

Homework 2:

Due Tuesday September 8, 2009 in class

Be sure to follow the guidelines for Programming Assignments. Since these problems are simple, you may skip the Statement of the Problem, Approach and Algorithm - Program Flow sections and give an overall conclusion for the entire programming assignment. Make sure you give me a listing of each program and at least three test cases for each. You may wish to use the "dribble" option in the file menu of XLISP to capture the screen as you test your functions.

I. Problems 3-1, 3.3, 3.4 and 3.5 in Chapter 3 of Winston and Horn's *LISP*

II. Problems 4-1, 4-5 and 4-6 in Chapter 4 of Winston and Horn's *LISP*

XLISP-PLUS version 3.04
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Modified by Thomas Almy and others.
XLISP-STAT Release 3.52.17 (Beta).
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```
> x
Error: The variable X is unbound.
> (setf x 1)
1
> x
1
> (+ 1 2)
3
> (+ 1 1.2)
2.2
> (/ 1 3)
0.3333333333333333
> (setf dinner steak potato bread beer onion)
Error: The variable STEAK is unbound.
Happened in: #<FSubr-PROGN: #732e8c>
> (quote x)
X
> (setf dinner (quote steak))
STEAK
> dinner
STEAK
> (setf dinner steak)
Error: The variable STEAK is unbound.
Happened in: #<Subr-TOP-LEVEL-LOOP: #75242c>
> (setf dinner 'steak)
STEAK
> (setf dinner '(steak potato bread onion beer))
(STEAK POTATO BREAD ONION BEER)
> dinner
(STEAK POTATO BREAD ONION BEER)
> (first dinner)
STEAK
> (second dinner)
POTATO
> (last dinner)
(BEER)
> (car dinner)
STEAK
```

Class 4

```
> (cdr dinner)
(POTATO BREAD ONION BEER)
> (car (cdr dinner))
POTATO
> (cadr dinner)
POTATO
> dinner
(STEAK POTATO BREAD ONION BEER)
> (cons 'cheese-fries dinner)
(CHEESE-FRIES STEAK POTATO BREAD ONION BEER)
>
```