

CSSE 304 Assignment 16

Reading: See the schedule page

Programming problems. This group assignment is to be done by your interpreter team.

After this assignment assignment, there will a brief required participation survey on Moodle, covering A14 and A16.

1. (60 points) Add additional syntax to your interpreted language.

The new features to be added are `letrec` and named `let`.

You may implement **letrec** either (your choice)
directly in the interpreter *or*
via `syntax-expand`.

In class we discussed a way to do `letrec` without mutation and another way to do it *via* mutating a ribcage environment; or if you wish, you may instead use a syntax expansion approach that is similar to that of TSPL, near the middle of Section 4.4 in TSPL 4, which I also discussed in class. But that last approach will require doing part of A17 first.

If you did not implement `while` as a syntax-expansion in A14, you should do so for this assignment.

A17 will be more substantial (add `set!`, `define`, reference parameters, and lexical address). Since this assignment is by far the smallest interpreter assignment, and since both A17 and A18 are much longer and harder, I suggest that you plan to finish this assignment early and get an early start on the next one.

I also suggest that you begin working together on this assignment together soon after the finishing A14, and do not wait until after A15 is due.