Homework 1: The Core Language and Interpreter

This homework is due January 28, 1991 (by 5:00 PM).

Test your programs using the `chap1` command on Unix, which is the interpreter described in Appendix B.

1. (10 points) Do problem 4 on page 18 of Kamin's book (Fibonacci numbers). Write two solutions for this: the first without using recursion, the second without using `while` or assignment.

2. (10 points) Do problem 7 on page 19 of Kamin's book.

3. (Extra credit only) Do (one or more) of problems 3, 5, or 6 on pages 18-19.

4. Answer the following questions by citing specific parts of the interpreter (in Appendix B of Kamin's book).

   (a) (3 points) Does the order of the elements placed in `printNames` by `initNames` matter?

   (b) (3 points) Can the value of `userinput[pos]` be a blank character after a call to the procedure `reader`?

   (c) (3 points) Why is there a global variable `currentExp`?

   (d) (4 points) Which of the constants defined on page 479 are easy to change? Which are not?

5. (3 points) This problem is intended to get you used to using Unix. Edit a file, and put in it a statement of your goals for 342 (a paragraph of so). Correct this so that it reads well, and send it as a mail message to the TA and professor. Be sure to use a subject in your mail message. If you use the `mail` command, execute

   ```
   mail -s "my goals" leavens daver <goals.txt
   ```

   where the file `goals.txt` has your statement in it.

6. (20 points) Do exercise 9 on page 19. Print out only the parts of the code that have to be changed for this (use the Unix `diff` command), and be sure to describe the differences and test your program. You will find the source for the interpreter in

   ```
   /home/cs342/public/src/chap.1/chap1.p
   ```

   Make a copy using the Unix `cp` command and then edit your copy.

7. (Extra credit) Do one (or more of) the following exercises starting on page 19: 8, 10, 11, 13 and 14.