

CS 4100, Spring 2012
Lisp Programming
April 30, 2012

The purpose of this assignment is to get some hands-on experience using Lisp.

At one of the computers in the lab booted into OSX, you should be able to type “clisp” at the command line. If you have problems, check with Julie or me. To get out of clisp type “ctrl d”, to backspace you can type “ctrl h”. Please write code for the following problems. You should upload a script to the homework submission system.

1. Write “Hello World” using the `print` function.
2. Write a list that compute the positive root of a quadratic function using the quadratic formula.

In other words use $\frac{-b + \sqrt{b^2 - 4ac}}{2a}$

3. Consider the list:
`((name (light bulb)) (mfg gr ge) (watts 60) (id 357) (quantity 6))`
write a function to access the id number using `car` and `cdr`.
4. Write the recursive `append` function we discussed in class and test it and `cons` on pieces of your favorite quote (you can use “to be or not to be” if you don’t have a favorite).
5. Write a recursive function that computes the length of a list.
For example, `(mylen '(1 2 3 4))` should output 4.
6. Write a recursive function to write a list in reverse order.
For example, `(myrev '(1 2 3 4))` should output `(4 3 2 1)`.