

Common Lisp is a high-level, all-purpose, object-oriented, dynamic, functional programming language.

CLISP is a Common Lisp implementation by Bruno Haible of Karlsruhe University and Michael Stoll of Munich University, both in Germany. It mostly supports the Lisp described in the ANSI Common Lisp standard.

CLISP includes an interpreter, a compiler, a debugger, and an X11 interface is available through CLX and Garnet. Command line editing is provided by GNU ReadLine.

CLISP runs on microcomputers (Windows 95/98/2000/NT/XP, Linux)

CLISP is Free Software and may be distributed under the terms of GNU GPL.

You may obtain CLISP for free from <http://sourceforge.net/projects/clisp> or run it on your omega account.

In order to login to your omega account visit <http://oit.uta.edu/helpdesk/public/nos/unix/unixpwd/uxpwd0001.html>

After you login to omega, type “lisp” and “Enter” , wait for the “\*” prompt.

When “\*” prompt is appeared you are ready to type in your commands.

### **Example 1:**

\* 7

7

\* nil

NIL

\* (+ (\* 2 7) (- 8 1))

24

### **Example 2:**

Suppose we type the following Lisp function (functions will be defined in detail later) and save the function in the file ``test.lisp":

```
(defun test (x)
  (* x (- x 1)))
```

We can now load the file `test.lisp` into the Lisp environment. To load a file, use the load command as follows, putting the file name in quotes.

```
* (load "test.lisp")
```

T

Notice that the load command returns the value T. Let's run the `test` function.

```
* (test 20)
```

380

\*

### Example 3:

```
*(let ((x 3)
      (y (- 67 34)))
    (* x y))
```

99

### Example 4:

```
*(defun factorial (n)
  (cond ((= n 0) 1)
        (t (* n (factorial (- n 1))))))
```

24

```
(factorial 4)
= (* 4 (factorial 3))
= (* 4 (* 3 (factorial 2)))
= (* 4 (* 3 (* 2 (factorial 1))))
= (* 4 (* 3 (* 2 (* 1 (factorial 0)))))
= (* 4 (* 3 (* 2 (* 1 1))))
= (* 4 (* 3 (* 2 1)))
= (* 4 (* 3 2))
= (* 4 6)
= 24
```

You can exit Lisp (by typing `(quit)`). This concludes the introduction to CMU lisp. to read about CMU Common Lisp features. A complete CMU Common Lisp manual can be obtained at [ftp://ftp.cs.cmu.edu/afs/cs.cmu.edu/project/clisp/docs/cmu-user/cmu-user.ps](http://ftp.cs.cmu.edu/afs/cs.cmu.edu/project/clisp/docs/cmu-user/cmu-user.ps)