CSCE 330 Fall 2001

HOMEWORK 8—CORRECTION GUIDE

Assigned Monday, 01/11/19. Due Monday, 01/11/26

This assignment is especially designed for Thanksgiving break. You can bring the short paper with you anywhere! The questions are simple and you should be able to answer them quickly when you return back to Columbia from your trips home.

Read "The roots of LISP" by Paul Graham (`http://www.paulgraham.com/rootsoflisp.html`). The paper describes an interpreter for the functional language LISP written in LISP. Pay particular attention to the `eval.` function on page 8.

1. What does `car` correspond to in FP? **Answer:** `1:` (first element of a list).

2. What does `car` correspond to in ML? **Answer:** hd (head of a list).

3. What does `cdr` correspond to in FP? **Answer:** tl (tail of a list).

4. What does `cdr` correspond to in ML? **Answer:** tl (tail of a list).

5. Why the names `car` and `cdr`? (This may require some research on your part. For example, see http://www.faqs.org/faqs/lisp-faq/part1/preamble.html.) **Answer:** Quote from the site above:

   > CAR originally meant "Contents of Address portion of Register", which is what CAR actually did on the IBM 704.
   >
   > CDR originally meant "Contents of Decrement portion of Register", which is what CDR actually did on the IBM 704. Pronounced "Cudder" /kUdd@r/ (as in "a cow chews its cdr"). The first syllable is pronounced like "could".