CS61A – Lab Assignment 7.2 **Kurt Meinz**
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1. Abelson and Sussman, exercises 4.35 and 4.38.

2. In this exercise we learn what a *continuation* is. Suppose we have the following definition:

```
(define (square x cont)
  (cont (* x x))
```

Here `x` is the number we want to square, and `cont` is the procedure to which we want to pass the result. Now try these experiments:

```
> (square 5 (lambda (x) x))

> (square 5 (lambda (x) (+ x 2)))

> (square 5 (lambda (x) (square x (lambda (x) x))))

> (square 5 display)

> (define foo 3)
> (square 5 (lambda (x) (set! foo x)))
> foo
```

Don't just type them in – make sure you understand why they work! The nondeterministic evaluator works by evalutating every expression with *two* continuations, one used if the computation succeeds, and one used if it fails.

```
(define (reciprocal x yes no)
  (if (= x 0)
      (no x)
      (yes (/ 1 x))))

> (reciprocal 3 (lambda (x) x) (lambda (x) (se x '(cannot reciprocate))))

> (reciprocal 0 (lambda (x) x) (lambda (x) (se x '(cannot reciprocate))))
```