Com S 227X — Introduction to Computer Programming May 17, 1996

Homework 9: Mutation

Due:

Note that there will be no makeups for any of these problems, not because they are no basic problems here, but because there is not time left in the semester for makeups.

We continue suggesting some problems for additional practice. These have 0 points. You are not to hand these in to your TA. You should check your own work on them, and if you have questions, discuss them in recitation or with the staff, or with others in class.

1 Section 11.2, Assignment and State

1. (0 points) Do exercise 11.1 on page 349.
2. (6 points) Do exercise 11.2.
3. (4 points) Do exercise 11.3. The procedure timer (program 10.19) is found in `/home/cs227/lib/timer.ss`. If you use some other Scheme instead of Chez Scheme, see the comments in the file.
4. (4 points; extra credit only) Do exercise 11.4.
5. (4 points) Do exercise 11.5.
6. (4 points) Do exercise 11.6.
7. (4 points) Do exercise 11.7.
8. (7 points) Do exercise 11.9.
9. (0 points; suggested practice only) Do exercise 11.10.
10. (6 points; extra practice only) Rewrite the `display-tower-of-hanoi` program, using `set!`, and 3 variables: `left`, `center`, and `right`, to hold the number of disks on the corresponding post. After each move print the state in a form such as:

    ```
    left: 3 center: 0 right: 2
    ```

    So that the output is a series of lines of this form. For example, `(display-tower-of-hanoi 2)` would print the following.

    ```
    left: 2 center: 0 right: 0
    left: 1 center: 1 right: 0
    left: 0 center: 1 right: 1
    left: 0 center: 0 right: 2
    ```