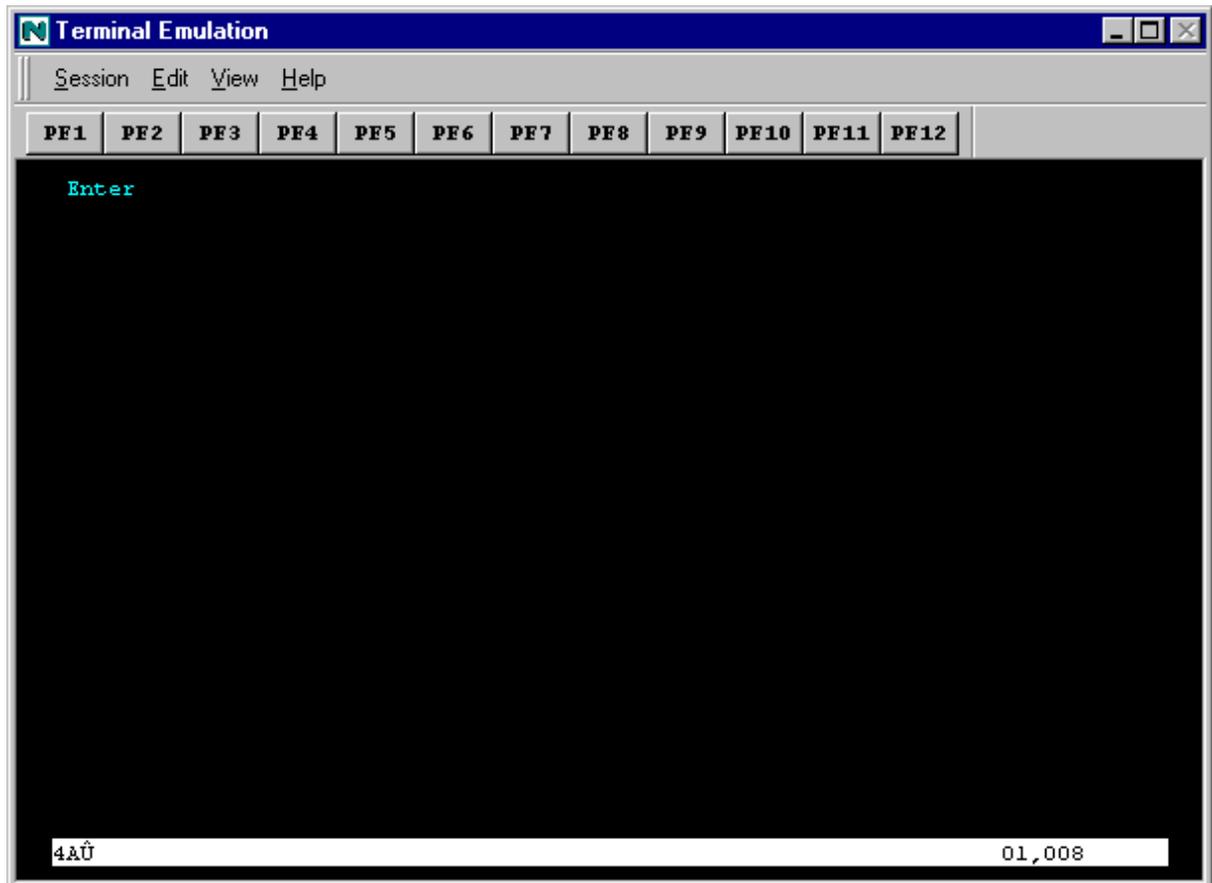


Note:

Similar toolbar buttons are available for the commands **Step into** and **Animated step into**. Make sure to click the correct toolbar button. When you move the mouse pointer over the toolbar buttons, descriptions for the buttons are shown in the status bar.

The program is now executed step by step until the end of the program. The debugger steps through any Natural object invoked or included.

The INPUT statement invokes a terminal emulation window.

**Note:**

It may happen that the terminal emulation window is hidden behind the debugger window.

4. Make sure that the terminal emulation window cannot be overlapped by the debugger window. Otherwise you cannot see the result of the DISPLAY statement (see below) in the terminal emulation window.
5. Enter the string "Demo" in the terminal emulation window and press ENTER. The debugger window is shown again. The trace bar is positioned in the next executable source code line. The DISPLAY statement shows the string you entered in the terminal emulation window. The debugger then proceeds to the last line and displays the message that the debugging session has terminated.
6. Press ENTER to close the message box. The debugger window is also closed. The terminal emulation window is still shown.
7. To close the terminal emulation window, press ENTER

You can now proceed with the next exercise: Locking and Unlocking.