Hints on starting to use Maple on CDF

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After logining in to CDF, you can start Maple in two ways. Typing the "maple" command will start up a version of Maple in your current window, with an old-fashioned text interface. It can produce only crude plots, and lacks facilities for editing programs. At the moment, this old-style maple interface is available only on the "eddie" server, so from one of the workstations you'll have to use the command "rlogin eddie" to get there. Telnetting to cdf from home connects you to "eddie" directly.

You will probably want to use the "xmaple" command instead. It starts up Maple in a new window, which you will have to position with the mouse. If you want to continue using your original window while running Maple, put an ampersand ("&") at the end of the "xmaple" command.

The xmaple window will have various menus and buttons at the top, and a big area at the bottom, in which you will see an inner window. In that window, you will see a ">" prompt. If you move the mouse into the inner window and then typed something, you should see it appear after that prompt. If you then type "return", Maple will look at what you typed, and if it is a complete Maple statement, it will print the answer, followed by another prompt. (Maple normally shows the commands you typed in red, and the answers in blue.)

Here's an example:

```
> 5+8;
                              13
> evalf(Pi);
                        3.141592654
```

Note that to get an answer, you have to put a semicolon (";") at the end of the line!

If you click the left mouse button when pointing inside one of the commands you typed, the cursor will move there, and you can change the command by typing things to be added, or by using "Backspace" or "DEL" to delete characters. When you type "return" again, Maple will redo that command, and show the new answer.

Note, however, that when you redo one command, Maple *doesn't* automatically redo all the commands that depend on it. Suppose you do the following:

```
> a := Pi/2;
                         a := (1/2) Pi
> sin(a);
                             1
```

Now suppose you change the first line as below, and type "return" to get the new answer:

```
> a := 3*Pi/4;
                         a := (3/4) Pi
```

Below, you will still see the old answer, saying that `sin(a)` is 1. To see the updated answer, taking account of the new value for `a`, click with the left mouse button on the `sin(a)` command, and type "return". You should then see

```
> sin(a);
                             -1
```

You can get Maple to redo everything by going into the "Edit" menu at top (using the left mouse button), moving down to the "Execute" option, then sliding to the right to select "Worksheet". You should then get new answers to all your commands (in the current sub-window). You might also sometimes want to use the "Remove output" menu item to get rid of all the answers, so you can more easily view your commands.

There are (at least) two ways of writing Maple programs. One is to use a text editor (eg, jove, vi, pico, or nedit) to create a file containing your program, and then read it in to Maple using the "read" command. Those of you with a favourite text editor may prefer this method.

The other possibility is to use Maple's editing facilities. You can just type in a function definition, execute it so that the function is defined, and then use the function. If the definition turns out to have an error, you can use the mouse to go back and change it (you may need to use the scroll bar at the right of the sub-window to get back), then re-execute it, and try out the new version.

This can create a bit of a mess, however, since your function definitions get mixed in with the commands you use for testing. To avoid this, you can use *two* inner sub-windows within the Maple window. You make the second sub-window by choosing "New" from the "File" window. A new window will then appear, mostly covering up the old one. Choosing "Vertical" from the "Window" menu tells Maple that it should put the two windows side-by-side, so that you can see them both at once. You can now use one window to edit your functions, and the other window to test them.

A few hints: You switch between windows by clicking the left mouse button when pointing to one. To start a new line when typing in a definition (or other command), type "return" when holding down "shift". Note that the two windows share the same set of variables.

Here's an example (without the pretty graphics that you'll actually see):

```
> funnyplot := proc (n)                                        > funnyplot(5);
    plot([sin(x)*sin(n*x),sin(x)*cos(n*x),x=0..Pi]);             ...
  end:                                                         > funnyplot(12);
>                                                                ...
```

Here, the left window is used to define the function, and the right to test it. The plots will be seen where I've put "`...`".

You'll usually want to save your function definitions, and maybe the commands you used for testing. You do this by choosing "Save" from the "File" menu. For a new program, you'll have to type in a name, in the box in the upper left of the dialog box that will appear. (You'll need to delete the existing text there.) Note that "Save" saves only the currently active window. If you want to save both windows, you'll need to do so separately (to different files).

To use something you've saved, select "Open" from the "File" window, and either type in a file name, or select one from the list shown.

You can get rid of sub-windows by choosing "Close" from the menu you get by pointing at the upper left corner. To exit from Maple, choose "Exit" from the "File" menu.

You can get to the on-line help with a command like "`help(plot)`", or by using the "Help" menu.

Good luck!