

[2.14] Define functions that CAS can manipulate

The CAS will not be able to manipulate functions that you define in the program editor, nor from the command line with *Define*. For example, if you create the cosecant function like this:

```
csc(x)
func
1/sin(x)
endfunc
```

the CAS will not be able to integrate or differentiate this function - it just returns the function. However, if you create the function at the command line, like this

```
1/sin(x)→csc(x)
```

then the CAS can integrate and differentiate the function.

You need not create these functions from the command line. You can create one or more functions in a program, like this:

```
makefunc()
Prgm
1/(sin(x))→csc(x)
1/(tan(x))→cot(x)
1/(cos(x))→sec(x)
EndPrgm
```

Also, it is possible to create these functions in the Program Editor. Start the editor to create a New function. In the New dialog box, set the Type to Function and enter a Variable name. Delete the Func and EndFunc lines. Finally, enter only these lines to define the function:

```
:sec(x)
:1/cos(x)
```

This will result in a function that can be manipulated by the CAS. You cannot use comments in these functions.

(Credit to Andy)