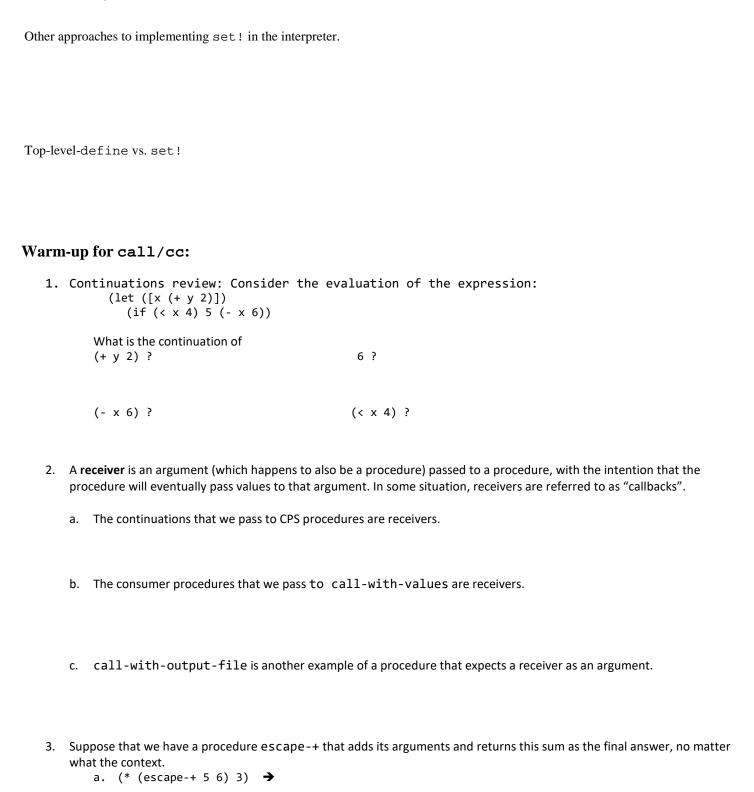
CSSE 304 Day 27



b. (escape-+ (escape-+ 2 4) 5) →

- 4. More generally, suppose that we have a procedure escaper that takes a procedure as an argument and returns an equivalent escape procedure.
 - a. (escaper +) creates a procedure that is equivalent to escape -+
 - b. (+ 3 ((escaper +) 4 5)) →

 - d. A slide gives details of how you can experiment with escaper.
- 5. Let *p* be a procedure. If an application of *p* abandons the current continuation and does something else instead, we call *p* an *escape procedure*.
 - a. An example of a Scheme escape procedure that we have already used:
 - b. Is escaper an escape procedure?
- 6. We consider the dining-out procedure from the slides, along with a reading from the Springer and Friedman book. Your takeaway: In future discussions, I will often refer to "taking a photograph", "saving the photograph", and "rubbing a photograph." You should leave today's class knowing what those things mean.

Definition of call/cc and simple examples:

7. Note the detailed definition of call/cc that is on the slide whose title is CALL/CC. Here is a summary of that definition:

(call/cc receiver) → (receiver continuation),

Hence the name:

call-with-current-continuation.

Rephrasing it: What is that continuation?

If c is a procedure that represents the execution context of this application of call/cc, then the continuation is equivalent to (escaper c).

8. call/cc example:

(+ 3 (call/cc (lambda (k) (* 2 (k 5)))))

- a. The receiver is
- b. The context c is
- c. The continuation is
- d. Thus (+3 (call/cc (lambda (k) (* 2 (k 5))))) is equivalent to
- 9. Another call/cc example (probably for next time): (+ 3 (call/cc (lambda (k) (* 2 5))))
 - a. The receiver is

- b. The context c is
- c. The continuation is
- d. Thus (+3 (call/cc (lambda (k) (* 2 5)))) is equivalent to
- 10. Another call/cc example (probably for next time): (+ 3 (call/cc (lambda (k) (k (* 2 5)))))
 - a. The receiver is
 - b. The context c is
 - c. The continuation is
 - d. Thus (+3 (call/cc (lambda (k) (k * 2 5))))) is equivalent to